Chapter 6

State and Local Agency Comments on the 1997 Draft EIR/EIS

STATE OF CALIFORNIA—BUSINESS AND TRANSPORTATION AGENCY PETE WILSON, Governor

DEPARTMENT OF TRANSPORTATION

P.O BOX 23660
OAKLAND, CA 94623-0660
10) 286-4444
JD (510)286-4454

S 1

November 24, 1997

ALA-980-.70
ALA980011

Mr. Kurt Ladensack
East Bay Municipal Utility District
Water Improvement Division, MS#305
P. O. Box 24055
Oakland , CA 94623

Dear Mr. Ladensack:

Re: East Bay Municipal Utility District Supplemental Water Supply Project-Summary

Thank you for continuing to include the California State Department of Transportation(Caltrans) in the environmental review process for the above-referenced proposal. We have reviewed the DEIR and forwarding the following comments:

With the information provided , Caltrans Office of Transportation Planning, District 4, has determined that this project will cross over and under various State highways. Any work or traffic control done within the State right of way will require an encroachment permit. S1-1

To apply for an encroachment permit, please submit a completed application, environmental documentation and five sets of plans to the following address:

G.J Battaglini, District Office Chief
Caltrans, District 4
Office of Permits
P. O. 23660
Oakland , CA 94623-0660

If you have any questions or need assistance, please call Anthony Lee of my staff at 510-286-5583.

Sincerely,

HARRY Y.YAHATA
District Director

By: for PHILLIP BADAL
District Branch Chief
IGR/CEQA

Response to Comment of the Department of Transportation (Caltrans District 4)

S1-1, Phillip Badal, Department of Transportation (Caltrans District 4)

Following the determination of a preferred alternative and prior to commencing with construction activities, EBMUD would consult with Caltrans and submit applications for the appropriate encroachment permits.

STATE OF CALIFORNIA - BUSINESS, TRANSPORTATION AND HOUSING AGENCY PETE WILSON, Governor
DEPARTMENT OF TRANSPORTATION
P.O. BOX 2048 (1976 E. CHARTER WAY)
STOCKTON, CA 95201
TDD (209) 948-7773
(209) 948-7112

S 2

RECEIVED
NOV 26 1997
WATER SUPPLY IMPROVEMENTS

November 25, 1997

East Bag Municipal Utility District
M.S. #305
P.O. Box 24055
Oakland, CA 94623

Subject: **EBMUD/USBR Supplemental Water Supply Project - November 1997**

Dear Sirs:

Caltrans, District 10 in Stockton, has reviewed the Summary Report for the above identified project. This proposal identifies two (2) Alternatives that would be designed to deliver up to 150,000 acre feet of American River water annually from the Folsom East Canal (FEC) to the Mokelumne River system.

The Summary Report was circulated to several branches in District 10 for review and comments. Following is a list of comments that resulted from those reviews:

- Installation of the 92-inch diameter pipeline will require crossings of State Highways at several locations in Sacramento and San Joaquin Counties. These locations include SR 104 in Sacramento County and SR 12 at possibly two (2) locations in San Joaquin County. S2-1

- A Caltrans Encroachment Permit will be required to install these crossings within the State Right-of-Way. Construction techniques and traffic control will be a major Caltrans' concern at the crossing locations.

- Following the selection of a preferred alignment/alternative, the project proponent should contact Caltrans to obtain design criteria for an Encroachment Permit application. Caltrans Permit Engineers in both District 3 (Marysville) and District 10 (Stockton) should be contacted.

If you have any questions or wish to discuss the above comments further, please contact Larry Burgess of my staff at (209) 948-7112.

Sincerely,

EDWIN J. ERWIN, Chief
Transportation Planning Branch

cc: Jeff Pulnerman (D-030

Response to Comment of the Department of Transportation (Caltrans District 10)

S2-1, Edwin J. Erwin, Department of Transportation (Caltrans District 10)
Following the determination of a preferred alternative and prior to commencing with construction activities, EBMUD would consult with Caltrans and submit applications for the appropriate encroachment permits.

STATE OF CALIFORNIA—THE RESOURCES AGENCY

PETE WILSON, Governor

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

S3

Mr. Kurt Ladensack
Water Supply Improvements Division
East Bay Municipal Utility District
Post Office Box 24055
Oakland, CA 94623

Dear Mr. Ladensack:

We have reviewed the draft environmental impact report for the Supplemental Water Supply Project and Water Service Contract Amendment Between the U. S. Bureau of Reclamation and EBMUD, and we provide the following comments:

The Board recommends that the least environmentally-damaging alternative be selected. The project alternative located on the American and Sacramento Rivers is within an area over which the Reclamation Board has jurisdiction. Section 8710 of the California Water Code requires that a Reclamation Board permit must be obtained prior to start of any work, including excavation and construction activities, within the American and Sacramento Rivers' floodways, levees, and within 10 feet landward of the landside toes of the levees. S3-1

Along with the Reclamation Board application for permit, an analysis will be required that indicates the project will not have an adverse hydraulic impact.

For further information, please contact Carol Calton at the above address or telephone (916) 653-9898.

Sincerely,

Jon M. Anderson, Chief
Floodway Protection Section

Response to Comment of the Department of Water Resources

S3-1, Jon M. Anderson, Department of Water Resources
At this time, neither action alternative has been determined to be environmentally superior. Following the determination of a preferred alternative and prior to commencing with construction activities, EBMUD would consult with the Reclamation Board and submit applications for excavation and construction activities where necessary. Table 2-7 in Chapter 2 of the 1997 Draft EIR/EIS lists the consultations, permits, and contract modifications required for implementation of the project.

STATE OF CALIFORNIA—THE RESOURCES AGENCY

PETE WILSON, Governor

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

S 4

March 18, 1998

Mr. Kurt Ladensack
East Bay Municipal Utility District
Water Supply Improvements Division
Post Office Box 24055
Oakland, California 94623-1055

Dear Mr. Ladensack:

The Department of Water Resources operates the State Water Project and shares responsibility for maintaining water quality conditions in the Sacramento-San Joaquin Delta with the Bureau of Reclamation and other water users. Therefore, we are concerned about potential impacts of proposed projects on conditions in the Delta and on the ability of the SWP to meet its contractual commitments. Within this context we have reviewed the Draft EIR/EIS on the East Bay Municipal Utility District's proposed Supplemental Water Supply Project.

We find the draft EIR/EIS to be lacking in its evaluation of impacts in the Delta. First, the document uses flawed criteria to evaluate cumulative hydrologic, water quality and fishery impacts of the alternatives in the Delta. The document analyzes projected deliveries and concludes that since they will cause only a small change in Delta outflow, the impacts of the project are insignificant and do not require mitigation. This ignores the current significant environmental problems in the Delta and the adverse impacts of any additional reduction of inflow. The project may reduce the effectiveness of measures undertaken by SWP and others to mitigate existing Delta outflow, water quality and fishery problems. S4-1 Second, the draft EIR/EIS contains insufficient information to evaluate the impacts on the operation and supply of the SWP. While these impacts are suggested to be insignificant, (although deliveries could be reduced by as much as 147,000 af in some circumstances) the data presented includes only mean values of long-term average, monthly minimum, and monthly maximum information and does not allow detailed analysis of possible impacts. The use of average values can mask significant impacts that occur in a single year or during extended dry periods, such as the 1928-34 critical period, when impacts are likely to be most severe. For example, the storage in Oroville Reservoir is reduced by over 1.2 million acre-feet during February in some of the comparisons. Even if such a reduction were only to occur in a single year, the impacts at Oroville S4-2

and elsewhere would be significant. I have attached additional comments on the draft EIR/EIS for your consideration.

If you have any questions regarding our comments please call me at (916) 653-6636 or Jim Upholt of my staff at (916) 653-6388.

Sincerely,

Dan Flory

Dan Flory, Chief
Supply Reliability Planning Branch
Office of State Water Project Planning

Attachment

cc: Mr. Cecil Lesley
U. S. Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, California 95630

Mr. Jim Upholt
Department of Water Resources
1416 Ninth Street, Room 252-20
Sacramento, California 95814

Attachment 1

Comments on the draft EIR/EIS
East Bay Municipal Utility District
Supplemental Water Supply Project

- The EIR/EIS evaluates the impacts of a EBMUD only diversion project at the Folsom South Canal intake and a joint EBMUD and City/County of Sacramento project diverting from near the mouth of the American River. The operation studies evaluated in the EIR/EIS seem to treat these diversions as though they come from Central Valley Project supply. To the extent that such a project would involve diversions pursuant to water rights settlement agreements between the U. S. Bureau of Reclamation and the participants it would result in water supply impacts to the State Water Project that are potentially more significant than those indicated in the draft EIR/EIS. The operation studies and the document need to be revised to appropriately apportion the water supply impacts of such operations according to the Coordinated Operation Agreement. Similar concerns exist related to the modeling of the cumulative impact scenarios. S4-3

- Alternatives 2 and 3 use a no project conditions at the 2030 level of demand as a basis for evaluating potential impacts. The cumulative impact scenarios use existing conditions as the baseline for assessing impacts. The alternatives and the cumulative impact assessments should use a common baseline for comparison. S4-4

- Additional discussion is needed to clearly explain any operation changes at Folsom Dam required to achieve the objectives of the proposed alternatives. S4-5

- The draft EIR/EIS needs to clearly state that the Hodge decision governs diversions to the Folsom South Canal pursuant to EBMUD's contract with USBR and that it did not establish a water right on the American River for EBMUD. In addition, the relationship of the Hodge flow requirements, if any, to diversions by the other potential project participants needs to be clearly described. S4-6

- The justification for using updated SANJASM model results as input to PROSIM rather than those from the CVPIA PEIS analysis need further discussion. A comparison of impacts using the alternative input assumptions to PROSIM should be included. S4-7

- The American River demands assumed in the alternative analyses differ substantially from those assumed in the CVPIA PEIS. Primarily the alternative analyses assume less water diverted upstream by Placer County Water Agency under its water rights (and its USBR contract?) and by other water rights holders. Although new facilities would be required for such diversions they potentially result in reductions in the amount of water available in the lower river and a part of the cumulative impacts of all planned projects. The impact analysis needs to consider the potential effects of these larger diversions on project operations and impacts. S4-8

- The PROSIM modeling assumed that instream flow conditions would be "smoothed" during drought conditions. The rationale and nature of the smoothing needs to be clearly described to allow evaluation of the impacts of the modified operation. S4-9

- Additional discussion is needed explaining why Folsom Lake levels tend to be maintained at higher elevations for the project scenarios than for existing conditions where demands on the reservoir are lower. Descriptive text should be included in Appendix C explaining the tables showing comparative impacts of the various alternatives. For example, in Table C- 10 the minimum October storage for the existing condition and alternative I are 100 taf and 211 taf respectively. However, the difference between these conditions is indicated to be a reduction of 47 taf for alternative 1. Presumably, the minimum October storage for these alternatives occurs in different years and the difference represents the change in a specific year but this is not clear. Similar apparent discrepancies appear in other tables. S4-10

- PROSIM runs should be included that incorporate level IV refuge supplies at the 2030 level of demand and that evaluate the proposed "fish friendly" operations for the American River being developed through the Water Forum process. S4-11

- Average annual deliveries to EBMUD appear to have been inappropriately used as a "demand" on the American River in the PROSIM runs. S4-12

- There is a discrepancy in the assumed joint project alternative assumptions at nodes 16 and 17 between table 3.2 and table 3 in Appendix C. S4-13

- It is inappropriate to use average annual changes in water quality parameters as a measure of impact. The draft EIR/EIS should indicate the extent and frequency of modeled violations of water quality standards in the Delta and indicate any additional releases required to meet the standards or that were required to prevent violations. S4-14

- New PROSIM model runs should be conducted after resolving the hydrology discrepancy in the runs used. The new runs may change the magnitude of the impacts expected, although the distribution of the impacts among the alternatives may remain the same, and could exceed thresholds requiring significant changes in operations by other water users. S4-15

- The relationship of the proposed projects to EBMUD's potential conjunctive use project in San Joaquin County needs to be discussed. How could this project increase or decrease the need for water from the American River? S4-16

Response to Comments of the Department of Water Resources

S4-1, Dan Flory, Department of Water Resources
The methodology used to evaluate impacts on water supply, water quality, and fisheries accurately discloses impacts on these resources within the Delta. See Chapters 3, 4, and 5 of the 1997 Draft EIR/EIS.

S4-2, Dan Flory, Department of Water Resources
Monthly average, minimum, and maximum values were described to fully disclose the model results as concisely as possible. The emphasis of the analysis was on average values because they are reflective of routine conditions, and the results from PROSIM are best used for long-term evaluations of relative changes that would occur under variable hydrologic conditions and facility operations. Minimum and maximum values in the PROSIM output reflect extreme modeled values and have a low probability of occurrence.

Specific monthly changes were represented by qualitative comparisons of the magnitude of project deliveries versus various hydrologic thresholds such as Hodge flow criteria, Delta outflow objectives, and water quality objectives. The magnitudes of the monthly deliveries were shown to be extremely small when compared to the regulatory thresholds and other recognized thresholds. Monthly PROSIM output values were presented graphically in Chapter 3 of the 1997 Draft EIR/EIS at modeled nodes with the largest simulated changes so that specific patterns and magnitude of individual changes could be evaluated during critical time periods, such as the 1928 to 1934 water years.

The modeled reductions in storage at Oroville of 1.2 MAF in February and annual SWP exports of 147 TAF represent the single most extreme events among the 70-year hydrologic simulation. For Oroville storage, the change occurs between Alternative 3 cumulative and existing conditions and is relatively large because the reductions are primarily due to changes that would occur between existing conditions and future Alternative 1: No Action conditions. The portion of the overall reduction that is attributable to project-induced changes between the cumulative and Alternative 1 condition is small.

S4-3, Dan Flory, Department of Water Resources
Chapter 3 of and Appendix C to the 1997 Draft EIR/EIS indicate that Alternatives 2 and 3 would result in only very small changes in SWP exports. See response to "Coordinated Operations Agreement Modeling" major issue in Chapter 3 of this document.

S4-4, Dan Flory, Department of Water Resources
The comparisons used in the 1997 Draft EIR/EIS are appropriate for purposes of impact analysis and provide for a full range of analyses.

S4-5, Dan Flory, Department of Water Resources
The primary assumptions used in the hydrologic modeling of the alternatives considered in the 1997 Draft EIR/EIS are described in Chapter 3 of and Appendix C to the 1997 Draft EIR/EIS and summarized in Table 3-1. The changes in monthly Folsom Reservoir storage under Alternatives 2 and 3 reflect the changes in reservoir operation that would be expected for both alternatives.

S4-6, Dan Flory, Department of Water Resources
As described in Chapters 2 and 3 of the 1997 Draft EIR/EIS, the hydrologic modeling of Alternative 2 assumed that EBMUD would take delivery of water from the FSC only when Hodge Decision flow requirements were met. Under Alternative 3, the hydrologic modeling assumed that Hodge Decision flow requirements would not restrict that amount of water delivered

through the joint project facilities. As a CVP contractor, EBMUD would be subject to CVP contractual shortage provisions.

S4-7, Dan Flory, Department of Water Resources
The hydrologic analysis was based on the best available information at the time the 1997 Draft EIR/EIS was prepared. A description of modeling assumptions is included in Appendix C to the 1997 Draft EIR/EIS.

S4-8, Dan Flory, Department of Water Resources
The American River demands used in the PROSIM modeling for Alternatives 2 and 3 were based on a consensus-process involving Sacramento area Water Forum stakeholders. This was the best available information at the time the 1997 Draft EIR/EIS was prepared and remains a reasonable representation of future conditions.

S4-9, Dan Flory, Department of Water Resources
PROSIM output was used for the purpose of comparison of conditions under each alternative. As stated on page 3-13 of the 1997 Draft EIR/EIS, PROSIM is not a daily operations model. No "smoothing" of operations was assumed.

S4-10, Dan Flory, Department of Water Resources
The summary tables in Appendix C to the 1997 Draft EIR/EIS indicate that within any given month the absolute minimum and maximum values could occur in different water years; however, the minimum and maximum differences between alternatives were calculated from the same water year.

S4-11, Dan Flory, Department of Water Resources
The hydrology used in the analysis was consistent with the no-action conditions used in the CVPIA. Water Forum data on the "F-pattern" fish flows were not available when the 1997 Draft EIR/EIS was prepared and have been put aside by the Water Forum in favor of the AFRP.

S4-12, Dan Flory, Department of Water Resources
Average annual deliveries were not used as an American River "demand" in the PROSIM modeling. Specific annual demands were developed and used as input.

S4-13, Dan Flory, Department of Water Resources
Table 3-2 in Chapter 3 of the 1997 Draft EIR/EIS shows simulated American River demands for Alternatives 1, 2, and 3, whereas Table C-3 of Appendix C shows simulated deliveries to the City under existing conditions with annual average deliveries of 85 TAF. Table C-4 shows the simulated Alternative 1 delivery to the City of 100 TAF in almost all years, which is essentially the same as the value shown in Table 3-2 for the City of Sacramento at PROSIM node 16. As shown in Table 3-2, demands at PROSIM node 17 are consistent with project operations described in Chapter 2 of the 1997 Draft EIR/EIS.

S4-14, Dan Flory, Department of Water Resources
Annual average chloride levels simulated at Rock Slough were not the only criteria used to evaluate the significance of water quality impacts. Annual averages were used to describe the overall water quality changes resulting from Alternatives 2 and 3. Monthly changes were used as significance criteria and were presented graphically in Figures 4-5 through 4-7 of the 1997 Draft EIR/EIS. Releases required to meet standards are one component of the hydrologic modeling.

S4-15, Dan Flory, Department of Water Resources
See response to the "PROSIM Modeling" and "Coordinated Operations Agreement Modeling" major issues in Chapter 3 of this document.

S4-16, Dan Flory, Department of Water Resources
See response to the "San Joaquin County Conjunctive Storage" major issue in Chapter 3 of this document.

Chapter 6 (Continued)

Local Agency Comments on the 1997 Draft EIR/EIS

NORMAN D. COVELL
Air Pollution Control Officer

SACRAMENTO METROPOLITAN

AIR QUALITY
MANAGEMENT DISTRICT

L1

TIMOTHY W. TAYLOR
Chief, Mobile Source Division

November 23, 1997

Mr. Kurt Ladensack
East Bay Municipal Utility District
Water Supply Improvements Division
P.O. Box 24055, MS #305
Oakland, CA 94623-1055

Subject: PROJECT NAME: DRAFT EIR/EIS EAST BAY MUNICIPAL UTILITY DISTRICT SUPPLEMENTAL WATER SUPPLY PROJECT

OUR NUMBER: PR970249

Dear Mr. Ladensack:

Thank you for the opportunity to review the above-captioned DEIR/EIS. The staff of the Sacramento Metropolitan Air Quality Management District (District) has reviewed the draft, and offers the following comments.

Construction Phase of Project:

1. In an effort to reduce emissions of pollutants to the atmosphere, the District is supportive of the use of reduced-emission engines and reduced-emission alternative fuels to power heavy-duty on-road and off-road equipment. We recommend that the Final EIR/EIS consider the impact of using such engines/fuels as mitigation measures in reducing project emissions of ozone precursors such as reactive organic gases (ROG) and nitrogen oxides (NOx), to determine if additional mitigation is feasible. L1-1

2. District Rule 403 - FUGITIVE DUST will apply to this project. The City staff or contractor may wish to contact the District at (916) 386-6650 for information regarding this Rule. A copy of this Rule is attached for your reference.

Operations Phase of Project:

3. We support the use of electrically-powered pumps at the proposed pump stations.

Again, thank you for referring the DEIR/EIS to us for comment. If you have any questions regarding these comments, please feel free to call me at (916) 386-7032

Sincerely,

Phil Stafford
Associate Air Quality Planner

cc: Ron Maertz, SMAQMD

G:\MOBILE\WPP JS\LANDUSE\PR970249.ltr

916-386-6640 • FAX 916-386-2279 • SMAQMD • 8475 Jackson Rd., Suite 200 • Sacramento, CA 95826-3904

RULE 403 FUGITIVE DUST
Adopted 8-3-77

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100 GENERAL

101 **PURPOSE:** To reasonably regulate operations which periodically may cause fugitive dust emissions into the atmosphere.

102 **EXEMPTIONS:** The provisions of this rule shall not apply to emissions emanating from agricultural operations, currently unworked land designated as reclaimed for agriculture, or unpaved roads open to public travel (this exclusion shall not apply to industrial or commercial facilities).

200 DEFINITIONS

201 **FUGITIVE DUST:** Solid airborne matter emitted from any non-combustion sources.

300 STANDARDS

301 **LIMITATIONS:** A person shall take every reasonable precaution not to cause or allow the emissions of fugitive dust from being airborne beyond the property line from which the emission originates, from any construction, handling or storage activity, or any wrecking, excavation, grading, clearing of land or solid waste disposal operation. Reasonable precautions shall include, but are not limited to:

301.1 Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the construction of roadways or the clearing of land.

301.2 Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts;

301.3 Other means approved by the Air Pollution Control Officer.

Response to Comment of the Sacramento Metropolitan Air Quality Management District

L1-1, Phil Stafford, Sacramento Metropolitan Air Quality Management District

Page 13-9 in Chapter 13 of the 1997 Draft EIR/EIS lists the mitigation measures proposed to reduce impacts on air quality during the construction phase of the project. These mitigation measures include the use of reduced emissions engines. Chapter 2 of the 1997 Draft EIR/EIS outlines the planned Dust Suppression Plan that will comply with the SMAQMD Fugitive Dust Rule. In addition, the intake pumps and pumping stations are currently designed to be electrically powered.

AMADOR COUNTY COUNSEL

COUNTY ADMINISTRATION CENTER
500 ARGONAUT LANE • JACKSON, CA 95642-9534 • (209) 223-6366 • FAX (209) 223-4286

John F. Hahn, County Counsel
Patrick Keene, Deputy
Alison E. Daw, Deputy

L 2

January 28, 1998

Kurt Ladensack
Water Supply Improvements Division
EBMUD
PO Box 24055
Oakland, CA 94623

re: Comments of County of Amador on Draft EIR: EBMUD Supplemental Water Supply Project

Dear Mr. Ladensack:

On behalf of the County of Amador, I am providing these comments on EBMUD's DEIR for the Supplemental Water Supply Project ("Project"). As you know, and as the DEIR states, Amador County is a major part of the watershed for Pardee and Camanche Reservoirs and thus for the whole EBMUD water supply system. Amador County itself relies on, and will in the future increasingly rely on, the Mokelumne River for surface water to supply Amador County's expected increase in population and more intensive agriculture, industry, and commerce. L2-1

One of EBMUD's Project objectives is to "increase opportunities for protection and enhancement of Mokelumne River resources..." [DEIR S-2]. Clearly, EBMUD with the proposed Project is not foregoing, and may well be increasing, its use of Mokelumne River water to serve its growing population and water supply needs. Amador County comments that the DEIR does not consider the Supplemental Water Supply Project together with and as a part of other proposed EBMUD projects such as raising the dam at Pardee Reservoir, participating with San Joaquin County interests in a Middle Bar project, and participating with the same San Joaquin County interests in the "Conjunctive Use Project" to store additional Mokelumne River water underground in San Joaquin County. EBMUD has fragmented the overall EBMUD water supply program which includes the other proposed elements into smaller projects for environmental review so that Amador County and the remainder of the public cannot review the environmental impacts of all of the L2-2

elements as one project, one which EBMUD is expressly contemplating.

Amador County requests that the subject DEIR contain environmental review of the entire proposed water supply program of EBMUD including, but not limited to, the above-described elements now under consideration by EBMUD together with this Project. Only in that way will a full environmental review of EBMUD's future water supply program be possible.

Thank you very much for your consideration of these comments.

Yours very truly,

John F. Hahn

JFH/la

Response to Comments of the Amador County Counsel

L2-1, John F. Hahn, Amador County Counsel
Water supply forecasts used by EBMUD project increased use by senior users, including Amador County.

L2-2, John F. Hahn, Amador County Counsel
See the responses to the "San Joaquin County Conjunctive Storage" and "Project Segmentation/Piecemealing" major issues in Chapter 3 of this document. Chapter 1 of the 1997 Draft EIR/EIS describes the status of EBMUD water planning efforts, including Pardee Reservoir studies.

HERUM, CRABTREE, DYER, ZOLEZZI & TERPSTRA, LLP

2291 West March Lane
Suite B100
Stockton, California 95207
(209) 472-7700 (209) 472-7986 Fax
(209) 525-8444 Modesto (209) 525-8484 Modesto Fax

JEANNE M. ZOLEZZI

L 3

January 29, 1998

Mr. Cecil Lesley, Contract Specialist
United States Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, California 95630

Mr. Kurt Ladensack
Water Supply Improvements Division
East Bay Municipal Utility District
Post Office Box 24055
Oakland, California 94623

Re: Comments on the Draft EIR/EIS
East Bay Municipal Utility District Supplemental Water Supply Project
File 1026-025

Mssrs. Ladensack and Lesley:

On behalf of the Stockton East Water District, we are making comments on the Draft East Bay Municipal Utility District (EBMUD)-Supplemental Water Supply Project Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS).

The Draft EIR/EIS acknowledges that EBMUD obtains its water rights from the American River exclusively by contract from the United States Bureau of Reclamation. The United States, in turn, holds water rights issued by the State Water Resources Control Board. Decisions of the SWRCB on the American River have acknowledged that San Joaquin County is protected by Water Code Section 11460 with regard to the American River, and particularly the water rights of the United States Bureau of Reclamation and, therefore, EBMUD. As a result, the Draft EIS/EIR is inadequate unless it includes an analysis of compliance with Water Code Section 11460. L3-1

The obligation of the United States to comply with Water Code Section 11460 cannot be dismissed simply because it is inconvenient or difficult. The requirements of

Water Code Section 11460 are mandatory; so too is the reconciliation of those requirements with any project to be carried out by EBMUD. Consequently, the alternatives studied, developed and described by the Bureau of Reclamation and EMBUD must legally include an alternative that would satisfy the requirements of Water Code Section 11460.

The only mention made of a project with San Joaquin County is dismissed because negotiations were difficult. We are unaware of any "difficulty in negotiations" exception to NEPA, CEQA, or the Watershed Protection Statute.

Upon evaluation, a project utilizing the Eastern San Joaquin County Groundwater Basin for storage might have demonstrated that the needs of both Eastern San Joaquin County and EBMUD could be met from the limited American River Resource, while at the same time meeting the legal obligation to provide water to watershed protection areas before exporting. L3-2

Very Truly Yours,

Jeanne M. Zolezzi
Attorney-at-Law

JMZ:des

cc: Mr. Edward M. Steffani, Stockton East Water District

Response to Comments of the Stockton East Water District

L3-1, Jeanne M. Zolezzi, Stockton East Water District
See the response to the "Area of Origin" major issue in Chapter 3 of this document.

L3-2, Jeanne M. Zolezzi, Stockton East Water District
See the response to the "San Joaquin County Conjunctive Storage" major issue in Chapter 3 of this document.

L 4

EAST SAN JOAQUIN PARTIES WATER AUTHORITY

Central San Joaquin WCD
City of Lodi
Woodbridge Irrigation District
California Water Service Co.

San Joaquin County
Stockton East Water District
City of Stockton
N. San Joaquin WCD

9 Ferncliff Court
Sacramento, CA 95823

February 2, 1998

Mr. Kurt Ladensack
Water Supply Improvements Division
East Bay Municipal Utility District
P.O. Box 24055
Oakland, CA 94623

Mr. Cecil Lesley, Contract Specialist
U.S. Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, CA 95630

Re: Comments of East San Joaquin Parties Water Authority on the Draft EIR/EIS; East Bay Municipal Utility District - Supplemental Water Supply Project

Gentlemen:

These comments on the Draft East Bay Municipal Utility District-Supplemental Water Supply Project Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS) are presented on behalf of the East San Joaquin Parties Water Authority (ESJPWA) with the approval and direction of the Board of the ESJPWA. The ESJPWA is a California joint powers agency created by and consisting of the North San Joaquin Water Conservation District, the Woodbridge Irrigation District, the Stockton East Water District, the Central San Joaquin Water Conservation District, the City of Lodi, the City of Stockton, and the San Joaquin County Flood Control and Water Conservation District. The California Water Service Company is a non-voting associate member.

Reference is made in these comments to two other reports the data from which are not repeated in detail here because the authors of the present Draft EIR/EIS have full knowledge of the contents of these two reports. The first report is the "Final Environmental Impact Statement and Planning Report, American River Water Resources Investigation" ("American River Investigation") prepared by the United States

Bureau of Reclamation ("USBR") itself in conjunction with various local interests and dated December 4, 1997. The second report is the "Final Report, Mokelumne Aquifer Recharge and Storage Project, Joint Project Between the East Bay Municipal Utility District ("District") and the Eastern San Joaquin Parties," prepared by Montgomery Watson in association with CH2M Hill, March 1996 ("Mokelumne Aquifer Report"). The District was directly involved in the preparation of the second report.

The Draft EIR/EIS notes that the District obtains its water rights from the American River exclusively by contract from the United States Bureau of Reclamation. The United States, in turn, holds water rights issued by the State Water Resources Control Board. As discussed later, the State Water Resources Control Board noted expressly that San Joaquin County is protected by the Watershed Protection law (California Water Code Section 11460) with regard to the American River, and particularly the water rights of the United States Bureau of Reclamation. Any discussion of water projects utilizing that American River water source must include an analysis of compliance with the Watershed Protection law. The ESJPWA finds that the Draft EIR/EIS is inadequate because it does not fully consider other reasonable alternatives to the Project and because it fails to address protection of the American River watershed and an area immediately adjacent thereto "which can conveniently be supplied with water therefrom" as required under both the Central Valley Project Improvement Act and the California Water Code. L4-1

The overdrafted condition of the Eastern San Joaquin County Groundwater Basin ("Basin") which generally underlies the territory of the members of the ESJPWA, has been documented repeatedly, including in the American River Investigation and the Mokelumne Aquifer Report. The continued failure of the United States and the State of California to deliver on plans and promises made over the years to provide American River Water to the Eastern San Joaquin County Area has created a serious groundwater overdraft in the Basin which today threatens the agricultural and urban economic viability of Eastern San Joaquin County. As just one example, the State of California in Decision 858 denied a permit to the North San Joaquin Water Conservation District for water to be stored at the Camanche site in favor of the District. The denial was in part based on the fact that North San Joaquin would be supplied with water by the Folsom South Canal. The need and the overdraft condition have been well documented in the American River Investigation and the Mokelumne Aquifer Report. We will not repeat that documentation. L4-2

A viable alternative to the proposed Project with its various alignment options is the use of the Basin for the storage of water for future use in the East Bay area. This alternative was recognized as early as the District Water Supply Management Program and its EIR. The alternative would permit greater use of wet year water and would reduce demand for dry year water with resulting environmental benefits. The alternative is not considered in the Draft EIR/EIS. The alternative is dismissed with a short statement in the Appendix which says nothing more than initial negotiations were difficult. For the present Draft EIR/EIS to be adequate, this alternative has to be analyzed. L4-3

Additional study and investigation in the Draft EIR/EIS will demonstrate that the Mokelumne Aquifer Recharge and Storage Project and appropriate variations discussed in the Mokelumne Aquifer Report and the American River Investigation need full consideration as project alternatives with less damaging physical impacts to the environment than the two project alternatives addressed in the Draft EIR/EIS. The Mokelumne Aquifer Report Project or reasonable variations on that project would have a number of environmental benefits including the reduction of groundwater overdraft in the Basin and reduction of diversions away from the Delta in dry years with fewer negative environmental impacts.

Of the two alternatives described in the Draft EIR/EIS, Alternative 2, the Folsom South Canal Connection, utilizing alignment 2 or 4 connecting to the Mokelumne Aqueduct Pumping Plant, is preferable as it would permit additional conjunctive uses with the members of the ESJPWA. The effect of the alignments on the Basin is not addressed in the Draft EIR/EIS. The document improperly omits discussion of these potential benefits. L4-4

EIR/EIS Does Not Consider All Reasonable Project Alternatives

The Draft EIR/EIS states the no-action alternative and those two additional alternatives that survived the screening process set up in the Alternatives Screening Report for Supplemental Water Supply Project (East Bay Municipal Utility District, September 1997). According to the Draft EIR/EIS:

"To be considered a feasible option for the proposed Supplemental Water Supply Project, the alternative needed to be reasonably capable of meeting the defined screening criteria. If an alternative could clearly be shown to be incapable of meeting one or more criteria, the alternative was eliminated from further consideration in the EIR/EIS.

The Alternatives Screening Report provides numerous criteria. One criteria requires that it must allow the District to take delivery of its contracted maximum of 150,000 AF per year of American River Water consistent with the Hodge decision. Discussion relative to this criteria assumes compliance with the Hodge decision and recognizes the possibility of litigation to confirm compliance.

Another screening criteria provides that an alternative must not require any permits that cannot be reasonably obtained given consideration of cost, logistics, or existing technology. The Alternatives Screening Report applied this criteria to eliminate a conjunctive use project with the East San Joaquin Parties. Citing "lack of progress during negotiations, combined with growing concerns over project timing," the lead agencies appear to have dismissed this alternative. Nothing in law allows the dismissal of a very real and feasible alternative because initial negotiations may be difficult. The history of California and the West is replete with difficult water negotiations which have ultimately led to projects which were constructed and are today successfully operating. L4-5

More importantly, however, the obligation of the United States to comply with the Watershed Protection law as found in California Water Code Section 11460 cannot be dismissed simply because it is inconvenient or difficult. The requirements of California Water Code Section 11460 are mandatory; so too is the application of these requirements to any project to be carried out by the District. L4-6

Although considerations of project timing and cost are factors to be considered, such criteria cannot be used to eliminate an otherwise viable alternative which meets all Supplemental Water Supply Project objectives previously adopted by the project proponent. The National Environmental Policy Act ("NEPA") mandates that the Bureau of Reclamation "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C.A. Section 4332(E). This obligation is in addition to the requirement that the EIS provide a detailed statement on alternatives to the proposed action. 42 U.S.C.A. Section 4332(C)(iii). As such, the alternatives L4-7

"studied, developed and described" by the Bureau of Reclamation must legally include an alternative that would satisfy the requirements of the Watershed Protection law.

The California Environmental Quality Act Guidelines ("CEQA Guidelines") requires that each EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. CEQA Guidelines Section 15126(d)(3).

Because the use of the Basin as a part of an American River Project is not fully considered as an alternative in the Draft EIR/EIS, the Draft EIR/EIS is flawed in that it does not provide a sufficient evaluation, analysis, and comparison of this viable alternative to the other project alternatives which were considered. The screening criteria cannot preclude alternatives where there is a conflict as to the most beneficial use of available resources. The prospect of possibly difficult negotiations cannot be a basis for dismissing a well documented alternative. We are unaware of any "difficulty in negotiations" exception in NEPA, CEQA, or the Watershed Protection law. L4-8

The Draft EIR/EIS must be amended to include an alternative to utilize the Basin to meet the Supplemental Water Supply Project objectives.

At present, the District is not only exporting large amounts of Mokelumne River water to the Bay Area, it is now proposing to export American River water to the Bay Area, conveying the water through Northern San Joaquin County to the District Mokelumne Aqueducts. It should be noted that the District could offset a portion of its Mokelumne River diversions by use of American River Water available to it thereby allowing the agencies and parties which now divert from the Mokelumne the opportunity to divert from the Mokelumne the firm and adequate water supply they need, as well as furnishing additional water for fish and wildlife needs. L4-9

The Draft EIR/EIS must further be amended to include another alternative to utilize American and Mokelumne water as suggested above.

The Draft EIR/EIS does not address Impacts on the Watershed and Water Supply Contract Changes under the CVPIA

The CVPIA mandates certain contract reforms be incorporated in any renewal of Existing Long-Term Contracts. Such reforms are required to incorporate "all requirements imposed by existing law" including the provisions of the CVPIA itself. Section 3404(c)(2). In addition, the Central Valley Project Improvement Act Programmatic Environmental Impact Statement (September 1997) states at page V-7: L4-10

> It is further assumed that the contract renewal process would include the completion of a needs analysis to identify and quantify beneficial uses/demands and a biological assessment of lands that would receive CVP water. Either of these analyses could limit the amount of water that could be delivered.

The Draft EIR/EIS does not address the existing contract and its renewal in light of the proposed project and its alternatives. As a result, it does not consider watershed protection needs and commitments of Central Valley Project water from the American River, particularly to the Basin. There is no assurance that the District will be able to indefinitely draw upon its 150,000 AF under implementation of the CVPIA.

The Watershed Protection law requires that in the operation of the CVP, the watershed or area wherein water originates, or an area immediately adjacent thereto which can be conveniently be supplied with water therefrom, shall not be deprived of the prior right to all of the water reasonably required to supply the beneficial needs of the watershed. This is consistent with policy and other State laws designated to protect watersheds and areas of origin from water transfers which would deprive the local area of water needed for its own beneficial uses.

With the substantial and clearly demonstrated need for additional water for the Basin (set forth in the American River Investigation and the Mokelumne Aquifer Report as well as other studies), there may not be enough water available from the American River to meet the needs of the District as well as the Basin which is to be protected by the American River watershed. The USBR is bound by applicable State water law in its operation of the Central Valley Project, 43 U.S.C.A. Section 383. This includes the

Watershed Protection law. The Bureau must consider the impact of water deliveries to the District under future contracts affecting the Basin and with respect to future use of water exported from the Basin.

The Eastern San Joaquin County area is adjacent to the American River Watershed and it can be conveniently served from the American River Watershed. The existence of the Folsom South Canal extending from the American River to a point only a few miles from the Basin demonstrates that the Eastern San Joaquin Area and its Basin can conveniently be served from the American River Watershed.

The State Water Resources Control Board (SWRCB), in past decisions has supported the conclusion that San Joaquin County is entitled to the protection of the Watershed Protection law with respect to the American River. In Decision No. 1356, dated February 5, 1970 relative to the Auburn-Folsom South Project of the SWRCB, the Board included a condition 19 which among other things extended a contracting preference to Placer, Sacramento, and San Joaquin Counties. Thereafter, Contra Costa County Water District petitioned for an amendment including that District within the protection of Condition 19. The Board then deleted condition No. 19 by a decision adopted December 17, 1970, and observed: "The Counties referred to in the condition are clearly within the area entitled to the benefits of the Watershed Protection law and, if necessary, can assert their rights independently of any terms in the Bureau's permits." The SWRCB concluded that San Joaquin County is an area entitled to the benefits of the Watershed Protection law. The Project under study, regardless of which alignment might be chosen, is subject to a very real constraint and limitation which the Draft EIR/EIS ignores. By ignoring the constraint, the Draft EIR-EIS also fails to consider a very real environmental impact: allowing the Basin to be further overdrafted. The gravity of these significant environmental impacts is discussed in detail in the American River Investigation and the Mokelumne Aquifer Report.

The omission of the Eastern San Joaquin Groundwater Basin storage alternative exacerbates the inadequacy of the Draft EIR/EIS. A project utilizing the Eastern San Joaquin County Groundwater Basin for storage would demonstrate that the needs of both Eastern San Joaquin County and the District could be met from the American River, and comply with the Watershed Protection law. The availability of water for export from the watershed by the two alternative projects studied is not demonstrated and cannot be demonstrated. The Draft EIR/EIS is deficient and inadequate in that the

environmental impacts of depriving the Eastern San Joaquin County Area of the water it requires in favor of an export project are not addressed. The foregoing is true in view of the protection extended to the Eastern San Joaquin County Area by State and Federal law in relation to the project being studied.

The ESJPWA continues to be willing to work with the District and the USBR in achieving a reasonable solution to our mutual water needs. We are pleased that negotiations with the District have been resumed.

Respectfully submitted,

George L. Barber
Chairman
East San Joaquin Parties Water Authority

cc: East San Joaquin Parties Water Authority
Members, Alternates, and Staff

Response to Comments of the East San Joaquin Parties Water Authority

L4-1, George L. Barber, East San Joaquin Parties Water Authority
See the responses to the "Alternatives Considered" and the "Area of Origin" major issues in Chapter 3 of this document.

L4-2, George L. Barber, East San Joaquin Parties Water Authority
It is acknowledged that the groundwater basin underlying San Joaquin County is in overdraft. However, the purposes of the Supplemental Water Supply Project are clearly outlined in Chapter 1 of the 1997 Draft EIR/EIS, and the project objectives are described in Chapter 2 of the 1997 Draft EIR/EIS.

L4-3, George L. Barber, East San Joaquin Parties Water Authority
See the response to the "San Joaquin County Conjunctive Storage" major issue in Chapter 3 of this document.

L4-4, George L. Barber, East San Joaquin Parties Water Authority
None of the alignments discussed in the 1997 Draft EIR/EIS or REIR/SEIS would affect the San Joaquin County groundwater basin. Although there is no defined project involving conjunctive use with San Joaquin County interests, a program-level analysis of potential environmental effects was included in the REIR/SEIS.

L4-5, George L. Barber, East San Joaquin Parties Water Authority
See the responses to the "Alternatives Considered" and "San Joaquin County Conjunctive Storage" major issues in Chapter 3 of this document. See also Chapter 18 of the REIR/SEIS. Documentation is provided to show that an alternative involving a groundwater banking project is institutionally infeasible at this time. EBMUD worked with San Joaquin County interests for a substantial period of time to determine the feasibility of such a project.

L4-6, George L. Barber, East San Joaquin Parties Water Authority
See response to the "Area of Origin" major issue in Chapter 3 of this document.

L4-7, George L. Barber, East San Joaquin Parties Water Authority
See the responses to the "Alternatives Considered" and the "Area of Origin" major issues in Chapter 3 of this document. See also the REIR/SEIS.

L4-8, George L. Barber, East San Joaquin Parties Water Authority
At this time, no basis exists for identifying a potential project alternative with San Joaquin County interests. As stated in the 1997 Draft EIR/EIS and on pages 2-11 and 2-12 of Appendix B to the 1997 Draft EIR/EIS, EBMUD attempted to negotiate a mutually acceptable alternative with San Joaquin County interests for an extended period (see the response to the "San Joaquin County Conjunctive Storage" major issue in Chapter 3 of this document). Because a specific joint project agreeable to EBMUD and San Joaquin County interests was not developed, EBMUD decided to work on other supplemental water supply options and adopted the Updated Water Supply Management Program Action Plan. If and when a specific alternative can be identified involving conjunctive use in San Joaquin County, EBMUD will consider such a program and, if appropriate, participate in environmental documentation required to implement such a program. See also Chapter 18 of the REIR/SEIS.

L4-9 George L. Barber, East San Joaquin Parties Water Authority
The objectives of the project described in this comment are substantially different from the Supplemental Water Supply Project project objectives. If and when a feasible project is identified and decisions are made to pursue such an alternative, that would be the appropriate time to prepare related environmental documentation.

L4-10 George L. Barber, East San Joaquin Parties Water Authority
See the responses to the "Area of Origin" and "San Joaquin County Conjunctive Storage" major issues in Chapter 3 of this document. See also responses to comments above. EBMUD and Reclamation have negotiated a draft amendatory contract. See Appendix A of this document. The contract amendment process is in full compliance with all applicable federal and state laws.

NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT
25 N. School St. Phone: 333-1414
LODI, CALIFORNIA 95240

L5

February 5, 1998

Mr. Kurt Ladensack
Water Supply Improvements Division
EBMUD
P. O. Box 24055
Oakland, California 94623

Mr. Cecil Lesley, Contract Specialist
U.S. Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, California 95630

Re: Comments of North San Joaquin Water Conservation Distrct on the Draft EIR/EIS; East Bay Municipal Utility District - Supplemental Water Supply Project

Gentlemen:

North San Joaquin Water Conservation District offers the following comments on the Draft EIR/EIS; East Bay Utility District - Supplemental Water Supply Project:

1. The District concurs with the comments of the East San Joaquin Parties Water Authority to you dated February 4, 1998. L5-1

2. The District notes that no consideration has been given in the Draft EIR/EIS to the demand of the District for a water right priority to Mokelumne River water senior to that of East Bay Municipal Utility District as more particularly described and presented to the State Water Resources Control Board in the District's written and oral testimony presented at the 1992-93 Water Right hearing on the Mokelumne River and more particularly in its position as set forth in the "Brief of North San Joaquin District", dated May 17, 1993, and filed in that proceeding as well as the Protest of North San Joaquin Water Conservation District dated September 5, 1997, and Supplement No. 1 thereto dated November 21, 1997, filed in the Federal Energy Regulatory Commission proceeding on Project No. 2916-004. L5-2

3. The Draft EIR/EIS does not present alternatives which could lead to a basin wide solution to the water needs of Sacramento and San Joaquin Counties and is, therefore, deficient. L5-3

Please be assured that North San Joaquin Water Conservation District continues to be willing to work with East Bay MUD to achieve a practical solution to our collective water needs for the benefit of both parties.

Very truly yours,

NORTH SAN JOAQUIN WATER CONSERVATION DISTRICT

STEWART C. ADAMS, JR.
Attorney for District

JAMES F. SORENSEN
District Engineer

SCA:fjo

Response to Comments of the North San Joaquin Water Conservation District

L5-1, Stewart Adams, North San Joaquin Water Conservation District
Responses to ESJPWA comments (L4-1 to L4-10) are applicable.

L5-2, Stewart Adams, North San Joaquin Water Conservation District
The project objective for the Supplemental Water Supply Project is to make use of EBMUD's contract with Reclamation, consistent with the Hodge decision. Water right priority issues for the Mokelumne River are separate and distinct from the Supplemental Water Supply Project.

L5-3, Stewart Adams, North San Joaquin Water Conservation District
See the response to the "San Joaquin County Conjunctive Storage" major issue in Chapter 3 of this document.

L 6

AMERICAN RIVER PARKWAY
ADVISORY COMMITTEE

4040 Bradshaw Road, Sacramento, CA 95827
February 6, 1998

East Bay Municipal Utility District
Mail Station 305, P.O. Box 24055
Oakland, Ca 94607-4240
Attn.: Kurt Ladensack, Manager, Water Supply

Bureau of Reclamation, Improvement Division
North Central California Area Office
7794 Folsom Dam Road
Folsom, CA 95630-1799
Attn: Robert Schroeder, Environmental Specialist

SUBJECT: EIR, EIS East Bay Municipal Utility District Supplemental Water Supply Project

Gentlemen:

The American River Parkway Advisory Committee has studied the above subject and wishes to make the following comments and recommendations:

A. Any crossing or structure of this magnitude causes some degradation of the Parkway, including the quality of experiences of the users of the Parkway. The visual intrusion and attendant activities with the structure detracts from the serenity of the natural landscape. Those natural values make the Parkway the "Crown Jewel" of the County park system that receives more than two million visitor-days annually. Every intrusion, however small, collectively erodes over time the original quality of the Parkway. The project with its EIR-EIS does not adequately provide mitigation for this problem. L6-1

Recommendation That EBMUD provide mitigation for this loss in quality of recreational experiences of the Parkway users. This can be done by providing some long-term benefits of the project to these users. Indeed, assistance in acquisition of critical inholdings that the parkway desperately needs, could go a long way toward balancing the criticism of the project. Some of the highest priority needs for inholdings are located near the proposed five alternative intake sites. It is, therefore, recommended that:

- The Urrutia property (123 acres) be acquired and turned over to the Sacramento County Department of Regional Parks, Recreation and Open Space for operation and management consistent with the provisions of the American River Parkway Plan.
- The levee between I-5 and I-80 on the south side of the American River be paved for use as a Class I bike trail.

Additionally, it is understood that there are other mitigation sites being proposed by the City of

Sacramento, County of Sacramento and Save the American River Association (SARA). We also endorse and support those mitigation efforts.

B. The American River Parkway Advisory Committee commends EBMUD for choosing Alternate #3, rather than the original proposal to intake water to the Folsom South Canal at the Nimbus area, which we find unacceptable because of damage to downstream plants and animals and recreation. The documents adequately describe the advantages and disadvantages of the revised set of possible intakes close to the confluence of the American and Sacramento rivers. L6-2

Recommendation That EBMUD select intake site #5 for the following reasons:

1. Any intake structure degrades the Parkway to some degree. Option #5, however, requires a shorter ramp structure because the intake is much closer to the south side of the river, thus creating less adverse visual impact.

2. Being upstream from the confluence of the two rivers, Option #5 creates less problems to boaters and fishermen at Discovery park

3. Option #5 would cause less construction disruption of city streets.

4. Option #5 should provide better quality water for the East Bay users.

5. Option #5 is less costly, though the differences in the five options are relatively insignificant when amortized over about 50 years of the life of the project.

C. The American River Parkway Plan (1985) is the primary document that has served well to protect the original concept of a preserved major greenbelt for public enjoyment, running through the center of our metropolitan area. In accordance with the Urban American River Parkway Preservation Act (State Statutes, Chapter 10, 1984), the Parkway Plan was legally approved by the Sacramento City Council, the Sacramento County Board of Supervisors, and the State Legislature. The Plan describes permitted uses and facilities. The maps included in the plan show locations of approved facilities that are integral parts of the adopted Plan. The EIR does not address the need for Plan ammendments. L6-3

Recommendation That prior to approval of the project by all concerned, EMBUD work jointly with the County in obtaining legal changes in the Parkway Plan to conform to the location of the new intake facility. This process will require the approval by the City Council, the Board of Supervisors and the Legislature.

In conclusion, the American River Parkway Advisory Committee thanks EBMUD for its extensive efforts to try to satisfy the many objections to the project with mitigation proposals. We will be happy to work further with you on this aspect.

Sincerely,

Ann Stevens

Ann Stevens, Co-Chair
American River Parkway Advisory Committee

EA:AS:bk

c: John O'Farrell, CDNAA
Park and Recreation Commission
Board of Supervisors

Response to Comments of the American River Parkway Advisory Committee

L6-1, Ann Stevens, American River Parkway Advisory Committee
EBMUD recognizes that the construction of Intake Alignments 1 through 3 could cause significant impacts on visual resources of the Lower American River. EBMUD would cooperatively work with the community and City and County of Sacramento to develop an appropriate design for the intake facility if Alternative 3 were implemented.

L6-2, Ann Stevens, American River Parkway Advisory Committee
The preference for Alternative 3, intake Site 5 is noted.

L6-3, Ann Stevens, American River Parkway Advisory Committee
Table 2-7 in the 1997 Draft EIR/EIS recognizes that the American River Parkway Plan would require an amendment for the project to proceed.

L 7

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CENTRAL DELTA WATER AGENCY
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February 13, 1998

Mr. Kurt Ladensack
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P. O. Box 24055, MS#305
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Mr. Cecil Lesley, Contract Specialist
Central California Area Office
U.S. Bureau of Reclamation
7794 Folsom Dam Road
Folsom, California 95630

Re: Comments of Central Delta Water Agency on Draft EIR/EIS; East Bay Municipal Utility District Supplemental Water Supply Project

Gentlemen:

On January 16, 1997, this Agency addressed a letter to EBMUD advising of our position that an in-Delta diversion alternative would need to be fully and carefully considered in your environmental compliance documents on this project. Unfortunately, you have chosen not to include and analyze an in-Delta alternative in the Draft EIR/EIS. In our view, this glaring and unjustified omission which, if not repaired, renders the EIR/EIS fatally deficient and out of compliance with the letter and intent of both CEQA and NEPA which require assessment of all reasonable alternatives to the proposed action. L7-1

We have reviewed the Alternatives Screening Report included as Appendix B to the EIR/EIS, and especially Chapter 4, "Alternatives Screening Criteria," and Chapter 5, "Evaluation of Alternatives," thereof, in an effort to understand your rationale for not including an in-Delta diversion as an alternative in your Draft EIR/EIS. The nine paragraphs appearing at pages 5-5 and 5-6 and Table 5-1 which are cited as the justification for "precluding this alternative from further discussion" do not provide the reader with sufficient detailed analysis to justify the conclusion, especially in light of the following points which <u>are not addressed</u>:

1. <u>EBMUD currently has the capability of diverting a portion of its supplies from the Delta, and effectively used an in-Delta diversion during the 1976-77 drought emergency</u>. L7-2

During the 1976-77 drought emergency, EBMUD constructed an intake facility at the location of its aqueduct crossing at Middle River. It was thereby able to offset to a considerable extent a diminished supply normally available at Pardee Reservoir. As we recall, this facility also made it possible for EBMUD to help supply Marin County with water piped across the Richmond-San Rafael Bridge during 1977.

Sometime after 1977, EBMUD dismantled its Middle River diversion capability, but constructed its Bixler Pumping Plant which has the capability of pumping Delta water from Indian Slough into the Mokelumne Aqueduct. We were surprised to find <u>almost no mention</u> of the existing Bixler Pumping Plant in the Draft EIR/EIS; indeed, the only reference we found was a depiction of its location on Figure 3-5 in the Appendices in Volume II. We would have thought that the No-Action Alternative description would have referenced the current capability of making in-Delta diversions from the Existing Bixler Pumping Plant, as well as the District's rationale in constructing this plant at a location which could be expected to produce water quality inferior to that normally present at the former Middle River location or at other in-Delta locations which might be accessed. The facts that the District has a current ability to divert water from the Delta, and has relied upon an in-Delta diversion under emergency conditions in the past, are clearly relevant to the current analysis.

What is clear from the nine paragraphs devoted to this subject in Appendix B is that EBMUD is trying to access the best water quality to supplement its Mokelumne River supply. In as much as all of the State Water Project and Central Valley Project municipal customers south of the Delta (representing approximately 50% of the residents of this state) use and <u>covet</u> in-Delta diverted water as all or part of their domestic water supply, one must question whether this serves as a reasonable basis for rejecting, and refusing to even present a reasoned analysis of, an in-Delta diversion alternative. EBMUD's neighbor, the Contra Costa Water District is in the process of constructing the Los Vaqueros Project which will rely on in-Delta diversions to supplement its existing in-Delta diverted supply from the Central Valley Project, from which Contra Costa Water District somehow manages to treat and deliver a water supply to its customers which meets all applicable drinking water standards, at times exceeding for a number of constituents the quality of the water which EBMUD currently delivers to its customers. L7-3

2. The preferences accorded to the water needs of the legally defined Delta by Water Code Sections 11460 and 12200 et seq., dictate that other alternatives be presented and analyzed in detail in the Draft EIR/EIS. L7-4

EBMUD obtains its water rights from the American River exclusively by contract from the United States Bureau of Reclamation's Central Valley Project. Water Code Section 11128 explicitly applies the preferences described in Water Code Section 11460 to the Central Valley Project. As such, service from the Bureau's water rights on the American River, a portion of which are contracted to EBMUD, must include an analysis of compliance with Section 11460.

Exports of CVP water from the Bay-Delta watershed are also governed by the Delta Protection Act (California Water Code Sections 12200 et seq.). For example, section 12202 mandates that:

> Among the functions to be provided by the State Water Resources Development System, in coordination with the activities of the United States in providing salinity control for the Delta through operations of the Federal Central Valley Project, shall be the provision of salinity control and an adequate water supply for the users of water in the Sacramento-San Joaquin Delta.

Section 12204 adds that:

> In determining the availability of water for export from the Sacramento-San Joaquin Delta no water shall be exported which is necessary to meet the requirements of Sections 12202 and 12203 of this chapter.

Because the alternatives in the Draft EIR/EIS would divert American River water around the Delta to areas not included within the Delta (as defined in Water code Section 12220), the impacts of the proposed export of water that would otherwise flow into the Delta needs to be analyzed under Sections 11460 and 12200 et seq. For example, CVP water diverted by EBMUD at Nimbus Dam or near the confluence with the Sacramento River at Interstate 5 for use in the EBMUD service area could deprive the Delta of water reasonably required to adequately supply the beneficial needs of the area in violation of Water Code Section 11460. To the extent that such a diversion denies salinity control and an adequate water supply for Delta users, it would violate the provisions of Water Code Section 11460 and the Delta Protection Act (12200 et seq.). The joint EIR/EIS must demonstrate that the Delta will be assured continued salinity control and an adequate

supply with this project. The singular and cumulative effects of the proposed reduction of inflow to the Delta should be analyzed. Reduction of inflow particularly during low flow periods could result in higher concentrations of TOC, Bromides, Chlorides and other constituents important to the beneficial use of Delta waters.

Water Code Section 12205 states:

> It is the policy of the State that the operation and management of releases from storage into the Sacramento-San Joaquin Delta of water for use outside the area in which such water originates shall be integrated to the maximum extent possible to permit the fulfillment of the objectives of this pact.

The two alternatives selected by the project sponsors would each divert the American River water contracted from the Bureau of Reclamation above or in the uppermost reaches of the Delta, thereby depriving the "common pool" contemplated by the Delta Protection Act of a significant portion of its fresh water supply. The impacts of these types of proposals on the Delta system and the environmental and socio-economic resources dependent upon the Delta waters must be examined in depth to be able to judge the impacts of these alternatives.

3. Other Alternatives

It is imperative that other alternatives which may provide better opportunities to protect and preserve the Delta as a common pool, such as an in-Delta diversion, increased water reclamation and recycling and wet period diversions coupled with groundwater storage, be described and analyzed under NEPA and CEQA before an informed judgment on this proposal will be possible. L7-5

Because EBMUD enjoys a relatively ample and pristine water supply from Pardee Reservoir, it can make greater use of blending, reclamation and recycling with far less inconvenience than most of the other water purveyors in the State of California. It is unreasonable and unfair to cast aside the needs of the Bay/Delta estuary and the other areas of origin simply to satisfy what appears to be a gluttonist boast of providing "pure Sierra Snowmelt".

Installation of dual water delivery systems particularly for new development and those areas where existing piping systems must be replaced can provide the opportunity for increased use of reclaimed water to irrigate landscaping, provide fire suppression and even provide water for flushing toilets.

Consideration should also be given to increased efforts to implement conservation measures such as low flow showerheads and toilets.

Other Bay Area Districts and communities already have access to and presently utilize water diverted from the Delta. An integrated drought water management plan could provide the additional needs of EBMUD without further diversions upstream of the Delta and perhaps even without new Delta pumping facilities.

SWP or CVP water could be provided by way of the existing pumping plants near Tracy by way of the Contra Costa Water District pumping plants at Rock Slough or Old River or by way of a modification of the same.

Integration of the EBMUD proposal with groundwater banking in Sacramento and San Joaquin Counties could provide the opportunity to limit diversions from the American River to only high flow periods (when impacts to the Bay/Delta are reduced). Wet period water could be banked underground for later extraction during drought periods. Such an integrated plan could be structured to provide a priority to the uses in Sacramento and San Joaquin Counties, which are recognized "areas of origin", thereby assuring that the exports to EBMUD are truly surplus waters. L7-6

Yours very truly,

THOMAS M. ZUCKERMAN
Co-Counsel for the
Central Delta Water Agency

cc: CDWA Directors
Dante John Nomellini, Esq.
Alex Hildebrand
John Herrick, Esq.
San Joaquin County Board of Supervisors

Response to Comments of the Central Delta Water Agency

L7-1, Thomas M. Zuckerman, Central Delta Water Agency
See the responses to "Alternatives Considered" and "Delta and Sacramento River Alternatives" major issues in Chapter 3 of this document. See also the REIR/SEIS.

L7-2, Thomas M. Zuckerman, Central Delta Water Agency
A description of the Bixler Emergency Pumping Plant is presented on page 1-3 of the 1997 Draft EIR/EIS. As stated on page 1-3, the Bixler pumping plant had a capacity of 90 cubic feet per second (cfs). The facility's permits limited its operations to emergency purposes, and all permits for the facility expired in 1993. This facility is not designed to meet the project objectives and therefore was not specifically discussed in Appendix B to the 1997 Draft EIR/EIS. See the response to "Delta and Sacramento River Alternatives" major issue in Chapter 3 of this document. See also the REIR/SEIS.

L7-3, Thomas M. Zuckerman, Central Delta Water Agency
See the response to "Delta and Sacramento River Alternatives" major issue in Chapter 3 of this document. See also the REIR/SEIS.

L7-4, Thomas M. Zuckerman, Central Delta Water Agency
See the response to the "Area of Origin" major issue in Chapter 3 of this document. The 1997 Draft EIR/EIS fully discloses the potential effects of Alternatives 2 and 3 and potential cumulative impacts on Delta water supply and water quality in Chapters 3 and 4 of the 1997 Draft EIR/EIS. See also the REIR/SEIS. As indicated in these analyses, no significant impacts on Delta water supplies or water quality were identified. Additionally, there is no substantial evidence that an EBMUD diversion in the Delta would eliminate or reduce the minor project-related effects identified in the 1997 Draft EIR/EIS. A diversion from the Delta would likely have similar effects on Delta water supplies and water quality as those described in the 1997 Draft EIR/EIS. Reclamation, the State of California, and other water users have primary responsibility for complying with water rights and water quality standards, and the conditions of these requirements will continue to be met. These requirements are in place to ensure protection of Delta water supplies, and the project alternatives would not reduce compliance with those standards.

L7-5, Thomas M. Zuckerman, Central Delta Water Agency
The 1997 Draft EIR/EIS describes the extensive measures that EBMUD has already undertaken and is continuing to implement to reduce its customer's demands (pages 1-7 to 1-9). See also the response to "Alternatives Considered" major issue in Chapter 3 of this document.

L7-6, Thomas M. Zuckerman, Central Delta Water Agency
See the response to the "San Joaquin County Conjunctive Storage" major issue in Chapter 3 of this document.

L 8

Sacramento Metropolitan Water Authority

RECEIVED

February 17, 1998

Kurt Ladensack
East Bay Municipal Utility District, MS #305
P.O. Box 24055
Oakland, CA 94623-1055

Re: Comments - East Bay Municipal Utility District
Supplemental Water Supply Project Draft EIR/EIS

Dear Mr. Ladensack;

The Sacramento Metropolitan Water Authority is a California Association and Joint Powers Authority representing seventeen water purveyors who serve nearly 450,000 customers in the Sacramento region. The main purpose of the Authority is to assist its member agencies in providing their customers with a high quality, reliable water supply.

The Authority, in providing the following comments is responding on behalf of our membership with the exclusion of the City of Galt and the Rancho Murieta Community Services District.

1) The Hodge decision is referenced in several locations within the document; however, the aspect of third party water sales is not addressed even though it is specific in the Hodge decision. Why has it not been addressed? L8-1

2) Although the Hodge decision sets specific flow standards for diversions for EBMUD in order to protect the fishery, better science has been developed through the "Water Forum" for the lower American River fishery. How will the new information impact the proposed Nimbus diversions? L8-2

3) Diversions at Nimbus will have impacts not only on the fishery but potentially also on water quality in the lower American River which can increase water treatment costs and potentially lessen the quality of the final product for surface water diverters. How do you propose to mitigate these impacts? L8-3

William E. Porter
Chairman

Ed Crouse
Vice Chairman

Ed Schnabel
General Manager

Sandra Thomas
Administrative Assistant

MEMBERS

City of Folsom
Gordon Tornberg
Douglas Udall

City of Galt
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San Juan Water District
Kenneth Miller
Glenn Miller

Sacramento Metropolitan
Water Authority
A Public Entity

5620 Birdcage Street
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Citrus Heights
California 95610-7632

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(916) 967-7322 FAX

4) How will EBMUD's diversion at Nimbus, and increased water temperatures because of this diversion, impact the mortality of salmon, spawning and rearing steelhead, and other species in the lower American River? L8-4

The Authority, after reviewing the DEIR/EIS, encourages EBMUD to actively and successfully pursue the joint project and diversion near the confluence of the American and Sacramento Rivers. We believe very strongly that environmentally this alternative is the least damaging and holds the greatest opportunity of success for EBMUD. L8-5

Best regards,

Ed Schnabel

Ed Schnabel,
General Manager

st

wp51\ejs\ladensac

Solving Regional Water Issues

Response to Comments of the Sacramento Metropolitan Water Authority

L8-1, Ed Schnabel, Sacramento Metropolitan Water Authority
The 1997 Draft EIR/EIS indicates on page 1-5 that "the Hodge Decision does not currently allow EBMUD to sell any portion of its American River water supply delivered and conveyed through the FSC to a third party." Because this is an assumption of the 1997 Draft EIR/EIS, the environmental effects of third-party water sales were not addressed. The 1997 Draft EIR/EIS also indicates on page 2-12 that use by others of the potentially available capacity of the water supply would be subject to separate, supplemental, project-level environmental compliance.

L8-2, Ed Schnabel, Sacramento Metropolitan Water Authority
The Hodge Decision balances public trust values associated with the lower American River with EBMUD entitlements. The Hodge flows adequately protect the lower American River fishery. In fact, both the AFRP and Water Forum flows are largely consistent with the Hodge Decision.

L8-3, Ed Schnabel, Sacramento Metropolitan Water Authority
Hydrologic modeling presented in Chapter 3 of the 1997 Draft EIR/EIS indicates that changes in flow in the lower American River under Alternative 2 would be similar to flow during existing conditions and under Alternative 1. Because Alternative 2 would not involve a new facility or source of pollution in the lower American River, changes in lower American River water quality are not anticipated.

L8-4, Ed Schnabel, Sacramento Metropolitan Water Authority
The 1997 Draft EIR/EIS indicates in Chapter 5, beginning on page 5-17, that fisheries impacts, including impacts on American River fish habitat, are considered less than significant under Alternative 2.

L8-5, Ed Schnabel, Sacramento Metropolitan Water Authority
Commentor's preference for Alternative 3 is noted.

CITY OF STOCKTON

DEPARTMENT OF MUNICIPAL UTILITIES
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L 9

February 17, 1998

Mr. Kurt Ladensack
Water Supply Improvement Division
EBMUD
P.O. Box 24055
Oakland, CA 94623

Mr. Cecil Lesley, Contract Specialist
U.S. Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, CA 95630

DRAFT EIR/EIS; EAST BAY MUNICIPAL UTILITY DISTRICT - SUPPLEMENTAL WATER SUPPLY PROJECT

These comments on the Draft East Bay Municipal Utility District-Supplemental Water Supply Project Environmental Impact Report/Environmental Impact Statement ("Draft EIR/EIS") are presented on behalf of the City of Stockton ("City"), a municipal corporation operating under a freeholder's charter located in San Joaquin County. As stated below, the City asserts that the Draft EIR/EIS is fatally deficient and inadequate because it does not fully consider other reasonable alternatives to the Project, and because it fails to address protection of the American River watershed and an areas immediately adjacent thereto, as required under both the Central Valley Project Improvement Act and the California Water Code.

Initially, the Draft EIR/EIS only considered three alternatives, including the "No Action" alternative. Purportedly, all other alternatives had been eliminated during the screening process. According to the Draft EIR/EIS:

> "To be considered a feasible option for the proposed Supplemental Water Supply Project, the alternative needed to be reasonably capable of meeting the defined screening criteria. If an alternative could clearly be shown to be incapable of meeting one or more criteria, the alternative was eliminated from further consideration in the EIR/EIS."

DRAFT EIR/EIS; EAST BAY MUNICIPAL UTILITY DISTRICT - SUPPLEMENTAL WATER SUPPLY PROJECT

The Alternative Screening Report provides numerous criteria pursuant to which an alternative would be eliminated from consideration. One of these criteria provides that an alternative must not require any permits that cannot be reasonably obtained given consideration of cost, logistics, or existing technology. It appears this criterion was the one applied by the drafters of the Alternatives Screening Report to eliminate a conjunctive use project between EBMUD and the East San Joaquin Parties. In summarily dismissing this alternative, the drafters cited "lack of progress during negotiations, combined with growing concerns over project timing." L9-1

The City is not aware of any provision in law which authorizes the drafters to dismiss a very real and feasible alternative simply because initial negotiations may be difficult. In fact, the City believes the opposite is the state of the law. The obligation of the United States to comply with Water Code section 11460 cannot be dismissed because it is inconvenient or difficult, or there appears to be a "lack of progress during negotiations." The requirements of Water Code section 11460 are mandatory, and failure to comply with such will alone render the Draft EIR/EIS fatally flawed. It is recognized that project timing and cost are legitimate and appropriate factors to be considered in evaluating alternatives. However, such factors alone cannot be used to eliminate an otherwise viable alternative which meets all the objectives adopted by the project proponent.

The National Environmental Policy Act ("NEPA") mandates that the Bureau of Reclamation "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C.A. Section 4332 (E). This obligation is in addition to the requirement that the EIS provide a detailed statement on alternatives to the proposed action. 42 U.S.C.A. Section 4332(C)(iii). As such, the alternatives "studied, developed and described" by the Bureau of Reclamation must legally include an alternative which would satisfy the requirements of Water Code section 11460. The California Environmental Quality Act ("CEQA") requires that each EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. CEQA Guidelines Section 15126(d)(3). L9-2

Because the conjunctive use project as an alternative of the American River Project is not fully and comprehensively considered as an alternative in the Draft EIR/EIS, the City asserts that the Draft EIR/EIS is fatally flawed in that it does NOT provide a meaningful evaluation, analysis and comparison of a potentially viable alternative to the other project alternatives which were considered. The prospect of possibly difficult negotiations cannot be a basis from dismissing such a well established alternative. Moreover, the Draft EIR/EIS is devoid of any identified relationship between the asserted potentially difficult negotiations and any timing or cost criteria L9-3

which purportedly was the basis for screening the alternative. The City believes that such lack of information, in itself, fails to meet the standards required in the law.

Therefore, to comply with federal and state law, the Draft EIR/EIS must be amended to include the alternative of a conjunctive use project with the East San Joaquin Parties to meet the Supplemental Water Supply Project objectives. There is no valid basis for the lead agencies to determine that such an alternative is not a reasonable project option.

The second position being asserted by the City centers on the requirement to comply with California Water Code Section 11460 in the operation of the Central Valley Project ("CVP"). The Central Valley Project Improvement Act ("CVPIA") mandates certain contract reforms be incorporated in any renewal of Existing Long-Term Contracts. Such reforms are required to incorporate "all requirements imposed by existing law" including the provisions of the CVPIA. The Draft EIR/EIS does not address the existing contract and its renewal with respect to the proposed project and its alternatives. Accordingly, it does not consider watershed protection needs and commitments of Central Valley Project water from the American River, particularly the watershed of the Eastern San Joaquin County Groundwater Basin. L9-4

California Water Code section 11460 requires that in the operation of the CVP, the watershed or area wherein water originates, or an area immediately adjacent thereto which can be conveniently supplied with water therefrom, shall not be deprived of the prior right to all of the water reasonably required to supply the beneficial needs of the watershed. This is consistent with policy and other State laws designed to protect watersheds and areas of origin from water transfers which would deprive the local area of water needed for its own beneficial uses. There can be no question the Eastern San Joaquin County Groundwater Basin ("Basin") is an area entitled to the Watershed Protection benefits of Water Code section 11460. This fact has been firmly established by the State Water Resources Control Board in the Board's December 17, 1970, Decision No. 1356. L9-5

The U.S. Bureau of Reclamation is bound by applicable State water law in its operation of the CVP. 43 U.S.C.A. Section 383. This includes the watershed protection statute, Water Code Section 11460. The Bureau must therefore consider the impact water deliveries to EBMUD under current and future contracts would have on the Basin.

The Draft EIR/EIS totally ignores the constraints and limitations imposed by law regarding this entitlement to watershed protection. By ignoring the constraint, the Draft EIR/EIS also ignores the very real environmental impact which would result from the Project. This environmental

impact of further overdrafting the groundwater basin, cannot simply be ignored. The impacts are well known and well documented in both the Final Environmental Impact Statement and Planning Report, American River Water Resources Investigation (December 4, 1997), and the Final Report, Mokelumne Aquifer Recharge and Storage Project, Joint Project Between the East Bay Municipal Utility District and the Eastern San Joaquin Parties (March, 1996).

The watershed protection benefits to which Eastern San Joaquin County is entitled are being totally ignored in the project. Such is inappropriate, and, in our opinion, would not withstand scrutiny. Further, the U.S. Bureau of Reclamation is required by law to operate the CVP in recognition of all water rights constraints and entitlements. The alternatives proposed do not recognize the legitimate rights afforded this areas under Water Code section 11460.

Since the Draft EIR/EIS ignores the watershed protection benefits afforded San Joaquin County, ignores the environmental impact the project alternatives would have on the Basin, and fails to consider the conjunctive use alternative which would mitigate such an environmental impact, this leads to the inescapable conclusion that the Draft EIR/EIS is inadequate and fatally flawed. Accordingly, the City of Stockton respectfully asserts that the Draft EIR/EIS must be amended to take into consideration and fully evaluate, analyze and compare the conjunctive use alternative. L9-6

Morris L. Allen

MORRIS L. ALLEN
DIRECTOR OF MUNICIPAL UTILITIES

MLA:BJT:bt

cc: Dwane Milnes, City Manager
Cynthia Humbert Neely, City Attorney

Response to Comments of the City of Stockton, Department of Utilities

L9-1, Morris L. Allen, City of Stockton
See the responses to the "San Joaquin County Conjunctive Storage" and "Area of Origin" major issues in Chapter 3 of this document.

L9-2, Morris L. Allen, City of Stockton
The 1997 Draft EIR/EIS fully complies with both the intent and letter of CEQA and NEPA. The impacts of alternatives considered in the 1997 Draft EIR/EIS are fully disclosed. See response to the "Alternatives Considered" major issue in Chapter 3 of this document.

L9-3, Morris L. Allen, City of Stockton
See the response to the "San Joaquin County Conjunctive Storage" major issue in Chapter 3 of this document.

L9-4, Morris L. Allen, City of Stockton
EBMUD and Reclamation have negotiated a draft amendatory contract. See Appendix A of this document. The contract amendment process is in full compliance with all applicable federal and state laws. Any renewal of the water service contract is considered a separate action and is not proposed at this time.

L9-5, Morris L. Allen, City of Stockton
See the response to the "Area of Origin" major issue in Chapter 3 of this document.

L9-6, Morris L. Allen, City of Stockton
At this time, no basis exists for identifying a potential project alternative with San Joaquin County interests. As stated in the 1997 Draft EIR/EIS and on pages 2-11 and 2-12 of Appendix B to the 1997 Draft EIR/EIS, EBMUD attempted to negotiate a mutually acceptable alternative with San Joaquin County interests for an extended period. Because a specific joint project agreeable to EBMUD and San Joaquin County interests was not developed, EBMUD decided to work on other supplemental water supply options and adopted the Updated Water Supply Management Program Action Plan. If and when a specific alternative can be identified involving conjunctive use in San Joaquin County, EBMUD will consider such a program and, if appropriate, participate in environmental documentation required to implement such a program. See the response to the "San Joaquin County Conjunctive Storage" major issue in Chapter 3 of this document. See also Chapter 18 of the REIR/SEIS.

SRCSD

Wastewater Treatment

L10

March 3, 1998

Mr. Kurt Ladensack
Water Supply Improvements Division
EBMUD, MS #305
P.O. Box 24055
Oakland, CA 94623

Board of Directors
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Tom Accitturo

City of Citrus Heights
Roberta MacGlashan

Warren Harada
Agency Administrator

Robert E. Shanks
District Engineer

Dear Mr. Ladensack:

Subject: **Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) for the East Bay Municipal Utilities District (EBMUD) Supplemental Water Supply Project**

The Sacramento Regional County Sanitation District (SRCSD) appreciates the opportunity to comment on the DEIR/EIS for the EBMUD Supplemental Water Supply Project dated October 1997. The EBMUD/USBR DEIR/EIS water supply project proposes to divert up to 150,000 acre-feet of American River water annually to supplement the East Bay's water supply.

The SRCSD is a publicly owned wastewater agency serving over one million people by providing wastewater conveyance and treatment for the major Sacramento Metropolitan Area. The SRCSD owns the Sacramento Regional Wastewater Treatment Plant (SRWTP) and is responsible for its operation. The plant currently treats a seasonal dry weather flow in excess of 150 million gallons per day (mgd) and has a permitted capacity to treat up to 181 mgd. It is anticipated that the plant site will reach its 360 mgd buildout capacity around the year 2027. Treated wastewater that is discharged into the Sacramento River at a point below the town of Freeport must comply with strict water quality limits that are specified in a discharge permit issued by the Central Valley Regional Water Quality Control Board (CVRWQCB). The discharge permit specifies significant fines and criminal penalties that can be levied if the discharge is not in compliance with the permit.

The District is concerned that the subject DEIR/EIS does not adequately evaluate the impacts of the proposed project on the SRWTP operations and costs, and on the Sacramento River water quality. The EIR/EIS should address the extent to which the proposed project will:

- Reduce allowable SRWTP discharge periods, increase cost of treatment, and adversely impact effluent quality.

- Increase background concentrations of constituents of concern in the receiving water and thus result in more stringent effluent limits.
- Impact discharge compliance with the State Thermal Plan.
- Increase the concentration of water purveyor constituents of concern, specifically salts, total organic carbon (TOC) and pathogens (giardia and *Cryptosporidium*).

These areas of concern are described in more detail below.

Reduced discharge periods.

River flow dictates when effluent discharge is allowed, and is strongly influenced by upstream water releases and diversions, and downstream ocean tides. The SRWTP discharge permit specifies a minimum dilution ratio of 14:1 (river:effluent) that must be maintained at all times during discharge to the river. Effluent flow is stopped when river flow does not provide adequate dilution and flow is diverted to onsite emergency storage basins where effluent is temporarily stored until the 14:1 dilution ratio can be met. L10-1

Stored effluent must be retreated and can substantially increase plant flows and treatment costs. Increased return rates in turn can stress plant process and may result in degradation of effluent quality. The procedure for returning flow to the river is very complicated and is subject to human and mechanical error and provides opportunities for technical permit violations. Establishing proper chemical balance to meet water quality standards prior to resuming discharge to the river is complex. Each time effluent is returned to the river, there is a potential for a chlorine and/or pH permit violation. Also, stored wastewater must be discharged to the river in a 24-hour period to ensure that there is adequate storage for subsequent diversions.

Low river flow periods in particular create problems. For example, in 1988 there were a total of 366 diversions including 96 consecutive days of diversions from August through November. Multiple diversions occurring on consecutive days, weeks, months complicate plant operation, stress plant processes during the return period, and threaten river water quality. The proposed decreases in river flow will compound this problem. The EIR/EIS needs to address this impact.

Increased Background Concentrations.

On January 23, 1998 the CVRWQCB adopted the 1998 Clean Water Act Section 303(d) list of impaired water bodies and Total Maximum Daily Load (TMDL) priority list for the Central Valley. Water bodies listed are not expected to meet water quality standards even if point sources are regulated to comply with the current level of treatment technology required by law. Constituents of concern listed for the Sacramento River from Red Bluff to the Delta include diazinon, chlorpyrifos, mercury (Hg), "unknown toxicity" and organochlorine pesticides. L10-2

The Sacramento River notably has very high background concentrations of pollutants including mercury and diazinon. Proposed reductions in American River flows that typically provide substantial volumes of high quality water will adversely impact Sacramento River water quality. The farther upstream the water is diverted out of the American River, the poorer the water quality flowing into the Sacramento River. Because it has a much higher water quality, the American River reduces the concentration of pollutants in the Sacramento River. This is critical since receiving water concentrations are used in calculating effluent limits. Thus, if the Sacramento River is degraded due to diversion of American River water, the SRWTP permit may include more stringent effluent limitations (particularly for metals and organics) that would require costly advanced treatment.

The EIR needs to evaluate the impact of the proposed project on the concentrations of these pollutants in the Sacramento River and on SRWTP compliance costs.

Compliance with State Thermal Plan.

The SRWTP discharge must comply with three temperature limits in the SWRCB Water Quality Control Plan for Control of Temperatures in Coastal Waters and Enclosed Bays and Estuaries of California (Thermal Plan). Because there are periods of time when SRWTP discharge cannot comply with two of the temperature limits due to fluctuations in river quantity and/or temperature, the SWRCB adopted resolutions that provide temporary exceptions to these limits. The District has been working with federal, State and local regulatory agencies for more than ten years to resolve this. The State Board will be conducting a triennial review of the Thermal Plan fiscal year 1998-99 and reevaluating the problem. L10-3

As noted on page 5-26 of the EIR, under the full use scenario, temperature increases of more than 1° at the mouth of the American River would occur. Sacramento River water temperatures are of great concern due to the sensitive fishery. Because of the concern for even small increments in river temperature, SRWTP river temperature compliance monitoring is recorded to a tenth of a degree.

The EIR needs to address the impact of the project on the Sacramento River temperature and on SRWTP compliance with the State Thermal Plan.

Increased Salts, TOC and Pathogens

Salts, TOC and pathogens are of concern to water purveyors directly, and to wastewater treatment agencies indirectly. Downstream water purveyors have expressed significant concerns on the District's proposal to increase discharge to accommodate future growth. They believe that any increase above the current concentration of these constituents is considered a significant impact on their water treatment costs and must be mitigated. A reduction in flows from the American River will increase the concentrations of salts, TOC and pathogens in the Sacramento River and will thus impact future SRWTP discharges. These impacts need to be addressed in this EIR/EIS. L10-4

In summary, the SRCSD is very concerned that the proposed project, particularly Alternative 2, could adversely impact the SRCSD operation, threaten river water quality, and substantially increase operation and capitol costs due to reduced discharge periods and imposition of more stringent discharge limits. The SRCSD requests that the issues raised in this letter be adequately addressed in the Final EIR/EIS. If you have any questions regarding this letter, please contact Mary James at (916) 875-9120. L10-5

Sincerely,

Robert Shanks
District Engineer

RFS:jag *(distengr/ebmudeircomments1.doc)*

cc: W. Kido
S. Dean
K. DeVore
D. Dean
M. James
R. Caikoski
L. Walker
P. Simmons
S. McDonald

Response to Comments of the Sacramento Regional County Sanitation District

L10-1, Sacramento Regional County Sanitation District
Reclamation holds water right permits that specify minimum releases from its facilities. Reclamation meets, and typically exceeds, these minimum flow releases at all times. Flow releases from Reclamation facilities vary substantially on an annual, seasonal, and daily basis, depending on required minimum flow releases, applicable water quality standards, and CVP water demands. Reclamation's water rights permits are not conditioned on providing adequate dilution flows for discharges of pollutants downstream of Reclamation facilities. Flow changes associated with Alternatives 2 and 3 are extremely minor. For example, as shown in Table C-16 in Appendix C to the 1997 Draft EIR/EIS, under Alternative 2, Folsom South Canal Connection, the greatest change in average Sacramento River monthly flows at Freeport would occur in August; however, this change would be only approximately 0.3%. Such a change would not result in measurable changes in water quality. The difference in average flows (15,030 cfs under the No-Action Alternative; 14,978 cfs under Alternative 2) is very small and probably not measurable, and no adverse impacts would result from such a minor change. Alternative 2 diversions would not be allowed unless Hodge Decision flows were exceeded; diversions would not likely occur during the low-flow conditions of greatest concern to SRCSD.

Under Alternative 3, Joint Water Supply, the changes in flows are somewhat larger, with the greatest change in average Sacramento River flows at Freeport occurring in November and resulting in an average decrease in flows of approximately 1.5% (a reduction from 16,222 cfs to 15,973 cfs). Again, these changes are very small and likely not measurable. Under this alternative, the greatest proportion of water is delivered to the City of Sacramento and the County of Sacramento, which are the sources of influent to the SRCSD treatment plant. Total annual average deliveries to EBMUD, the City, and the County under Alternative 3 are estimated to be 122,000 AF per year. The maximum diversion rate for Alternative 3 is 217 cfs. Of this, an annual average of 35,000 AF per year would be delivered to EBMUD under this alternative. If average EBMUD deliveries are addressed separately, the potential effect would be only slightly greater than that described for Alternative 2, given that the annual average deliveries to EBMUD are estimated to be approximately 29,000 AF per year under Alternative 2 and approximately 35,000 AF per year under Alternative 3. Reclamation has no obligation to provide dilution flows for discharges of pollutants by other entities.

L10-2, Sacramento Regional County Sanitation District
See response to Comment L10-1 above. As noted above, changes in river flows attributable to EBMUD are extremely small and would not result in a measurable impact on Sacramento River water quality. Flow changes of 0–0.3% under Alternative 2 and 0.6–1.5% under Alternative 3 are not expected to have a measurable adverse effect on Sacramento River water quality. Most of the changes are attributable to City and County diversions under Alternative 3. Additionally, the water quality effects of nearly doubling the capacity of the Sacramento River Water Treatment Plant were addressed in the 1997 Draft EIR/EIS for the proposed water service contracts under Public Law 101-514 (U.S. Bureau of Reclamation and County of Sacramento 1997). That analysis concluded that increasing the Sacramento River Water Treatment Plant diversion from approximately 280 cfs to approximately 560 cfs would not have a significant impact on the environment. It is unlikely that decreasing freshwater flows by a lesser amount could result in significant impacts on water quality.

There is very little difference in water quality between various locations along the lower American River. As noted in

Appendix B to the 1997 Draft EIR/EIS (Table A-4 of Attachment A), water quality at Nimbus and the Highway 160 bridge is very similar. Therefore, there is no practical difference in the water quality effects of different delivery locations along the lower American River.

It is not a requirement that the 1997 Draft EIR/EIS evaluate effects of the project alternatives on treatment costs. Potential changes in water quality and flow would be extremely small and likely not measurable.

L10-3, Sacramento Regional County Sanitation District
The reference to the analysis of the full-use scenario does not accurately reflect the project-level analysis conducted for the 1997 Draft EIR/EIS. The full-use scenario is only a supplemental analysis included in the 1997 Draft EIR/EIS at the request of various parties. Table 5-30 in the 1997 Draft EIR/EIS presents a summary of the temperature analysis conducted for Alternatives 2 and 3. As shown in the last set of entries in Table 5-30, although temperatures at the mouth of the American River could change, there are nearly as many months with simulated temperature decreases of more than 1°F as months with similar simulated temperature increases. The primary potential effect on Sacramento River temperatures would occur under Alternative 2 in June, when there would be a net increase in the percentage of months with a potential temperature increase of greater than 1°F. However, in June, American River flows average approximately 3,500 cfs (Table C-12), and Sacramento River flows at Freeport (downstream of the American River) average approximately 16,500 cfs (Table C-16). Freeport is several miles downstream of the confluence of the Sacramento and American Rivers. Given the relatively small contribution of flows from the American River (approximately 20% of the flow at Freeport), the minor and infrequent increases in temperature under Alternatives 2 and 3, and the additional travel time between the confluence of the rivers and Freeport, there is almost no potential for increases in temperature in the Sacramento River at Freeport of more than 0.1°F.

L10-4, Sacramento Regional County Sanitation District
See response to Comments L10-1 through L10-3 above. Based on the information presented in the 1997 Draft EIR/EIS and outlined above, none of the potential effects on water quality would be considered significant. Changes in flows under Alternatives 2 and 3 are extremely minor and would not measurably affect concentrations of salts, total organic constituents, or pathogens.

L10-5, Sacramento Regional County Sanitation District
The 1997 Draft EIR/EIS adequately addresses water quality issues. The simulated changes in American River flows are not sufficient to significantly change concentrations in the Sacramento River. For example, reducing American River flow by 350 cfs when the Freeport flow was 10,000 cfs (approximately 90% exceedance flow) would increase Sacramento River concentrations by about 3.5%. As described above, to the extent that there are any effects from the project alternatives, Alternative 2 would have the least potential for effect.

Board of Directors
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President
Mark R. Emmerson
Director
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Director

CARMICHAEL WATER DISTRICT
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L 11

Curtis E. Spencer
Director
Paul Selsky
Director
LaNell K. Little
General Manager

March 3, 1998

Mr. Kurt Ladensack
East Bay Municipal Utility District
Water Supply Improvements Division
P.O. Box 24055
MS #305
Oakland, CA 94623-1055

Dear Mr. Ladensack:

The Carmichael Water District has reviewed the East Bay Municipal Utility District Supplemental Water Supply Project Draft Environmental Impact Report/Environmental Impact Statement and appreciates the opportunity to comment on this document.

Carmichael Water District is opposed to a project, which would take delivery of American River water from the Folsom South Canal (FSC) at Lake Natoma, due to its impact on agencies such as the Carmichael Water District that currently operate water diversion and treatment facilities on the Lower American River.

Carmichael Water District has been a participant in the Sacramento Area Water Forums Process for the past several years and has been supportive of the efforts of the City of Sacramento and County of Sacramento to develop a Joint Project with East Bay Municipal Utility District to construct joint facilities for the delivery of American River water near the confluence of the American River and Sacramento River.

L11-1

Thank you for the opportunity to submit comments to the Draft Environmental Impact Report/ Environmental Impact Statement.

Sincerely,

LaNell K. Little
General Manager

Response to Comment of the Carmichael Water District

L11-1, LaNell K. Little, Carmichael Water District
Opposition to Alternative 2 and preference for Alternative 3 are noted.

SAN JOAQUIN COUNTY
COMMUNITY DEVELOPMENT DEPARTMENT
1810 E. HAZELTON AVE., STOCKTON, CA 95205-6232
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L 12

March 3, 1998

Mr. Kirt Ladensack
Water Supply and Permits Division
East Bay Mud
Post Office Box 24055
Oakland, California 94623

SUBJECT: EAST BAY MUNICIPAL UTILITY DISTRICT
SUPPLEMENTAL WATER SUPPLY PROJECT
ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL
IMPACT STATEMENT

Dear Mr. Ladensack:

In response to the above documents, my written comments of February 28, 1996 are still applicable.

CHAPTER 2 - PROJECT OBJECTIVE AND ALERNATIVES UNDER CONSIDERATION

- Figure 2-4. The dimensioning of the typical section to the right of centerline indicates that 41 feet are required for construction and 40 feet are required for the ultimate permanent right-of-way. Since these dimensions only differ by one (1) foot it may be worth considering making the "construction" and "permanent right-of-way" the same dimension. L12-1

CHAPTER 6 - RECREATION

- Consideration should be given to developing the pipe line corridor as a bicycle, pedestrian and/or equestrian trail, consistent with San Joaquin County General Plan policy implementation. L12-2

CHAPTER 7 - VEGETATION AND WETLAND RESOURCES AND CHAPTER 8 - WILDLIFE

- In summary, the discussion of impacts and mitigation measures appear to be broad-brush (this is stated on Page 7-9, Paragraph 4). This is fine but the applicant should note that additional site specific environmental review may be necessary when the Site Approval application is processed in San Joaquin County. L12-3

- The reference to the San Joaquin Development Title on the right hand side of page 7-8, toward the bottom should read "Development Title of San Joaquin County, Division 15." L12-4

CHAPTER 10 - LANDUSE

- As a follow-up to a telephone communication to Christopher Patten on April 8, 1997, the pipeline is considered a Utility Services - Major use type and is not permitted in residential zones. In order for the project to go through the Urban Community of Morada, a Development Title Text Amendment would be required. Our Building Division states a grading permit will not be required for the trenching of the pipeline. However, Encroachment permits will be required from our Public Works Department for all road crossings. L12-5

CHAPTER 12 - TRANSPORTATION AND CIRCULATION

- Table 12-1 - The public roads listed under the "San Joaquin County Roads" heading appears to be incomplete, as it relates to the Urban Community of Morada. L12-6

Thank you for the opportunity to comment on the above referenced document. If you have any question or need further information, please contact me.

Sincerely,

THOMAS M. GAU
Senior Civil Engineer
Development Services/
Engineering Division

TMG:ss
EASTBAYL

c: Chet Davisson, Director
Manuel Lopez, Department of Public Works
John Pulver, Department of Public Works

Response to Comments of the San Joaquin County Community Development Department

L12-1, Thomas M. Gau, San Joaquin County Community Development Department
It is agreed that Figure 2-4 dimensions are essentially equivalent.

L12-2, Thomas M. Gau, San Joaquin County Community Development Department
Page 10-2 of the 1997 Draft EIR/EIS contains a discussion on the San Joaquin County General Plan. The designation of bicycle, pedestrian, or equestrian trails is made by local jurisdictions based on the local planning policies and the conditional-use permits issued for the utility corridor. EBMUD would not restrict development of trails along most sections of the pipeline corridor in San Joaquin County.

L12-3, Thomas M. Gau, San Joaquin County Community Development Department
Pre-construction plant and wildlife surveys would be conducted as noted in Mitigation Measures 7-5a, 8-1, 8-4, 8-5, and 8-6. EBMUD would also implement the environmental commitments outlined in Chapter 2 of the 1997 Draft EIR/EIS.

L12-4, Thomas M. Gau, San Joaquin County Community Development Department
See Chapter 12 of this document, "Errata." EBMUD agrees that "Division 15" should be added to the end of the referenced sentence.

L12-5, Thomas M. Gau, San Joaquin County Community Development Department
Table 2-7 in the 1997 Draft EIR/EIS includes the San Joaquin County Departments of Planning and Public Works as permitting agencies for the project.

L12-6, Thomas M. Gau, San Joaquin County Community Development Department
Pipeline Alignments 1 and 3 may cross additional roads through Morada depending on the final design.

SMUD
SACRAMENTO MUNICIPAL UTILITY DISTRICT ☐ P. O. Box 15830, Sacramento CA 95852-1830, (916) 452-3211
AN ELECTRIC SYSTEM SERVING THE HEART OF CALIFORNIA

L 13

EM 98-031

March 17, 1998

Kurt Ladensack
Water Supply Improvements Division
EBMUD
PO Box 24055
Oakland, CA 94623

SUBJECT: Draft Environmental Impact Report / Environmental Impact Statement East Bay Municipal Utility District Supplemental Water Supply Project

Dear Kurt:

The Sacramento Municipal Utility District (SMUD) has received and reviewed the Draft Environmental Impact Report/Environmental Impact Statement for the East Bay Municipal Utility District Supplemental Water Supply Project.

SMUD utilizes 15,000 acre feet of the City of Sacramento water rights and has a contract with the Bureau of Reclamation for 60,000 acre feet. SMUD utilizes the Folsom South Canal for water delivery. If the proposed project comes to fruition, SMUD needs assurances that the Folsom South Canal remains a clean and unencumbered source of water for the District's contract water. L13-1

Alternative two is the EBMUD-only project that would deliver water from the American River at the Folsom South Canal and convey the water via a new pipeline to EBMUD's Mokelumne aqueducts. Should alternative two be selected and a pumping plant be constructed along the Folsom South Canal, SMUD recommends that Best Management Practices should be adopted for the construction and operation of all facilities necessary to divert, treat and distribute water. This includes all diversion structures, treatment facilities, pumping stations, storage facilities and transmission piping. No hazardous or non-hazardous materials should be released from any construction site into the Folsom South Canal. L13-2

All necessary and prudent actions need to be taken to ensure that the project will be in compliance with federal, stare and local laws and regulations governing the use of this water resource.

Thank you for the opportunity to comment. SMUD looks forward to reviewing the final EIR.

Sincerely,

Rick Minter

cc:
Cecil Lesley, Contract Specialist
Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, CA 95630

Tom Ingwers
Brian Jobson
Leslie Dusnworth
Paul Olmstead
Corporate Files

DISTRICT HEADQUARTERS ☐ 6201 S Street, Sacramento CA 95817-1899

Response to Comments of the Sacramento Municipal Utility District

L13-1, Rick Minter, Sacramento Municipal Utility District
The proposed project would not impede Sacramento Municipal Utility District's (SMUD) access to their contracted water or delivery systems.

L13-2, Rick Minter, Sacramento Municipal Utility District
EBMUD recognizes the concerns regarding impacts on water within the Folsom South Canal during construction of the pumping plant. The Construction Plan would include Best Management Practices (BMPs) to avoid any such impacts.

Santa Clara Valley Water District
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AN AFFIRMATIVE ACTION EMPLOYER

L 14

March 18, 1998

Mr. Kurt Ladensack
East Bay Municipal Utility District
P.O. Box 24055, MS305
Oakland, CA 94623-1055

Mr. Cecil Lesley
Bureau of Reclamation
U.S. Department of the Interior
7794 Folsom Dam Road
Folsom, CA 95630

Subject: EBMUD's Supplemental Water Supply Project
Joint Environmental Impact Report/Environmental Impact Statement

The Santa Clara Valley Water District (SCVWD) has reviewed the Draft Joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the East Bay Municipal Utility District's (EBMUD) Supplemental Water Supply Project. As described in the Draft EIR/EIS, EBMUD is proposing to meet its supplemental water supply needs by building facilities that will enable the district to take delivery of American River water allocated under its Central Valley Project (CVP) contract with the United States Bureau of Reclamation (Reclamation).

SCVWD provides wholesale water supply to Santa Clara County to support a population of approximately 1.7 million people and the vital high-tech economy known as Silicon Valley. On average, over half of the County's water supply is imported from the Central Valley Project (CVP) and the State Water Project (SWP). During critical dry periods, when local supplies are low, SCVWD relies on these imported supplies to meet up to 90% of the County's annual demands.

As a CVP contractor, SCVWD understands EBMUD's desire to realize the water supply benefits from its CVP contract that have been anticipated and supported with contractual payments since 1970. As an urban water supplier, SCVWD understands EBMUD's desire to maintain the highest water quality possible for its customers. However, EBMUD's proposal to divert American River water could affect SCVWD significantly, if such diversions diminish the reliability of SCVWD's contractual CVP and State Water Project (SWP) supplies, or increase CVP and SWP environmental obligations in the Sacramento-San Joaquin Delta.

The following comments on the Draft EIR/EIS are submitted by SCVWD:

Water Supply Analyses

1. For Alternative 3, modelling should assume that the new American River diversion has the appropriate priority access to surplus Delta flows compared to existing CVP and SWP diversions, per comments submitted by the State Water Contractors. L14-1

2. CVP South of Delta M&I Demand is assumed to be 145,000 AF in Existing Conditions and all alternatives, including the No Action alternative. From discussion in the Draft EIR/EIS, it appears that this assumption may be consistent with the Programmatic EIS for the Central Valley Project Improvement Act. However, this demand appears to be too low. SCVWD's CVP contract alone may convert to 152,500 AF of M&I water by the year 2020. Total CVP South of Delta M&I contracts are approximately 200,000 AF. Underestimating M&I demands could result in underestimating CVP South of Delta impacts. Also, it is not clear why CVP South of Delta M&I demands do not change between Existing Conditions and the No Action Alternative. L14-2

3. Under "Cumulative and Growth-Related Effects" (pg. 18-1), the statement is made: "Based on the PROSIM modeling conducted,...the project alternatives have little potential to add to impacts that could occur outside the American River basin." However, cumulative impacts to the CVP South of Delta service area should be evaluated. L14-3

4. The range of water supply impacts in different year types should be shown, with maximum and minimum as well as average impacts. Discussion of average impacts over the 70-year period of analysis is not sufficient to determine whether those impacts are significant. L14-4

5. In the discussion of "Hydrologic Modelling and Assumptions" (pg. 3-12), the recently discovered inconsistency in the PROSIM input hydrology is noted, and it is acknowledged that due to this inconsistency, the analyses in the Draft EIR/EIS may underestimate the use of CVP storage and overestimate water deliveries in some critical dry years. While we agree that this does not significantly change the relative differences between the simulations for each alternative, it does significantly impair the ability of other affected parties to understand the true water supply impacts of the proposed project. L14-5

Operational Impacts

1. Impacts to San Luis Reservoir storage should be evaluated and presented in the Draft EIR, particularly with respect to Alternative 3. It is our understanding that modelling results show the August end-of-month storage to be higher compared to the No Action alternative in 3 years of the 70-year period of analysis. However, the August end-of-month storage is lower compared to the No Action alternative in 40 years of the 70-year period of analysis. These storage reductions appear to be in the 20,000 AF-40,000 AF range, which might mistakenly be considered insignificant in a 2 MAF reservoir. However, this quantity can make the difference between keeping the San Felipe Division, which serves SCVWD, on-line or not through the August low point in San Luis Reservoir. This reservoir is the flex point at which operational L14-6

uncertainties in both the CVP and SWP systems accumulate, and the proposed project could be a significant increment adding to that uncertainty. In addition to public health and safety concerns about interruption in service, 20,000 AF-40,000 AF can also make a significant difference in whether algal blooms near the reservoir's surface drop to the level of the San Felipe Division intake, leading to taste and odor problems in treating San Luis Reservoir supplies for drinking water purposes.

2. Although the Draft EIR/EIS evaluates Delta water quality impacts, the models that have been used do not fully account for operational inefficiencies that could result from increased American River diversions. CVP supplies stored in Folsom Reservoir are readily available to the Delta to maintain or react to changing conditions. There is more uncertainty in making releases from Shasta Reservoir to accomplish the same purpose, due to the longer travel time and greater potential for intervening events to affect the quantity and quality of flows that reach the Delta. The added uncertainty could make it more difficult to manage Delta water quality, or more costly from a water supply standpoint. L14-7

Mitigation

Under "Impact Conclusions and Environmental Commitments" (pg. 19-1), the statement is made that "a list of mitigation measures proposed for implementation by EBMUD and Reclamation will be included in the final EIR/EIS once a preferred alternative has been identified." SCVWD believes that the modeling corrections, additional analyses and information discussed above must be developed before significance of environmental impacts and suitable mitigation for a preferred alternative can be determined. L14-8

In addition to CEQA and NEPA mitigation measures, SCVWD believes that Reclamation should evaluate whether mitigation for water supply impacts is appropriate pursuant to the final Administrative Proposal for Urban Water Supply Reliability dated June 9, 1997. In this administrative proposal, Reclamation makes a commitment to identify ways to minimize the impacts of providing more reliable supplies to M&I contractors. Reclamation should determine how the reliability of the proposed CVP M&I water supply for EBMUD under Alternative 2 or Alternative 3 relates to the administrative proposal. The Water Reallocation Agreement executed in 1997 by SCVWD, Reclamation and the San Luis & Delta-Mendota Water Authority provides one example of how such mitigation could be accomplished. L14-9

SCVWD is encouraged by recent discussions with EBMUD and other water users regarding the potential for joint project involving use of Contra Costa Water District's Los Vaqueros Reservoir to re-regulate supplies so that additional water can be provided for CVP South of Delta diversions during the spring months when there are pumping restrictions from the Delta. Such a project could significantly offset water supply, operational and environmental impacts, and should be considered both as a possible mitigation measure, as well as an opportunity to expand the benefits of the proposed project to accomplish early implementation of some CALFED objectives. L14-10

We look forward to working with EBMUD and Reclamation to address these issues regarding their proposed Supplemental Water Supply Project.

Sincerely,

James Fiedler / L. Minch

James Fiedler
Executive Project Manager
Imported Water Project

Response to Comments of the Santa Clara Valley Water District

L14-1, James Fiedler, Santa Clara Valley Water District
See response to "Coordinated Operations Agreement Modeling" major issue in Chapter 3 of this document.

L14-2, James Fiedler, Santa Clara Valley Water District
The modeling completed for the 1997 Draft EIR/EIS is sufficient for purposes of determining the significance of impacts and relative comparisons of Alternatives 2 and 3. Numerous varying assumptions can be made in any one or series of PROSIM analyses. The modeling has been reviewed, and it is appropriate.

Demands used in the Alternative 1: No-Action modeling are consistent with the Central Valley Project Improvement Act (CVPIA) Programmatic EIS. These demands are appropriate to use for purposes of impact assessment.

L14-3, James Fiedler, Santa Clara Valley Water District
Cumulative impacts on CVP Delta exports are described on page 3-22 of and in Appendix C to the 1997 Draft EIR/EIS.

L14-4, James Fiedler, Santa Clara Valley Water District
Based on a review of PROSIM output, there is not a clear or strong relationship between the relatively minor changes in north-of-Delta deliveries to EBMUD under Alternatives 2 and 3 and south-of-Delta deliveries. During the historic dry period (1928-1934), average annual CVP deliveries were decreased by approximately 5,700 AF under Alternative 2: Folsom South Canal and approximately 5,200 under Alternative 3: Joint Water Supply. During this same period, average annual deliveries south of the Delta averaged 1,786,000 AF under both Alternative 2 and Alternative 3. Therefore, according to the PROSIM modeling reductions in CVP, south of Delta deliveries would be approximately 0.3%. Given the accuracy of PROSIM as an analysis tool, these quantities are considered to be less than significant reductions in Delta exports and well within the margin of error of the model.

L14-5, James Fiedler, Santa Clara Valley Water District
The analyses are sufficient to determine the potential impacts of Alternatives 2 and 3. See response to "PROSIM Modeling" major issue in Chapter 3 of this document. See also Appendix B of this document for a comparison of new PROSIM results with the results from the 1997 Draft EIR/EIS. See also the REIR/SEIS.

L14-6, James Fiedler, Santa Clara Valley Water District
Although there are a number of changes that occur in San Luis Reservoir storage in August, most of these changes are relatively minor. For example, under Alternative 2, while there are 18 years with negative changes in storage, there are also 15 years with positive changes in storage. Of the 18 years with negative changes in August storage, only 3 years were identified as having a 20,000 AF or greater decrease. The average change in August storage at San Luis Reservoir under Alternative 2 is -1,000 AF.

Under Alternative 3, changes were greater than under Alternative 2. However, of the 46 months with a decrease in August storage as compared to the No-Action Alternative, only in 16 years were decreases greater than 20,000 AF. There were also 5 years in which storage increased by up to as much as 147,000 AF. The average change in August storage under Alternative 3 was modeled to be 9,000 AF.

Another important component of the analysis is that San Luis Reservoir storage is projected to increase substantially under the No-Action Alternative as compared to existing conditions. August storage in San Luis Reservoir under the No-Action Alternative, as compared to existing conditions, is projected to increase in 52 years over the 70-year period of record. Decreases in storage are

predicted in 15 years, and no change is predicted in 3 years. The maximum increase in storage is predicted to be 404,000 AF, while the maximum decrease is projected to be 147,000 AF. The net 70-year average change is a projected increase in storage of 63,000 AF. This information helps put the projected decreases under Alternatives 2 and 3 in perspective. Although there are some decreases in storage as compared to the No-Action Alternative, the net change in projected storage under Alternatives 2 and 3 remains considerably higher than under existing conditions. Based on this information, there is no available information that would indicate that taste and odor problems related to algal blooms would change under Alternatives 2 and 3.

L14-7, James Fiedler, Santa Clara Valley Water District
Given the extremely small changes in Delta water quality caused by Alternatives 2 and 3 as described in Chapter 4 of the 1997 Draft EIR/EIS (average annual reduction of between 0.1 and 0.3 milligrams per liter of chlorides), the project alternatives do not have the potential to result in significant Delta water quality effects.

L14-8, James Fiedler, Santa Clara Valley Water District
The 1997 Draft EIR/EIS provides suitable information for determining the potential for significant impacts and appropriate mitigation measures. See responses above and Appendix B of this document.

L14-9, James Fiedler, Santa Clara Valley Water District
The analysis included in the 1997 Draft EIR/EIS indicates that there would be very minor to no changes in CVP Delta exports under Alternatives 2 and 3. Reclamation is committed to exploring methods to minimize impacts of providing more reliable water supplies to municipal and industrial customers. This is an ongoing process that is being pursued in a separate forum. The 1997 Draft EIR/EIS appropriately evaluates potential water supply effects of Alternatives 2 and 3 and concludes that the potential effects are minor. No mitigation is required.

L14-10, James Fiedler, Santa Clara Valley Water District
EBMUD is interested in the potential for projects to benefit multiple parties. However, none of these potential projects is beyond the conceptual stage at this point. Should such projects become more completely defined in the future, EBMUD will consider participation at an appropriate level, and additional environmental documentation may be required at that time.

L 15

OFFICE OF THE
CITY ATTORNEY

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ROBERT D. TOKUNAGA

March 18, 1998

Kurt Ladensack
East Bay Municipal Utility District, MS #305
P. O. Box 24055
Oakland, CA 94623-1055

Re: **EBMUD Supplemental Water Supply Project Draft EIR/EIS**

Dear Mr. Ladensack:

This letter provides comments on EBMUD's draft EIR/EIS (DEIR) for the above project, submitted on behalf of the Department of Utilities, the Public Works Department, the Planning and Devlopment Department, the Neighborhood Services Department and Office of Downtown Development for the City of Sacramento.

General Comments

1. The DEIR considers two alternative projects, in addition to the "no action" alternative (Alternative 1). Alternative 2 is the proposed Folsom South Canal connection and Alternative 3 is the proposed joint project involving EBMUD, the City, and Sacramento County. The specific comments set forth below generally are focused on the analysis of Alternative 3, which the City supports, provided that a specific project can be developed and agreed to by all parties. The City is opposed to Alternative 2, because of the potential impact of Folsom South Canal diversions upon the City's diversions at the Fairbairn Water Treatment Plant downstream on the lower American River, as well as the potential adverse environmental impacts of this alternative on the lower American River itself, by unnecessarily depleting end-of-season and or carry-over storage at Folsom Reservoir. Since any use of American River water by EBMUD involves the export of water from the Sacramento region, the City believes such exports should only occur after this water has flowed down the lower American River, as envisioned by Alternative 3. L15-1

2. Where appropriate, the description of Alternative 3 should clearly state that this alternative relates to the construction of facilities that would be used to supply surface water available to EBMUD under its USBR contract, and would not involve or have any effect upon surface water diversions by the City pursuant to the City's water rights and entitlements. L15-2

3. Due to the permanent nature of the diversion and pumpback facilities included in Alternative 3, and these facilities' significant potential for disruption and impacts to the areas where they will be located, at least in the short term, this alternative will need to provide for a greater level of community involvement and mitigation for disruptive impacts upon the community, than is described in the DEIR. L15-3

4. To the extent that the DEIR is intended to be a project-level document, many of the subject areas do not contain sufficient detail and specificity to provide an adequate project-level analysis of potentially significant environmental effects. One example of this is the analysis of the alternative intake/pipeline locations for the proposed joint project alternative. This analysis does not provide a detailed discussion of the existing or proposed future conditions in the proposed locations or the potential impacts of constructing facilities in these locations, nor does the analysis identify specific measures that could be implemented to avoid or mitigate potential impacts -- all of this information must be available to decision makers before a preferred location can be identified. Specific examples of inadequate project-level analysis are indicated in our specific comments, below. L15-4

Specific Comments

- Page S-1: We suggest deleting the fourth paragraph, as it is our understanding that EBMUD is not a party to the proposed Water Forum Agreement at this time. L15-5

  The meaning of the reference in the following paragraph to a "guarantee" of water even in the driest years is not clear. As discussed above, implementation of the proposed joint project would construct facilities for providing water to EBMUD only so long as such water is available under EBMUD's USBR contract, which, to our knowledge, would be subject to applicable CVP deficiencies and does not provide any "guarantee" of water availability. L15-6

- Page S-2: Protection of lower American River resources also should be one of the project objectives listed on this page. L15-7

- Page S-5: Contrary to the statement made in the first sentence under the heading "Alternative 3: Joint Water Supply," EBMUD, the City and Sacramento County have not yet developed or agreed to a "mutually acceptable" joint project. While there may be L15-8

consensus in a general sense on the broad elements of the proposed joint project, a specific project has not yet been developed and agreed to by all parties. This sentence should be revised accordingly. The last sentence of this paragraph also should be revised, to clearly explain that the City's proposed expansions of facilities at the Fairbairn Water Treatment Plant and the Sacramento River Water Treatment Plant are part of the City's independent water supply expansion project, which also are being analyzed in the DEIR because some of this expanded capacity may be used to wheel EBMUD's water during the "planned outage" periods, if the joint project is implemented. Rather than stating that Alternative 3 would assist in meeting the objective of the City in providing a safe and reliable water supply for the City, as stated in the next paragraph, it is more accurate to state that the proposed expansions of City facilities are included in Alternative 3 because they would enable the City to better accommodate the need for City capacity to wheel EBMUD water during the planned outage periods. L15-8

- Page S - 7: Due to the DEIR's failure to fully identify and address potentially significant impacts, as discussed in our comments, below, the summary of significant impacts and mitigation measures set forth on Table S-1 is deficient in the following subject areas: hydrology; water quality; fisheries; recreation; vegetation; wildlife; soils, seismicity and groundwater; land use; transportation and circulation; noise; public health and safety; visual and cultural resources; cumulative impacts. L15-9

- Page 1-5: The discussion of the Hodge decision also should refer to the requirement to maintain 60,000 acre feet of water in reserve for instream purposes. L15-10

- Page 1-17: In Table 1-3, for related activities of the City of Sacramento, the City's proposed rehabilitation and expansion of its Sacramento River Water Treatment Plant should be added. The "summary" concerning the City's proposed projects also should indicate where the relationship of the City's project to the other elements of Alternative 3 is accurately described (see comment on page S-5, above.) In addition, Table 1-3 should include the City's proposed rehabilitation of the fish screens at the Fairbairn Water Treatment Plant and Sacramento River Water Treatment Plant intakes. L15-11

- Pages 2-3 to 2-7: The Summary of Environmental Commitments outlined on pages 2-3 to 2-7 are considered part of the project and, as such, are relied upon elsewhere in the DEIR to determine that no significant impacts will occur, so that no mitigation is needed. This approach fails to identify the project's specific potential impacts, as required by CEQA. Moreover, even if such impacts were adequately disclosed, the measures described on these pages are not described in sufficient detail to allow any determination to be made as to whether these measures will mitigate potential impacts (which are not identified at a project level) to a less-than-significant level. Specific examples follow. L15-12

Traffic Control Plan

The DEIR references a traffic control plan, but no details are provided concerning where the traffic will be obstructed or re-routed, the expected duration of lane closures or traffic re-routings in specific areas, and the impacts likely to result in these areas in terms of parking, traffic circulation and delay, access, and use by emergency service vehicles. For example, one of the general elements described for the traffic control plan is to maintain access to driveways and private roads outside the immediate construction zone. However, the 35-37 foot construction area shown on the trench detail, figure 2-11, would appear to eliminate or restrict driveway access for both residential and commercial lots at various locations along the pipeline alignment. This potential elimination or restriction of access to residential and commercial driveways is a land use conflict that is not adequately described or addressed in the transportation section or land use section of the DEIR. This loss of access or restricted access to business would not only inconvenience businesses, but also result in loss of revenue. In order to constitute an adequate project-level analysis, additional information should be provided identifying all locations where access may be restricted or eliminated, when such impacts may occur and for how long, and describing actions that can be taken to provide these residents or business owners/customers access to these locations. L15-13

Development of the detailed traffic control plan also should address potential impacts on emergency response in areas impacted by project construction, and should contain the following requirements to aid emergency response providers:

A. No more than 150 feet of street should be closed at one time.

B. 24 hours prior notice should be given to all emergency response providers before closing any street.

Erosion and Sediment Control Plan/Stormwater Pollution Prevention Plan

The references to an erosion and sediment control plan and a stormwater pollution prevention plan should indicate that, if Alternative 3 is implemented, EBMUD will comply with all requirements of Chapters 9.31 et seq., and Title 87 of the Sacramento City Code, which establish erosion and sediment control, and stormwater requirements in the City of Sacramento. L15-14

Trench Safety Plan

The Trench Safety Plan indicates that trench safety precautionary measures include: "All open trenches shall be closed within 24 hours." The document should indicate if this refers to permanent or temporary closure, and if it is the latter, when trenches will be permanently closed. **L15-15**

Project Planning, Coordination and Communication Plan

The text for this section should be revised to read: "EBMUD and the appropriate City and County agencies will coordinate planning, engineering, ~~and~~ design, traffic control and construction phases of the project." **L15-16**

- Page 2-15: We reference our previous comment (on page S-5) regarding the descriptions in the first paragraph under the heading "Alternative 3: Joint Water Supply" of "the mutually acceptable proposal" and "mutually acceptable alternative" developed by EBMUD, the City and Sacramento County. In the second paragraph on this page, we also recommend expanding the discussion of the City's proposed expansions of the Fairbairn Water Treatment Plant and the Sacramento River Water Treatment Plant to first indicate that the City is considering these elements as part of a separate project to provide increased capacity to meet the City's future water needs, and that such elements also are analyzed in the DEIR because such expanded capacity could be used to wheel EBMUD water during the planned outage periods, if the joint project is implemented. The following paragraphs also should be revised accordingly. **L15-17**

- Page 2-16: The general description and discussion of the proposed intake structure located near I-5, set forth here and elsewhere in the document, is not sufficiently detailed for an adequate project-level analysis. As noted in our comments on Chapter 16, below, we recommend a thorough consideration of various possible designs for a new intake facility, with an opportunity for community review and comment on these proposed design alternatives, before a final design is selected. **L15-18**

- Page 2-17: With respect to the five proposed intake locations and pipeline alignments considered as part of Alternative 3, the City generally supports intake Alternative 5, because this alternative eliminates construction-related impacts to property owners, public facilities and traffic circulation west of 23rd Street, and also reduces the visual impacts that Alternatives 3 or 4 would have in an area that will be transitioning to residential land uses. The City also supports the pipeline alignment options which minimize street construction and thereby reduce impacts to the public and traffic operations in City streets (e.g., the C Street bypass option, the Elvas Avenue bypass **L15-19**

option and the Folsom Boulevard bypass option). Selection of the C Street bypass option also would avoid potentially significant impacts to the large tree canopy along C Street resulting from the use of large construction equipment and excavation.

However, despite the City's general support for intake Alternative 5 and the bypass options, because implementation of Alternative 5 and/or the C Street bypass option would be located on or adjacent to the site of a former landfill, these alternatives potentially raise significant issues pertaining to differential settling and special compaction techniques, excavation of waste or hazardous materials, compliance with requirements set forth in the City's landfill closure/ post closure plan, and compliance with applicable regulatory requirements of the California Integrated Waste Management Board and/or the Regional Water Quality Control Board, in addition to potentially significant long-term liability issues that may be presented. Additionally, the C Street bypass option raises issues concerning the compatibility of this alignment with the planned extension of Richards Boulevard. **L15-19**

The foregoing issues must be addressed with specificity and detail in the DEIR, in order to proceed with project planning and implementation. For example, if issues pertaining to the C Street bypass option cannot be resolved, it may then become preferable to install the pipeline in C Street, but in a manner that avoids the significant impacts of open trenching EBMUD (e.g., tunneling). However, the DEIR does not provide any basis for making this determination, because it fails to identify or analyze either the specific issues raised by the C Street bypass option or the specific impacts likely to result if open trenching is allowed in C Street. In order to provide an adequate project-level analysis, EBMUD must disclose and address these types of issues. Only then can an informed selection of the preferred intake location and pipeline alignment occur. The DEIR also should indicate whether pipelines constructed outside of street right-of-ways would be installed above or below grade.

- Page 2-18: The discussion following the subheading "Fairbairn Water Treatment Plant Expansion" does not accurately describe the City's proposed project, and should be revised to read as follows: **L15-20**

> The City currently is analyzing improvements to its diversion structure at the Fairbairn Water Treatment Plant with adequate fish screening necessary to meet current DFG, NMFS, and USFWS standards, to return the rating capacity of the structure to its original constructed 200 mgd capacity. This modification would occur at the existing intake site and will involve constructing a new "arm" on the facility and installing additional pumps.

As part of the of City's proposed water supply expansion project, the City also is considering a proposed expansion of the Fairbairn Water Treatment Plant's water treatment capacity from 100 mgd to 200 mgd. This expansion would be entirely contained within the existing Fairbairn Water Treatment Plant site and would be used to serve existing and projected municipal and industrial customers within the City's service area. A bypass pipeline would be provided to allow delivery from the river into the new pumping plant and into the Fairbairn to FSC pipeline during a planned outage. The conceptual lay out for these facilities is shown on Figure 2-8. L15-20

The planned improvements to the Fairbairn Water Treatment Plant diversion and treatment facilities are included as part of Alternative 3, because the Fairbairn Water Treatment Plant diversion capacity could be used in combination with the proposed I-5 intake facility described above, to supply water to EBMUD during a planned outage of EBMUD's Mokelumni River Supply System.

In the following paragraph, the reference to the City's proposed expansion of the Sacramento River Water Treatment Plant treatment capacity should be changed to 60 mgd (93 cfs). This change also should be made to other references in the document to the City's proposed Sacramento River Water Treatment Plant capacity expansion. The last sentence of this paragraph should be revised to read "A new diversion structure including a fish screen design to meet current DFG, NMFS and USFWS criteria, also would be constructed similar in design to the proposed intake structure at the I-5 location described above." L15-21

L15-22

- Page 2-20: We suggest providing a more detailed discussion of the requirements of the Hodge Decision to support the assumption, set forth in the second paragraph of the "Operations" section (and also at page 3-14), that the Decision's limitations would not apply to the proposed I-5 diversions.

The second sentence under the heading "City of Sacramento" should be revised to read as follows: L15-23

> The City currently has a mechanical pumping capacity of 128 mgd (198 cfs) from the American River. However, the original constructed capacity of the river diversion, both in

> terms of fish screening necessary to meet then-existing DFG criteria and actual structural capacity, was 200 mgd (310 cfs).

- Figure 2-10: Although these figures are entitled "Typical Pattern and Frequency of Deliveries for Alternative 3," no frequency of deliveries is shown. Is the "typical pattern" shown for a specific year? How was the anticipated pattern of deliveries to the City derived? L15-24

- Page 2-22: The discussion of construction considerations beginning on this page should include some discussion of potential conflicts/crossings with existing underground infrastructure. For example, in several locations, there are crossings of major drainage mains and sewer interceptors (e.g., C Street, between 33rd Street and Elvas Avenue, has an 8-inch water main, a 36-inch to 84-inch storm drain, a 10-inch to 22-inch sanitary sewer, a 24-inch to 39-inch sanitary sewer, 22 D.I leads and 36 manholes located under the paved street.) As another example, the proposed pipeline route for intake alternative 5 would cross the underground pipeline carrying methane from the former landfill to the Almond Growers facility on C Street. In order to provide a complete and accurate project-level discussion of Alternative 3's potential impacts and associated mitigation measures, all significant conflicts of this nature must be identified to the extent feasible prior to selection of any preferred pipeline alignment.

As noted in the Railroad and Roadway Crossings section, the proposed pipeline will cross and be constructed in many roadways within the City. For open cut trenches, EBMUD will be required to pay the City's trench cut cost recovery fee or reconstruct the street to current City standards, as applicable. If any City above ground or underground facilities (including but not limited to street lights, traffic signals, sidewalks, electrical facilities, storm drain and sanitary sewer lines, water lines) are damaged, EBMUD will be required to repair or replace them to the City's satisfaction. Figure 2-6a shows the locations where tunneling or boring will be required for crossing streets in the pipeline alignment. Additional locations where trenchless construction will be needed to cross arterials with high traffic volumes are 16th and D Streets, J Street between 57th Street and Elvas Avenue, Power Inn Road and Folsom Boulevard, and Florin-Perkins Road and Kiefer Boulevard. Additional locations also may require trenchless construction once all potential impacts of the pipeline construction are identified, as discussed in our comment on page 2-17, above. In addition, Figure 2-6a should be consistent with the information provided on Table 12-6 (at page 12-7). L15-25

- Page 2-23: The Access Roads and Staging Areas section does not address the number or locations of construction staging areas that would be required for the project. L15-26

However, the number and locations of the construction staging areas could significantly affect traffic volumes on some streets, resulting in potentially significant impacts, contrary to the conclusion set forth in the Transportation section of the DEIR that the proposed joint project would not result in any significant traffic impacts. Without a more detailed project-level analysis of the staging areas, the document's subsequent conclusions concerning potential traffic impacts lack adequate support. More information also should be provided concerning the number of truck trips related to construction staging locations.

The Construction Schedule section states that the I-5 to Fairbairn pipeline will be constructed at a rate of 150 feet per day and require between 55 and 60 weeks over a span of 16 months. It also states that the Fairbairn to FSC pipeline would be constructed at an average rate of 100 to 150 feet per day over a 15 month period. Minimizing the time to construct obviously is very important in areas where access has been restricted or eliminated, and to minimize the numerous other disruptive effects of pipeline construction. However, the rate of construction also must be realistic, and the DEIR must disclose the potentially adverse effects of project construction based on a realistic construction schedule. In City staff's view, the rate of construction stated in this section of the DEIR is overly optimistic. As part of an adequate project-level analysis, EBMUD should consult with Public Works/Utilities staff for the City and Sacramento County to determine a realistic construction schedule for the pipeline. In addition to identifying specific measures that will be taken to mitigate impacts anticipated on the basis of a realistic schedule, the DEIR also should identify measures (such as shifting to trenchless construction in specific locations) that could be taken to mitigate additional impacts that could result if this schedule is not met. **L15-26**

- Page 2-29: The text under "Analysis of Full-Use Scenario" refers to possible subsequent or supplemental environmental documentation. To the extent feasible, analysis of impacts resulting from full use of the facilities constructed by EBMUD should be included in the DEIR's modeling and analysis, to provide a complete and accurate forecast of future conditions. **L15-27**

- Figure 2-12: As with Figure 2-10, Figure 2-12 does not identify any frequency of deliveries, nor does it indicate what year, or type of year the pattern shown represents. We also believe that Sacramento County water use should be included in Figure 2-12, rather than City deliveries, because, as currently discussed, the capacity on the proposed joint diversion facility will not be used for diversions and deliveries of City water. **L15-28**

- Page 3-1: The first paragraph of the second column indicates that the impacts of the project alternatives were determined by comparing the alternatives' impacts with the **L15-29**

impacts of the "no project" alternative (Alternative 1). This methodology does not comport with CEQA, which requires that the impacts of various alternatives considered in an EIR be determined by comparing conditions resulting from each of the alternatives to existing conditions. Use of the "no project" alternative as a baseline for evaluating the project's impacts creates a significant potential for understating these impacts, because the "no project" condition may include impacts that have not yet occurred under existing conditions, which are then never identified or analyzed, under the methodology described on page 3-1. See, e.g., Christward Ministry v. Superior Court (1986) 184 Cal.App.3d 180, 190-191. **L15-29**

- Pages 3-5 and 3-6: The City does not understand the basis for the projected 2030 demands set forth for the City of Sacramento in Table 3-2. At Node 16, the City's demand under Alternative 2 is 100,000 acre feet, whereas the demand listed under Alternative 3 is 140,900 acre feet. The City does not understand the basis for these numbers, nor why there should be any difference under Alternatives 2 and 3 for the City, since the proposed joint diversion capacity will not be used to divert City water. The City also notes that its entitlement for American River water in the year 2030 is 245,000 acre feet. **L15-30**

For Node 17, the City notes that its entitlement under the City's Sacramento River water right permit is 81,800 acre feet (not 81,200), and also questions why different delivery amounts are projected under Alternatives 2 and 3. **L15-31**

The City does not understand the relationship of the projected EBMUD demand at Node 16 of 35,000 acre feet to EBMUD's expressed desire to receive assurances that it can divert 70,000 acre feet during extremely dry years and 112,000 acre feet in all other years. **L15-32**

The City also does not understand the basis for the cumulative projected demand for the City at Nodes 16 and 17 in Table 3-3. For example, the "dry year" projection for the City at Node 16 is 67,000 acre feet, even though the agreement proposed for the City in the Water Forum Agreement, if approved, will allow the City to divert 90,000 acre feet at the Fairbairn Water Treatment Plant in a dry year. **L15-33**

- Page 3-8: The second paragraph under "American River Demands" indicates that the City of Sacramento diverts 80,000 acre feet downstream of the mouth of the American River on the Sacramento River under its American River water rights. The primary basis for the City's diversions at the existing Sacramento River Water Treatment Plant is a water right permit for 81,800 acre feet of Sacramento River water, and a pre-1914 claim at the same **L15-34**

location. Two of the City's four American River water right permits also authorize diversions at the Sacramento River Water Treatment Plant.

- Page 3-12: What is the basis for the conclusion that resolution of the PROSIM inconsistency described in the last paragraph on this page probably will not significantly affect the modeling results? **L15-35**

- Page 3-14: For a project-level analysis, the discussion of hydrologic modeling for the proposed I-5 diversion should identify the modeling assumptions used for this facility, including an explanation of how potential requirements for bypass flows to the mouth of the American River were addressed. **L15-36**

- Figure 3-3: The City does not understand the basis for the "annual City deliveries" shown on Figure 3-3, which appear to vary from zero to approximately 69,000 acre feet. The City's USBR contract authorizes maximum diversions in the year 2030 of 245,000 acre feet, with no deficiencies. The agreement proposed for the City in the Water Forum Agreement would authorize full use of the City's Fairbairn Water Treatment Plant facilities when flows exceed the Hodge standards, and diversions of up to 90,000 acre feet in drier years. What is the basis for the projected deliveries shown in Figure 3-3? **L15-37**

- Page 4-3: We suggest adding the following to the list of "significance criteria" identified at the end of this page: **L15-38**

  > Diversions would cause significant change in water quality (especially TOC, temperature and turbidity) to other diverters."

- Page 4-6: As indicated in the previous comment, the DEIR should analyze whether EBMUD's proposed diversion will have an impact on the water quality available to other diverters, particularly during dry periods. Such water quality impacts could occur at both the Fairbairn Water Treatment Plant and the Sacramento River Water Treatment Plant as a result of reduced dilution capacity resulting from EBMUD's diversions of American River water, and at the Sacramento River Water Treatment Plant as a result of construction/operation of the proposed I-5 diversion facility. This analysis must be conducted before reaching any conclusion that implementation of the project alternatives will have no significant impacts on water quality. The same comment applies to the discussion of cumulative impacts on this page. **L15-39**

- Page 5-2: The discussion of the Hodge decision also should refer to the requirement to maintain 60,000 acre feet of water in reserve for instream purposes. **L15-40**

- Page 5-19 to 5-22: The cursory discussion of potential fisheries impacts attributable to the proposed joint project alternative fails to provide an adequate basis for the conclusions of no significant impact. In particular, the discussion of impacts attributable to EBMUD's planned outage needs is too vague and ill-defined to be of any use to decision makers considering the impacts of committing future diversion capacities for this purpose. **L15-41**

- Page 6-12: The adopted Richards Boulevard Area Plan (copy enclosed) calls for the development of passive recreational uses on the south bank of the American River between the confluence with the American River on the west and North 18th Street on the east. The proposed improvements include a bike trail to be constructed on the crown of the levee and access points where the north/south numbered streets (i.e., North 5th, North 7th, etc.) terminate at the levee. Additionally, a public street is planned for construction along the toe of the levee from the future North 5th Street to Highway 160, to provide public access to all points along the river in this area. The discussion of impacts to recreation opportunities on the lower American River should indicate whether the construction of the intake pipeline over the top of the levee will interfere with development of a contiguous bike trail along the levee or with access to such trail from adjacent streets. The document also should identify any measures that could be implemented to avoid such impacts, such as construction of a ramp over the pipeline or other means of allowing recreational users to pass east/west along the levee. **L15-42**

- Pages 7-18 to 7-19: The impact assessment is inadequate in that it fails to provide a sufficiently detailed discussion of potential impacts to street trees in the C Street, Elvas Boulevard corridor, nor do the actions listed under mitigation measure 7-6 provide adequate mitigation for potentially significant impacts to trees in the pipeline corridor from I-5 to the FSC. Instead of merely indicating that tree removal permits would be obtained and complied with, specific potential impacts must be identified, and every effort must be made to avoid the impacts by protecting trees during construction, and by utilizing alternative siting and construction techniques, such as tunneling. Attached hereto and incorporated herein are comments submitted by the City's Trees Services Division regarding actions necessary to mitigate impacts to trees in the pipeline corridor. The feasibility and effectiveness of such actions for excavation of the magnitude proposed can only be determined after a thorough examination of specific street tree impacts likely to result from the pipeline construction. Additionally, the loss of trees or portions of the tree canopy presents potential land use and visual impacts, and should be analyzed appropriately in those sections of the DEIR as well. **L15-43**

- Chapter 8: Mitigation identified for potential impacts to raptor species includes conducting surveys to identify their location prior to construction. Since the proposed intake locations are known, these surveys should be performed and the location of these species near the proposed intake locations should be described in the DEIR, so that a selection of the preferred location can be made with an understanding of the project's potential impacts to raptor species, if any. L15-44

- Chapter 9: This chapter should include discussion of potential impacts related to soils, seismicity and groundwater for the various I-5 intake and pipeline routing alternatives, including intake alternative number 5, which will involve the installation of pipeline at a former landfill site, as noted above. L15-45

- Page 10-16: The first complete sentence at the top of column 2 should be revised to read: "Construction of the pipelines also could temporarily affect access to the Blue Diamond Growers Plant, Cannery Business Park, other businesses and residents along this corridor." The Blue Diamond facility has a high seasonal peak of both truck traffic and employee traffic, which should be addressed in both the traffic control plan and the pipeline construction schedule. In addition, land use conflicts may result from the elimination or restriction of access to residential and commercial driveways at locations along the alignment, and from the use of construction staging areas, as discussed above. The document should identify these potentially significant impacts and describe appropriate mitigation actions, as discussed above. L15-46

  Notwithstanding the Land Use section's conclusion that none of the joint project alternatives would result in significant land use impacts, it appears that all of the proposed alignments for the proposed joint project, with the possible exception of alignment 5, will have potentially significant land use impacts, applying the significance criteria set forth on page 10-13. These impacts become apparent upon consideration of the Richards Boulevard Area Plan (RBAP), which was adopted by the City in December, 1994 (copy enclosed). The brief reference to the RBAP on page 10-11 should be expanded to describe in more detail the RBAP's plan for the long term transition of land uses within the area to include up to six million square feet of new office uses and 3,800 residential units. More specifically, the area immediately south of the American River, in the vicinity of Intake Alternatives 3 and 4, is planned for residential land uses, a 10 acre park at North 7th Street and the river, and a new street called Riverfront Drive that will provide public access to the American River from the future North 5th Street to Highway 160. The DEIR contains no analysis of the potentially significant impacts of constructing the pipeline, under alternatives 1 through 4, through areas planned for both residential and commercial office development in the RBAP. In addition to the pipeline, the potential location of the chemical conditioning facility (described on page 2-16) at the intake location for

alignments 1 through 4, poses a potentially significant conflict with future residential development proposed for the area north of Richards Boulevard.

Pipeline alignments 1 through 4 also present the potential to directly impact a number of residential uses located between North 12th and North 16th Streets, A Street and the Union Pacific mainline rail tracks. The existing residential uses that may be impacted include the Salvation Army's 80-bed transitional housing facility and the 60-unit Francis Quinn cottage housing project, as well as numerous existing social service programs operated in the vicinity of North 12th and A Streets on land owned by the Sacramento Housing and Redevelopment Agency (SHRA) and leased to publicly funded social service providers. The section of pipeline proposed to run south on North 14th Street will cut through the center of the City's proposed consolidated social service complex. The SHRA has completed conceptional design of this complex and is developing an implementation plan for construction. Other facilities that potentially may be affected include the Public Inebriate Center located at 700 North 5th Street, which includes alcohol treatment and overnight, transitional housing services, and the transitional housing facility operated at 470 Bannon Street.

The foregoing existing and future proposed land uses for the area where intake and pipeline alternatives 1 through 4 would be located raise the potential for potentially significant impacts, applying four of the significance criteria set forth on page 10-13.[1] These potential impacts should be analyzed at a project-specific level, so that all feasible measures to mitigate these impacts can be identified and the environmental document will provide a meaningful basis for comparing project alternatives.

- Page 10-17: In the first full paragraph on this page, the following statement is made: "Because the proposed intake pipelines would generally follow existing roadway corridors, potential direct conflicts with existing residential, commercial, and industrial uses are expected to be minimal." As discussed in more detail in our comments on pages 2-3 to 2-7, and page 12-6, without a project-level analysis of the effect of the construction on property access and traffic circulation, this statement is not supportable. L15-47

[1]These criteria state that land use impacts are considered significant if implementation of a project alternative would: (1) require removal or relocation of structures or facilities used for residential, commercial or industrial purposes; (2) result in permanent incompatibilities with existing of proposed land uses; (3) result in substantial construction nuisances or conflicts in residential or commercial areas; and (4) result in inconsistencies with adopted plan and policies.

The first paragraph under "Conflicts with Proposed or Planned Projects in the City or County of Sacramento" refers to the future proposed extension of Richards Boulevard, but the DEIR fails to indicate whether the alignment of the proposed C Street Bypass option for Intake Alternative 5 would conflict or interfere with the future proposed alignment of the Richards Boulevard extension. This information is vital to an informed selection of the preferred pipeline alignment.

The beginning of the second paragraph should be revised to read: "The proposed C Street closure between 17th and 19th Streets and the C Street reconstruction project would occur along the EBMUD pipeline alignment for Intake Pipelines 1 through 4; the City will delay the C Street reconstruction project if necessary to allow for completion of EBMUD project facilities first. The proposed C Street closure would need to reserve public utility easements authorizing subsequent installation of the EBMUD pipeline."

- Page 12-2: Table 12-3 should be revised as follows: **L15-48**

  - 10th Street should be called North 10th Street.
  - Per Figure 2-6a and text, 24th Street should be 23rd Street.
  - 14th Avenue should be 14th Street.
  - Per Figure 2-6a and text, 56th Avenue is not involved.
  - North 7th Street should be added.
  - * at bottom, the reference to Table 11-4 should be to Table 12-4.

- Page 12-3: Table 12-4 should be corrected to indicate that the roadways listed from Wah Avenue to Eagles Nest Road are Sacramento County roads. In the first paragraph of the second column, the reference to Figures 2-7a and 2-7b should be to 2-6a and 2-6b. The discussion under Rail Lines should note that permits will be required for all railroad crossings or right-of-way encroachments. **L15-49**

- Page 12-4: We suggest adding two additional standards to the listed "Significance Criteria": **L15-50**

  - affect the City of Sacramento's Level of Service (LOS) standards, such that the LOS on detour routes degrades from LOS A, B, or C to D or worse, or the delay increases by more than 5 seconds on a detour route already at LOS D or worse.

  - increase the response time of emergency vehicles in the project area to more than four and one-half minutes.

In the City, 97 percent of emergency responses are consistently on-site within four and one-half minutes. A decrease in this percentage as a result of the project should be considered a significant impact.

The first full paragraph in column 2 discusses the criteria used for screening of traffic impacts. For impacts on City of Sacramento streets, the City's Interim Traffic Impact Analysis Guidelines should be used (copy attached and incorporated herein by this reference). Please note that the City considers re-routed trips as projected generated trips for impacts on detour routes.

- Page 12-6: The DEIR's discussion of potential Transportation and Circulation impacts for the proposed Joint Project does not adequately identify or discuss at a project-specific level the changes to present patterns of traffic circulation, traffic/parking impacts, or the effects of restricted or eliminated parcel access. In some instances, the installation of the pipe may require entire street closures (specifically C Street, Kiefer Blvd., and 57th Street) or one way traffic on streets that are presently two way, resulting in the diversion of traffic/parking to other streets. The DEIR should analyze the potential impacts of such actions, and should identify all feasible measures to address and minimize such impacts. For example, in nonresidential areas where the pipeline construction will result in complete street closures, night time construction may be a potential mitigating action. **L15-51**

  As part of the foregoing analysis, a table should be provided identifying all affected street segments; the anticipated level of access restriction during construction on each segment (e.g. closed; one travel lane serving both directions; one lane, one-way; one-lane, each direction); the anticipated duration of the access restriction for each segment (based on a realistic construction schedule); the existing Average Daily Traffic (ADT); the existing peak hour traffic volume; the percent of diverted ADT; the percent of diverted peak hour traffic; and the potential for delay on each segment.

  Construction along 28th Street or C Street also could adversely impact the City's 28th Street Corporation Yard, which is the vehicle dispatch and maintenance facility for the City's solid waste operations. Over 100 City vehicles must enter and exit this site on a daily basis to conduct solid waste collection and recycling operations. The only ingress and egress to this site is 28th Street. Pipeline construction also could impact solid waste collection schedules by creating conditions that prevent access to solid waste containers and yard waste placed at the curb. Additionally, because both C Street and Kiefer Boulevard are designated truck routes, temporary truck routes will need to be established to handle existing truck traffic, as well as additional construction-related truck traffic.

The discussion of transportation and circulation impacts of the proposed joint project also should consider potentially significant impacts on future transportation and circulation improvements identified in the Facility Element of the Railyards Specific Plan and Richards Boulevard Area Plan (copy enclosed), which contains proposed infrastructure elements to serve the buildout of the adopted Richards Boulevard and Railyards land use plans. For example, intake option 2 would be located in the rail spur that runs east of North 3rd Street. The Facility Element identifies this former rail right of way as a location for the future alignment of the Natomas light rail line. The DEIR should identify any potential conflict between the pipeline and the future light rail line at this location, as well as specific actions to avoid such potential conflict, if one exists. Further, although the DEIR notes a potential conflict between intake alternative 2 and the proposed light rail crossing of the American River between Truxel Avenue and Richards Boulevard (at page 2-16), no discussion of this potential conflict is included in the Transportation and Circulation analysis. The DEIR should specifically describe the likelihood of construction of two separate bridge structures, if any, and the potential impacts of an additional bridge structure, if feasible.

To constitute an adequate project-level analysis, the DEIR must identify the full range of potential transportation and circulation impacts such as those described above, and also should describe specific measures that could be implemented to mitigate these impacts. As noted in our comments on pages 2-3 to 2-7, above, such analysis cannot rely upon a traffic control plan that does not yet exist.

- Page 12-7: The discussion under "Deterioration of Roadway Surfaces" fails to address in sufficient detail the potential damage and/or shortened life span that could result to pavement of streets used for detoured traffic and truck trips generated by the project. This section relies upon implementation of a roadway surface repair plan, "as described in Chapter 2," for its conclusion that no significant impacts will result. However, no details are provided concerning such plan in Chapter 2 of the DEIR. **L15-52**

The analysis provided under "Impact: Increase in Traffic" is flawed in that is fails to include in the trips generated by the project the existing trips on the pipeline corridor that will be re-routed on other streets that also will serve the truck trips generated by this project. As nearly all of the streets on the pipeline corridor have more than 100 trips in the peak hour, moving these trips to an adjacent street will likely require a traffic impact study to identify project-specific impacts and mitigations, in accordance with the attached Interim Traffic Impact Analysis Guidelines. The project also appears to meet other criteria set forth in the Guidelines that would trigger the requirement for such a study, because the project may create a hazard to public safety, and may substantially change the off-site transportation system or connections to it.

Table 12-6 should be revised as follows:

C Street between 16th ~~Avenue~~ Street ~~and 20th Avenue~~ 21st Street
C Street between 29th ~~Avenue~~ Street and 33rd ~~Avenue~~ Street
~~56th Avenue~~ 57th Street

- Page 12-8: The analysis provided under "Impact: Interference with Emergency Response Routes" doesn't provide enough detail to determine potential increases to response time or whether such increases would significantly impact existing response times in view of the City's proposed standard of significance (see comment on page 12-4, above). As discussed above, reliance upon a traffic control plan that does not yet exist for a conclusion of no significant impacts is not adequate. Additionally, this paragraph seems to assume that all streets along the pipeline corridor will remain accessible to vehicular traffic. Since this is not likely to be the case, how will emergency vehicles access property when a street is closed during pipeline construction? **L15-53**

- Page 14-2: The discussion of land uses in the vicinity of the proposed joint project does not identify the potentially sensitive residential uses in the vicinity of North 12th and A Streets. The DEIR should indicate whether noise impacts on existing residential uses will be significant at these locations. **L15-54**

- Page 15-5: The recommended assessments of potentially hazardous sites should be conducted prior to the completion of project design to provide for an informed decision on the preferred pipeline alignment, as required by CEQA. In addition, EBMUD should identify actions that will be taken to avoid a potential public health hazard if sewer, water or drainage service is severed during pipeline construction. **L15-55**

- Chapter 16: In order to mitigate any adverse visual impacts of a new intake facility to the maximum extent possible, we recommend a thorough consideration of various possible designs for a new intake facility, with an opportunity for community review and comment on these proposed design alternatives, before a final design is selected. **L15-56**

  In addition, once an adequate project-level analysis of street tree impacts in the Central City/East Sacramento areas is performed (see comments on pages 7-18 to 7-19, above), this chapter must assess any visual impacts resulting from damage to trees in these areas.

- Chapter 17: The assessment of impacts to cultural resources should be more specific in its surveys and assessments of the potential impacts of project construction. The assessment provided fails to identify known historic structures adjacent to City streets as a resource that potentially could be affected by construction activity. For example, the Blue **L15-57**

Diamond Growers building at 17th and C Streets is a registered historic structure. Numerous other buildings in this corridor potentially could be affected by construction activity. In addition, the surveys for cultural resources for this area fail to address potential impacts to features which may be located in the street right-of-way, such as granite curbing used in many parts of the Central City. Finally, the project will pass through, or adjacent to, certain historic districts in the Central City area. Impacts to the historic character of these areas and/or to the structural integrity of historic buildings could result in significant impacts to cultural resources, which should be considered in the DEIR.

- Page 18-1: The DEIR indicates that a "quantitative" cumulative impacts analysis was included in the previous chapters discussing hydrology, water quality, fisheries, recreation, vegetation and visual resources. In many cases, however, the referenced analysis concludes that there is no significant cumulative impact without providing adequate modeling or other analysis to support this conclusion. In addition, to the extent that cumulative impacts to aquatic resources were quantitatively modeled, will the results be affected by resolution of the PROSIM "inconsistency" referenced on page 3-12? **L15-58**

- Pages 18-2 to 18-4: The "qualitative" discussion of cumulative impacts is too generalized to be of any use to decision makers, and fails to provide any meaningful guidance in determining whether the project will have any significant contribution to projected cumulative impacts. **L15-59**

- Page 18-6: The first sentence under the heading "City of Sacramento" indicates that the City's service area includes potential water purveyor service areas outside the City's place of use that could receive City water through wheeling contracts. The City is not authorized to supply City water outside of its place of use, and may only enter into wheeling contracts to provide water to such areas if the surface water being wheeled is diverted under a separate water right that allows the water to be delivered to such areas. **L15-60**

- Page 18-9: What is the source of the capacity and demand figures set forth in the second paragraph under the heading "City of Sacramento Service Area?" **L15-61**

- Page 18-10: This page states that the amount and geographic extent of potential City wholesale and water wheeling contracts are unknown at this time. This is not entirely true, as the City has executed a wholesale contract for delivery of surface water to Citizens Utilities Company's Southgate Service Area, and also has negotiated most of the terms of a similar agreement with the Arcade Water District. With respect to water wheeling, the City intends to negotiate a wheeling agreement with Sacramento County for the diversion and **L15-62**

treatment of surface water supplies obtained by the County, including the water service contract authorized under Public Law 101-514.

Thank you for the opportunity to review and comment upon the DEIR.

Very truly yours,

SAMUEL L. JACKSON
City Attorney

JOE ROBINSON
Deputy City Attorney

cc: David Martinez
Jim Sequeira
Fred Buderi
Theresa Arnold
Paul Blumberg
Dan Pskowski

NEIGHBORHOOD SERVICES DEPARTMENT

CITY OF SACRAMENTO
CALIFORNIA

5730 24TH STREET
BUILDING 12A
SACRAMENTO, CA
95822

PH 916 [illegible]
FAX 916-[illegible]

February 9, 1998

TO: Fred Buderi - Environmental Services

FROM: Dan Pskowski - Tree Services D.P.

SUBJECT: EBMUD/SACRAMENTO Joint Water Supply Project

I have reviewed the plans for the installation of the 78" diameter pipeline (PIPELINE 1). The section of the pipeline for which I am providing comments begins at 23rd and "C" Street and goes to the Fairbairn Water Treatment Plant on College Town Drive. The "C" Street section from 23rd to 29th Street will be trenched, "C" Street from 29th to 33rd Street will be tunneled. The remaining portion from 33rd and "C" Streets to College Town Drive will be trenched with the exception of the Elvas overpass area.

I understand there is another option which would eliminate the use of "C" Street. This alternative route would be preferred since it would have less impact on the city street trees. "C" Street is a designated truck route and the trees have been pruned to provide a 14-foot clearance, but by raising the canopies even higher, this pruning will impact the health of the trees. These lower limbs also provide shade for the residents during the summer, which is critical for those that do not have air conditioning.

If the Lennane Property route is not possible, then I would recommend tunneling the "C" Street section from 23rd to 29th St. There are large shade trees along "C" Street which would require removing significant branches in order to provide equipment clearance. The tract excavator will require a 40-foot overhead clearance for digging the trench, and the trench will be approximately 10 feet wide and 13-20 feet deep.

The plans show the pipeline section along Elvas Avenue being 5 feet from back of curb. The trench is too close and would impact all of the beefwoods (Casurina sp.) and eucalyptus (Eucalyptus sp.) along the 1.5-mile section of Elvas Avenue. The beefwoods are 22"-27" DBH (diameter breast height), and the eucalyptus are 15-39" DBH. The edge of trench should be a minimum of 15 feet from the back of curb in order to minimize root disturbance and the extent of pruning for equipment clearance. Even at this distance, pruning will be required for equipment

clearance. Some trees along Elvas are private trees; therefore, permission from the property owners must be secured prior to any pruning.
There are some sections of the pipeline where tree removals will occur. None are considered Heritage Trees, but mitigation will be required. On the CSUS campus, some Japanese Zelkova (Zelkova serrata) will be removed. The project sponsor needs to contact campus officals about mitigation. A site plan, inventory list of species, and diameter of the trees which will be removed during construction needs to be provided.

An ISA Certified Arborist shall be retained by the project sponsor to monitor the tree protection plan during construction. The arborist will monitor and take any required action to ensure the health of the trees.

Trees shall be protected during construction by the following:

a. If during excavation tree roots greater than two inches in diameter are encountered, work shall stop immediately until an ISA (International Society of Arboriculture) Certified Arborist can perform an on-site inspection. All roots shall be cut clean and the affected tree may require supplemental irrigation/fertilization and pruning as a result of the root cutting.

b. Pruning will be allowed by permit, when approved by the city arborist, for equipment clearance. Contactor must secure permission from property owners prior to pruning private trees.

c. The contractor shall be held liable for any damage to existing street trees, i.e., trunk wounds, broken limbs, pouring of any deleterious materials or washing out concrete under the dripline of the tree. Damages will be assessed using "Guide to Plant Appraisal" published by the International Society of Arboriculture. The project arborist will submit an appraisal report for review by the City Arborist.

d. In the sections where trenching occurs, a 6-foot chainlink fencing will be required. The City Arborist will determine placement.

e. All trenching, adjacent to trees, shall be shored to minmize soil disturbance to the root zone area.

Trees marked for removal and the protection methods noted above shall be identified on all site plans for the project.

If you have any questions or concerns please call me at 768-8604.

Interim Traffic Impact Analysis Guidelines
City of Sacramento
February 1996

A. Need for Study

A traffic impact study is necessary if any of the following are true:

1. The project will generate at least 100 AM or PM peak hour trip-ends[1].
2. The project generates at least 50 AM or PM peak hour trips on facility likely to be on main route used by project traffic and facility is already operating at LOS D-F.
3. The project may create a hazard to public safety.
4. The project will substantially change the off-site transportation system or connections to it.

The AM peak hour shall be defined as peak hour between 7-9 AM and the PM peak hour shall be defined as peak hour between 4-6 PM.

B. Scope of Study

Four steps should be followed in developing a scope of work:

1. Identify scenarios or alternatives that are necessary for any environmental documentation.
2. Contact the project manager to determine if a community meeting is appropriate to solicit feedback on scope of study from concerned parties.
3. If a community meeting is appropriate, then a draft scope should be presented and any reasonable requests should be included in the study.
4. Review scope of work and key assumptions with key parties (project manager, applicant, consultant, others).

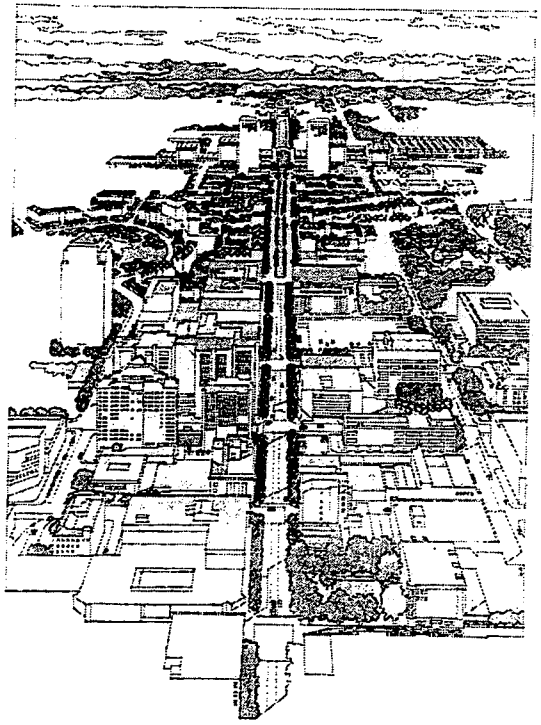
The scope of work should include the following subject areas:

On-site Circulation Review and evaluate access locations, driveway throat depths, and size of major circulation features with respect to operations and safety.

[1] A trip-end is defined as either an origin or departure of a trip. Example- a round trip between two locations creates two trip ends at each locations and four total trip ends.

FACILITY ELEMENT

of the Railyards Specific Plan and the Richards Boulevard Area Plan

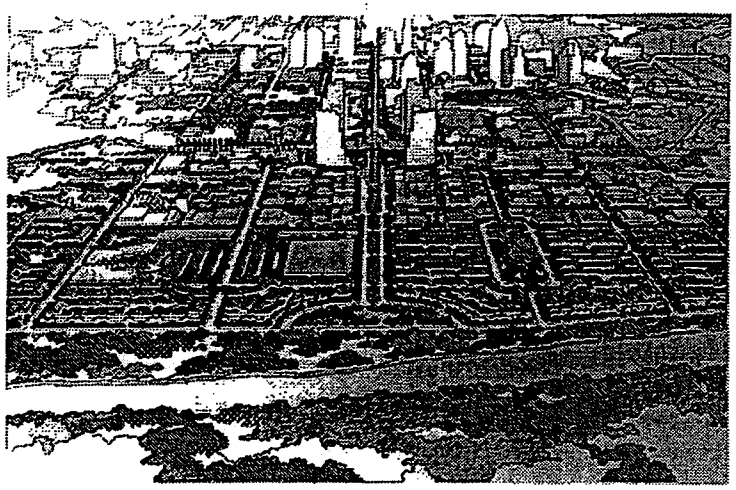


Prepared for the City of Sacramento by ROMA Design Group, April 1997

Adopted by City Council, Resolution No. 94-736, December 13, 1994
Amended November 26, 1995, Resolution No. 96-645

RICHARDS BOULEVARD AREA PLAN

Public Review Draft



Prepared for the City of Sacramento
by ROMA Design Group
October 1994

ADOPTED BY THE SACRAMENTO CITY COUNCIL
December 13, 1994
Resolution No. CC94-736

Response to Comments of the City of Sacramento

L15-1, Joe Robinson, City of Sacramento
As described on page 3-17 of and shown in Table C-10 of Appendix C to the 1997 Draft EIR/EIS, the hydrologic modeling of each alternative indicates that the change in carry-over storage at Folsom Reservoir would be greater under Alternative 3 than Alternative 2.

L15-2, Joe Robinson, City of Sacramento
Alternative 3 describes expansion of the capacity of the City's Fairbairn WTP by 100 million gallons per day and expansion of the capacity of the Sacramento WTP by 50 million gallons per day. The expansion of these facilities was included in the 1997 Draft EIR/EIS because EBMUD would take delivery of water at Fairbairn WTP, as well as at the joint project intake facility during a planned outage of Pardee Reservoir through the expanded facilities. In turn, the City would make use of expanded Sacramento River Water Treatment Plant facilities. The Supplemental Water Supply Project would not affect the City's water rights and entitlements.

L15-3, Joe Robinson, City of Sacramento
Environmental commitments to avoid or reduce impacts associated with construction of project facilities are described beginning on page 2-3 of the 1997 Draft EIR/EIS. The community would be involved during design and construction planning. Most impacts associated with the joint project facilities are short term. See responses to "Construction-Related Environmental Commitments and Mitigation" and "C Street Pipeline Routing" major issues in Chapter 3 of this document.

L15-4, Joe Robinson, City of Sacramento
The 1997 Draft EIR/EIS accurately discloses the environmental impacts of the altnernatives considered and is consistent with CEQA and NEPA. The 1997 Draft EIR/EIS provides an adequate evaluation of impacts associated with the lower American River intake facility and includes measures to reduce or avoid impacts associated with operation of the facility. For example, the 1997 Draft EIR/EIS provides an evaluation of impacts on visual resources (which includes photo-simulations of the intake facility), fisheries, and recreation associated with the alternate intake facilities. In addition to commitments and measures described in the 1997 Draft EIR/EIS, the construction of the intake facility would also require compliance with Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Section 1601 of the Fish and Game Code (streambed alteration agreement).

L15-5, Joe Robinson, City of Sacramento
Although not a member of the Water Forum, EBMUD will continue to be involved in the Water Forum process and other efforts addressing water allocations.

L15-6, Joe Robinson, City of Sacramento
EBMUD, as a CVP contractor, would be subject to CVP contractual shortage provisions. The joint project (Alternative 3) is expected to provide a firmer supply of water than Alternative 2 because it assumes the Hodge Decision flow conditions are not applicable at the downstream location. The firmness of the water supply is a key factor in determining which project alternative is implemented.

L15-7, Joe Robinson, City of Sacramento
The Supplemental Water Supply Project project objectives are described on page 2-1 of the 1997 Draft EIR/EIS. The project objectives are consistent with the Hodge Decision, which is

intended to protect the public trust resources of the lower American River.

L15-8, Joe Robinson, City of Sacramento
The City and County participated in the development of the description of the joint project alternative. The description of joint project facilities and operations provides an appropriate level of information to adequately evaluate the environmental impacts of the alternative.

L15-9, Joe Robinson, City of Sacramento
The 1997 Draft EIR/EIS accurately discloses the environmental impacts of Alternatives 2 and 3 and is consistent with CEQA and NEPA.

L15-10, Joe Robinson, City of Sacramento
The Hodge Decision physical solution states that "an additional 60,000 AFA will be maintained in reserve at the reservoir from mid-October through June for release upon the recommendation of the Department of Fish and Game in response to specific fishery requirements" (Hodge Decision, Page 109). EBMUD recognizes that this reservation is indicated in the Hodge Decision, but the specific operational constraints of the 60,000-AF requirement have never been defined.

L15-11, Joe Robinson, City of Sacramento
The relationship of the City's Fairbairn WTP and Sacramento River WTP are described on page 2-18 of the 1997 Draft EIR/EIS. The Sacramento River WTP was not included in the summary of related activities because a Notice of Preparation had not been issued by the City during the time the 1997 Draft EIR/EIS was being prepared. The objective of including Table 1-3 was to provide summary information to readers about other activities related to the Supplemental Water Supply Project. Page 2-18 of the 1997 Draft EIR/EIS indicates the Fairbairn WTP and Sacramento River WTP expansion projects both include construction of new river intakes and installation of state-of-the-art fish exclusionary facilities designed to meet DFG, NMFS, and USFWS criteria. See the response to Comment L15-2.

L15-12, Joe Robinson, City of Sacramento
Detailed analysis of construction impacts requires detailed designs. Detailed design and construction plans will not be completed before a preferred alternative is selected. The 1997 Draft EIR/EIS has evaluated the impacts potentially created by Alternatives 2 and 3. The environmental commitments outlined in Chapter 2 of the 1997 Draft EIR/EIS provide for the means to reduce potential impacts to less-than-significant levels. See response to "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document. The responses to Comments L15-13 through L15-16 address these issues for the examples provided in the comment.

L15-13, Joe Robinson, City of Sacramento
The Traffic Control Plan would be prepared following the designation of a preferred alternative. The level of detail required for the Traffic Control Plan can only be obtained once a preferred alternative has been chosen. The Traffic Control Plan would be developed and reviewed by the community and approved by the responsible jurisdictions prior to implementation.

Detailed analysis of construction impacts, for instance, impacts on individual driveways, requires detailed designs. Access to driveways and private roads would be maintained wherever feasible. Detailed design and construction plans will not be completed before the preferred alternative is selected. The Sacramento City Arborist has surveyed the pipeline routes and has suggested shifting the pipeline corridor in some areas to minimize root damage along C Street and Elvas Avenue. The City Arborist has also recommended increased trenchless construction in

specific segments of C Street. EBMUD, in coordination with the City and County of Sacramento, would review each pipeline alignment with respect to potential conflicts.

Impacts on emergency responders are discussed on pages 12-6 and 12-8 of the 1997 Draft EIR/EIS. EBMUD recognizes the importance of close communication with the City and County regarding any street closures. Specific measures within the Traffic Control Plan to reduce impacts on emergency responders would be reviewed and approved by the City and County of Sacramento prior to implementation. See the response to the "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document for measures planned to reduce construction impacts. The additions to the Traffic Control Plan suggested in the comment would be included at the City's discretion.

L15-14, Joe Robinson, City of Sacramento
Table 2-7 of the 1997 Draft EIR/EIS includes City ordinances and specifically mentions compliance with erosion and sediment control plans. The lead agency for Stormwater Pollution Prevention Plans (SWPPPs) is the Regional Water Quality Control Board. City ordinances pertaining to SWPPPs would be followed.

L15-15, Joe Robinson, City of Sacramento
See Chapter 12 of this document, "Errata." The Trench Safety Plan would be approved by the City and County of Sacramento prior to implementation. The plan will indicate when open trenches would be permanently closed.

L15-16, Joe Robinson, City of Sacramento
EBMUD agrees that the sentence should read, "EBMUD and the appropriate City and County agencies will coordinate planning, engineering, design, and traffic control and construction phases of the project."

L15-17, Joe Robinson, City of Sacramento
The project description discussed in Chapter 2 of the 1997 Draft EIR/EIS includes upgrading the Fairbairn WTP. See responses to Comments L15-7 and L15-20.

L15-18, Joe Robinson, City of Sacramento
As noted on page 16-6 of the 1997 Draft EIR/EIS, the intake structure would be subject to Policy 5.7 of the American River Parkway Plan. The final design and architectural treatment of the intake structure would be subject to review and approval by the City and County of Sacramento as stated on page 16-11 of the 1997 Draft EIR/EIS.

L15-19, Joe Robinson, City of Sacramento
The City's preference is noted. Chapter 2 of this document presents the current status of the project with respect to a preferred alternative. The City has not indicated whether disturbing the City landfill is acceptable.

L15-20, Joe Robinson, City of Sacramento
See Chapter 12 of this document,"Errata." No additional modification of the 1997 Draft EIR/EIS is necessary, and the analysis of environmental impacts does not change.

L15-21, Joe Robinson, City of Sacramento
See Chapter 12 of this document, "Errata." No additional modification of the 1997 Draft EIR/EIS is necessary, and the analysis of environmental impacts does not change.

L15-22, Joe Robinson, City of Sacramento
EBMUD recognizes that clarification of the Hodge Decision would be necessary if Alternative 3 were selected as the preferred alternative. The hydrologic modeling assumed the Hodge Decision flow criteria were not a constraint on the amount of water that would be delivered under Alternative 3. As indicated on page

2-20 of the 1997 Draft EIR/EIS, this area is downstream of the critical fisheries habitat and flow-based recreation areas.

L15-23, Joe Robinson, City of Sacramento
See Chapter 12 in this document, "Errata." No additional modification of the 1997 Draft EIR/EIS is necessary, and the analysis of environmental impacts does not change.

L15-24, Joe Robinson, City of Sacramento
Figure 2-10 in the 1997 Draft EIR/EIS represents the mean monthly deliveries under Alternatives 2 and 3 to EBMUD, the City of Sacramento, and the County of Sacramento over the 70-year hydrologic modeling period. Long-term delivery averages on a monthly basis are displayed in Figure 3-3, which provides information on average annual deliveries to EBMUD, the City, and the County under Alternative 3. As Figure 3-3 indicates, in 27 years over the 70-year hydrologic modeling period, the City would take delivery of the additional 62 cfs evaluated in Alternative 3 from the Sacramento River WTP. City diversions were provided by the City of Sacramento, as described on page 2-20 of the 1997 Draft EIR/EIS.

L15-25, Joe Robinson, City of Sacramento
Avoidance of existing underground utilities would be managed through the construction plans in cooperation with the City and County for Alternative 3. Page 2-22 and Table 2-7 of the 1997 Draft EIR/EIS state that construction methods would comply with the specific guidelines of the City and County. The final construction specifications would include current, detailed underground utilities configurations, along with methods of re-routing utilities in coordination with the City.

EBMUD is reviewing the possibility of increased tunneling along C Street. EBMUD agrees that Figure 2-6a (included in this document as Figure 2-1) should correspond to Table 12-6 of the 1997 Draft EIR/EIS.

L15-26, Joe Robinson, City of Sacramento
See response to "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document. Page 2-6 of the 1997 Draft EIR/EIS outlines the contents of the Access Point/Staging Area Plan to be prepared prior to construction activities. The City and County of Sacramento would assist in preparing the plan in coordination with EBMUD and the construction contractor. The purpose of the plan would be to design and locate appropriate staging areas that avoid impacts. As the City would be directly involved in construction planning, the City is in a position to strongly influence staging areas and construction methods. EBMUD would coordinate with the City, including the Public Works/Utilities Departments, during construction planning. Depending on community input, construction through any given area could be accelerated or proceed at a slower pace.

The Traffic Control Plan would be prepared following the designation of a preferred alternative. The level of detail required for the Traffic Control Plan can only be obtained once detailed design is undertaken.

L15-27, Joe Robinson, City of Sacramento
For informational purposes, a supplemental analysis of the full use of joint project facilities is included in the 1997 Draft EIR/EIS. A comparison of conditions under the full-use scenario with conditions under the No-Action Alternative (Alternative 1) is provided in Table C-27 of Appendix C to the 1997 Draft EIR/EIS. The full use of the joint project facilities is not part of the Supplemental Water Supply Project and would be subject to additional environmental compliance.

L15-28, Joe Robinson, City of Sacramento
See Chapter 12 of this document, "Errata." Figure 2-12 of the 1997 Draft EIR/EIS represents the average monthly deliveries made for full use of the I-5 intake facility under Alternative 3. The line indicating "full use of I-5 intake capacity" includes EBMUD and County deliveries. The City deliveries assumed under the full-use scenario are consistent with Alternative 3.

L15-29, Joe Robinson, City of Sacramento
The 1997 Draft EIR/EIS accurately discloses the environmental impacts of Alternatives 2 and 3 and is consistent with CEQA and NEPA. The impact analysis for resource topics not affected by changes in hydrologic conditions were measured by comparing existing conditions (1997) with the pipeline construction activities that would occur under Alternatives 2 and 3. These topics include vegetation, wildlife, agricultural resources, land use, transportation, air quality, noise, public safety, visual resources, and cultural resources.

The impact evaluation for resource topics directly associated with changes in hydrologic conditions was based on a comparison of future no-action conditions with hydrologic conditions expected under Alternatives 2 and 3. Alternative 1 is an appropriate baseline for evaluating impacts and does not understate these impacts. The hydrologic conditions under Alternative 1 represent the environmental conditions when deliveries under Alternatives 2 or 3 would begin. This approach is consistent with the CVPIA PEIS hydrologic modeling effort and impact evaluation; however, the Draft EIR/EIS includes a comparison of existing conditions with no-action conditions. See the response to Comment Sp10-25.

L15-30, Joe Robinson, City of Sacramento
The information shown on Table 3-2 of the 1997 Draft EIR/EIS accurately portrays American River demands. See Chapter 12 of this document, "Errata." Additional City and County deliveries were not included in Alternative 2 to remain consistent with the assumptions utilized for the No-Action Alternative. The City and County demands are shown in Alternative 3 because the County would use joint project facilities for delivery of water, and the City would operate its facility in a coordinated manner with the County and EBMUD. As shown in Table 3-3 of the 1997 Draft EIR/EIS, the City demand under the cumulative scenario totals approximately 240,000 AF and is consistent with the Water Forum cumulative demands.

L15-31, Joe Robinson, City of Sacramento
See Chapter 12 of this document, "Errata." No additional modification of the 1997 Draft EIR/EIS is necessary. See response to Comment L15-30.

L15-32, Joe Robinson, City of Sacramento
The EBMUD demand of 35,000 AF at PROSIM node 16 is the average annual delivery through the intake facility based on 155 cfs of EBMUD capacity and EBMUD operations. Figure 3-3 of the 1997 Draft EIR/EIS depicts annual deliveries to EBMUD, the County of Sacramento, and the City of Sacramento under Alternative 3. As shown in Figure 3-3, the mean annual delivery to EBMUD over the 70-year hydrologic period is 35,000 AF, and delivery would be made only in 33 years. As described on page 3-14, deliveries to EBMUD under Alternative 3 are based on EBMUD system demands and are not constrained by the Hodge Decision.

L15-33, Joe Robinson, City of Sacramento
The 600-AF difference between the totals shown in Table 3-2 of the 1997 Draft EIR/EIS and the City's comment is minute and would not result in changes in the environmental impact analysis. No change is needed. See response to Comment L15-30.

L15-34, Joe Robinson, City of Sacramento
Comment noted. See Chapter 12 of this document, "Errata." No additional modification of the 1997 Draft EIR/EIS is necessary.

L15-35, Joe Robinson, City of Sacramento
See response to "PROSIM Modeling" major issue in Chapter 3 of this document.

L15-36, Joe Robinson, City of Sacramento
The assumptions used in the hydrologic modeling effort are included in the 1997 Draft EIR/EIS in Chapter 3, "Hydrology, Water Supply, and Power" and Appendix C, "Results of PROSIM and EBMUDSIM Modeling."

L15-37, Joe Robinson, City of Sacramento
Figure 3-3 of the 1997 Draft EIR/EIS depicts the delivery pattern for EBMUD, the City of Sacramento, and the County of Sacramento under Alternative 3. The City delivery pattern was based on the diversion pattern indicated in Table C-4 of the 1997 Draft EIR/EIS. The average annual deliveries to the City shown in Figure 3-3 total approximately 69,000 AF. The shift in City deliveries between Fairbairn WTP and the Sacramento WTP is based on water year type and is not always based on EBMUD system demands. See response to Comment L15-30.

L15-38, Joe Robinson, City of Sacramento
The significance criteria provide an adequate basis for accurately evaluating changes in water quality and are consistent with NEPA and CEQA.

L15-39, Joe Robinson, City of Sacramento
As described in the 1997 Draft EIR/EIS in Chapter 3, "Hydrology, Water Supply, and Power", Alternatives 2 and 3 generally would not result in substantial changes in the pattern of river flows or, in particular, substantial changes in the frequency of low flows (2,000 cfs or less). Because the flow patterns would be similar between the No-Action Alternative and Alternatives 2 and 3, substantial changes in the dilution capacity of the river are not expected.

As described in Chapter 4 of the 1997 Draft EIR/EIS, "Water Quality," impacts associated with the construction of the I-5 intake facility would be avoided because EBMUD and its contractors would be required to secure all applicable permits and implement appropriate best management practices to protect water quality.

L15-40, Joe Robinson, City of Sacramento
See Chapter 12 of this document, "Errata." Also see response to Comment L15-10.

L15-41, Joe Robinson, City of Sacramento
The 1997 Draft EIR/EIS accurately describes the impacts on the lower American River fishery. Additional analysis of the planned outage scenario is not warranted for several reasons: any such diversions would occur only during wet years when effects would be minimal; a specific diversion schedule cannot be developed at this time and would be speculative; and fishery resources are not typically greatly affected by single-year events, particularly in wet years that provide excellent conditions.

L15-42, Joe Robinson, City of Sacramento
Page 10-11 of the 1997 Draft EIR/EIS includes a discussion of the Richards Boulevard Area Plan. The construction design would be consistent with the Richards Boulevard Area Plan and would allow for a bike trail to pass over the intake pipeline. The construction schedule would be coordinated through the City of Sacramento to avoid conflicts with the Richards Boulevard expansion plan. As shown in Figure 2-7 of the 1997 Draft EIR/EIS, the top of the levee would be raised to cover the intake pipeline as it crosses over the existing levee. This improved levee would be open to bike and pedestrian traffic. See Chapter 12 of this document, "Errata."

L15-43, Joe Robinson, City of Sacramento
EBMUD will continue to coordinate with the City and County of Sacramento to avoid impacts on trees along the C Street and Elvas Avenue corridors. The City Arborist's comments are noted, and the information provided will be considered as part of construction planning, which the City would be closely involved with for Alternative 3. See response to "C Street Pipeline Routing" major issue in Chapter 3 of this document. Also see Chapter 12 of this document, "Errata."

L15-44, Joe Robinson, City of Sacramento
Mitigation measure 8-1 in Chapter 8 of the 1997 Draft EIR/EIS commits EBMUD to conducting monthly raptor surveys prior to construction. If active raptor nests are found within 500 feet of a proposed construction area, construction can avoid nests during the nesting season. Raptors may change nesting trees from season to season, and new nests may be built each season, prompting the necessity to perform the monthly surveys near the time of project start-up regardless of previous survey findings. Any of the five proposed intake locations could be near nesting raptors in any given season, since raptors are known to nest in the area.

Performing surveys at this time would not provide useful information specific to the construction schedule.

L15-45, Joe Robinson, City of Sacramento
Impacts pertaining to soils, seismicity, and groundwater were included in Chapter 9 of the 1997 Draft EIR/EIS. Project design specifications would be prepared prior to construction in conformity with the Uniform Building Code, as stated on page 9-7 of the 1997 Draft EIR/EIS. The specifications would provide for engineering design compatible with soil types and geology for the intake structure and the length of the pipeline. A geotechnical study would be conducted for the pipeline alignment prior to construction activities.

L15-46, Joe Robinson, City of Sacramento
EBMUD agrees that the sentence should include a reference to local residents. See response to Comments L15-13 and Ind41-1. Also see Chapter 12 of this document, "Errata."

Page 10-11 of the 1997 Draft EIR/EIS includes a discussion of the Richards Boulevard Area Plan. Table 10-1 includes the Richards Boulevard development project. The pipeline alignments associated with intake Sites 1, 2, 3, and 4 utilize existing roadway corridors and would not impact the proposed development of the area after construction is complete.

The location of the chemical conditioning facility would comply with city zoning and neighborhood development plans, as stated in Chapter 10 of the 1997 Draft EIR/EIS. The location would be approved by the appropriate City and County agencies.

Pipeline alignments through the proposed redevelopment complex in the vicinity of North 12th and 16th Streets would follow existing roadway corridors and would not impact the proposed development after construction is complete. Chapter 10 of the 1997 Draft EIR/EIS discusses the pertinent area development plans.

L15-47, Joe Robinson, City of Sacramento
See response to Comment L15-13 for property access and traffic circulation issues. The Traffic Control Plan would be prepared following the designation of a preferred alternative. The level of detail required for the Traffic Control Plan can only be obtained once the preferred alternative has been chosen. Utility easements would be required for the length of the pipeline.

L15-48, Joe Robinson, City of Sacramento
See Chapter 12 of this document, "Errata." This change is minor and does not alter the conclusions presented in the 1997 Draft EIR/EIS.

L15-49, Joe Robinson, City of Sacramento
See Chapter 12 of this document, "Errata." This change is minor and does not alter the conclusions presented in the 1997 Draft EIR/EIS.

L15-50, Joe Robinson, City of Sacramento
The list of criteria prompting the need for a traffic impact study in the City's Interim Traffic Impact Analysis Guidelines are not anticipated to be exceeded by the construction, as shown in Table 12-7 of the 1997 Draft EIR/EIS. EBMUD would coordinate with the City and County of Sacramento throughout the design and implementation phases of construction to ensure that impacts are minimized. EBMUD considers the significance criteria listed in Chapter 12 of the 1997 Draft EIR/EIS to be adequate. If necessary, the Traffic Control Plan would include LOS rating analysis of key intersections.

Impacts on emergency responders are discussed on pages 12-6 and 12-8 of the 1997 Draft EIR/EIS. EBMUD recognizes the importance of close communication with the City and County regarding street closures. Specific measures within the Traffic Control Plan to reduce impacts on emergency responders would be reviewed and approved by the City and County of Sacramento prior to implementation. See the response to "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document for measures planned to reduce construction impacts.

L15-51, Joe Robinson, City of Sacramento
See response to Comment L15-13. See the response to the "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document. The Traffic Control Plan would be prepared following the designation of a preferred alternative. The Traffic Control Plan would list street and lane closures. The City would be directly involved in the preparation of the plan for Alternative 3.

L15-52, Joe Robinson, City of Sacramento
Following the designation of a preferred alternative, the Traffic Control Plan would be prepared. The plan would identify detour routes necessary for implementation of the final design. Should additional analysis, such as a traffic impact study, be required by local ordinances or policy guidelines due to road closures or detours unforeseen in the preliminary design, the Traffic Control Plan would specify the level of additional analysis required. See response to Comment L15-13.

See Chapter 12 of this document, "Errata." The change is minor and does not alter the conclusions presented in the 1997 Draft EIR/EIS.

L15-53, Joe Robinson, City of Sacramento
Impacts on emergency responders are discussed on pages 12-6 and 12-8 of the 1997 Draft EIR/EIS. EBMUD recognizes the importance of close communication with the City and County regarding street closures. Specific measures within the Traffic Control Plan to reduce impacts on emergency responders would be reviewed and approved by the City and County of Sacramento prior to implementation. See the response to the "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document for measures planned to reduce construction impacts.

L15-54, Joe Robinson, City of Sacramento
Chapter 14 of the 1997 Draft EIR/EIS discusses noise impacts. The implementation of acoustically efficient enclosures is expected to minimize potential impacts. The City will be involved with design if Alternative 3 is selected as the preferred alternative.

L15-55, Joe Robinson, City of Sacramento
Phase I hazardous materials studies would be conducted for the length of the pipeline corridor as outlined on page 2-5 of the 1997 Draft EIR/EIS prior to the completion of final design. Preliminary reviews of hazardous sites along the pipeline route through Sacramento have been conducted, as stated on page 15-5 of the 1997 Draft EIR/EIS. High-priority sites identified include the former City landfills along the C Street bypass option and the former Metropolitan Ambulance Facility along the Elvas Street bypass option. Chapter 2 of this document presents the current status of the project with respect to a preferred alternative.

L15-56, Joe Robinson, City of Sacramento
As noted on page 16-6 of the 1997 Draft EIR/EIS, the intake structure would be subject to Policy 5.7 of the American River Parkway Plan. The final design and architectural treatment of the intake structure would be subject to review and approval be the City and County of Sacramento, as stated on page 16-11. Page 16-10 discusses impacts on trees within Sacramento. The results of the City Arborist's survey of the pipeline corridor would be reviewed and incorporated into the final design. EBMUD will continue working closely with the City of Sacramento to minimize impacts on trees along city streets.

L15-57, Joe Robinson, City of Sacramento
The pipeline route would generally remain within roadway corridors, reducing the potential for impacting historic structures. However, as noted on page 17-13 of the 1997 Draft EIR/EIS, EBMUD committed to implementing Mitigation Measure 17-1 for known cultural resources, which requires consultation with the SHPO and the ACHP prior to implementing the project. The construction plan would be designed to bring the construction areas back to their original condition, including the granite curbing used on city streets.

L15-58, Joe Robinson, City of Sacramento
The impact analysis accurately evaluates and discloses cumulative impacts and is consistent with CEQA and NEPA. See major issue response to "PROSIM Modeling" in Chapter 3 of this document.

L15-59, Joe Robinson, City of Sacramento
The impact analysis accurately evaluates and discloses cumulative impacts and is consistent with CEQA and NEPA.

L15-60, Joe Robinson, City of Sacramento
Comment noted regarding the City's place of use.

L15-61, Joe Robinson, City of Sacramento
The capacity and demand information was provided by the City of Sacramento through its environmental consultant for the Fairbairn WTP expansion project.

L15-62, Joe Robinson, City of Sacramento
Comment noted regarding City water contracts.

L 16

OFFICE OF THE
CITY COUNCIL

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March 19, 1998

Mr. Kurt Ladensack
Water Supply Improvements Division
East Bay Municipal Utility District, MS #305
P.O. Box 24055
Oakland, California 94623-1055

RE: **EBMUD SUPPLEMENTAL WATER SUPPLY PROJECT DRAFT EIR/EIS**

Dear Mr. Ladensack:

As the City Council member representing a major portion of the City neighborhoods through which the Joint Project's pipeline alignments are proposed, I am taking this opportunity to comment on your agency's draft EIR/EIS (DEIR) that is currently out for public review. Although I generally support the Joint Project over the EBMUD-only Folsom South project, I have serious concerns regarding the potential impacts of the Joint Project on Midtown, East Sacramento, and the neighborhoods adjacent to California State University Sacramento (CSUS). I believe that many of these concerns can be addressed through appropriate routing and mitigation and I look forward to working with you to resolve these significant issues.

The following are my general concerns and comments:

1. **Nimbus Diversion.**

The DEIR considers two alternative projects in addition to the "no action" alternative - a Folsom South Connection and a Joint Water Supply in cooperation with the City of Sacramento and the County of Sacramento. I am strongly opposed to your agency's utilizing Nimbus as a point of diversion because of the significant environmental impacts such a diversion would have on the habitat and recreational aspects of the lower American River. As discussed in further detail in the City of Sacramento's comments on the DEIR, I believe that water exports out of the region should only occur after this water has flowed down the lower American River. L16-1

2. **Construction Impacts.**

The potential for significant community disruption along the Joint Water Supply Alternative's proposed pipeline corridors is very high. I am particularly concerned about the routing along C Street in Midtown and East Sacramento, Elvas Avenue, and through the busy and congested street intersections at 56th and H Street, 56th and J Street, CSUS, Folsom Blvd, and Power Inn Road. L16-2

Although I commend you on your community outreach to date, a much greater level of community involvement will be necessary if you are to proceed with final design. In addition, mitigation for all disruptive impacts must be described at a level greater than listed in your DEIR.

I strongly support the C Street Bypass Option as well as the Elvas Avenue and Folsom Blvd. bypass options. Again, of particular concern is the C Street corridor. Any effort to open cut the pipeline route along C Street would have significant adverse effects on residents and businesses in the community. I urge you to continue to explore the C Street Bypass option and work with the City's Utilities and Public Works departments to fully examine this option.

I would also suggest trenchless construction to cross arterials with high traffic volumes such as 16th and D Street, J Street between 57th Street and Elvas Avenue, Power Inn Road and Folsom Blvd, and Folsom Blvd at Elvas Avenue. The manner in which construction is approached in these areas will be extremely delicate in order to avoid adverse impacts to residents and businesses.

I am very concerned about the potential adverse impacts during construction to the businesses located along the proposed pipeline corridors. Construction activities will adversely impact access and aesthetic quality (noise, dust, traffic, etc..) to Blue Diamond Almond Growers, the Cannery Business Park, and other businesses and residents along this corridor. What measures will be taken to mitigate potential disruption and loss of business?

There is no indication in your document of the number and locations of construction staging areas required for the Joint Water Supply Project alternative. These areas could significantly impact traffic volumes and contribute to significant neighborhood disruption. Where will they be located and what will be their impacts?

3. River Diversion Location.

I support the alternative Intake Site 5 location over the other four intake sites. The Intake Site 5 location would have the least impact of the five locations close to the mouth of the American River. However, even Site 5 requires significant mitigation to the community. For example, the C Street Bypass option is critical to minimizing the neighborhood impacts from these diversions. In addition, provisions to purchase the Urritia Property as well as the Bell and Dellar properties to add to the parkway would go a long way in satisfying this requirement. L16-3

4. Traffic Mitigation

No matter which of the five intake sites is chosen, there will be significant traffic disruption in Midtown and East Sacramento during initial construction, as well as during maintenance activities once operation begins. The Richards Boulevard interchange and connector would help alleviate these problems by providing alternate access to/from Downtown from Business 80/Capital City Freeway. However, the placement of the pipeline may encroach on some of the right-of-way required for the Richards Connector. To minimize this problem, I suggest that as part of the design of the pipeline route, EBMUD should fund the Project Study Report (PSR) for the Richards Connector and Interchange so both can be designed simultaneously. L16-4

Sincerely,

STEVE COHN
Council Member District 3

98176

Response to Comments of the Sacramento City Council

L16-1, Steve Cohn, Sacramento City Council
The opposition to Alternative 2 is noted. Chapter 2 of this document presents the current status of the project with respect to a preferred alternative.

L16-2, Steve Cohn, Sacramento City Council
EBMUD intends to continue public outreach to promote community involvement in the project. Chapter 2 of this document presents the current status of the project with respect to a preferred alternative. The Traffic Control Plan would be prepared following the designation of a preferred alternative. The level of detail required for the Traffic Control Plan can only be obtained once final design is started. EBMUD will continue working with the City and County of Sacramento and area residents and businesses to reduce construction impacts. See the response to the "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document.

L16-3, Steve Cohn, Sacramento City Council
Chapter 2 of this document presents the current status of the project with respect to a preferred alternative. The level of detail required for the engineering design can only be obtained once the preferred alternative has been chosen. EBMUD will continue working with the City and County of Sacramento and area residents and businesses to reduce construction impacts. See the response to the "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document.

L16-4, Steve Cohn, Sacramento City Council
Chapter 2 of this document presents the current status of the project with respect to a preferred alternative.

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L 17

March 19, 1998

VIA FACSIMILE and U.S. MAIL

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VIA FACSIMILE and U.S. MAIL

Mr. Cecil Lesley
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Re: Comments on the Draft Environmental Impact Report/ Environmental Impact Statement for East Bay Municipal Utility District Supplemental Water Supply Project

Gentlemen:

These comments on the Draft Environmental Impact Report/Environmental Impact Statement ("DEIR/EIS") for the East Bay Municipal Utility District ("EBMUD") Supplemental Water Supply Project ("project"), dated October, 1997 are submitted on behalf of the San Luis & Delta-Mendota Water Authority ("Authority"). The Authority is a Joint Powers Authority; it consists of 32 agencies which contract with the United States Department of the Interior, Bureau of Reclamation ("Bureau") for the supply of Central Valley Project ("CVP") water. The water which the CVP supplies to the Authority's member agencies is pumped from the Sacramento-San Joaquin River Delta through the Tracy Pumping Plant and is used, in turn, to meet the water supply needs of over 1.3 million acres of highly productive agricultural lands within the western San Joaquin Valley, San Benito, and Santa Clara County. Authority members also provide approximately 200,000 acre-feet ("af") of water for municipal and industrial uses, primarily in the Santa Clara Valley, and 200,000-250,000 af of water for waterfowl and wildlife habitat in the San Joaquin Valley.

I. SUMMARY OF COMMENTS

We conclude that the DEIR/EIS is legally inadequate and does not comply with the National Environmental Policy Act ("NEPA") or the California Environmental Quality Act

("CEQA"). Moreover, before the document can be certified, it must be corrected and recirculated for additional public review.

There are many significant flaws in the DEIR/EIS. First, the alternatives screening methodology is flawed. This results in inadequate consideration of viable alternatives, and improper favorable consideration given to other alternatives. Screening alternatives based on EBMUD policy decisions and other artificial "limits" impermissibly restricts the alternatives considered by EBMUD to only those alternatives diverting from the American River.

The DEIR/EIS also fails to describe and analyze the effects from facilities that are required to implement the project. Although the DEIR/EIS ignores this, Alternatives 2 and 3 cannot be completed without additional storage facilities. These facilities could be additional terminal storage reservoirs or a conjunctive groundwater storage project. However, in violation of CEQA and NEPA, the DEIR/EIS fails to identify these required facilities or discuss their environmental effects. This oversight also leads to impermissible "segmentation" or "piecemealing" of the project's environmental review.

Reliance of the DEIR/EIS on a flawed PROSIM model is an error that must be corrected. The PROSIM model is the major tool used throughout the DEIR/EIS to measure the significance of impacts. A flawed model yields incorrect results and a defective DEIR/EIS. EBMUD, the Bureau, and the public must have an accurate document to review. Therefore, the PROSIM model must be corrected, impacts reassessed, and the DEIR/EIS recirculated.

The DEIR/EIS is also inadequate because it fails to analyze project impacts south of the Sacramento-San Joaquin Delta. The "Affected Environment" simply ignores impacts south of the Delta, even though it implicitly recognizes those impacts. In a similar fashion, the DEIR/EIS ignores significant negative impacts to the CVP and SWP water supply, and the associated environmental impacts of that decrease in water supply.

Finally, the DEIR/EIS fails to adequately discuss, address and mitigate cumulative and growth inducing impacts. For these, and the additional reasons presented within this letter, the DEIR/EIS is legally inadequate and cannot be approved. Moreover, once these inadequacies are corrected, the DEIR/EIS must be recirculated for public review.

II. INTRODUCTION AND BACKGROUND

A. NEPA

NEPA requires all federal agencies undertaking a major federal action significantly affecting the quality of the human environment, to prepare an environmental impact statement ("EIS"). The EIS must discuss environmental affects of the whole federal action it covers and any alternatives to that action. NEPA also requires federal agencies to prepare an EIS on state and local projects when they have a federal nexus, such as the use of a CVP water supply pursuant to a Bureau contract. The term "action" is broadly defined and the Bureau

correctly decided that the proposed EBMUD Supplemental Water Supply Project constitutes a major federal action requiring completion of an EIS.

B. CEQA

The California Environmental Quality Act ("CEQA"), Pub. Res. Code Section 21000. *et seq.*, mandates that an environmental impact report ("EIR") be prepared and certified before approval by a local agency of any project that may have a significant effect on the environment. (Pub. Res. Code § 21151(a).) It is well established that the purpose of an EIR is to provide public agencies and the public in general with detailed information about the effects, which a proposed project is likely to have on the environment. (Pub. Res. Code §§ 21060.5 and 21061; *Environmental Planning and Information Council of Western El Dorado County, Inc. v. El Dorado County* (1982) 131 Cal.App.3d 350, 354.)

The California Supreme Court summarized both the purpose and importance of an adequate EIR when it decided *Laurel Heights Imp. Ass'n of San Francisco, Inc. v. Regents of University of California* (1988) 47 Cal.3d 376, 392. The Supreme Court said:

> The EIR is the primary means of achieving the Legislature's considered declaration that it is the policy of this state to "take all action necessary to protect, rehabilitate, and enhance the environmental quality of the state." [Citation] The EIR is therefore "the heart of CEQA." [Citations] An EIR is an "environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." [Citations] The EIR is also intended "to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." [Citations] Because the EIR must be certified or rejected by public officials, it is a document of accountability. If CEQA is scrupulously followed, the public will know the basis on which its responsible officials either approve or reject environmentally significant action, and the public, being duly informed, can respond accordingly to action with which it disagrees. [Citations] The EIR process protects not only the environment but also informed self-government. [emphasis added] *Laurel Heights Imp. Ass'n of San Francisco, Inc. v. Regents of University of California* (1988) 47 Cal.3d 376, 392.

Moreover, CEQA requires that local agencies deny approval of a project with significant adverse effects when feasible mitigation measures can substantially lessen such effects. (*Sierra Club v. Gilroy City Council* (1990) 222 Cal.App.3d 30, 41; *Citizens for Quality Growth v. City of Mount Shasta* (1988) 198 Cal.App.3d 433, 440-441.) To effectuate this requirement, an environmental impact report must include a detailed analysis of mitigation

measures that will minimize the significant effects of the proposed project on the environment. (Pub. Res. Code § 21100(b)(3).)

As explained below, the DEIR/EIS falls significantly short of providing EBMUD, the Bureau, other responsible agencies and the public with a document that meets these standards. Therefore, in its present form, the document cannot be certified.

III. THE ALTERNATIVES ANALYSIS PRESENTED IN THE DEIR/EIS IS FLAWED, AND RENDERS THE ENTIRE DOCUMENT LEGALLY INSUFFICENT

A. NEPA

NEPA requires impact statements to consider alternatives to the proposed actions as well as their environmental impacts. The Council on Environmental Quality ("CEQ") describes the alternatives requirement as the "heart" of an EIS (40 C.F.R. § 1502.14). NEPA also requires federal agencies to "study, develop and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources (42 U.S.C. § 4332(2)(E)). In *Natural Resources Defense Council, Inc. v. Morton*, 458 F.2d 827 (D.C. Cir. 1972), the court held that the discussion of alternatives was subject to a "rule of reason." *Morton* requires an expansive interpretation of the alternatives requirement. For example, it requires agencies to discuss primary alternatives outside the scope of statutory authority even if additional legislation or administrative action is required.

It is impermissible for an agency to narrowly define a project purpose, since a narrow definition of the project purpose will limit alternatives. As will be discussed below, this is one of the major flaws in the DEIR/EIS.

B. CEQA

CEQA requires an EIR to "consider a reasonable range of alternatives to the project or the location of the project which (1) offers substantial environmental advantages over the project proposal . . . ; and (2) may be feasibly accomplished in a successful manner considering the economic, environmental, social and technological factors involved." (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 566.) CEQA Guidelines require that a draft EIR must "describe a range of reasonable alternatives to the proposed project, or to the location of the project, that could feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects on the project, and evaluate the comparative merits of the alternatives." (CEQA Guidelines § 15126(d).) Moreover, CEQA Guidelines require "the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly." (CEQA Guidelines § 15126(d)(1), emphasis added.)

Like NEPA, CEQA forbids project descriptions that are defined too narrowly, so that reasonable alternatives cannot be considered. In *County of Inyo v. City of Los Angeles* (1981) 124 Cal.App.3d 1, 9, the court stated, "An impermissibly truncated project definition severely distorted not only the critical project but the alternatives to the project." (Emphasis in original.) As will be discussed below, this is precisely what EBMUD has done. The DEIR/EIS has narrowly construed feasible alternatives based on resolutions passed by the EBMUD Board of Supervisors.

C. The DEIR/EIS Alternatives Screening Methodology Is Legally Flawed

The DEIR/EIS contains an Alternatives Screening Report, dated September 1997, in Vol. 2: Appendices. Although the Alternatives Screening Report contains a discussion of several alternatives, the methodology for screening alternatives described in Chapter 4 is flawed. For example, the first criteria requires EBMUD to take delivery of its contracted, maximum 150,000 af per year of American River water consistent with the *Hodge* decision (DEIR/EIS, Vol. 2, Alternatives Screening Report, p. 4-1). However, the project purpose is to supplement EBMUD's supplemental water supply, and supplemental water can be obtained from a variety of sources, including conservation, groundwater and other surface water sources. The screening criteria impermissibly limit the source of water to the American River, thereby automatically eliminating other reasonably viable alternatives. This is not permissible under CEQA or NEPA. L17-1

There are additional flaws in the screening methodology. The second criteria states, "An alternative must allow EBMUD to maintain the high quality of both its raw and treated water supply by minimizing health risks and health risk uncertainties for EBMUD customers consistent with state and federal law and EBMUD's Policy 81[1]." (*Id.*) EBMUD's Policy 81 contains a statement regarding the "best available source." It was passed on April 22, 1997 under Resolution 3039-97. It contains statements regarding EBMUD's American River contract and linking that source to its high quality drinking water standard. Again, a result of this is clearly to eliminate any potential sources of water other than the American River. Moreover, although it is possible to divert American River water downstream, e.g., within the Delta; the high quality drinking water standard espoused by EBMUD Policy 81 virtually precludes diversion of American River water from anywhere but the American River. Again, this impermissibly narrows the range of feasible alternatives that must be considered in the DEIR/EIS under CEQA and NEPA. L17-2

The alternatives screening criteria also limits the feasible alternatives by requiring alternatives to meet criteria contained in EBMUD's 1993 Updated Water Supply Management Program Report. These criteria listed on page 4-7 of the Alternatives Screening Report impermissibly limit the alternatives available for consideration by EBMUD. L17-3

A similar problem exists for the jurisdiction screening criteria. The jurisdictional criteria in the Alternatives Screening Report states, "An alternative must not require any permits L17-4

[1] Policy 81 was contained in EBMUD Resolution 3039-97, adopted by the EBMUD Board on April 22, 1997.

that cannot be reasonably obtained given consideration of cost, logistics or existing technology." (DEIR/EIS, Vol. 2, Alternatives Screening Report, p. 4-8). Again, limiting alternatives in this manner is impermissible. For example, under NEPA, agencies have been required to analyze alternatives that differed substantially from the project in question as originally conceived. [Alternatives may include methods of accomplishing the aim of the project including those without the area of agency's expertise and regulatory control as well as those within it. (*Environmental Defense Fund v. Corps of Engineers*, 492 F.2d 1123, 1135 (5th Cir. 1974).)] [Alternatives to proposed dam should have included energy conservation measures and alternative sources of energy. (*Natural Resources Defense Council v. Morton*, 458 F.2d 827, 831-838 (D.C. Cir. 1972).)]

IV. THE DEIR/EIS PROJECT DESCRIPTION FAILS TO ADEQUATELY DESCRIBE PROJECT FEATURES AND DISCUSS IMPACTS FROM REQUIRED FACILITIES

The project description for the DEIR/EIS fails to completely describe and evaluate all the features that will be required to actually implement the project. The CEQA Guidelines define the term "project" as "the whole of an action which has a potential for resulting in a physical change in the environment directly or ultimately," and which is undertaken, supported or approved by a public agency (CEQA Guidelines § 15378(a)). In *McQueen v. Board of Directors*, (1988) (202 Cal.App.3d 1136, 1143), the court explained that the term "Project is given a broad interpretation in order to maximize protection of the environment." The court also stated the reasoning behind this interpretation was because "[a]n accurate project description is necessary for an intelligent evaluation of the potential environmental effects of a proposed activity." (Id.). Furthermore, the *McQueen* court stated that "[a] narrow view of a project could result in the fallacy of division [citation], that is, overlooking its cumulative impact by separately focusing on isolated parts of the whole." (Id. at p. 1144.) L17-5

The DEIR/EIS does not adequately examine several impacts of the project. This violates the "whole project" concept required by CEQA and described in *McQueen*. The most significant flaw in the project description involves terminal storage. EBMUD has five terminal storage reservoirs with a total capacity of approximately 138,000 af. However, the hydrologic modeling assumptions presented in the DEIR/EIS fail to take into account the limited terminal storage. For example, under PROSIM simulation Alternative 2 American River deliveries, the DEIR/EIS states, "Demands for American River water are estimated in EBMUDSIM whenever there is available total system storage (DEIR/EIS, pp. 3-13). That same discussion also states, "The simulated deliveries occur primarily in November through April . . . (*id.*). Moreover, Alternative 2's cumulative impact discussion states, "EBMUD demands are increased under the assumption that deliveries from the American River are not constrained by available EBMUD storage. For Alternative 2 cumulative conditions it was assumed that water would be delivered to EBMUD whenever water was available under the *Hodge* decision criteria and would be limited only by available capacity in the FSCC pipeline (up to 350 cfs) (DEIR/EIS, pp. 3-14). In other words, the analysis under Alternative 2 was not restrained by the terminal reservoir storage

capacity of only 135,000 af. This was true whether the analysis was for cumulative impacts or direct project impacts. The PROSIM simulation for Alternative 3 also ignored the constraint of the limited terminal reservoir storage. Under that scenario, "EBMUD would take delivery of 155,000 af from the American River to the new intake facility to supplement its water supply and retain storage in its Mokelumne River and terminal reservoir systems. Diversions would cease when the EBMUD end-of-March projections indicate that the total system storage is expected to remain above 500,000 af at the end of September." (DEIR/EIS, pp. 3-14.) While this is well and good, most of the deliveries would be occurring during the wet portion of the year, when the terminal reservoirs would already be full. In other words, there would be no place to store the diverted water without construction of additional terminal storage reservoirs.

Thus, under Alternatives 2 and 3, the project would not be complete without construction of additional storage reservoirs to contain the diverted American River water.[2] Without a complete project description, including additional required storage facilities, the DEIR/EIS is incomplete. Moreover, to actually implement any of the project alternatives, construction of the additional storage facilities would require CEQA and NEPA analyses, since both CEQA and NEPA require analysis of those facilities as part of the "whole project." Failure to discuss the required storage facilities constitutes piecemealing, or segmenting, the project, which is impermissible under CEQA and NEPA.

The DEIR/EIS recognizes that the project will require additional infrastructure to convey the water obtained under the proposed contract, but it fails to provide anything beyond superficial details on the facilities. Worse, the document provides no information regarding environmental impacts caused from constructing these proposed facilities, despite the fact that without these additional facilities the project cannot possibly go forward. This makes it impossible for the SCWA, Bureau, responsible agencies or the public to measure the effects of each alternative and make informed decisions about them.

In *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, (hereafter called "*Santiago*"), the appellate court held that an EIR for a proposed mining operation was inadequate because it failed to include "a description of the facilities that will have to be constructed to deliver water to the mining operation, or facts from which to evaluate the pros and cons of supplying the amount of water that the mine will need." (Id. p. 829) The court wrote:

> The construction of additional water delivery facilities is undoubtedly one of the significant environmental effects of the project. As such, a description of the necessary construction had to be included if the EIR was to serve its informational purpose. [Citations.] Because of this omission, some important ramifications of the proposed project remained hidden from view

[2] Storage in a groundwater basin, such as EBMUD's proposed project with San Joaquin County, is another alternative. The lack of discussion of this alternative is another flaw in the DEIR/EIS and is discussed *supra*.

KRONICK MOSKOWITZ TIEDEMANN & GIRARD

> at the time the project was being discussed and approved. This frustrates one of the core goals of CEQA. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, . . . and weigh other alternatives in the balance. An accurate, stable and finite project description is the sine qua non [indispensable requisite or condition] of an informative and legally sufficient EIR. *Santiago County Water Dist. v. County of Orange* (1981)(118 Cal.App.3d 818.829-830).

Under any and all of the alternatives analyzed in the DEIR/EIS there will be future storage facilities and related features such as diversion intake structures, water treatment plants, storage reservoirs, and groundwater storage and wells, and distribution systems. However, like the EIR in *Santiago*, the DEIR/EIS frustrates one of the core goals of CEQA by its failure to analyze these impacts at a sufficient level.

The facilities required to store and use the water under the project alternatives are significant, and the impacts associated with construction of these are likely to be significant. It is impermissible to defer discussion of these environmental impacts to a future environmental document as it is part of the "whole project" and must be evaluated simultaneously with the other impacts.

In another, more recent case, *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) (27 Cal.App.4th 713), the court held that the Final EIR ("FEIR") for a housing development project was legally flawed, because the FEIR was premised on an improperly "curtailed" and "distorted" project description. Like the current DEIR/EIS, the document in *San Joaquin Raptor* recognized the necessity of additional facilities (sewer expansion) due to the project, but it excluded any reasonable description of the facilities and their effects from the FEIR.

The court recognized that the project could clearly not go forward without the sewer expansion, and concluded the "total project" included both the housing and the sewer project necessary to serve it. The court concluded that despite the necessity of the sewer expansion, its scope or environmental consequences could not be discerned from the FEIR.

The DEIR/EIS takes an almost identical approach to the project in *San Joaquin Raptor*, since it fails to evaluate the impact of required future facilities impacts. Therefore, the DEIR/EIS is legally inadequate.

KRONICK MOSKOWITZ TIEDEMANN & GIRARD

V. THE DEIR/EIS IMPERMISSIBLY SEGMENTS THE PROJECT BY FAILING TO IDENTIFY AND DISCUSS REQUIRED PROJECT COMPONENTS

Both NEPA and CEQA forbid the practice of "segmentation" or "piecemealing" a project for purposes of environmental documentation. However, this is exactly what the DEIR/EIS does; future required facilities of the project are not adequately discussed as required under NEPA and CEQA. The result is that discussion and analysis of required future features of the project will be delayed, and detailed environmental documentation on future components will not be presented to reviewers until a later date. Instead, EBMUD and the Bureau should withdraw the DEIR/EIS, complete the necessary planning and design work for required facilities, evaluate the environmental impacts at the project level and re-issue the DEIR/EIS. L17-6

A. NEPA

Under NEPA, most related actions must be discussed in a single environmental impact report. The Council of Environmental Quality ("CEQ") regulations define "connected actions" or "close related actions" that should be considered together in a single EIS. The regulations state:

> Actions are connected if they (i) automatically trigger other actions, which may require environmental impact statements, (ii) cannot or will not proceed, unless other actions are taken previously or simultaneously, (iii) are independent parts of a larger action and depend on the larger action for their justification.

(40 C.F.R. § 1508.25(a)(1).)

As just discussed, additional storage will be required for EBMUD to implement its supplemental water supply project. However, none of these projects are identified or discussed whatsoever in the DEIR/EIS. These facilities are more than speculative. They are required to implement the project.

B. CEQA

Under CEQA, a project is "the whole of an action" that may result in environmental change. (CEQA Guidelines § 15378.) The project is the underlying action, not each separate governmental approval for the action. Future aspects of a project must be included in the initial DEIR/EIS if they are "reasonably foreseeable" and are considered significant if they "will likely change the scope or nature of the initial project or its environmental effects." *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 395; see, also, *Lucas Valley Homeowners Assn. v. County of Marin* (1991) 233 Cal.App.3d 130, 161; *City of Antioch v. City Council* (1986) 187 Cal.App.3d 1325; *Christian Ministry v. Superior Court* (1986) 184 Cal.App.3d 180, 194.

The additional project features needed to implement the EBMUD Supplemental Water Supply project are more than "foreseeable," they are an absolute requirement. The additional storage required for EBMUD to use the additional American River water has already been discussed. By not presenting or analyzing the storage facilities, whatever they may be, the document does not allow the environmental effects of the whole project to be analyzed together. This cheats the agencies and the public from making an informed decision about the whole project. Moreover, it violates CEQA.

CEQA requires that piecemealing be avoided to ensure "that environmental considerations do not become submerged by chopping a large project into many little ones, each with a potential impact on the environment, which cumulatively may have disastrous consequences." (*Burbank-Glendale-Pasadena Airport Authority v. Hensler* (1991) (233 Cal.App.3d 577, 592); see also *Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 283-284.)

VI. THE DEIR/EIS IS FLAWED BECAUSE IT FAILS TO DISCUSS THE RELATIONSHIP OF THE PROPOSED PROJECT TO REASONABLY FORESEEABLE EBMUD PROPOSALS INVOLVING SAN JOAQUIN COUNTY

It is well known that EBMUD and San Joaquin County have held discussions involving the use of American River water within San Joaquin County. These discussions include topics such as San Joaquin County's use of the Folsom South Canal (and extensions) to divert water from the American River for use within San Joaquin County either under its own water right or by sharing EBMUD's Bureau Contract water. Moreover, discussions with San Joaquin County also include storage of American River water in groundwater basins within San Joaquin County for use by EBMUD. L17-7

Despite these well-known and public discussions, the DEIR/EIS is silent regarding the relationship of EBMUD's proposed project with a San Joaquin County project. Appendix A of the DEIR/EIS contains extensive comments from George Barber, a member of the San Joaquin County Board of Supervisors, regarding proposed conjunctive use projects between San Joaquin County parties and EBMUD. Despite this, neither the DEIR/EIS nor the Alternative Screening Report discusses any alternatives involving San Joaquin County. The Authority considers these alternatives as real possibilities and may have a negative impact on the Authority member agencies. Therefore, the DEIR/EIS must discuss this relationship, any potential water supply or conjunctive use projects contemplated, and any environmental impacts associated with these potential alternatives

VII. THE DEIR/EIS IS FLAWED AND MUST BE RECIRCULATED BECAUSE IT RELIES ON AN INACURATE HYDROLOGIC MODEL

The hydrologic model used to evaluate water supply impacts in the DEIR/EIS is based on a modified version of the Bureau's PROSIM model. However, the DEIR/EIS admits that a major error is present in PROSIM that may result in an underestimation of the use of CVP L17-8

storage and overestimation of water deliveries to the CVP. (DEIR/EIS, pp. 3-12.) This is unacceptable. The PROSIM model is the linchpin of most of the analysis presented in the document, whether it be for water supply, power, fisheries and other biological resources, water quality, recreation, and other associated, water-related impacts. Without a correct PROSIM model, it is impossible for the public, EBMUD, the Bureau or other agencies to truly assess what the project impacts may be. Therefore, the DEIR/EIS must be corrected and recirculated so that the real impacts of the proposed project can be evaluated.

Even assuming the model itself is not flawed, which we have stated we do not believe to be true, the assessment that there is a minimal impact is based on averages of very significant single year impacts – as much as 240,000 af under alternative 2 and 233,000 under alternative 3. To ignore such potential impacts is unacceptable.

VIII. THE DEIS/EIR FAILS TO ADEQUATELY ANALYZE PROJECT IMPACTS SOUTH OF THE DELTA

The DEIR/EIS does not adequately address impacts south of the Sacramento-San Joaquin Delta. The DEIR/EIS states: L17-9

> The "Affected Environment" section describes the hydrology and water supply impacts conditions in the American and Mokelumne river basins, Sacramento and Feather Rivers, and Sacramento-San Joaquin Delta. Hydropower, a vital component of Central Valley reservoirs, is also described.

(DEIR/EIS p. 3-5)

The geographic limit imposed by the "affected environment" in the DEIR/EIS is not adequate. By impermissibly limiting the extent of the analysis, significant impacts are ignored by the DEIR/EIS. The document makes only a cursory examination of impacts south of the Delta. The document concludes that CVP deliveries when compared to alternative 1 will be reduced by 3,000 af under alternative 2, and do not change under alternative 3. (DEIR/EIS p. 3-22.) Moreover, under cumulative conditions CVP deliveries are reduced by 11,000 af with alternative 2, and 6,000 Af under alternative 3. Again, no additional explanation is provided for these figures. These figures do not seem plausible given the amount of water EBMUD propose to divert. Moreover, since the DEIR/EIS claims that under the no action alternative exports south of the Delta exports will actually increase in some years, the impact assigned to the project alternatives is artificially decreased.

The only way to correct this problem is to actually analyze impacts south of the Delta, and not merely dismiss them in kind. The DEIR/EIS must be revised to reflect this oversight.

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IX. THE DEIR/EIS IGNORES SUBSTANTIAL EVIDENCE SUPPORTING THE CONCLUSION THAT THE PROPOSED PROJECT WILL HAVE A SIGNIFICANT EFFECT ON CENTRAL VALLEY PROJECT WATER SUPPLIES AND CONSEQUENTLY, FAILS TO ADEQUATELY DISCUSS THESE IMPACTS

A significant problem with the DEIR/EIS is that the impacts are identified in terms of deliveries while differences in reservoir levels (PROSIM model output data obtained from EBMUD staff) are ignored. It appears that the determination of delivery levels is completely arbitrary, since reservoir level changes of the magnitude shown by the model would result in variations in allocations and deliveries in years where the PROSIM output shows no change in deliveries, particularly to CVP contractors south of the Delta. While all reservoir-level impacts can be important, the most critical to the Authority are San Luis Reservoir levels in August. L17-10

Both CEQA and NEPA require a DEIR/EIS to identify and focus on the possible significant impacts of a proposed project. (40 C.F.R. § 1508.8, CEQA Guidelines § 15126(a); Cal. Pub. Res. Code § 21002.1(a) The DEIR/EIS must clearly identify and discuss direct and indirect impacts expected to occur both in the short term and the long term. The DEIR/EIS fails to accomplish this necessary element of NEPA and CEQA, because it ignores substantial evidence that the proposed project will cause shortages in the Central Valley Project ("CVP") water supply to Authority members and other CVP contractors. The DEIR/EIS is woefully lacking of any analysis of the water shortages, which will develop as a result of the project. The document merely states the numbers cited above.

However, the Appendix shows that single year impacts to CVP south of the Delta will be as high as 726,000 af under the no project alternative (268,000 for the 70-year average), an additional 240,000 af alternative 2 (3,000 for the 70-year average), and 223,000 for alternative 3 (zero for the 70-year average). This can hardly be considered insignificant. Clearly, the proposed project alternative will create a greater demand on the CVP's limited water supply. This increased demand will impact the Bureau's decision-making process in determining delivery deficiencies. Because of the nature of that decision-making process, the reservoir storage reduction can be magnified to much larger impacts on water supply allocation, especially in dry and critically dry years.

It is unclear how model runs results were converted to delivery impacts. The modelers clearly know little about the manner in which reservoir levels impact CVP allocation decisions. A key aspect of such decisions is the low point of the Reservoir in August, yet the model allows the minimum storage in San Luis to vary from 50,000 af (a realistic number but only found in one year out of 71) to 753,000 af, a totally unrealistic number which could not possibly reflect an accurate simulation of CVP operations. L17-11

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The change in storage levels in San Luis Reservoir between alternative 1 and alternatives 2 and 3 are ignored when, in fact, they can have a significant impact on CVP allocations and deliveries. The modeling data provided by EBMUD staff show reductions in August storage of as much as 46,000 af for alternative 2 and 175,000 af for alternative 3. Further analysis shows that for alternative 2, there are 18 years when there are negative impacts on San Luis Reservoir storage levels in August, 16 of which occur in below normal, dry and critical years. For alternative 3, there are 41 such years with 26 occurring in below normal, dry and critical years.

CVP allocation decisions can be affected by changes in storage in San Luis Reservoir of a little as 20,000 af to 30,000 af. The Bureau makes its allocation announcements typically in increments of 5% based on forecasted operations. Although 5% of the export area water service contractors' CVP water supply is approximately 92,000 af, a much smaller negative change in storage at the August low point can result in an allocation that is reduced by 5%.

The errors in modeling and interpretation of modeling results must be corrected to more accurately reflect key CVP operational and allocation decisions that impact CVP export area water supplies.

Contrary to EBMUD's and the Bureau's conclusion presented in the DEIR/EIS, The Authority concludes that there will be a significant impact and that this impact must be evaluated in the DEIR/EIS. The following example which pertains, Westlands Water District, ("District"), a member agency supports the Authority's position.[3]

A. **Westlands Water District CVP Water Supply**

The District obtains water from the Bureau, which diverts water from the Sacramento-San Joaquin Delta via the Delta-Mendota Canal, and then stores water in San Luis Reservoir. The District has a contractual entitlement through a 1963 Bureau contract and the judgment in *Barcellos and Wolfsen v. Westlands Water District*, Civ. No. 79-106-EDP (E.D. Cal.) for the delivery of 1,150,000 af of CVP water for irrigation and municipal and industrial use. L17-12

B. **Water Supply Impacts**

Because of the methods used to allocate CVP water supplies, the District will suffer most, if not all, of any shortfall of water supply resulting from the proposed project. For example, while it may not occur in all years, a probable reduction in the water allocation due to the proposed contract would be 5%. A 5% reduction in water supply equates to 57,500 af in Westlands Water District.

[3] Similar impacts will occur in the Service areas of other member agencies.

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The value of water from the CVP for irrigation purposes includes the production value of the water, the employment generated by farming of land irrigated with the water and the income generated for the District by water charges based on the water delivered.

C. **Fallowed Land Impacts**

The average quantity of water needed to produce a crop on land within the District is approximately 2.5 AF/acre. Therefore, for every 1,000 AF of water supply reduction, 400 acres of land is removed from production. The average annual gross crop value is $1,400 per acre of land within the District. Thus, the lost revenue resulting from the fallow 400 acres is approximately $560,000. In addition, it is estimated that one full time farm worker is required for every 80 acres of land in production. Therefore, for that same 400 acres removed from production, five people will probably become or remain unemployed. (Aside from these consequences, the increase in fallow acreage will also result in increased dust emissions.)

If the reduced water supply from the Bureau cannot be made up by groundwater pumping or from transfers, the likely impact of the proposed operations by the Bureau is 23,000 acres fallowed within Westlands Water District, and 36,800 acres within the San Luis & Delta-Mendota Water Authority (57,500 and 92,000 AF respectively, divided by 400 acres/1000 AF). Therefore, the corresponding losses to revenue would be $23,200,000 in Westlands Water District and $51,520,000 in the service area of Authority members. Moreover, corresponding loss of farm employment would be 288 jobs in Westlands, and 460 jobs in the service area of Authority members. Given current projections of operations by the Bureau, the most likely water supply allocation will be in the 50% range, which makes it likely that at least some of the reduction in water supply will result in land fallowing.

D. **Operations and Maintenance Cost Impacts**

Reduced water supplies also affect the District landowners in other ways. The District operations and maintenance costs ("O&M") are paid primarily through the water rate set each year by the District. When water supplies are reduced, two things result. First, to cover the O&M costs, a higher water rate must be set for water delivered by the District. Second, if the reduction in water supply is too severe to pay for normal O&M costs, the costs must be reduced by deferring planned maintenance and or replacement of the District's facilities. Deferral of O&M increases the risk of equipment breakdown and service interruption to District landowners.

E. **Subsidence Damage**

The reduced allocation of water will also impact the groundwater basin underlying the District particularly in the long run. The reduced allocation will necessitate increased reliance on the pumping of groundwater. Such increased pumping can lead to an overdraft of the basin, which in turn could lead to land subsidence. During hundreds of thousands of years the ground surface elevation of the west side of the San Joaquin Valley was established by the deposition of sedimentary soils. Much of the space between the soil particles in the sediments is naturally filled with water. When water is removed from the spaces between

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the soil particles, particularly the silt and clay materials where "water of compaction" can be squeezed out, the silt and clay soils compact into a smaller volume than they previously occupied. This results in subsidence of the ground surface in the area where the water is extracted. This subsidence can have many severe impacts, such as:

1. Groundwater wells may be destroyed. Subsidence occurs unevenly and creates enormous stresses on well casings, which often extend 1,000 to 2,000 feet below the ground surface. These uneven stresses will sometimes collapse the casing or shear forces will break the casing. Once such a collapse or break occurs, the well must be totally abandoned and a new hole drilled and outfitted; and

2. There will be an additional irreversible impact on the water resources on the west side of the San Joaquin Valley in that the water holding capacity of the underground materials will be permanently reduced as a result of compaction of the materials.

F. Groundwater Impacts

In addition to the subsidence damage, an increase in the rate of groundwater extraction, particularly in the western area of the District, may make it necessary to substantially modify many wells in that area. In many cases, it will be necessary to lower the bowl units on some of the deep well pumps by extending the column so that adequate submergence is maintained. This will be necessary so that even reduced production from the well can continue. In some instances, the bowl units will have to be replaced and larger motors installed so that production from the well can be maintained.

G. Water Quality

Increased pumping will also decrease the quality of the water applied to the soil. Application of poor quality water increases soil salinity and decreases crop yields (Increased pumping will also result in an increase in demand for and usage of energy.)

X. THE DEIR/EIS IMPERMISSIBLY DEFERS MITIGATION MEASURES UNTIL AFTER CEQA HAS BEEN COMPLETED

Because of the inadequate analysis of direct and indirect project impacts throughout the document, the DEIR/EIS impermissibly defers an analysis of potential mitigation measures until after the CEQA process has been completed. CEQA requires agencies to adopt feasible mitigation measures to substantially lessen or avoid otherwise significant impacts (Cal. Pub. Res. Code §§ 21102, 21081 (a); CEQA Guidelines §§ 15002 (a)(3), 150021 (a)(2), 15091 (a)(1)). To meet this requirement, the DEIR/EIS must set forth in sufficient detail mitigation measures that the lead agencies can adopt at the findings stage of the CEQA process (Cal. Pub. Res. Code § 21100 (a)(5); CEQA Guidelines § 15126 (c)). The DEIR/EIS fails this requirement. L17-13

In *Sundstrom v. Mendocino County*, ((1988) 202 Cal.App.3d 296), (hereafter referred to as "*Sundstrom*"), the court held that Mendocino County violated CEQA when it

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required the project proponent, who intended to build a private sewage treatment plant, to adopt mitigation measures based on recommendations of a future hydrological study. The court said this procedure was in direct conflict with CEQA, which required that proposed measures to mitigate environmental effects be incorporated into project plans before completion of the CEQA process. The *Sundstrom* decision was based in part on the fact that the success of the mitigation was uncertain, and therefore, Mendocino County could not have reasonably determined that significant effects would not occur. CEQA requires project impacts (including mitigation measures) be identified and discussed prior to project approval to avoid restricting an agency's flexibility. Furthermore, *Sundstrom* states that CEQA requires mitigation measures to be in place so that the decision-making agency does not impermissibly delegate its legal responsibility to assess environmental impacts under CEQA. The agency itself must make CEQA related decisions and approvals (Id. at 306-308).

The DEIR/EIS fails to meet the requirements illuminated in *Sundstrom* and similar cases. The primary reason for this is, once again, the impermissible deferment of analyzing such impacts to a later CEQA document. The piecemealing or segmenting problem previously presented causes this impermissible deferment of CEQA mitigation. Since several necessary project components have not been analyzed, no mitigation can be proposed.

This dilemma is precisely why CEQA requires a project impacts for the "whole project" (including mitigation measures) be identified and discussed before project approval. Again, to be legally sufficient, the DEIR/EIS must analyze at the project level all features of the proposed project and propose and analyze mitigation measures for the accompanying impacts.

XI. THE DEIR/EIS FAILS TO INCLUDE A DETAILED ANALYSIS OF MITIGATION MEASURES THAT WILL MINIMIZE A SIGNIFICANT EFFECT OF THE PROPOSED PROJECT ON CVP WATER SUPPLIES

We have already described how the DEIR/EIS fails to adequately consider the substantial evidence that the proposed project will have a significant impact on the CVP water supplies, particularly as it relates to the District. This flaw is carried forward by failing to include a detailed analysis of mitigation measures that will avoid or minimize the significant affects of the proposed project on the District and other water users. (Pub. Res. Code § 21100(b)(3).) This letter contains a list of potentially significant impacts for which mitigation measures must be proposed. If the proposed project contained adequate conditions that no water would be delivered under the project unless Authority members receive their full water supply, that in itself would avoid many of the potential impacts contained in this letter. However, the DEIR/EIS does not contain such a measure, and in fact incorrectly states no mitigation is needed to avoid or minimize the significant affects to the CVP water supply. This incorrect statement must be rectified. L17-14

XII. THE DEIR/EIS DOES NOT ADEQUATELY ADDRESS CUMULATIVE IMPACTS

Although the DEIR/EIS makes an attempt to analyze cumulative impacts, it falls short in many areas. In particular, the document does not contain sufficient detail to analyze cumulative impacts of the proposed project on the operation of San Luis Reservoir. Although the document contains tables showing the impacts on various locations along the American and Sacramento Rivers system, and several CVP and State Water Project facilities, this information is lacking for San Luis Reservoir. Therefore, it is impossible to tell the cumulative affect of the water supply contracts on San Luis Reservoir and subsequent impacts to the District. L17-15

We have already discussed at length the gross failure of the DEIR/EIS to discuss project-level impacts of facilities required to implement the whole project. Failure to do so also results in an inadequate cumulative impacts analysis for these same facilities.

Both CEQA and NEPA require the DEIR/EIS to address cumulative impacts of a project when they are significant. A legally adequate impact analysis is the analysis of a particular project viewed over time and together with other related past, present and reasonably foreseeable probable future projects whose impacts might compound or interrelate with the proposed project. (*Environmental Protection Information Center v. Johnson* (1985) 170 Cal.App.3d 604, 625.) The impacts just discussed have not been adequately analyzed for their cumulative affects.

The most significant failure to address cumulative impacts occurs when the DEIR/EIS states that certain actions "have not advanced in the planning process to the point where cumulative analysis is warranted." (DEIR/EIS p. 18-2.) The document incorrectly states that CALFED, the CVPIA, and proposed water service contracts under Public Law 101-514 (Sacramento and El Dorado Counties), have not significantly advanced in the planning process for a cumulative impact analysis. Many aspects of the CVPIA have been implemented and have passed the planning stage, including the section 3406(b)(2) measures under the CVPIA and a draft EIR/EIS for the Public Law 101-514 contracts. The relationship and cumulative impacts associated with these projects must be analyzed in the DEIR/EIS. L17-16

XIII. THE DEIR/EIS DOES NOT ADEQUATELY ADDRESSGROWTH-RELATED IMPACTS

CEQA requires that an EIR:

> Discuss ways in which the proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. ...

(CEQA Guidelines § 15126(g).) L17-17

NEPA also requires EIR evaluate the effects of:

> Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects or other effects related to induced changes in the pattern of land use, population density or growth rate and related effects on air and water and other natural systems, including ecosystems.

(40 C.F.R. § 1508.8(b).)

Contrary to the requirements of CEQA and NEPA, the DEIR/EIR fails to adequately discuss the potential growth-inducing impacts of the proposed project. For example, the DEIR/EIS states that "Because the supplemental water supply project is intended to provide a supplemental water supply during drought years and improve system redundancy and reliability, it would not contribute to new growth-inducing effects that have not been already evaluated for the overall updated WSMP." (DEIR/EIS pp. 18-7 through 18-8.) However, in direct contradiction of this statement the DEIR/EIS states that construction and operation costs for the proposed projects will come from "fees charged to applicants for new water service." (DEIR/EIS p. 2-14.) This statement admits that water from the proposed projects will be used to facilitate new growth. Moreover, the document states that the updated WSMP EIR estimates a number of housing units will grow by approximately 79,000 units and the population increase will be approximately 137,000. (DEIR/EIS p. 18-6.) It is clear that these increases could not occur without the supplemental water supply project. However, the DEIR/EIS proposes no mitigation for these significant effects, nor does it discuss the effects in any detail. This is a requirement for the DEIR/EIS to be legally adequate and must be rectified.

The same is true for growth-inducing impacts in the Sacramento and San Joaquin Counties areas. The DEIR/EIS admits that the proposed projects could facilitate growth within the Sacramento area, yet only qualitatively discusses these impacts -- and even then, at too superficial a level to be legally adequate. Moreover, no mitigation measures are proposed for the cumulative impacts identified. The same may be said for the San Joaquin County area. Assuming EBMUD does implement a conjunctive groundwater use program with San Joaquin County, growth-inducing impacts must be identified, addressed and mitigated. The DEIR/EIS fails to do this.

XIV. CONCLUSION

For the reasons set forth in this letter, it is apparent that the DEIR/EIS is legally inadequate and does not comply with the provisions of NEPA or CEQA. The primary reasons for this failure is that the DEIR/EIS project alternatives analysis is flawed and does not discuss viable alternatives to those presented. In addition, the DEIR/EIS does not discuss the "whole project", since storage facilities will be required for the project. Until a complete and adequate DEIR/EIS can be completed, EBMUD and the Bureau should withdraw the DEIR/EIS until such time that these and other project features can adequately be evaluated. In addition, the project L17-18

incorrectly concludes that it will not impact CVP water supplies. As shown by the substantial evidence provided in this letter, this conclusion is wrong.

The flaws in the DEIR/EIS are substantial, and correcting them will significantly change the document. Therefore, recirculation of the DEIR/EIS is required to comply with CEQA and NEPA.

Your consideration of these comments is appreciated.

Sincerely,

KRONICK, MOSKOVITZ, TIEDEMANN & GIRARD
A Professional Corporation

Thomas W. Birmingham

THOMAS W. BIRMINGHAM

TWB/mm
cc: Mr. Dan Nelson
Mr. David Orth
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353396.1

Response to Comments of the San Luis & Delta-Mendota Water Authority

L17-1, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
See response to "Alternatives Considered" major issue in Chapter 3 of this document. As noted, the screening criteria for the project reflect the project objectives. The screening report described in detail EBMUD's implementation of extensive conservation and water reclamation efforts. The need for the project is premised on full implementation of these extensive conservation and reclamation programs. As noted on Page 2-1 of the 1997 Draft EIR/EIS, the project objective, and the basic project purpose, is to "allow EBMUD to make use of its water service contract with Reclamation for delivery of American River water, consistent with the conditions set forth in the Hodge Decision." Other project objectives include increasing operational flexibility and maintaining water quality. Any alternative that does not meet most of the basic project purpose or the other project objectives is infeasible and need not be considered in the 1997 Draft EIR/EIS. EBMUD has identified an overall need for water to meet its drought and reliability needs, and use of the water service contract to contribute toward meeting a portion of those needs is one of the project objectives.

L17-2, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
See responses to "Alternatives Considered" and "Delta and Sacramento River Alternatives" major issues in Chapter 3 of this document. EBMUD examined alternatives that could meet the basic project objectives, including diversions from the Sacramento River and the Delta. The water quality criterion did not limit the review of alternatives in the 1997 Draft EIR/EIS, but rather helped to determine the required components of potential alternatives so that all such components could be included in the evaluation.

L17-3, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
See response to "Alternatives Considered" major issue in Chapter 3 of this document. All the alternatives considered met the criterion of contributing to achieving the objectives established as part of the Updated Water Supply Management Program (WSMP). Because all of the alternatives met this criterion, it did not in any way limit the alternatives considered by EBMUD. It was also appropriate for EBMUD to rely upon the established criteria, including those set forth in the updated WSMP.

L17-4, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
See response to "Alternatives Considered" major issue in Chapter 3 of this document. This criterion is commonly used in NEPA and other regulatory processes, including compliance with Section 404 of the Clean Water Act. This screening criterion did not eliminate any alternatives from consideration.

L17-5, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
See responses to "Project Segmentation/Piecemealing" and "PROSIM Modeling" major issues in Chapter 3 of this document. The analysis conducted for the 1997 Draft EIR/EIS is appropriate. No additional facilities are required to implement Alternatives 2 and 3 beyond those described in the 1997 Draft EIR/EIS. Under Alternatives 2 and 3, the water that EBMUD receives from the American River would be used in conjunction with the Mokelumne River system to meet EBMUD customer demands. This operation allows additional storage to be maintained in the Mokelumne River for use in subsequent dry periods that would not otherwise be available.

The analysis for cumulative conditions simply examined a "worst-case" type scenario whereby the project facilities would be put to full use at all permissible times. Although there are no plans or facilities to implement such an operation, it is included in the analysis to provide a full range of impact analyses. Subsequent environmental documentation would be required for any such operations, as stated on page 2-29 of the 1997 Draft EIR/EIS.

As stated above, the project alternatives do not require any additional facilities prior to project implementation. Furthermore, there are no plans for any additional facilities to be constructed as part of Alternatives 2 and 3. The 1997 Draft EIR/EIS does not recognize or suggest in any way that additional elements, including additional storage, are required to make the project feasible. Alternatives 2 and 3 are feasible to implement as described in the 1997 Draft EIR/EIS.

L17-6, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
See response to Comment L17-5 above.

L17-7, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
See responses to "Alternatives Considered" and "San Joaquin County Conjunctive Storage" major issues in Chapter 3 of this document. It is not uncommon for water agencies to discuss potential agreements and arrangements for obtaining potential mutual benefits. As outlined in Chapter 1 of the 1997 Draft EIR/EIS, EBMUD has been discussing these potential opportunities with other parties for approximately 10 years. To date, after extensive and ongoing discussions, no mutually acceptable project has been identified, and no specific proposal exists. Neither CEQA nor NEPA requires an analysis of speculative and remote alternatives. If additional projects are identified and developed in the future, appropriate environmental documentation will be required.

L17-8, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
See response to "PROSIM Modeling" major issue in Chapter 3 of this document. It is important to note that the modeling results vary substantially from year to year and that decreases in any one year are typically made up in other years, as indicated by the fact that the average change is extremely small. In addition, a review of modeling results indicates that there is not a strong correlation between year type and change in CVP exports. See response to Comment L17-10 below.

L17-9, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
The potential for impacts on Delta exports was adequately analyzed in the 1997 Draft EIR/EIS. The identified reductions in exports under Alternatives 2 and 3 (3,000 AF and no change, respectively) are exceedingly small. The average potential reduction in CVP exports according to hydrologic modeling is approximately 0.1% under Alternative 2 and no net change under Alternative 3 (Appendix C to the 1997 Draft EIR/EIS, Table C-22). Based on these findings, no significant change in Delta exports would occur. Potential reductions under cumulative conditions are only slightly higher (up to 0.4%). These reductions are exceedingly small, are caused by upstream uses other than EBMUD's, and do not translate to direct physical impacts on the environment.

L17-10, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
The hydrologic modeling results are based on PROSIM, a system-wide planning model developed by Reclamation. Although PROSIM is a valuable tool for addressing water resources planning

issues, it cannot be used to address site-specific operational issues on a monthly or more frequent basis.

As noted in this comment, by far the greatest changes were modeled to occur between existing conditions and the No-Action Alternative. These changes are not attributable to Alternatives 2 and 3. It is also important to note that modeled decreases in exports in individual years were offset almost entirely by increases in exports in other years. Although decreases in exports were very slightly higher during the 1928–1934 dry period (averaging approximately 5,000 AF per year under each alternative based on modeling results), these changes were again a very small fraction of total exports in each of those years. These very small changes would not result in significant impacts.

L17-11, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority

At the request of the SL&DMWA, modeling results for San Luis Reservoir were provided. This comment addresses that information. The modeling was performed to be largely consistent with CVPIA modeling. Although there are a number of changes that occur in San Luis Reservoir storage in August, most of these changes are relatively minor. For example, under Alternative 2, while there are 18 years with negative changes in storage, there are also 15 years with positive changes in storage. Of the 18 years with negative changes in August storage, only 3 years were identified as having a 20,000 AF or greater decrease. The average change in August storage at San Luis Reservoir under Alternative 2 is -1,000 AF.

Under Alternative 3, changes were greater than under Alternative 2. However, of the 46 years with a decrease in August storage as compared to the No-Action Alternative, only in 16 years were decreases greater than 20,000 AF. There were also 5 years in which storage increased by up to as much as 147,000 AF. The average change in August storage under Alternative 3 was modeled to be 9,000 AF. A review of modeling conducted with the revised PROSIM model confirmed the adequacy of the analysis. In fact, impacts of the alternatives were substantially less with the revised PROSIM modeling, and August storage increased under both alternatives as compared to the No-Action Alternative.

Another important component of the analysis is that San Luis Reservoir storage is projected to increase substantially under the No-Action Alternative as compared to existing conditions. August storage in San Luis Reservoir under the No-Action Alternative, as compared to existing conditions, is projected to increase in 52 years over the 70-year period of record. Decreases in storage are predicted in 15 years, and no change is predicted in 3 years. The maximum increase in storage is predicted to be 404,000 AF, while the maximum decrease is projected to be 147,000 AF. The net 70-year average change is a projected increase in storage of 63,000 AF. This information helps put the projected decreases under Alternatives 2 and 3 in perspective. Although there are some decreases in storage as compared to the No-Action Alternative, projected storage under Alternatives 2 and 3 remains considerably higher than under existing conditions.

L17-12, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
There are numerous assumptions in this comment that are not supported. The first assumption is that Alternatives 2 and 3 would result in a 5% reduction in water supply to the authority entities. This assumption is not accurate or supported by a review of the hydrologic data for San Luis Reservoir provided in response to Comment L25-11. Additionally, CVP exports are more often limited by regulatory constraints imposed on Reclamation than by upstream uses of water. As a result, increased upstream uses do not necessarily result in decreased exports.

The comment also assumes that any reduced surface water supplies would automatically result in a predetermined response by water users. Farm operators would likely have independent responses to adecrease in water supply. The range of responses could include not planting crops on a portion of land, changing crop patterns, increasing irrigation efficiencies or accepting reduced yields, acquiring water from other sources, and pumping groundwater. It is likely that a combination of actions would result, thereby reducing the overall effect. The analysis in the 1997 Draft EIR/EIS is appropriate, and there is no potential for significant effects resulting from very slightly decreased Delta exports.

L17-13, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
See response to the "Project Segmentation/Piecemealing" major issue in Chapter 3 of this document. As discussed in the response to Comment L17-5, no additional facilities are required to implement Alternatives 2 and 3. The 1997 Draft EIR/EIS adequately evaluates the effects of Alternatives 2 and 3 and provides an appropriate discussion of potential mitigation measures that could be implemented to reduce impacts to less-than-significant levels. The commentor has failed to provide any evidence to the contrary. Unlike the cited, case Sundstrom v. Mendocino County (1988) 202 Cal.App.3d 296, there are no future studies planned for this project nor future mitigation measures to be developed and implemented.

L17-14, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
See response to Comment L17-12. As clearly shown in the 1997 Draft EIR/EIS and discussed in responses to these comments, Alternatives 2 and 3 would not result in significant impacts on Delta exports, and thus, there is no potential for significant physical changes to the environment. No mitigation is necessary for minor changes. EBMUD is also a CVP contractor, and EBMUD ratepayers have been paying for water that has not been used by EBMUD for approximately 30 years.

L17-15, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
The information discussed in this comment regarding San Luis Reservoir storage was provided to the Authority at its request, as well as any other entity that requested it, well before completion of the public review period, and it was part of the package of information on which the Authority based many of its comments. The information provided to the Authority with regard to cumulative effects on San Luis Reservoir storage levels show that, under cumulative conditions, storage is generally increased, with August storage increasing by 54,000 AF under cumulative conditions with Alternative 2 and by 62,000 AF under cumulative conditions with Alternative 3. This increase in storage under cumulative conditions is a result of comparing cumulative impacts to existing conditions rather than the No-Action Alternative. As described in response to Comment L23-11, San Luis Reservoir storage levels are shown to generally increase under the No-Action Alternative. Again, this information supports the finding

that there is no potential for significant project-related or cumulative effects associated with Alternatives 2 and 3.

L17-16, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
This comment does not accurately reflect the language on page 18-2 of the 1997 Draft EIR/EIS. Page 18-2 states that "besides the actions included in the quantitative cumulative impact analysis (described on page 18-1), other programmatic actions can be considered reasonably foreseeable, but have not advanced in the planning process to a point where a quantitative cumulative impact analysis is warranted. These actions include implementation of the CVPIA and the CALFED Bay-Delta Program, and water service contracts under P.L. 101-514."

The 1997 Draft EIR/EIS does evaluate the potential cumulative impacts of these actions in a qualitative analysis, and, in fact, many elements have been incorporated into the Supplemental Water Supply Project analysis. For example, as noted throughout the 1997 Draft EIR/EIS, the No-Action Alternative is very similar to the No-Action Alternative for the CVPIA PEIS. However, both the CVPIA and the CALFED Bay-Delta Program are very broad programs with very little specific analyses. The cumulative impact analysis in the 1997 Draft EIR/EIS is appropriate.

L17-17, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
As stated in numerous locations in the 1997 Draft EIR/EIS (Chapter 1, for example) and supporting materials, EBMUD water supplies are adequate to meet its buildout customer demands in most years. The purposes of the project are not to provide new water supplies for projected growth, but, as stated on page 2-1 of the 1997 Draft EIR/EIS, to make use of EBMUD's water service contract with Reclamation to meet several objectives, including reducing customer deficiencies during droughts and increasing system reliability by providing an alternate source of supply to EBMUD's Mokelumne River supply. The fact that new connections would be a source of funding for the Supplemental Water Supply Project does not establish a direct connection between growth and the project. New connection fees are simply one of several funding sources available to EBMUD.

Only Alternative 3 has the potential to result in growth effects in the Sacramento region, and the relationship of that potential growth to the Supplemental Water Supply Project is described in Chapter 18 of the 1997 Draft EIR/EIS. In addition, the City of Sacramento and the County of Sacramento would be required to prepare separate environmental documentation for their participation in the joint project. Although the growth analysis in the 1997 Draft EIR/EIS is appropriate, these subsequent efforts will provide additional detail on any potential effects. It is premature to consider potential growth impacts until that time. Regarding a conjunctive-use program for the San Joaquin County area, see the response to the "San Joaquin County Conjunctive Storage" major issue in Chapter 3 of this document. In conclustion, there is no potential for implementation of Alternative 2 or 3 to result in growth effects in the San Joaquin County area.

L17-18, Thomas W. Birmingham, San Luis & Delta-Mendota Water Authority
See responses to Comments L17-1 through L17-17 above.

SAFCA
Sacramento
Area Flood
Control
Agency

L18

March 19, 1998

Kurt Ladensack
Manager of Water Supply Improvements
EBMUD
P.O. Box 24055, MS 305
Oakland, CA 94623-1055

Dear Mr. Ladensack:

The Sacramento Area Flood Control Agency (SAFCA) submits the following comments on the Draft EIR/EIS for EBMUD's Supplemental Water Supply Project. SAFCA's goals include providing improved flood control management for the Lower American River, while protecting the natural and community open space resources contained within the floodway. SAFCA is concerned that the DEIR/EIS fails to disclose the true scope of the adverse impacts of proposed Alternative 2, the diversion from Folsom South Canal. Given that the adverse impacts of EBMUD's project related to reduced flows in the Lower American River would be eliminated by the implementation of Alternative 3, the failure of the DEIR/EIS to acknowledge Alternative 3 as environmentally superior is baffling. More specific comments follow.

1. *Channel and levee damage:*

The analysis in Chapter 9 (Geology, Soils, Seismicity, and Groundwater) of the impacts of the two alternative projects identifies no significant effects on flood protection levees and channels, even though Alternatives 2 and 3 cross floodplains in Sacramento and San Joaquin counties, and Alternative 3 is within the river channel next to a flood control levee. This conclusion appears to be based on the assumption that the "Channel and Levee Restoration Plan" and the "Erosion and Sediment Control Plan" mentioned at pp. 2-3 and 2-5 of the DEIR will mitigate all damage to the levees. However, these plans have not yet been formulated. Without more information on the provisions of these mitigation plans, we cannot evaluate their efficacy. Thus, the DEIR/EIS fails to contain an adequate justification for the conclusion that these unformulated measures will successfully mitigate all impacts. Nor does the DEIR propose performance standards adequate to assure that adverse effects are mitigated. [** Tim -- does SAFCA have guidelines for erosion control or other regulatory standards we should cite here??] L18-1

Moreover, the DEIR states that EBMUD will "develop and implement" a channel and levee restoration plan "in coordination with Reclamation, affected local jurisdictions, and the construction contractor." There must be similar coordination with SAFCA for levees within its jurisdiction.

2. *Hydrologic Simulation Modeling and Scour Analysis*

The DEIR/EIS recites that EBMUD intends to "complete an analysis to determine the potential for adverse effects related to scour of levees or the natural channel as a result of in-channel construction or placement of the intake structures." (DEIR/EIS, p. 2-5.) This approach improperly defers environmental analysis which is necessary to evaluate the impacts of the proposals. To adequately address the impacts of the project, the environmental document must itself contain information about the effects related to scour of the levees and the floodway sufficient to enable the decision makers and the public to evaluate the potential adverse impacts of the project. A brief note that such analysis will be conducted later cannot substitute for the proper analysis. L18-2

3. *Modeling assumptions and flood control operations at Folsom Reservoir.*

In modeling the hydrology for the DEIR/EIS, the consultants adjusted the assumptions regarding the operations of Folsom Reservoir to account for SAFCA's proposed 400-670 operations. (Assumptions Memorandum, Appendix C, p. 3.) L18-3

However, the DEIR/EIS contains no discussion of modeling of the American River upstream of Folsom Reservoir. Upstream operations and the amount of storage in upstream reservoirs have a major influence on the flood control diagram for Folsom. The analysis must take into account these upstream operations and explain their effect on flood control. (See, e.g., Appendix C, p. 4, note 7 [discussion of PCWA diversions].)

4. *PROSIM error:*

As acknowledged in the DEIR/EIS, PROSIM, the Bureau of Reclamation model on which the impact analysis is based, is fundamentally flawed. As a result of a recently discovered error, the model used by EBMUD overstates water availability and water deliveries within the CVP system in dry years. This means that the EIR understates potential adverse impacts of the projects under consideration. The Bureau is in the process of developing a revised model that corrects the error. EBMUD's assertion that the error -- which may be of a magnitude of about 500,000 acre feet in certain years -- is unimportant is not credible. EBMUD needs to utilize the corrected model, re-analyze the impacts of the proposed projects, and circulate the results. L18-4

5. *Water Temperature in the Lower American River*

The analysis of temperature changes in the Lower American River apparently fails to take into consideration the proposed Folsom Reservoir flood control diagram. (DEIR/EIS, pp. 5-11 to 5-12; Appendix D, pp. D-2 to D-4.) To the extent that the analysis is based on historical data, it may not accurately reflect the impacts of the project under future conditions. In addition, the analysis is incomplete with regard to the biological impacts of small but critical temperature increases; the result is that temperature-related impacts on fish are understated. L18-5

6. *Fisheries and Habitat:*

As described in comments submitted by others, the DEIR/EIS fails to disclose the full impacts of the proposed projects on fisheries and their habitats. SAFCA is an active participant in joint efforts, with agencies including the County of Sacramento and the Sacramento Area Water Forum, to coordinate planning and implementation of habitat management and restoration and management of the Lower American River fisheries. EBMUD must acknowledge the impacts that would accrue from Alternative 2 in degrading habitat and contributing to the decline in fisheries on the Lower American River, and it must commit to meaningful mitigation. L18-6

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The only mitigation for fisheries impacts identified in the DEIR/EIS is that EBMUD would contribute to ongoing regional fishery management efforts. This does not constitute adequate mitigation because it neither specifies the level of commitment nor identifies specific measures that would mitigate impacts.

SAFCA appreciates the opportunity to submit these comments and looks forward to your responses. If you have any questions in this regard, please give me a call.

Sincerely yours,

F.I. Hodgkins
Executive Director

Response to Comments of the Sacramento Area Flood Control Agency

L18-1, F.I. Hodgkins, Sacramento Area Flood Control Agency
The 1997 Draft EIR/EIS adequately evaluates the potential for significant impacts and concludes that none of the impacts suggested in the comment could result. In addition, the project would be reviewed by the appropriate agencies and would not be approved unless impacts on flood protection and levees were minimal. EBMUD would coordinate with affected local jurisdictions whose levees may be affected by the Supplemental Water Supply Project. For the lower American River, EBMUD would coordinate with the Lower American River Flood Control District, the State Reclamation Board, and SAFCA regarding construction of the intake facility within the river channel and crossing or disturbing the south levee. EBMUD would coordinate with other local jurisdictions regarding crossing other levees. The 1997 Draft EIR/EIS commits EBMUD to implementing a Channel and Levee Restoration Plan to avoid potential impacts on flood control structures.

L18-2, F.I. Hodgkins, Sacramento Area Flood Control Agency
An analysis of the scour effects associated with the lower American River intake alternatives has been completed. The result of the scour analysis will be provided to the Lower American River Flood Control District as part of the permitting process for construction of the intake facility if Alternative 3 is implemented at intake Site 5.

L18-3, F.I. Hodgkins, Sacramento Area Flood Control Agency
The hydrologic analysis for Alternatives 2 and 3 assumed a 400–670 AF flood operation for Folsom Reservoir. The 400–670 AF flood operation was used because it is the current interim operating scenario for Folsom Reservoir as proposed and analyzed by Reclamation and SAFCA. It is unlikely that the flood control operation of Folsom Reservoir would return the 400-AF flood control curve. The PROSIM hydrologic model contains assumptions regarding upstream reservoir operations. These assumptions are standardized in PROSIM modeling and represent the best available information.

L18-4, F.I. Hodgkins, Sacramento Area Flood Control Agency
See the response to the "PROSIM Modeling" major issue in Chapter 3 of this document.

L18-5, F.I. Hodgkins, Sacramento Area Flood Control Agency
The evaluation of river temperatures in the 1997 Draft EIR/EIS accurately characterizes the change in these temperatures and associated effects on fisheries. Appendix E to the 1997 Draft EIR/EIS provides information on the temperature criteria that were used to evaluate impacts on Chinook salmon and steelhead trout.

L18-6, F.I. Hodgkins, Sacramento Area Flood Control Agency
The 1997 Draft EIR/EIS thoroughly addresses the impacts on fisheries under Alternatives 2 and 3 and under cumulative conditions. As indicated in the 1997 Draft EIR/EIS, EBMUD may contribute to ongoing regional fishery management efforts. This commitment is appropriate to address cumulative impacts.

L 19

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

March 19, 1998

Mr. Kurt Ladensack
East Bay Municipal Utility District
P.O. Box 24055, MS 305
Oakland, California 94623-1055

Mr. Cecil Lesley
United States Bureau of Reclamation
7794 Folsom Dam Road
Folsom, California 95630

Dear Messrs. Ladensack and Lesley:

Draft Joint Environmental Impact Report/Environmental Impact Statement
for the East Bay Municipal Utility District's Supplemental Water Supply Project

The Metropolitan Water District of Southern California (Metropolitan) has received the Draft Joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the East Bay Municipal Utility District's (EBMUD) Supplemental Water Supply Project (Project). EBMUD is proposing to develop facilities that will enable them to receive delivery of American River water under its Central Valley Project (CVP) contract with the United States Bureau of Reclamation (USBR). This letter contains our response as a potentially affected public agency.

Metropolitan is one of 29 agencies that have contracts with the Department of Water Resources (DWR) for State Water Project (SWP) water supplies. Metropolitan's contract is for 2.011 million acre-feet per year, or nearly half of the total contracted SWP supply. This SWP supply constitutes a significant portion of the supplies available to Metropolitan. As a result, Metropolitan is very interested in matters affecting the SWP, the Sacramento-San Joaquin Delta (Delta), and the tributaries to the Delta.

Metropolitan has learned that EBMUD and other water organizations in the region may be exploring additional coordinated operations and use of facilities to minimize impacts to the system in the near-term. Metropolitan is supportive of such an approach and would like to offer assistance in analyzing ways in which coordinated operations, water marketing, and water transfers can reduce impacts to the Delta system.

In a letter dated June 16, 1997, Metropolitan provided comments on the Revised Notice of Preparation and Notice of Intent (NOP/NOI) for an EIR/EIS for EBMUD's Supplemental Water Supply Project. This letter is enclosed for your reference and information.

Screening Criteria are not consistent with CEQA

The Draft EIR/EIS contains a brief discussion of the screening process used to eliminate a number of alternatives prior to conducting the detailed analysis of environmental impacts in the Draft EIR/EIS. A more complete discussion of the screening process is contained in the Alternatives Screening Report contained in Appendix B. However, it appears that there is insufficient information and justification for the chosen screening criteria. In addition, all criteria seem to have been given equal weight. As a result, failure to meet one criterion results in the elimination of an alternative, even if such an alternative may be superior in all other environmental aspects.

The Draft EIR/EIS and the Alternative Screening Report state that if an alternative is incapable of meeting one of EBMUD's screening criteria then it would be eliminated from further consideration without evaluating the ability to meet the remaining criteria [Draft EIR/EIS page 2-2, Alternative Screening Report page 5-1]. This screening procedure appears to be arbitrary and, in fact, is inconsistent with CEQA. CEQA requires that a reasonable range of alternatives be included in an EIR that would "feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project" [CEQA Guidelines 15126(d) (emphasis added)]. It appears that the Draft EIR/EIS and the Alternative Screening Report fail to recognize that the point of an EIR alternatives analysis is not to find ways to eliminate alternatives, but instead to find ways to reduce significant impacts. L19-1

For example, the screening report's arbitrary screening procedure prematurely eliminated the EBMUD/CALFED(a consortium of state and federal agencies) Combined Facility alternative even though it is recognized that the "[E]nvironmental and biological effects could be similar to those for other Sacramento River alternatives or could show enhanced fish and wildlife benefits based on the broader Program and the ecosystem restoration component." The Draft EIR/EIS also recognizes that other factors may be favorable when considering a joint project, such as reduced costs to rate payers. It should be noted that other environmental analyses for projects of a similar nature and in the same general location as the proposed project have determined that diversions from the Sacramento River are environmentally preferable over diversions from the American River. Specifically, USBR's environmental document for the CVP under Public Law 101-514, which considers similar diversions with alternatives on the American and Sacramento Rivers, states that the environmentally preferred alternative would consist of a diversion point on the Sacramento River. L19-2

Another example of a criterion resulting in alternatives being prematurely eliminated is the "timing" criterion. This criterion rejects all alternatives that cannot be implemented by the year L19-3

2001. The reason for such a stringent criterion is unclear, particularly since there are a number of options and programs, such as the drought water bank, that could meet EBMUD's water supply objectives in the near-term.

The final EIR should broaden its alternative analysis to include alternatives that meet most of EBMUD's screening criteria. In particular, the analysis should include those alternatives that are capable of reducing or eliminating environmental affects, especially those that could provide ecosystem benefits to the Delta. L19-4

Water Quality Differences in the Screening Report Appear Inconclusive

Failure to meet the water quality criterion was stated as one of the primary reasons for rejecting several alternatives. Specifically, for alternatives utilizing Sacramento River diversions, the Alternative Screening Report claims that the use of this water would degrade EBMUD's existing water supply and would not minimize health risks. While EBMUD is to be commended for seeking the highest quality source water, no information is provided to support this position. There are only minor differences between water diverted for the Sacramento River and water diverted from the American River[1], the proposed new source of supply. Such differences appear to be insignificant and would not require different treatment technologies.

In addition, the Alternative Screening Report infers that reverse osmosis treatment would be necessary to reduce total dissolved solids (TDS) concentrations of Sacramento River water. However, TDS data contained in Table A-4 shows TDS characteristics (average values ranging from 84 mg/L to 104 mg/L) for Sacramento River water that is widely considered to be excellent. In fact, these TDS levels are lower than 75 percent-80 percent of the nation's water supplies.[2] A review of a study, contained in the December 1994, *Journal of the American Water Works Association*, on reverse osmosis treatment facilities throughout the United States indicated that none of the surveyed respondents were using reverse osmosis for waters with a source water quality of less that 320 mg/L TDS. If EBMUD intends to use reverse osmosis treatment on a supply with such high quality, the Alternative Screening Report and the Draft EIR/EIS should clarify the justifications for doing so. L19-5

Further, additional treatment processes used to reduce high turbidity are assumed for Sacramento River diversions, but not for American River diversions. The rationale given for the additional facilities is that EBMUD's in-line filtration facilities would be incapable of treating waters with

[1] McGuire Environmental Consultants, Inc., November 1993, Relative Risks of the Sacramento and American Rivers as Sources of Water Supply.
[2] AWWA Water Stats, 1997

turbidity levels exceeding 1.2 NTU. EBMUD's Mokelumne River supply is less than 1 NTU 90 percent of the time and is therefore presumed to be suitable for in-line treatment. American River water, however, exceeds 1.2 NTU at the Fairbairn Water Treatment Plant 90 percent of the time[3]. As a result, it seems likely that American River water diverted under the Joint Water Supply alternative would be required to undergo the same treatment processes as would water diverted from the Sacramento River. In addition, there appears to be no difference in the microbiological quality of the two sources of water.

Overall, there does not appear to be any difference in the water treatment requirements that would be used to treat American River water or Sacramento River water based upon information provided in the Draft EIR/EIS. Metropolitan recognizes that there is some uncertainty regarding potential contamination from the much larger Sacramento River watershed. However, Metropolitan and other water urban water agencies are diligently working to identify and eliminate sources that are health risks or a health risk uncertainty. In addition, the increasingly stringent future drinking water regulations, such as the interim-Enhance Surface Water Treatment Rule, will require treatment upgrades at nearly all plants that treat surface water.

The Draft EIR/EIS does not contain sufficient information to justify conclusions regarding potential impacts to the SWP

The Draft EIR/EIS describes impacts to the SWP that are estimated to average 5,000 acre-feet annually and characterizes them as not significant. This estimate of average annual impacts is not adequate to determine significance. The impact, averaged over the analysis period, masks larger impacts during drought periods, which is when EBMUD generally intends to divert this supply. The impacts on other water users would be greater in these drought years. Additionally, the estimated 5,000 acre-foot reduction in SWP supplies appears inconsistent with the average 32,000 acre-foot reduction in storage at Lake Oroville, the SWP's primary storage source. The Final EIR/EIS should present more detailed information on water supply and storage impacts that identify impacts by year during the analysis period, and particularly during more significant drought years. L19-6

The Draft EIR/EIS does not address the obligations of the SWP and CVP that are contained in the Coordinated Operating Agreement (COA) for meeting in-basin uses and outflow standards. As a CVP export use, the proposed EBMUD diversion must meet the requirements defined in the COA. These requirements would be different for the two project alternatives in the Draft EIR/EIS since, as considered under the COA, one would use an existing diversion point and the other a new diversion point. The Draft EIR/EIS does not indicate what these requirements are for the various alternatives L19-7

[3] Jones and Stokes Associates, Inc., Alternatives Screening Report, Water Quality Evaluation, Table A-4.

and whether they would be met. In addition, the Draft EIR/EIS does not identify the modeling assumptions in the COA used for the hydrologic and water supply analyses. From the analysis results presented in the Draft EIR/EIS, it appears that the modeling may have been done incorrectly, at least for alternative three (e.g., it shows SWP supply impacts when, as a new CVP export, it would have a lower priority than SWP exports and should therefore not impact SWP supplies). The Final EIR/EIS, should include a description of the obligations required by the COA for additional export uses, and identify the assumptions used in the PROSIM modeling analysis regarding the COA. Further, if it is determined that the COA requirements were modeled incorrectly in any of the hydrologic and water supply analyses, those modeling analyses should be redone and presented in the final EIR/EIS.

Conclusion

Metropolitan supports regional solutions and cooperative approaches to reducing impacts of future water developments in the Bay-Delta watershed. In addition, we would like to offer our assistance in analyzing ways in which coordinated operations and joint use of facilities can reduce impacts or provide near-term benefits to the Delta system. We appreciate the opportunity to provide input to your planning process. If you have any questions please call Mr. Mark Beuhler at (213) 217-6647 for issues regarding drinking water quality and Mr. Stephen Arakawa at (213) 217- 6052 for issues regarding impacts to the SWP.

Very truly yours,

Laura J. Simonek

Laura J. Simonek
Principal Environmental Specialist

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cc: Mr. Lester Snow
CALFED
1416 Ninth Street
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Mr. David Kennedy
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455 Capitol Mall, Suite 220
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MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Office of the General Manager

June 16, 1997

Mr. Kurt Ladensack
East Bay Municipal Utility District
P.O. Box 24055, MS 305
Oakland, California 94623-1055

Mr. Cecil Lesley
United States Bureau of Reclamation
7794 Folsom Dam Road
Folsom, California 95630

Dear Mr. Ladensack and Ms. Lesley:

Revised Notice of Preparation and Notice of Intent for the
EBMUD's Supplemental Water Supply Project
Joint Environmental Impact Report/ Environmental Impact Statement

We have received the Revised Notice of Preparation and Notice of Intent (NOP/NOI) for a Joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for East Bay Municipal Utility District's (EBMUD) Supplemental Water Supply Project. EBMUD is proposing to develop facilities that will enable them to receive delivery of American River water under its Central Valley Project (CVP) contract with the United States Bureau of Reclamation (USBR).

The NOP/NOI identifies five alternatives for diversion and conveyance of CVP water. One of the alternatives is a joint project between EBMUD, the City of Sacramento, and the County of Sacramento in a regional partnership to meet water supply needs. However, the NOP/NOI does not identify an alternative that combines EBMUD facilities with components of a much broader regional partnership, the CALFED Bay-Delta Program, which is currently proceeding with an EIR/EIS process. EBMUD's EIR/EIS should include such an alternative because of the potential for minimizing cumulative environmental impacts.

CALFED, a consortium of state and federal agencies, including USBR, is currently involved in a multi-phased program aimed at achieving improvements to the ecosystem, water quality, water supply reliability, and system vulnerability problems in the Delta. CALFED identified an isolated facility as a part of the Dual Delta Conveyance alternative during its Phase 1 process. An isolated facility would serve as an alternative Central Valley Project (CVP)/State Water Project (SWP) diversion point to divert high quality water from the Sacramento River near Hood (or Freeport) and to interconnect with existing CVP and SWP facilities in the southern Delta.

An opportunity exists to maximize the benefits of both EBMUD facilities and those being considered in the CALFED process. This could be accomplished by combining the point of diversion for EBMUD's facilities with a Delta conveyance facility. Accordingly, the EIR/EIS should analyze an alternative that would have the diversion point for an isolated facility at Hood or Freeport serving as a consolidated point of diversion for EBMUD's CVP supplies. Such an alternative would provide EBMUD with its necessary supplemental water supplies while minimizing potential ecosystem impacts as well as potential impacts on downstream beneficial uses of Delta water.

In addition to broadening the alternative analysis, the geographical area of impact and benefit analysis needs to be expanded. The focus of the impact and benefits analysis appears to be on the Lower American River and Folsom South Canal Connection. However, diversions from the American River combined with USBR's operation of Folsom Reservoir could impact the ecosystem in the Delta and the operations of downstream water diversions, including diversions within and from the Delta. Accordingly, the study area identified in the NOP/NOI should be expanded to also analyze each alternative's potential impacts and benefits on the Delta as well as downstream water users.

Conclusion

We appreciate the opportunity to provide input to your planning process. If we can be of further assistance, please contact Mr. Stephen Arakawa at (213) 217-6052 regarding Bay/Delta matters, or Dr. Roy Wolfe at (213) 217-6241 regarding water quality concerns.

Very truly yours,

Laura J. Simonek

Laura Simonek
Principal Environmental Specialist

KAD/cl

Response to Comments of the Metropolitan Water District of Southern California

L19-1, Laura J. Simonek, Metropolitan Water District of Southern California
See response to "Alternatives Considered" major issue in Chapter 3 of this document. The screening criteria for the project reflect the project objectives. The screening report described in detail EBMUD's implementation of extensive conservation and water reclamation efforts, which include up to 25% rationing in dry years. The need for the project is premised on full implementation of these programs. As noted on page 2-1 of the 1997 Draft EIR/EIS, the project objective, and the basic project purpose, is to allow EBMUD to make use of its water service contract with Reclamation for delivery of American River water, consistent with the conditions set forth in the Hodge Decision to achieve several objectives, which include increasing operational flexibility and maintaining water quality delivered to EBMUD customers. Any alternative that does not meet the basic project purpose or the other project objectives is infeasible and need not be considered in a draft EIR/EIS. (See, for example, Save San Francisco Bay Association v. San Francisco Bay Conservation Development Commission (1992) 10 Cal App 4th 908 – if project is specific and limited in scope, feasible alternatives are also limited.)

L19-2, Laura J. Simonek, Metropolitan Water District of Southern California
See response to "Relationship to CALFED" major issue in Chapter 3 of this document. The elimination of an EBMUD/CALFED Combined Facility in the Alternatives Screening Report is not premature. Because of the scale of and programmatic approach to the CALFED program, substantial uncertainty remains regarding the quality of water that would be available and the cost associated with implementing such an alternative and of combining EBMUD needs with CALFED objectives. In addition, there will be substantial efforts required before CALFED will be able to implement any action and significant uncertainty as to what, if any, action will ultimately be implemented.

The purposes and objectives of the proposed project under P.L. 101-514 are substantially different from the Supplemental Water Supply Project, and no direct comparison can be made between the two projects.

L19-3, Laura J. Simonek, Metropolitan Water District of Southern California
No alternative was eliminated solely because of an inability to meet the timing criterion. The purpose of this criterion is to ensure that customer needs will be met.

L19-4, Laura J. Simonek, Metropolitan Water District of Southern California
See response to Comment L19-1.

L19-5, Laura J. Simonek, Metropolitan Water District of Southern California
See response to "Delta and Sacramento River Alternatives" major issue in Chapter 3 of this document. EBMUD recognizes that American River water would need additional treatment but not to the same degree as water diverted from Sacramento River.

L19-6, Laura J. Simonek, Metropolitan Water District of Southern California
More detailed analyses of hydrologic modeling results are presented in the 1997 Draft EIR/EIS where such effects were identified as having at least the potential for an environmental effect. (See Chapter 4, "Water Quality," Chapter 5, "Fisheries," and Chapter 6, "Recreation.") Where no potential effect was identified, no additional analyses were completed. For example, while Appendix C to the 1997 Draft EIR/EIS displays the average

annual effects on State Water Project deliveries, the information was not reviewed in detail to determine the potential for effect. This information has been made available on request. As noted in the 1997 Draft EIR/EIS, average annual State Water Project deliveries were not affected by either Alternative 2 or 3 (Appendix C, Table C-23). For the 1928-1934 historic drought period, slight effects were identified. Under Alternatives 2 and 3, State Water Project exports were projected to decrease by approximately 4,000 AF per year. However, during this same period, State Water Project exports averaged approximately 2,500,000 AF. Therefore, average decreases during the historic drought period average less than 0.2% of total State Water Project exports. This change was not considered to have the potential for environmental effects. Similar judgements were made with regard to other hydrologic modeling changes.

L19-7, Laura J. Simonek, Metropolitan Water District of Southern California

See responses to "PROSIM Modeling" and "Coordinated Operations Agreement Modeling" major issues in Chapter 3 of this document.

The hydrologic modeling presented in the 1997 Draft EIR/EIS indicates that effects on the State Water Project would be extremely small relative to annual deliveries (pages 3-19 and 3-22). If the PROSIM modeling were conducted differently to further reduce modeled impacts on the State Water Project, no new or different conclusions would be reached. Therefore, no additional modeling is necessary.

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WATER DISTRICT

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WATER SUPPLY IMPROVEMENTS

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March 19, 1998

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U.S. Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, CA 95630
Attn: Cecil Lesley, Contract Specialist

Subject: CCWD Comments on Supplemental Water Supply Water Supply Project Draft Environmental Impact Report/Environmental Impact Statement

Dear Mr. Ladensack and Mr. Lesley:

Enclosed with this letter are the comments of the Contra Costa Water District ("CCWD") to the Draft Environmental Impact Report and Environmental Impact Statement ("DEIR/EIS") for the East Bay Municipal Utility District's ("EBMUD") proposed Supplemental Water Supply Project. CCWD's comment letter consists of three parts and includes seven technical appendices. Part I provides a summary of CCWD's comments on the DEIR/EIS. Part II provides an overview CCWD's existing water supply system and operations. Part III describes CCWD's detailed comments on the DEIR/EIS.

The DEIR/EIS has numerous fundamental deficiencies, provides inadequate analyses of two alternatives for delivering American River water, and fails to consider less environmentally damaging alternatives for meeting EBMUD's dry year water supply needs. The DEIR/EIS needs to be substantially revised and re-released as a Revised Draft.

The fundamental premise that the American River supply is for drought purposes and, therefore, does not have a growth impact, is in conflict with language in the EBMUD's own environmental document that states that 70% of the cost of this project is to be borne by new development in the EBMUD service area.

Of greatest concern to CCWD are the impacts of the EBMUD American River project, as currently defined, on Contra Costa Water District's water quality and water supply. Analyses presented in the DEIR/EIS show increases in salinities in the Delta at CCWD's municipal water supply intakes of up to 13 milligrams per liter ("mg/L") for periods of 30 days or more. Independent analyses performed by CCWD suggest that the increases in salinity are likely to be much higher. CCWD has invested $450 million in the Los Vaqueros Project to improve water quality for its 400,000 customers. EBMUD's proposed project will reduce the performance of the Los Vaqueros Project by also increasing the salinity of water stored in the reservoir, increasing the amount of water needed for blending, reducing CCWD's ability to fill the reservoir, and reducing the amount of water stored in the reservoir. These factors will impact CCWD's ability to meet its delivered water quality goals, worsening the quality of water supplied to CCWD's customers.

Like CCWD, EBMUD is interested in providing the highest quality drinking water to its customers and wants to ensure that its potable water meets all existing and anticipated drinking water standards. While EBMUD rejects taking its water from the Sacramento River or the Delta even though the water at the Sacramento diversion point would rarely exceed 10 mg/L chloride, EBMUD's DEIR/EIS considers a 30 mg/L chloride increase for CCWD's customers to be insignificant.

EBMUD's rejection of Sacramento River diversion alternatives on the basis that the water would need to be desalinated through an expensive reverse osmosis process is unreasonable. The maximum salinities at the Sacramento Water Treatment Plant Intake, for example, seldom if ever exceed 10 mg/L chlorides. This is less than the value of about 20 mg/L chlorides (50 µg/L bromides) that an expert panel convened by the California Urban Water Agencies suggests is needed to meet the most conservative estimates of future drinking water regulations. EBMUD has unreasonably overstated the costs of Sacramento River alternatives to apparently arrive at a predetermined alternative of taking water from the American River. The Sacramento River, with its higher flows, is likely to have far fewer impacts associated with diversions than the smaller American River would have. However, any new diversions by EBMUD upstream of the Delta or in the Delta will still need to be operated in a way that avoids or mitigates for any water quality and water supply impacts on CCWD and other Delta water users.

The 400,000 residents of CCWD have made a major investment in the Los Vaqueros Project to improve water quality and to provide net environmental benefits for the Delta by reducing diversions during dry periods and periods when endangered species might be impacted by diversions. The CALFED Bay-Delta Program, with widespread stakeholder involvement, is also seeking ways to capture water during wet periods and reduce the current impacts of diversions in dry years. EBMUD is proposing a project which goes around the Delta for the purpose of taking water only in the driest years for a drought year supply. EBMUD's drought year supply needs have been defined as an additional 185,000 acre-feet of water to meet its customers' needs during a hypothetical <u>three-year design drought.</u> This situation has never occurred and is so unrealistically severe it only has about a 1 in 1,500 chance of occurring. This design drought is far more severe than any of the droughts experienced in California in the past 140 years. Even though EBMUD is using this unrealistically severe drought as one of the primary justifications for the project, the project operations during this three-year design drought are not analyzed nor presented in the Draft EIR/EIS. There is no way for readers of the DEIR/EIS to know, therefore, if the project can meet its principle purpose and if there is water available for the third year of this hypothetical drought. EBMUD's hypothetical drought year supply needs are not a compelling reason to put fish and the Bay-Delta ecosystem at risk by exporting water upstream of the Delta during precisely those periods when the environment is most vulnerable.

EBMUD is proposing to take water from the American River when the flows are significantly below those required under the 1990 Hodge Decision for protection of the lower American River. EBMUD has argued in its comments on the American River Water Resources Investigation EIS that all parties to the litigation that led to the Hodge Decision are bound by that decision and yet conveniently chooses to ignore that position in its own DEIR/EIS. One of EBMUD's initial screening criteria states that "[A]n alternative must allow EBMUD to take delivery of its contracted maximum 150,000 AF per year of American River water consistent with the Hodge Decision." Even though one of EBMUD's two American River alternatives ignores the flow requirements of the Hodge Decision, it was judged by EBMUD to meet this criterion.

Other flaws in EBMUD's DEIR/EIS include analyzing an inadequate range of alternatives, impacting other water users without identifying or providing for any mitigation, and determining an unrealistic need for the project. EBMUD's DEIR/EIS appears to have been prepared in haste and has been released for review without adequate consideration of these issues.

East Bay Municipal Utility District has decided to move ahead independently of other processes currently underway to help all California water users and the environment to get better together. The CALFED Bay-Delta Program, with widespread support from the stakeholder community, is analyzing alternatives to restore the Bay-Delta ecosystem, improve water quality and improve water supply reliability to the benefit of all Californians. None of the findings of the multi-agency CALFED studies are considered in the alternatives analysis by EBMUD. EBMUD is also moving ahead of the Department of Interior's efforts to implement the Central Valley Project Improvement Act ("CVPIA"), and its associated actions to protect anadromous fish. The amount of American River water that will actually be available to EBMUD cannot be determined until after the CVPIA Programmatic Environmental Impact Statement is completed.

Because EBMUD is actively seeking partners for its American River project and the new diversion point on American River near the confluence with the Sacramento River, this project will open up additional diversions from the American River to several other water users. However, the DEIR/EIS does not analyze any of the potentially significant impacts of the growth that additional supplies will promote in these other areas. EBMUD has also committed up to 20,000 acre-feet from this project to mitigate EBMUD's existing impacts on the Mokelumne River, which will shift environmental impacts from one river system to another.

Despite the purported need for the project, modeling studies of the hypothetical three-year drought provided to CCWD by EBMUD show that without the proposed project (the No-Action case), EBMUD will be able to meet its drought year goal of 171 million gallons per day (25% rationing) in all historical drought years and, without the project, only fails to meet this goal in the third and subsequent year of the unreasonably severe design drought. This brings into serious question the need for this project and whether it will really only be operated for drought and cost justified based on this hypothetical event.

If you have any questions about the enclosed comments, please me at (510) 688-8187.

Sincerely,

Richard A. Denton
Water Resources Manager

Enclosure

RAD/WJH

cc: Roger Patterson (USBR)
Dennis Diemer (EBMUD)

Contra Costa Water District's Comments on the Draft Environmental Impact Report and Environmental Impact Statement for East Bay Municipal Utility District's Supplemental Water Supply Project

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I. SUMMARY OF COMMENTS

The Draft Environmental Impact Report and Environmental Impact Statement (DEIR/EIS) for the East Bay Municipal Utility District's Supplemental Water Supply Project is deficient in scope and analysis. The DEIR/EIS fails to demonstrate a need for the project, and then fails to describe and analyze a sufficient range of alternatives to the proposed project. Only two project alternatives are analyzed. One project alternative, the Nimbus diversion (Alternative 2), fails to provide sufficient water to EBMUD to meet its own claimed needs, because the alternative project fails to deliver water during prolonged droughts, in particular the three-year planning design drought developed by EBMUD. The analysis of this alternative is also deficient because it assumes that water will be diverted whenever the Hodge flows are met, typically wetter years, but does not identify where that water will be stored for use when needed in drought years. The other project alternative, lower American River diversion near the confluence (Alternative 3), fails to meet environmental criteria, because it focuses all the water diversions from the American River on the dry periods. EBMUD's needs during EBMUD's three-year design drought are only able to be met by taking as much as half of the remaining low flows in the lower American River.

The "full-use scenario" for the proposed new intake on the American River at the Highway I-5 crossing (Alternative 3) opens the door to significant, but inadequately analyzed and mitigated, impacts during all years.

The EBMUD project, as proposed in the DEIR/EIS, could impact Contra Costa Water District by increasing salinities in the Delta at CCWD's municipal water supply intakes by up to 13 milligrams per liter ("mg/L") and probably much more for periods of 30 days or more. CCWD has invested $450 million in the Los Vaqueros Project to improve water quality for its customers. EBMUD's proposed project will reduce the performance of the Los Vaqueros Project and CCWD's ability to meet its delivered water quality goals. EBMUD, like other urban water users, is interested in providing the highest quality drinking water to its customer to ensure that its potable water will meet all existing and anticipated drinking water standards. Although EBMUD indicates in the DEIR/EIS that 10 mg/L chloride is unacceptable in their water supply, and uses this as the basis for not considering a Sacramento River or Delta source, EBMUD considers a 30 mg/L chloride increase for CCWD's customers to be insignificant. The water quality impacts of EBMUD's proposed project on CCWD, and the corresponding water supply and economic impacts, are significant and must be fully mitigated. These impacts could be mitigated, for example, if EBMUD were to provide low salinity water from the Mokelumne Aqueduct to CCWD when EBMUD has surplus water, in lieu of CCWD's Delta water. This would not result in any net yield to CCWD but the improvement in water quality in Los Vaqueros Reservoir would be used to offset increases in Delta salinity resulting from EBMUD's proposed American River Project and offset any impacts on the ability of CCWD to fill the reservoir from the Delta. CCWD's preliminary analyses suggest that these impacts could be offset by as little as an average of 10,000 acre-feet/year.

EBMUD's rejection of Sacramento River diversion alternatives on the basis that the water would need to be desalinated through an expensive reverse osmosis process is unreasonable. The

maximum salinities at the Sacramento Water Treatment Plant Intake, for example, seldom if ever exceed 10 mg/L chlorides. This is less than the value of about 20 mg/L chlorides (50 µg/L bromides) that an expert panel convened by the California Urban Water Agencies suggests is needed to meet the most conservative estimates of future drinking water regulations (California Urban Water Agencies, "Bay Delta Drinking Water Quality," December 1996, Draft Report). EBMUD has unreasonably exaggerated the costs of Sacramento River alternatives to justify its goal of taking water directly from the American River. The Sacramento River, with its higher flows, is likely to have far fewer impacts associated with diversions than the smaller American River would have.

The DEIR/EIS continually relies on findings from the 1993 EBMUD Updated Water Supply Management Program (WSMP) and associated EIR , even though the EBMUD Board's Findings in 1993 resolved that the use of American River water was not reviewed adequately in the WSMP to satisfy the need for a program-level alternatives analysis and that CEQA review of any project involving American River water would need to begin *de novo* (WSMP, Page 33).

The DEIR/EIS relies on unsupported assumptions to describe project alternatives. For example, the DEIR/EIS assumes that EBMUD diversions from the lower American River near the confluence with the Sacramento River will not be restricted by the Hodge Decision despite the fact that the Hodge Decision states that given *"instream flow requirements must be met throughout the lower American River as a condition of diversion"* (Hodge Decision, page 109). EBMUD in its May 2, 1996 comments to USBR on the American River Water Resources Investigation (ARWRI) (John Lampe to Alan Candlish) states that the ARWRI Draft EIR/EIS should specifically acknowledge that the Hodge Decision is binding on all parties to the litigation and cites Adolph Moskowitz's March 3, 1994 presentation paper "Significance of EDF v. EBMUD lawsuit: Binding or precedent effect of Judge Hodge's trial court decision." Any diversion by EBMUD from a diversion point on the lower American River other than Nimbus must also be governed the Hodge Decision instream flows. It is also not clear, nor established in the DEIR/EIS, that the Hodge Decision even allows EBMUD to divert water from the American River at any other point other than specified Nimbus point of diversion.

The DEIR/EIS fails to provide a sufficient alternatives analysis to support other discretionary approvals by regulatory agencies, including the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers. The two project alternatives do not represent a sufficient range of alternatives to enable these federal agencies to choose a least environmentally damaging practicable alternative.

The impact analyses for water supply and streamflow, water quality, and fish and wildlife contain numerous inaccuracies. In addition, the projects are described and the results are presented in terms of *average* annual conditions, or cumulative probability plots, which could mask the magnitude of the impacts of the project alternatives. Significant adverse impacts over a few months appear much smaller when averaged over a longer period but can have significant direct impacts on the environment, especially when concentrated in drier periods, or, in the case of CCWD's Los Vaqueros Project, on CCWD's ability to fill Los Vaqueros Reservoir.

The DEIR/EIS fails to adequately identify and mitigate impacts on other water users and Delta water quality. The DEIR/EIS fails to account for impacts on wetlands, and fails to properly analyze cumulative impacts. The DEIR/EIS also fails to identify specific mitigation measures. The DEIR/EIS fails to properly analyze the growth-inducing impacts of providing water to other areas through regional partnerships.

Specific comments on the DEIR/EIS appear in section III.

II. CCWD OPERATIONS AND FACILITIES

The Contra Costa Water District ("CCWD") operates raw water distribution facilities, water treatment plants, and treated water distribution facilities. CCWD supplies raw and treated water to Antioch, Concord, Diablo Water District (serving Oakley), Pittsburg, Southern California Water Company (serving Bay Point), Martinez, and parts of Pleasant Hill and Walnut Creek. CCWD serves approximately 400,000 people throughout north-central and east Contra Costa County. Its clients also include 10 major industries, 36 smaller industries and businesses, and 50 agricultural users.

The treated water service area for CCWD encompasses all or part of the cities of Concord, Clayton, Clyde, Pleasant Hill, Walnut Creek, Martinez, and Port Costa. Treated water for this service area is provided from CCWD's Bollman Water Treatment Plant in Concord. The Bollman facility is a 75 MGD conventional plant which is currently being upgraded to include intermediate ozonation. CCWD also supplies treated water to the Diablo Water District ("DWD"), which serves customers in the city of Oakley from a plant jointly owned by CCWD and DWD. The Randall-Bold Water Treatment Plant is a 40 MGD direct/deep-bed filtration plant which utilizes both pre- and post-ozonation to provide a high quality drinking water to the customers in its service area.

The Contra Costa Water District is entirely dependent on the Delta for its water supply. The Contra Costa Canal and the Los Vaqueros Project (partly completed with full operation expected by mid-1998) make up CCWD's principal water supply and delivery system. CCWD diverts unregulated flows and regulated flows from storage releases from Shasta, Folsom, and Clair Engle reservoirs into the Sacramento River as a contractor of the United States Bureau of Reclamation's ("Bureau") Central Valley Project ("CVP"). Under Water Service Contract I75r-3401 (amended) with the Bureau, CCWD can divert and redivert up to 195,000 acre-feet annually ("AFA") of water from Rock Slough and the new Old River intake. Currently, CCWD uses between 125,000 and 140,000 AFA. CCWD can also divert up to 26,780 AFA of water from Mallard Slough under its own water rights (Water Rights License No.3167 and Permit No.19856). The City of Antioch and Gaylord Container, both customers of CCWD, also have water rights permits to divert water from the Delta.

The Contra Costa Water District has obtained its water supply from the Delta since 1940. Delta water is subject to large variations in salinity and mineral concentrations and this water supply has made CCWD and its customers vulnerable to any man-made or natural sources that

could degrade Delta water quality. Water quality changes in Delta water are noticeable to those who drink the water or use the water for commercial and industrial processes. Degradation in water quality is objectionable to many CCWD customers, costly to all residential and industrial users, and a health risk for some individuals. Degradation of Delta water quality impairs the beneficial uses of water supplied by CCWD to its customers.

The Contra Costa Water District is committed to supplying its customers with the highest quality water practicable and providing all reasonable protection of the supply from any known or potential source of hazardous contamination. CCWD Resolution No. 88-45 states in part that:

> "CCWD is committed to reducing the concentration of sodium and chloride in the District's water, thereby reducing household and landscape irrigation concerns and industrial and manufacturing costs caused by the fluctuating sodium and chloride level of CCWD's Delta source...."

In May 1987, CCWD's Board of Directors adopted water quality objectives for water distributed within its service area. The acceptable concentration levels for sodium and chloride were established at 50 milligrams per liter (mg/L) and 65 mg/L, respectively. In 1988, the voter-constituents of CCWD approved the issuance of bonds to finance a $450 million water quality and reliability project known as the Los Vaqueros Project. The primary purposes of the Los Vaqueros Project are to improve the quality of water supplied to CCWD customers and minimize seasonal quality changes, and to improve the reliability of the emergency water supply available to CCWD. The Los Vaqueros Project consists of a reservoir with 100,000 acre-feet of storage, a new point of diversion (at Old River south of the Highway 4 crossing) which operates in conjunction with the current Rock Slough diversion point, associated water conveyance and delivery facilities, pumping plants, and other facilities.

On June 2, 1994, the State Water Resources Control Board issued Decision 1629 which gives CCWD additional rights to divert and store water for beneficial uses. The State Board subsequently issued Water Rights Permits No. 20749 and 20750 for filling Los Vaqueros Reservoir from the new intake at Old River near Highway 4 and diversion and storage of the water of Kellogg Creek. These rights are in addition to the contractual rights to divert and store water furnished through the CVP. Construction of the reservoir began in September 1994 and diversion from the Old River intake for delivery to CCWD's service area began in the summer of 1997. Up to 95,850 AFA may be diverted for storage between November 1 of each year to June 30 of the succeeding year under Water Rights Permit No. 20749.

A key to the successful performance of the Los Vaqueros Project is CCWD's ability to fill and continue to refill the reservoir from Old River with high quality water and to use that water for blending when salinities at CCWD's Delta intakes exceed the 65 mg/L chloride goal. Any increases in Delta salinities caused by new Bay-Delta projects will increase the demand on blending water from the reservoir while at the same time reducing the availability of high quality water for refilling. CCWD and its 400,000 customers will be impacted through higher

pumping costs to replace the extra blending water that is released and through the additional treatment costs, increased corrosion and health effects of delivering higher salinity water.

III. DEFICIENCIES IN THE SCOPE AND ANALYSIS OF THE DEIR/EIS

1. The DEIR/EIS Fails to Demonstrate a Need for the Project

The DEIR/EIS does not adequately demonstrate a need for the project. The stated need is to supplement existing supplies which *"are insufficient to meet existing and future customer needs in drought"* (page 1-2). The three-year design drought assumed for the needs analysis, however, is unreasonable and is not applied consistently in the impact analysis. The DEIR/EIS lists an additional need for the project which is to *"enable Pardee Dam and Reservoir to be taken off line for major maintenance and to provide an alternative water source in case of a catastrophic event"* (page 1-2). However, maintenance needs for Pardee might also be accommodated from storage in EBMUD terminal reservoirs, and a small percentage blend of water from other sources such as EBMUD's Bixler Pumping Plant in the Delta. It is also not clear why the maintenance of Pardee cannot be done underwater without taking the system completely off line. The proposed American River project would not meet EBMUD's water supply needs in the more likely event of a catastrophic event that causes the failure of the Mokelumne Aqueduct cutting off both the Mokelumne and American River supplies. L20-1

1a. The drought scenario used is inappropriate

The needs analysis is based on a hypothetical three-year design drought scenario: hydrologic conditions for the first and second years are assumed to equal the historical conditions that occurred in water years 1976 and 1977, respectively, with the third year being the average of conditions in 1976 and 1977. A three-year drought such as this has never occurred in California since records have been kept, and is far more severe than the standard drought sequences used by other major water agencies in California, including the Department of Water Resources for the State Water Project and the Bureau of Reclamation for the Central Valley Project. As shown in Appendix A, the statistical probability of occurrence of EBMUD's hypothetical three-year design drought is calculated to be 1 in 1,500. L20-2

The DEIR/EIS should use a reasonable drought planning sequence, such as the standard sequences 1928-1934, 1976-1977, or 1987-1992 used throughout California, for the needs analysis. This would reduce the amount of water needed from the project, or eliminate the need for this project altogether. As discussed in the DEIR/EIS on page 1-10, *"the Need for Water is the additional amount of water required during EBMUD's drought planning sequence to limit rationing to 25% of normal levels at projected 2020 levels."* A less severe design drought would also make it possible to find other less environmentally-damaging ways to meet EBMUD's reasonable needs. Even the DEIR/EIS, in discussing the results of the impact analysis, recognizes the standard drought sequence: *"During the 1928-1934 period, considered the*

representative period for dry conditions, annual average delivery would be 31,000 AF" (page 3-13).

1b. Analysis of design drought scenario not presented in DEIR/EIS

Notwithstanding that the drought sequence used is not justified and is inappropriate, the DEIR/EIS fails to present any results of water supply deliveries and impacts for the hypothetical three-year design drought. The standard 70-year hydrologic series (1922-1991) include 1976 and 1977 but the additional impacts of the hypothetical third year of the design drought are not presented. As such, the DEIR/EIS fails to demonstrate that the need for a supplemental water supply during the three-year hypothetical drought sequence can be met by the project alternatives.

The impact analysis also fails to quantify the interaction between EBMUD's existing system and the proposed project alternatives, so readers of the DEIR/EIS cannot determine whether the alternatives meet the claimed need for supplemental water. L20-3

Since release of the Draft EIR/EIS, EBMUD has made available to CCWD, customer delivery data from EBMUD's simulations of American River Project and Mokelumne operations with the drought planning sequence. As shown in Appendix G of this comment letter, the No-Action alternative is able to meet the drought year delivery goal of 171 MGD (192 TAF/year) in all the historical droughts years. The only time the No-Action case is unable to meet this goal is in the hypothetical third year of the design drought (1978) and the following year when the system is still recovering from the severity of the design drought. If a more reasonable drought planning sequence had been analyzed in the DEIR/EIS, the lead agencies would have found that a No-Action alternative was sufficient to meet EBMUD's needs and that there are less environmentally damaging alternatives for EBMUD to take its CVP contract water.

1c. Possible Need for Maintenance of Pardee Reservoir does not create a need for the project

An additional justification claimed for the project is to provide a supplemental water source if supplies from Pardee Reservoir are interrupted due to scheduled maintenance or a catastrophic event. However, maintenance needs for Pardee can be accommodated by storage in EBMUD terminal reservoirs without a supplemental water source. The DEIR/EIS states that scheduled maintenance *"would occur infrequently and no more than 12 total months in a 20-year period, with no single event greater than 6 months"* (page 2-12). The 2020 planning level of demands for EBMUD are 288 MGD or 255 thousand acre-feet per year (Table 1-2). The DEIR/EIS fails to demonstrate why maintenance cannot be scheduled in advance to enable EBMUD's terminal reservoirs to be filled to their capacity of 138,000 acre-feet, and with the maintenance being done underwater as much as possible to reduce the time Pardee would be off line. L20-4

As discussed above in 1a., the supplemental water supply project will not protect against the greatest vulnerability to the EBMUD system, which is the threat of earthquake or flood damage to the Mokelumne Aqueduct where it crosses the Delta. Recognizing this threat, EBMUD is implementing the Mokelumne Aqueduct Seismic Upgrade Program, which will *"retrofit one of*

EBMUD's three parallel pipelines" to protect against damage from a maximum credible earthquake or a flood where the pipeline crosses the Delta, passes under river channels, and is vulnerable to levee failures (Appendix B of the DEIR/EIS, page 2-6). This program will not improve the other two pipelines. The proposed supplemental water supply project relies on the Mokelumne Aqueduct to deliver American River water to the EBMUD service area, and this new supply could be cut off during a catastrophic event as easily as the existing Mokelumne River supply.

A Delta diversion alternative (see comment 3e below) would provide additional protection against water supply disruption in the event of catastrophic damage to Pardee Reservoir or to major sections of the Mokelumne Aqueduct.

2. The DEIR/EIS Improperly Relies on the Water Supply Management Plan

The DEIR/EIS relies on findings from the EBMUD Updated Water Supply Management Plan (WSMP) for its discussions of demand management through conservation and reclamation (pages 1-7 through 1-10), which in turn forms the basis for the need for a supplemental water supply project. The DEIR/EIS also relies on the WSMP for development of the hypothetical design drought, another important element in quantifying needs for the project.

The EBMUD Board of Directors, however, resolved that the WSMP could not be used to provide environmental documentation for a project on the American River. The Board's October 26, 1993 findings regarding the WSMP contain the statement (WSMP, page 33) that: L20-5

> "Nothing in these findings is meant to preclude the District's participation in a joint groundwater/conjunctive use project with agencies in San Joaquin County involving the District's American River contract and the Board would be willing to consider such a project, provided that: (1) the CEQA review of any such project would begin *de novo* as no joint project involving the use of the District's American River contract was reviewed adequately in this EIR to satisfy the need for a program-level alternatives analysis of such a project; (2) all diversion of water from the American River by such a joint project would be subject to the physical solution of the Hodge decision; ....."

The DEIR/EIS discusses other aspects of the findings of the EBMUD Board in 1993 but does not acknowledge the finding with respect to a supplemental water supply project from the American River. Although this finding could be interpreted as only applying to a joint groundwater/conjunctive use project, if the WSMP analysis of American River diversions is inadequate for a joint project it will also be inadequate for an American River diversion only project.

3. The DEIR/EIS Fails to Describe and Analyze a Sufficient Range of Alternatives to the Proposed Project and to Proposed Project Operations

The DEIR/EIS only analyzes two alternatives for taking water under EBMUD's CVP water supply contract. The DEIR/EIS should fully analyze other possible diversion points, including the Sacramento River at Freeport and the Delta at Bixler, as well as other sources of supply to allow selection of the least environmentally damaging alternative.

One of an EIR's major functions is to ensure that public agencies thoroughly assess all reasonable alternatives to proposed projects. (Laurel Heights Improvement Ass'n v. Regents of University of California, (1988) 47 Cal.3d 376, 400). Consequently, an EIR must describe a range of reasonable alternatives to the project or project location, and must evaluate the comparative merits of the alternatives. (Guidelines 15126(d)). The discussion of alternatives must focus on alternatives capable of eliminating significant environmental impacts, or reducing them to a less-than-significant level, even if the alternatives are more costly or would impede attainment of project objectives. (Guidelines 15126(d)(3)). If an EIR concludes that no feasible alternatives to a proposed project exist, the EIR must also discuss the rejected alternatives and the reasons for their rejection in sufficient detail to allow meaningful public review. (Laurel Heights, 47 Cal.3d at 403-406). Reasonable alternatives to the project location as well as to the project, must also be discussed (Guidelines 15126(d); Laurel Heights, 47 Cal.3d at 403). L20-6

NEPA provides more rigorous requirements regarding the evaluation of project alternatives, deeming the alternatives analysis as the "heart" of the EIS. 40 C.F.R. Section 1502.14; *Monroe County Conservation Council, Inc. v. Volpe*, 472 F.2d 693 (2d Cir. 1972). The analysis must "ensure that each agency decision maker has before him and takes into proper account all possible approaches to a particular project (including total abandonment of the project) which would alter the environmental impact and the cost-benefit analysis. *Calvert Cliffs' Coordinating Committee, Inc. v. Atomic Energy Comm'n, 449 F.2d 1109, 1114 (D.C. Cir. 1971)*. The range of alternatives to be analyzed "includes all reasonable alternatives, which must be rigorously explored and objectively evaluated, as well as those other alternatives, which are eliminated from detailed study with a brief discussion of the reasons for eliminating them. 40 C.F.R. § 1502.14; "Forty Questions," 46 Fed. Reg. 18028 (March 23, 1981). An EIS must "devote substantial treatment to each alternative considered in detail...so that reviewers may evaluate their comparative merits." 40 C.F.R. § 1502.14.

The DEIR/EIS claims that the use of water diverted from the Sacramento River or from the Delta would require extensive treatment in order to comply with EBMUD's Policy 81 on water quality objectives and meet current and anticipated future delivered water standards. However, as is discussed in detail in Appendix B of this comment letter, the DEIR/EIS (Appendix B, Alternatives Screening Report) fails to perform a meaningful comparison of the water quality from the American River, the Sacramento River, and from the Delta in the context of meeting current and future drinking water regulations. The selection of only those alternatives diverting from the American River for analysis in the DEIR/EIS is arbitrary and *a priori*, and fails to meet CEQA and NEPA requirements on the scope of alternatives.

In evaluating alternatives for the Supplementary Water Supply Project, it is imperative to consider the welfare of the over 20 million Californians using Delta water. Diversion from the American River under extreme drought conditions could cause significant injury to listed fishery species, which in turn could lead to subsequent restrictions to the water supply of all Delta water users. An American River diversion would also lead to a higher Delta salinity compared to an in-Delta diversion, which would make it more difficult for other water agencies diverting directly from the Delta to obtain an adequate water quality during times of drought.

3a. The Screening Analysis is insufficient in scope and inaccurate

The Alternatives Screening Report (Appendix B of the DEIR/EIS) indicates that EBMUD evaluated alternatives that include an intake in the Sacramento-San Joaquin Delta. According to the Screening Report, a Delta diversion alternative was eliminated from consideration in the DEIR/EIS based on the following rationale: "*The inability of this alternative to meet the water quality and economic criteria combined with the significant uncertainty regarding its ability to meet several of the other criteria preclude this alternative from further consideration for the Supplemental Water Supply Project*" (Appendix B, page 5-6). A diversion alternative from the Sacramento River at Freeport was eliminated for similar reasons.

The DEIR/EIS fails to satisfy the requirements of CEQA and NEPA for analysis of project alternatives. The DEIR/EIS should consider, at minimum, an EBMUD diversion (i) from the Sacramento River at Freeport or Hood; and (ii) at its Bixler Pumping Plant or similar in-Delta location from which Delta water could be blended with EBMUD's existing Mokelumne River supplies. The failure of the DEIR/EIS to consider Delta diversion alternatives violates CEQA and NEPA in at least two respects.

First, the inadequacy of the project description has resulted in an DEIR/EIS that discusses inadequate, unduly narrow project alternatives. In County of Inyo v. City of Los Angeles, (1981) 124 Cal.App.3d 1, 9 the Court states that, in invalidating an EIR in prior litigation, it had held that "an impermissibly truncated" project definition severely distorted not only the critical project *but the alternatives to the project*" (emphasis in original). In Save the Niobara River Association, Inc. v Andrus, (D. Neb. 1977) 483 F.Supp. 844, the agency, which planned to construct a dam and reservoir, attempted to rely on a narrow project goal in order to justify its failure to consider an alternative involving water conservation.

In the present case, the statement of project objectives is impermissibly truncated; it seeks to foreclose Delta diversion alternatives by speaking in terms of "delivery of American River water" and the desire to "maintain the high quality of EBMUD's *raw* and treated water supply. (page 2-1; emphasis added). In dismissing the Delta diversion alternatives for failure to meet a water quality screening criterion, the DEIR/EIS assumes, with no analysis or supporting data, that no significant upgrades of EBMUD's treatment system will be needed for EBMUD's current supply and that the Delta diversion alternatives present more inherent risk to public health than alternatives considered in the DEIR/EIS. Twenty million California's receive their drinking water from the Sacramento-San Joaquin Delta. In EBMUD's case, the Delta water could be blended with a much larger proportion of EBMUD's higher quality Mokelumne supply (e.g.,

15% Delta, 85% Mokelumne) and with investments in new treatment facilities, which are necessary in any event, would easily meet EBMUD's drought year and emergency supply needs.

3b. A diversion from the Sacramento River is feasible and should be analyzed

The Screening Analysis identifies Sacramento River at Freeport delivery as a potential project alternative. The alternative is then rejected for failure to meet the water quality criterion, but the failure is presumed without factual analysis. The DEIR/EIS claims that the water quality criteria is not met because the alternative source presents "*inherent treatment uncertainties*" and because conclusions drawn in *EDF et al. v. EBMUD* recognize the importance of utilizing water from the highest quality source available (Appendix B, page 5-4). This claim is not reasonable. Treatment uncertainties exist in every municipal water supply, including the current EBMUD system, and are regularly controlled through proper management. High quality source water does not guarantee a high quality water delivered to customers. For example, EBMUD currently adds chlorine to Mokelumne water being conveyed from Pardee through the Mokelumne Aqueduct to prevent biological growth in the aqueduct. This has recently resulted in total trihalomethane (THM) concentrations in some parts of the EBMUD treated water system as high as 140 µg/L (EBMUD THM Compliance - Quarterly Sampling, 3rd Quarter, 1996). During the same time, Contra Costa Water District managed to deliver treated water at a much lower THMs level, and meets or exceeds all drinking water standards, using a lower quality source water. L20-7

In terms of the water quality criterion, an alternative should not be rejected without a proper screening analysis that demonstrates the quantitative impacts on EBMUD's water supply of blending water from the Sacramento River with water from current sources. A drinking water treatment expert panel recently prepared a draft report to the California Urban Water Agencies on the source water quality that will likely be needed to meet future Surface Water Treatment Rule and Disinfectant/Disinfection By-Products Rules (California Urban Water Agencies, "Bay Delta Drinking Water Quality," December 1996, Draft Report). Even without blending, the quality of Sacramento water always meets the source water criteria of 50 µg/L bromide and 3 mg/L total organic carbon (TOC) recommended by the CUWA expert panel in its December 1996 draft report.

Project alternative 3 diverts water from the American River at Interstate 5, where water quality is also not as high quality as the Mokelumne River water at Pardee Reservoir (DEIR/EIS, Appendix B, Table A-4). The DEIR/EIS fails to justify the rejection of a Sacramento River diversion on water quality grounds while accepting the I-5 alternative. Similarly, if seeking the highest quality source per EBMUD Policy 81 is the overriding consideration, then the DEIR/EIS should reject the I-5 alternative in favor of even better source water quality at Nimbus.

The DEIR/EIS also claims that the Sacramento River at Freeport potential alternatives fails to meet the economic criteria. The claim is based on a presumption that "*a membrane filtration pretreatment process followed by reverse osmosis, would be necessary*" (Appendix B, page 3-5) with no factual analysis or basis. The City of Sacramento and others have been delivering Sacramento River water to over 1 million municipal customers without such advanced treatment

processes while meeting all drinking water standards. So could EBMUD. The maximum recorded chloride concentration in the Sacramento River at Greene's Landing is 19 mg/L (DEIR/EIS, Appendix B, Table A-4) which is less than 10% of the drinking water objective of 250/150 mg/L in the SWRCB Water Quality Control Plan, and far below the chloride level in most Californians' water supply. A recent survey of more than 50 membrane plants in North America in the Journal of American Water Works Association by Oram J. Morin (December 1994) found that feedwaters with total dissolved solids (TDS) concentrations as high as 6,500 mg/L are being treated to drinking water standards. The lowest feedwater TDS for which reverse osmosis was being applied was 320 mg/L, much higher than the average TDS of 110 mg/L at Greenes Landing on the Sacramento River. The need to treat such a high quality water with reverse osmosis cannot be justified.

The DEIR/EIS rejects a Sacramento River diversion alternative by assuming that extraordinary and unwarranted treatment processes are required, but provides no economic analysis. A complete cost analysis is needed to support the estimated capital costs shown in Table 5-1 in the Alternatives Screening Report (Appendix B of the DEIR/EIS).

3c. A diversion from the Delta is feasible, is the least environmentally damaging to fish, and should be analyzed

The Screening Analysis identifies a Delta delivery as a potential project alternative. The alternative is then rejected for failure to meet the water quality criterion, but the failure is presumed without factual analysis. The DEIR/EIS claims that the water quality criteria is not met because the alternative source would not "*minimize health risks or health risk uncertainties*" (Appendix B, page 5-5). No factual support is provided for this claim, and the claim is unreasonable. The alternative should not be rejected without a proper screening analysis that demonstrates the quantitative impacts on EBMUD's water supply of blending water from the Delta with water from EBMUD's current sources. L20-8

The DEIR/EIS also claims that the potential Delta potential alternatives fail to meet the economic criteria. The claim is based on a presumption that "*a membrane filtration pretreatment process followed by reverse osmosis, would be necessary*" (Appendix B, page 3-5). No factual analysis is presented to support this presumption. Depending on the degree of blending of Mokelumne and Delta water that would be required, and upon the need for EBMUD to enlarge and upgrade its existing treatment plants to meet increased peaking demands and meet future drinking water standards, these treatment processes may not be needed for the Delta alternative. Membrane filtration and reverse osmosis is not used by any other diverters from the Delta that supply drinking water to 20 million Californians. The DEIR/EIS also fails to report details of the EBMUD Mokelumne system operations under the project alternatives, so the actual blending ratios that would be required each month cannot be determined by a reader of the DEIR/EIS.

Upon making the presumption of a treatment process, the DEIR/EIS provides no economic analysis. A complete cost analysis is needed to support the estimated capital cost shown in Table 5-1.

The DEIR/EIS claims, with no factual support, that a Delta alternative "*could result in environmental and biological impacts, including effects on sensitive fish species*" (Appendix B, page 5-6). As discussed in more detailed in Appendix C of this comment letter, a Delta alternative may have the *least* biological impacts of all alternatives, including diversions from the lower American River. The diversion at Bixler is located west of Old River (Figure 3-5, Alternatives Screening Report, Appendix B) in a portion of the Delta and Middle River where fish are not as vulnerable to diversion as in other areas of the Delta. The DEIR/EIS thus fails to fully analyze an alternative which is likely to be less environmentally damaging, in violation of CEQA.

3d. The DEIR/EIS fails to identify the least environmentally damaging practicable alternative

By limiting the scope of the analysis to a narrow choice of two project alternatives, the DEIR/EIS fails to provide sufficient information to determine the least environmentally damaging practicable alternative. The U.S. Army Corps of Engineers (ACOE) will need to rely on the DEIR/EIS as the environmental documentation for its consideration of Section 404 permits necessary to implement the Project. The ACOE is required to show that the proposed action is the least environmentally damaging, taking into account alternatives as appropriate (See comment 9a below). However, the DEIR/EIS does not provide sufficient information to support such a showing by the ACOE. L20-9

3e. The enlargement of Pardee Reservoir should be analyzed

The DEIR/EIS presents no analysis of Pardee Reservoir enlargement as a potential alternative. An impact analysis should be included in the DEIR/EIS, so that results can be compared directly to the impacts of other project alternatives. L20-10

3f. Mokelumne River conjunctive use should be analyzed

The DEIR/EIS presents no analysis of Mokelumne River conjunctive use as a potential alternative. However, the DEIR/EIS notes that EBMUD continues to explore opportunities for groundwater banking in San Joaquin County and is currently participating in a single-well groundwater injection pilot project with San Joaquin parties (Page 1-13). L20-11

The DEIR/EIS should include a full water supply and impact analysis of this type of Mokelumne River conjunctive use project, including the possibility of EBMUD still taking some water from the American River but only in wet years. The results could then be compared directly to the impacts of other project alternatives.

3g. The DEIR/EIS fails to consider new water available from other sources, including the Mokelumne River

The Central Valley Project Improvement Act (CVPIA) Draft PEIS, dated November 7, 1997, states under PEIS Alternatives 3 and 4, that an additional 70,000 acre-feet of water per year will L20-12

be available for purchase from willing sellers on the Mokelumne River (CVPIA PEIS, Tables II-10 and II-13). The EBMUD DEIR/EIS fails to consider this new water as a supplemental water source. The water could be purchased by EBMUD at a reasonable price (see the CVPIA PEIS, Table II-12), then diverted from the lower Mokelumne River at a new intake structure similar to the proposed intake on the lower American River near Interstate 5. A diversion from the lower Mokelumne would provide better water quality than a lower American River diversion and may cause fewer environmental impacts. Capital costs for facilities would be reduced, since a shorter pipeline could deliver the water to the Mokelumne Aqueduct. The CVPIA PEIS also states that an additional 170,000 to 600,000 acre-feet of water per year will be available from willing sellers on the Stanislaus, Tuolumne, and Merced Rivers (CVPIA PEIS, Tables II-10 and II-13).

The DEIR/EIS should include these potential water sources as project alternatives. By failing to do so, the environmental impact analysis is incomplete and fails to comply with CEQA.

4. The DEIR/EIS Relies on Unsupported Assumptions and Inconsistencies to Describe the Project Alternatives

4a. Inconsistent diversion schedules for Alternative 2 and 3 make comparison of environmental impacts inappropriate

Diversions by EBMUD under project Alternative 2 generally occur under periods of higher flow, because of the need to satisfy the instream flow requirements of the Hodge Decision: *"For the purpose of the DEIR/EIS, water was considered to be available for delivery to EBMUD whenever flows were above those required by the Hodge Decision. It was not assumed that water would be released specifically to meet EBMUD needs"* (page 2-12). Under project Alternative 3, however, diversions generally only occur during dry conditions, when the EBMUD storage falls below a 500,000 acre-foot threshold (page 2-20). L20-13

By introducing different operational assumptions, the DEIR/EIS produces a distorted impact analysis, where direct comparisons of environmental impacts are not appropriate. Alternative 2 takes water from the American River at Nimbus when its available, while Alternative 3 takes water from the lower American River near the confluence with the Sacramento River when its needed by EBMUD. Thus the impact analysis provides a comparison of different operational assumptions, rather than different project alternatives; such a comparison is meaningless for the purposes of the DEIR/EIS. Because Alternative 3 assumes less stringent flow requirements, it is likely that Alternative 3 will have higher average annual diversions than the Nimbus diversion (Alternative 2).

The EIR/EIS should include a lower American diversion alternative that operates in a similar manner to Alternative 2 (Nimbus Diversion) and diverts water as much as possible during high flows. The DEIR/EIS assumes that the wet year diversions under Alternative 2 can be used to help meet EBMUD's dry year demands (although the DEIR/EIS fails to demonstrate where or how those wet-year diversions would be stored or delivered). The EIR/EIS also needs to identify where the water diverted will be stored for use during drought periods. The analysis for

Alternative 2 assumes water will be diverted whenever the Hodge Decision instream flow requirements are met which results in most of the water being diverted in wetter years when EBMUD already has sufficient Mokelumne River supply to meet its needs. If this water is to be stored in new terminal storage in the Bay Area or in other surface or groundwater storage facilities, these need to be identified and the related environmental impacts fully analyzed.

A similar less environmentally damaging version of Alternative 3 (Lower American River Joint Project) should also be analyzed with diversion to storage in wet periods for use in drought periods.

It should also be noted that CVP contractors are typically allocated water in shortage years based on a percentage of historical use. If EBMUD does not establish a historical use for CVP water in the wetter years preceding a drought, the shortage allocation would either default to a lesser percentage of the CVP contract amount or be zero.

4b. The DEIR/EIS fails to provide an adequate project description

The DEIR/EIS fails to describe the "full use" scenario as a fundamental component of the project alternatives. Failure to provide an adequate project description creates a legally deficient project description, as CEQA requires analysis of the "whole of the action" that may significantly affect the environment. *See* Guidelines Section 15378; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus*, 27 Cal. App. 4th 713 (1994). This omission underestimates project impacts throughout the document. L20-14

The DEIR/EIS analyzes impacts associated with the "full use" scenario in a separate and cursory manner: *"This EIR/EIS includes supplemental information on the potential effects of full use of the project facilities."* (page 2-21). Failure to analyze the full use scenario in a thorough manner, and to provide a thorough presentation of results, creates a legally deficient impact analysis. See *County of Inyo v. City of Los Angeles*, 71 Cal App 3d 185 (1977). As stated by the court: "Only through an accurate view of the project may affected outsiders and public decision makers balance the proposal's benefits against its environmental costs, consider mitigation measures, and weigh other alternatives."

The full use of the I-5 intake, for example, under regional partnerships between EBMUD and other water agencies, will increase the impact of EBMUD's supplemental water supply project on the American River, Sacramento River and the Delta and their corresponding beneficial uses. This full use scenario will also have significant growth inducing impacts in areas that otherwise would not receive a sufficient water supply.

4c. The No-Action Alternative fails to include EBMUD treatment upgrades

The No-Action alternative does not account for expected upgrades to the current EBMUD treatment system as a result of new and expected future regulations under the Federal Safe Drinking Water Act. These upgrades will raise the cost of the No-Action alternative relative to L20-15

the other alternatives discarded in the initial screening process as too expensive (DEIR/EIS Appendix B).

4d. The DEIR/EIS fails to evaluate limitations from Hodge Decision on Project Alternative 3

The DEIR/EIS assumes, without supporting facts or analysis, that the Hodge Decision would not apply to diversions near I-5 for the Joint Project. The computed water supply benefits and the impact analysis of Alternative 3 "*assumes that the delivery limitations mandated in the Hodge Decision would not apply to this delivery location because of its proximity to the confluence of the American and Sacramento rivers, and because this area is downstream of the most critical fisheries habitat and flow-bases recreation areas*" (page 2-20).

The DEIR/EIS should state the basis for assuming that the Hodge Decision does not apply to diversions on the lower American River, at all five intake alternatives. If the assumption is that the Hodge Decision is based on river stage, and that stage is not affected by the proposed diversion due to its proximity with the mouth of the river, then the DEIR/EIS should provide a hydrodynamic analysis of the diversions for the Alternative 3 intake structures, and compare the results to the reasoning used by Judge Hodge to protect instream resources. The analysis should identify the furthest downstream location on the American River at which the Hodge flows apply. For example, one or more of the five intake alternatives may be located at a point sufficiently upstream of the confluence that the stage is not affected by flows in the Sacramento River, which would invalidate one possible reason for assuming the Hodge Decision flows should not apply. For instance, intake Alternative 5 is approximately 3 miles upstream of the confluence with the Sacramento River. The river at this location is not subject to backwater flow from the Sacramento River, especially during low flow conditions.

Simulations for the impact analysis of Alternative 3, for example, show no diversions for the entire period 1941-1958 (Figure 3-3), but assumes that EBMUD will divert over 112,000 acre-feet in 1977, the driest year on record. This is in serious conflict with the Hodge Decision, which "*encourages EBMUD to take delivery of as much of its allocated supply as possible when instream flows are least required for protection of environmental interests and public trust values*" (DEIR/EIS, page 1-5)

The DEIR/EIS states that "*Hodge Decision flows are not applicable for diversions downstream of the FSC and do not control EBMUD deliveries at the mouth of the American River under Alternative 3*" (page 5-12) even though the Hodge Decision states that given "*instream flow requirements must be met throughout the lower American River as a condition of diversion*" (Hodge Decision, page 109),

The DEIR/EIS states that consistency with the Hodge Decision is one of the screening criteria used to evaluate potential project alternatives (page 2-25), yet fails to apply that criterion to Alternative 3. It appears that Alternative 3 is designed to circumvent the Hodge Decision without mitigating the fisheries and other impacts that the Hodge Decision seeks to prevent.

The DEIR/EIS also fails to discuss or demonstrate whether EBMUD diversions at or near Interstate 5 are exempt from another Hodge Decision requirement that EBMUD is not allowed to sell any portion of its American River water supply to a third party (page 1-5). Because the DEIR/EIS does not present results on the existing EBMUD water supply system, there is no demonstration that all the water diverted by EBMUD at the Alternative 3 intake will be solely used by EBMUD to meet its needs.

4e. The project appears to be incompatible with CVP water transfer limitations

The project appears to be inconsistent with CVP water transfer limitations. The DEIR/EIS should discuss this issue and evaluate any environmental impacts associated with potential inconsistencies or revisions to limitations that might be necessitated by the American River Project. For example, the DEIR/EIS should discuss whether CVP contractors have the right of first refusal for any CVP water transferred by EBMUD to non-CVP contractors.

5. The DEIR/EIS fails to provide sufficient analysis to support other discretionary approvals

CEQA requires the DEIR/EIS to evaluate the "whole of an action, which has the potential for resulting in a physical change in the environment, directly or ultimately." *See* Guidelines Section 15378; *Stanislaus Natural Heritage Project, et al. v. County of Stanislaus*, 48 Cal. App. 4th 182 (1996); *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus*, 27 Cal. App. 4th 713 (1994).

In contrast, the DEIR/EIS fails to provide sufficient information to evaluate the environmental impacts of a number of discretionary approvals that will be necessary to implement the Project. These include environmental impacts associated with potential modifications to CVP contracts that may be necessitated by Project implementation and, as discussed below, permits required by Section 404 of the Federal Clean Water Act. L20-16

The DEIR/EIS also fails to provide information that will be necessary to fulfill the consultation requirements pursuant to Section 7 of the Federal Endangered Species Act, including preparation of a biological opinion by the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish and Game. The DEIR/EIS must provide sufficient information and analysis to enable responsible agencies to fulfill their obligations in reviewing necessary regulatory approvals.

In addition, implementation of the project will require judicial action to modify or clarify the requirements of the Hodge Decision. The impacts of each of these actions must be evaluated in order to provide decision makers and the public with an adequate opportunity to comment on the project.

6. The Impact Analysis on Water Supply and Streamflow is Incomplete and Inaccurate

The impact analysis is incorrectly structured, so that the results do not indicate the full impacts of the project. In addition, the analyses of EBMUD's proposed project were based on Central Valley operations studies for the CVPIA PEIS. The Bureau's modeling for the CVPIA PEIS using *PROSIM* have been found to contain errors in the input hydrology that exaggerate the amount of water that would actually be available. The results are also presented in insufficient detail or clarity to enable the reader evaluate the computed impacts. L20-17

6a. No analysis of water supply impacts on the EBMUD system is shown

The DEIR/EIS fails to show the quantitative interaction between the existing EBMUD system and the proposed project alternatives. The water supply benefits to EBMUD should be shown for each alternative, including monthly yield from the Mokelumne system and monthly storage in EBMUD reservoirs. This information is required to: (1) assess the ability of the project alternatives to provide a supplemental water supply, and (2) to evaluate the environmental impacts of operational assumptions within the alternatives, since operations of the alternatives depend on demand and storage conditions within the EBMUD system. L20-18

For example, this level of detail might explain why Alternative 3, which severely impacts the American River in the driest years, results in significant increases in Pardee and Camanche reservoir storage in dry years, relative to the No-Action Alternative (Figure 3-16).

The DEIR/EIS does note that in addition to agreeing to increase releases from Camanche Reservoir to provide higher flows for fish in the lower Mokelumne River, EBMUD also agreed in 1996 to contribute 20% (up to 20,000 acre-feet) of any new yield from new water projects to Mokelumne River fishery flows (page S-3). This 20,000 acre-feet gainsharing has been modeled in the DEIR/EIS by increasing the dead storage in Pardee Reservoir by 20,000 acre-feet (Appendix C of the DEIR/EIS). The impacts of the need for EBMUD to divert an additional 20,000 acre-feet from the American River to offset commitments already made under the FERC proceedings on the Mokelumne River need to be identified and, if necessary, mitigated.

6b. The comparative analysis uses an incorrect structure

The impacts of Alternatives 2 and 3 are presented relative to the No-Action Alternative (page 3-1). Impacts for each with-project-only alternative, however, should be determined relative to existing conditions, and the only change from existing conditions in the "with-project" scenarios should be the project alternative itself. It is not appropriate to include expected changes in regulatory standards and demands by other water users in the presentation of the impacts of the project alternatives. One of EBMUD's screening criteria for rejecting other alternatives was that "*An alternative must be capable of being feasibly implemented by 2001*" (DEIR/EIS Appendix B, page 4-8). This is only 3 years away and represents implementation of the project under existing conditions, not at year 2030 level of development. The DEIR/EIS needs to present a L20-19

detailed impact analysis of the project relative to existing conditions so that the actual impacts of the project, once implemented by 2001, may be identified and mitigated.

By always linking the project alternatives with changes in the regulatory standards, the DEIR/EIS distorts the results of the impact analysis. The comparisons include the effects of both the project being evaluated and the new standards. This distortion is seen in the results for Folsom carryover storage (DEIR/EIS Appendix C, Table C-10). Average September carryover storage is 61,000 acre-feet *higher* for Alternative 2 Cumulative relative to the existing condition baseline, and 70,000 acre-feet *higher* for Alternative 3 . This result is not the impact of the project, but is the effects of the AFRP flow standard being added to the "with-project" modeling assumptions (Table 3-1). The project alternatives are most likely to cause a decrease in Folsom carryover storage, which is offset and hidden by the effects of the new AFRP actions for the American River.

The effects of the distortion occur throughout the impact analyses for the project comparisons, and are easiest to see in the results for Folsom carryover storage. All impact analyses for the project comparisons should be revised, using the same regulatory standards in the "with-project" simulation as in the baseline simulation.

6c. The hypothetical drought scenario is not applied consistently in the impact analysis

The DEIR/EIS uses a hypothetical design drought to justify and quantify the need for water (185,000 acre-feet over the three year design drought) and then imposes this demand on the American River in the *PROSIM* model simulations used to conduct the impact analyses for project Alternatives 2 and 3. The impact analysis, however, does not account for the hydrologic conditions throughout the Central Valley during the third year of the hypothetical drought. The historic hydrology is used instead of the three-year design drought sequence (Appendix C, Tables C-6 through C-9). It is also not shown whether the project can meet the project need , because no results are shown for the design drought sequence. L20-20

The impact analysis is inconsistent with the needs analysis for the project, and inadequate for the purposes of the DEIR/EIS. An independent analysis of water supply operations during the three-year design drought is presented in Appendix D of this comment letter. The independent analysis uses the Department of Water Resources' Central Valley Operations Model *DWRSIM* to simulate the effect of EBMUD's hypothetical drought on water supply operations on the American River, the Delta, reservoir operations, deliveries, and regulatory standards for the CVP and SWP. The results show that **without the proposed EBMUD project**, the following conditions would exist during the third year of the hypothetical drought sequence:

- there will be no water available above dead storage in Folsom Reservoir from July through October, i.e., no water available for release;
- flow in the American River would never satisfy the Hodge Decision instream flow requirements, so no water could be diverted at Nimbus under EBMUD project Alternative 2;

- flow in the lower American would be so low that diversion for EBMUD project Alternative 3 at the I-5 crossing would divert over 30% of the flow during November through February, 45% of the flow during July through September, and 66% of the flow in August;
- CVP exports at Tracy would be 881 thousand acre-feet without the EBMUD project for the entire year, at which point deficiencies to agricultural contractors exceed 75%, deficiencies to M&I contractors exceed 25%, and deficiencies are imposed on deliveries to wildlife refuges;
- SWP exports at Banks are only 1,091 thousand acre-feet, or 26% of demand;
- surplus Delta outflow is zero throughout the year, except for 4 thousand acre-feet in September.

Additional diversions of 70,000 or 112,000 acre-feet by EBMUD from the American River, during the third year of this severe drought (in accordance with the proposed project Alternative 3) would cause large impacts on the river environments, wildlife refuges, M&I users in the City and County of Sacramento, and CVP and SWP contractors for Delta water. The DEIR/EIS is inadequate because it fails to report the impacts of the proposed project under these severe prolonged drought conditions which are fundamental to the selection criteria for alternatives. Simply stated, an unreasonably severe drought was chosen to justify a project and then an analysis of the project under these drought conditions was not presented in the DEIR/EIS, nor was it shown to meet the project needs.

6d. The PROSIM model contains significant errors

The impact analysis was conducted using the *PROSIM* operations model, which was recently discovered to contain errors in the input hydrology. The DEIR/EIS claims that while "*this inconsistency affects all the PROSIM simulations reported in this draft DEIR/EIS (it) probably does not change the relative differences between the simulations for each alternative*" (page 3-12). No technical evidence is provided to support this claim, however, and it is likely that the effects of errors do not cancel out in the comparative analysis. L20-21

In fact the DEIR/EIS recognizes the process by which the errors will distort the results of the comparative analysis: "*The PROSIM results indicate that sometimes the EBMUD deliveries accumulate and then a threshold effect is triggered in the model. For example, changes in Folsom Reservoir storage may cause a different instream flow requirement that will cause a greater change in Folsom Reservoir than the original difference.*" Errors in the input hydrology will alter the simulation time during which the "*triggers*" within the model act, creating distortions that do not cancel in the comparative results.

It is highly likely, that errors in the input hydrology for these *PROSIM* operations studies will cause significant errors when applied to very low flow conditions, such as those that would occur in the third year of EBMUD's three-year design drought sequence. The DEIR/EIS should be revised to include impact analyses with the corrected *PROSIM* input hydrology and reissued.

6e. EBMUD's CVP Diversions Unrealistically Impact State Water Project Operations

EBMUD's Central Valley operations modeling using *PROSIM* appear to have not correctly accounted for EBMUD's CVP exports under the Coordinated Operations Agreement. For example, a comparison of SWP's Oroville storage under Alternative 3 with the No-Action alternative (Alternative 1) indicates reductions in storage of as much as 231,000 acre-feet (DEIR/EIS Appendix C, Table C-17). Similarly, EBMUD's exports as a CVP contractor under Alternative 3 reduce Feather River flows at Nicholas by as much as 3,591 cfs (Table C-18). Unfortunately, the presentation of the *PROSIM* results only in terms of minimum, 70-year average, and maximum for each 12 months in Tables C-10 through C-27 does not allow reviewers of the DEIR/EIS to determine the conditions under which these major impacts on SWP storage occur. L20-22

Under Full Use Alternative 3, EBMUD's exports reduce Lake Oroville end-of-September storage by 100,000 acre-feet on average, and by as much as 399,000 acre-feet, relative to the No-Action case (Appendix C, Table C-27).

It is possible that the EBMUD exports from the lower American River were incorrectly treated as in-basin use in these *PROSIM* operations studies, in which case, the impacts of these exports would also be transferred in part to the State Water Project.

6f. The presentation of results is inadequate

The results of the impact analysis for water supply are presented in graphic formats (Figures 3-1 through 3-20) that do not allow a thorough evaluation by the reader. For instance, fisheries, wildlife habitat, and other water users are generally most sensitive to project impacts during drought periods. The frequency plots in chapter 3 are not useful for examining low-flow conditions. Figures 3-13 and 3-14 contain detail on low-flow conditions, but these results are only for flows in the lower American River. The DEIR/EIS should present clear results for the project impacts during all low-flow periods on all major features of the Central Valley Project and State Water Project, including Folsom and Shasta storage, flows in the American River at Nimbus and I-5, flow in Sacramento River at Freeport, Delta inflow, Delta outflow, and Delta exports. These should take the form of time series plots for the whole historic period 1922-1991, as well as tables of monthly data showing all months for 1922-1991. L20-23

Figure 3-9 shows that at low flows (95% exceedence probability), the impact of alternative 2 cumulative is a decrease in monthly flow in the American River below Nimbus from 1,300 cfs to 650 cfs, or 50%. The impact of alternative 3 cumulative is a decrease in monthly flow from 1,300 cfs to 850 cfs, or 35%. These numerical values can only be estimated from a visual inspection of the graph, but they indicate a very significant impact during several months. The DEIR/EIS should present these results in a clear, unambiguous format. The affected months should be identified. The current text that describes these results states only that "mean annual flow at Nimbus is reduced by 291,000 AF and 191,000 AF, respectively, under Alternative 2 and Alternative 3 cumulative conditions, compared to existing conditions (page 3-18)."

The tabular results presented in Appendix C also prevent an adequate evaluation by the reader. Tables C-10 through C-27 are in summary form. The "minimum" impacts indicated do not necessarily occur during droughts, so impacts during low-flow conditions are not presented. In addition, the "minimum" months do not sum to the "minimum" annual total, so it appears that the tables contain a mixture of months from different years. L20-23

The DEIR/EIS should present the full set of model results in tabular form, as is done in Tables C-3 through C-9, which present the monthly values for deliveries. The difference between pairs of model runs should also be tabulated for the full simulation period. Graphics may then be used to summarize key results, particularly for low-flow conditions.

The DEIR/EIS discusses the changes in stage at Sailor Bar and Sacramento Bar (page 3-18) and shows that there will on average reductions in stage of up to 0.6 feet in the late Fall with a corresponding reduction in wetted riparian vegetation (Fig 3-15). However, the DEIR/EIS does not address whether these reductions in stage are significant or what the habitat impacts will be. The DEIR/EIS also needs to address what the maximum stage reductions are, not just the long-term averages. L20-24

6g. Streamflows in the lower American River will be significantly impacted

The DEIR/EIS presents results showing that the project alternatives would have significant impacts on streamflow in the lower American River during low-flow periods. These impacts are not acknowledged in the discussion of impacts in the DEIR/EIS.

Figure 3-13 and 3-14 in the DEIR/EIS show that, under Alternative 3, the project will divert large portions of the total streamflow during extremely low-flow periods. For example, during parts of 1977 and 1978, the total streamflow in the lower American River is approximately 400 cfs, considerably less that the lowest Hodge Decision instream flow requirement. Yet this is the period of time when EBMUD is proposing to divert 112,000 acre-feet per year (Figure 3-3). Project alternative 3 would divert approximately half of the entire flow, reducing the streamflow to only about 200 cfs. Note that these values are approximate because Figures 3-13 and 3-14 are difficult to read, and no supporting tabular information is provided (see comment 6e). Similar, extreme reductions in stream flow occur in other drought periods: 1924, 1932, and 1988. It is inconceivable that EBMUD would consider diversions under these conditions to meet the EBMUD Screening Criterion: "*An alternative must allow EBMUD to take delivery of its contracted .... water consistent with the Hodge Decision*" (Appendix B, page 4-1) or another EBMUD Screening Criterion: "*An alternative must not result in unacceptable environmental impacts*" (Appendix B, page 4-7). L20-25

The text of the DEIR/EIS fails to describe the environmental or redirected water supply impacts of such drastic reductions in American River flow. The description of Figures 3-13 and 3-14 only states (page 3-18):

> "*Figures 3-13 and 3-14 show only the 70-year series of flows less than 2,000 cfs that would occur downstream of the intake structure for Alternative 3. For these relatively low-flow conditions, flow reductions from the Alternative 1 values are infrequent and*

> *reflect the PROSIM modeling constraints for instream flow requirements. When they occur, the reductions average about 170 cfs under Alternative 3 and 300 cfs under Alternative 3 cumulative conditions.*"

This description understates the probable adverse impacts to fisheries.

Alternative 3 as modeled in the DEIR/EIS will have significant impacts on the environment and other water users because it concentrates EBMUD diversions during drought periods when the flows in the American River will often be well below those deemed by Judge Hodge to be necessary to protect fisheries and recreational uses on the lower American River. The DEIR/EIS is inadequate because it fails to present a detailed discussion of why EBMUD diversions from the lower American River at flows less than the Hodge instream flow requirements will not impact fisheries and does not present description of why Alternative 3 should be dropped from consideration in the EIR/EIS. L20-26

6h. Significant impacts would occur on reservoir storage, streamflow, and Delta exports

For the many reasons discussed above, the impact analysis is inadequate and contains significant factual errors. The results of an independent analysis (Appendix E of this comment letter) confirms that the impact analysis must be revised and the EIR/EIS re-issued in draft form for public comment. L20-27

The independent analysis uses the *DWRSIM* model to compute the impacts of project Alternative 3 Cumulative on water supply operations on the American River and in the Delta. Like the *PROSIM* model, the *DWRSIM* model simulates the monthly hydrology, reservoir operations, deliveries, and regulatory standards for the CVP and SWP. The *DWRSIM* model is the Central Valley operations model chosen by CALFED and the State Water Resources Control Board for their Delta impact analyses.

Results show that during the historical 1929-1934 drought period, the average annual impacts of the project are to reduce flow in the lower American River by 196,000 acre-feet, reduce combined Banks and Tracy exports by 124,000 acre-feet, and reduce Delta outflow by 53,000 acre-feet. These impacts occur when flow and export conditions are already low without the project, so that the impacts are a large proportion of flow and export. Average annual flows in the lower American are reduced by 16%, including reductions of 22% in 1931 and 1933.

6i. Additional impacts of proposed project are not analyzed

EBMUD's ability to receive 70,000 acre-feet in drought years from a new intake on the lower American River will depend on agreements being negotiated between EBMUD, the City of Sacramento and the County of Sacramento. In the case of the modeling of Alternative 3 discussed on page 3-14 of the DEIR/EIS (also shown in Figure 3-3), the City is assumed to change its diversion point for additional water from the American River to the Sacramento River during dry years to enable EBMUD to divert 70,000 acre-feet, and sometimes 112,000 acre-feet of dry year supply. There are other actions such as use of local groundwater supplies in the Sacramento area that may also eventually be implemented in order to guarantee EBMUD a L20-28

minimum drought year supply from the American River. These types of actions need to be identified and their impacts analyzed as part of this NEPA and CEQA review of the proposed new intake on the Lower American River. L20-28

7. The Impact Analysis on Water Quality is Inaccurate

7a. The PROSIM model contains significant errors

The impact analysis for the DEIR/EIS was conducted using the *PROSIM* operations model, which was recently discovered to contain errors in the input hydrology. The DEIR/EIS claims that while "*this inconsistency affects all the PROSIM simulations reported in this draft DEIR/EIS (it) probably does not change the relative differences between the simulations for each alternative*" (page 3-12). There is no technical evidence provided to support this claim, however, and it is likely that the effects of errors do not cancel out in the comparative analysis. L20-29

7b. The significance criteria used for water quality are incorrect

The DEIR/EIS states that "*The project will result in a significant impact if: ... reductions in Delta outflow would result in an increase in annual average chloride levels at delivery points within the Delta by more than 3 mg/L or an increase of more than 30 mg/L in 10% of the months that were evaluated.*" (Chapter 4, page 4-3). The 30 mg/L change is calculated as 20% of the 150 mg/L municipal and industrial standard at Rock Slough and Antioch pumping plant.

In many months, the project will probably not cause significant impacts on Delta water quality because diversions from the American River by EBMUD are offset under balanced conditions by reductions in Delta exports or increased reservoir releases to maintain approximately the same delta outflow. The impact is then a water supply impact rather than a water quality impact. However, there will be other months where reductions in Delta inflow by EBMUD and the other project partners, are not offset and Delta outflow will reduce. While the increases in monthly chlorides during these periods are infrequent they are significant.

It is also difficult to understand why on the one hand, the DEIR/EIS considers increases in chloride concentration of 30 mg/L to have an insignificant impact on users of Delta water when, on the other hand, EBMUD's screening criteria calls for membrane filtration and reverse osmosis whenever absolute chloride concentrations exceed that of American River water, i.e., an average chloride concentration greater than 8 mg/L (Table A-4 in Appendix B of the DEIR/EIS). If a 30 mg/L increase is less than significant, then EBMUD should not have eliminated a Sacramento River diversion as an alternative because the chloride concentrations there never exceeded 19 mg/L (Table A-4, EBMUD's 1983-1992 data set). L20-30

The DEIR/EIS should consider any increase in chloride concentration exceeding 3 mg/L to be significant and provide full mitigation for those impacts. Even increases less than 3 mg/L could cause the chloride concentrations at CCWD's Old River intake too increase above 50 mg/L reducing the ability of CCWD to fill the Los Vaqueros reservoir with high quality water. The L20-31

Bureau of Reclamation also served as Federal Lead Agency for the Los Vaqueros EIR/EIS and is a member of CALFED, so should be well aware of the need to improve Delta water quality.

7c. Significant impacts would occur on water quality in the Delta

Even without EBMUD's American River project, reductions in Delta outflow caused by upstream development can be expected to increase Delta salinities. The comparison of the No-Action alternative (Alternative 1) with existing conditions shown in Figure 4-3 of the DEIR/EIS suggests that these increases could be as high as 45 mg/L at Rock Slough. The water quality impacts of EBMUD's project would be superimposed on top of those impacts. The comparison of the Joint Project (Alternative 3) with the No-Action alternative (Figure 4-5), with EBMUD's diversions from the lower American River, chloride concentrations at Rock Slough could increase by an additional 13 mg/L. As discussed in comment 6b of this comment letter, the DEIR/EIS has not analyzed the impacts of the project independently from the effects of other regulatory changes, i.e., there is no analysis of the impacts of the project under existing conditions. Until such an analysis is completed, it is difficult to estimate the actual of impacts of the American River project. L20-32

As discussed on page 4-4 of the DEIR/EIS, the increases in chloride levels caused by the project occur primarily in the late fall and winter. These increases can persist for six months at a time resulting in a persistent impact on CCWD and other users of Delta water. The increases in Delta salinity will directly impact CCWD by reducing the performance of CCWD's $450 million Los Vaqueros Project. More water will need to be released from the reservoir to offset the increased salinity at CCWD's Delta intakes while at the same time the CCWD will not be unable to refill as often because increase in the salinities at CCWD's Old River intake will reduce the availability of water suitable for storing in the reservoir as blending water. To be able to efficiently blend Delta water down to 65 mg/L chlorides, the water in the reservoir will need to be 10-15 mg/L fresher than this delivered chloride goal. A more detailed discussion of these impacts is given in Appendix F to this comment letter. These impacts on the performance of the Los Vaqueros Project and the quality of water delivered to CCWD are significant and must be mitigated. L20-33

EBMUD has relied on a salinity-outflow model developed by CCWD to analyze the water quality impacts on CCWD (DEIR/EIS page 4-3). However, this model only simulates the effects of seawater intrusion on salinity and does not account for the other influences on salinity at CCWD's Delta intakes such as agricultural drainage and effects in the interior Delta due to the complexities of the hydrodynamics and salt transport in the many interior Delta channels. In fact CCWD's salinity-outflow model is only applicable for simulating seawater intrusion in Suisun Bay and the western Delta as far as Rock Slough. Because this salinity-outflow model is not applicable further into the south and central Delta, the DEIR/EIS fails to analyze the water quality impacts at CCWD's intake on Old River near Highway 4 or further south at the Clifton Court Forebay. L20-34

The DEIR/EIS states: "*Because of its location closer to Suisun Bay than other major exporters, Rock Slough was assumed to represent worst-case conditions for the purposes of impact* L20-35

analysis" (page 4-3). This statement is incorrect and indicates a lack of understanding of the important role of the Old River intake in the operation of the Los Vaqueros Project. The Old River intake is the only intake used to fill Los Vaqueros Reservoir. Even small increases in salinity at this location will reduce the ability of CCWD to fill the reservoir with high quality water suitable for blending to meet CCWD's 65 mg/L chloride goal. While the seawater intrusion at this intake is less than at the Rock Slough intake, other factors such as drainage from the San Joaquin Valley and Delta islands can cause salinity increases at Old River that may or may not occur at Rock Slough. Changes in pumping at the export pumps, in particular the Tracy Pumping Plant, can change the distribution of agricultural drainage in the Delta and cause increases in salinity at CCWD's intakes.

The DEIR/EIS also fails to analyze whether the proposed project will impact the ability of the CVP and SWP to meet water quality standards at other locations specified in the May, 1995, Water Quality Control Plan or the water quality in upstream rivers and reservoirs. Full disclosure would include impacts on water quality standards expressed in terms of electrical conductivity, not just chlorides. L20-36

The EIR/EIS needs to present analyses of the water quality impacts at both of CCWD's Delta intakes as well as the intakes of CCWD's raw water customers and the Banks Pumping Plant which supplies water to Metropolitan Water District of Southern California, Santa Clara Valley Water District, Alameda County Water District, and other urban water agencies. Also, requested by CCWD staff at a meeting with EBMUD staff and consultants at CCWD on July 1, 1997, the EIR/EIS also needs to analyze the full water quality impacts of the American River project not just the changes due to seawater intrusion. L20-37

CCWD has carried out an independent analysis of the potential impacts of the American River project alternative 3 using *DWRSIM*. The analysis was based on CALFED's 2020 basecase (Study 514). This study includes flow criteria for the American and Sacramento rivers, recommended by the U.S. Fish and Wildlife Service for the Anadromous Fish Restoration Program (AFRP). The "without-project" study is identical to the original Study 514. The "with-project" run simulates identical conditions except for lower American River monthly diversions based on project Alternative 3 Cumulative (Table C-8, DEIR/EIS Appendix C). The original study includes the same existing City of Sacramento demands given in Table C-3 (DEIR/EIS Appendix C). These existing City demands were subtracted from the Alternative 3 Cumulative demands and applied at a diversion point on the lower American River (Control Point 85 in *DWRSIM*). The difference in model results between the two runs is attributable to the project and indicates project impacts. L20-38

The Delta outflow from these runs were used in CCWD's salinity-outflow model to simulate seawater intrusion changes at the Rock Slough intake. Inflows to the Delta at Sacramento, Vernalis and on other Delta tributaries from the two DWRSIM runs were also used in the Fischer Model (Version 8) to simulate the changes in salinity transport at key locations throughout the Delta. The largest increase in chloride concentration at Rock Slough for this simulation was 26 mg/L using CCWD's salinity-outflow model and 50 mg/L using the Fischer Delta Model. The largest increase in chloride concentration at the Old River intake was 25 mg/L using the Fischer

Delta Model. These results confirm that it is not sufficient to use only CCWD's seawater intrusion model to simulate salinity impacts at Delta urban drinking water intakes. The impacts may be larger than caused by seawater intrusion alone. The results of this analysis are discussed in more detail in Appendix F to this comment letter.

The timing of impacts is very important to CCWD and other Delta water users, and by only presenting impacts in terms of long-term averages, EBMUD has failed to disclose the full impacts of the proposed project. The DEIR/EIS also fails to discuss State Antidegradation Policy (SWRCB Resolution No. 68-16) which states that whenever the existing water quality is better than that defined by State water quality objectives and policies, such existing high water quality will be maintained until its has been demonstrated that any change will: (1) be consistent with the maximum benefit to the people of the State; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in water quality control plans or policies. The DEIR/EIS fails to adequately analyze the salinity impacts at CCWD's water supply intakes. The DEIR/EIS should be revised to correct these inadequacies and reissued for public review and comment. L20-39

8. The Impact Analysis on Fish and Wildlife is Inaccurate

The impact analysis for fish and wildlife contain numerous inaccuracies as summarized below. More detailed comments are given in Appendix C of this comment letter.

8a. The PROSIM model contains significant errors

The recently discovered errors in the input hydrology for the *PROSIM* modeling for the CVPIA PEIS will also affect the fish and wildlife impact analyses in the DEIR/EIS. CCWD disagrees with the claim in the DEIR/EIS that while "*this inconsistency affects all the PROSIM simulations reported in this draft DEIR/EIS (it) probably does not change the relative differences between the simulations for each alternative*" (page 3-12). No technical evidence is given in the DEIR/EIS to support this claim. It is likely that that during low-flow conditions, the errors in input hydrology will result in lower reservoir levels, lower instream flows and higher temperatures downstream in both the basecase and with project alternatives. The larger impacts on fish under both cases will not necessarily cancel out. All *PROSIM* model simulations should be implemented with the input errors removed, and the subsequent fish and wildlife impacts revised accordingly. L20-40

8b. The DEIR/EIS fails to evaluate the least environmentally damaging alternative on fish and wildlife

A Delta delivery alternative using EBMUD's existing Bixler pumping plant has the potential to have the least adverse impact on fishery resources. EBMUD's Bixler pumping plant is on Indian Slough off Old River in the central Delta, and is in a similar situation as the CCWD Rock Slough intake. As discussed in Appendix C of this comment letter, fish entrainment and salvage data from Contra Costa Water District's Rock Slough Pumping Plant indicate little impact to fishery L20-41

resources. The Bixler pumping plant could similarly be sufficiently removed from the main Delta conveyance channels that there could be very little salvage of listed species, and the fish that are present could be of sufficient size to be effectively screened.

8c. The DEIR/EIS fails to avoid and fully mitigate significant impacts on endangered fish species

All of the project alternatives (except the no action alternative) fail to meet the intent of the Federal Endangered Species Act. While the DEIR/EIS establishes evaluation criteria to determine if an impact was significant, the criteria established are not appropriate or valid under ESA. According to the Endangered Species Act, a federal agency must initiate consultation under Section 7 of the Act (including preparation of a biological opinion) prior to taking any action that adversely impacts a listed or candidate species. The Endangered Species Act does not allow the Bureau to select significance criteria and then dismiss the impacts as insignificant if they fail to meet the Bureau's significance criteria. Arbitrarily deciding an impact is small enough to be insignificant does not obviate the Bureau's obligations under the Endangered Species Act. These impacts are most apparent in the simulated water temperature and flow schedules for the lower American River presented in Chapter 5 on Fisheries. L20-42

8d. The DEIR/EIS makes inappropriate claims that no mitigation is available for significant impacts

An EIR must identify any significant impact that cannot be avoided if the project is implemented, including those that can be mitigated but not reduced to a level of insignificance. (Pub. Res. Code 21100 (b); Guidelines 15126(b); Pub. Res. Code 21000(b)). The DEIR/EIS fails to meet these requirements.

The DEIR/EIS states: "*Average monthly storage under the cumulative scenarios would decrease by 15-19% from April to October in years when storage would already be low (Table 5-8). Therefore, significant and unavoidable cumulative impacts on coldwater reservoir species would occur during these months. No mitigation is available*" (page 5-22). The statement that no mitigation is available is incorrect. There are a number of opportunities for the Bureau of Reclamation to avoid this impact as a result of reduced storage, for example: L20-43

- A three-way exchange among Placer County Water Agency (PCWA), South Sutter Irrigation District, and Yuba County Water Agency, which would reduce PCWA's American River diversions and make additional water available for storage into Folsom;
- Replacement of PCWA's water supply with water from the Yuba River. The Bureau has determined that 100,000 acre feet of water is available from willing sellers in 2 of the 4 alternatives proposed in the CVPIA PEIS;
- Incentive programs to reduce demands upstream and downstream of Folsom Reservoir so storage levels in Folsom Reservoir could be maintained at the appropriate levels.

These examples illustrate how the impacts on the coldwater reservoir species could be mitigated and should not be considered exhaustive. They are presented to demonstrate that the DEIR/EIS inappropriately concludes that no mitigation is available for certain impacts, when in fact, mitigation or avoidance of impacts are available.

8e. The DEIR/EIS fails to account for temperature impacts identified in the Draft EIR/EIS for CVP water supply contracts under Public Law 101-514

The U.S. Bureau of Reclamation has issued a draft EIR/EIS for CVP water supply contracts under Public Law 101-514, section 206. Table ES-2, which is a summary of potential impacts, their levels of significance, and recommended mitigation measures, acknowledges that there are potentially significant adverse temperature impacts if acquired regional water entitlements are diverted at Folsom Reservoir, the Folsom South Canal, or the Fairbairn Water Treatment Plant. No impacts are expected if the acquired water is instead diverted from the Sacramento River.

The amount of diversions involved is up to 35,000 acre-feet per year, far less than the diversions proposed by the EBMUD project. The text of the draft EIR/EIS for the Public Law 101-514 water supply contracts describes the impacts of 35,000 acre-feet of diversions on fish habitat in the lower American River: L20-44

> "Hydrologic modeling analyses revealed slightly elevated water temperatures in the lower American River during the late spring and summer months (i.e., spawning, rearing, and emigration periods) with the implementation of the proposed action diversions. While small, the already stressful conditions under which steelhead find themselves in the lower American River during these critical periods resulted in a potentially adverse impact determination. Mitigation for these impacts consists of revising the target release temperatures for Folsom Reservoir and implementing a real-time computer model capable of providing operators of the Folsom Dam shutters with an effective operational management tool for the Folsom Reservoir coldwater pool (page S-5)."

The DEIR/EIS for PL101-514 water only addresses 35,000 acre-feet of new diversions, and concludes that significant temperature impacts would occur on the lower American River. The EBMUD DEIR/EIS should evaluate temperature impacts of an additional 112,000 acre-feet or more of diversions and develop mitigation measures at the same level of detail.

9. The DEIR/EIS Fails to Account for Impacts on Wetlands and Aquatic Habitat

9a. The DEIR/EIS fails to identify and demonstrate the lease environmentally damaging practicable alternative

The U.S. Army Corps of Engineers will need to rely on the DEIR/EIS as the environmental documentation for its consideration of Section 404 permits necessary to implement the Project. However, the DEIR/EIS fails to provide an adequate analysis of impacts to wetlands, wetland L20-45

habitat, and aquatic habitat to facilitate a proper evaluation of Section 404 requirements, including Section 404(b)(1) requirements for an alternatives analysis.

The Section 404 (b)(1) guidelines provide that:

> [N]o discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. (40 C.F.R. §230.2, 33 C.F.R. §323.6, *id.* at §230.10a)

The Army Corps summarized its construction of the practicable alternatives test for water dependent and nonwater dependent projects in Regulatory Guidance Letter (RGL) 92-2. The RGL requires a showing that the proposed action is the least environmentally damaging, taking into account alternatives as appropriate.

The project applicant bears the burden of demonstrating that there are not practicable alternatives. (RGL 92-2, Water Dependency and Cranberry Productions, June 26, 1992; 40 C.F.R. §230.10a). To meet its burden, an applicant must conduct a survey of all practicable alternatives and submit the results to the Corps during the permit process. The proposed discharge must represent the least environmentally damaging practicable alternative in order to comply with the alternatives analysis requirements of the guidelines. A permit cannot be issued, therefore, in circumstances where a less environmentally damaging practicable alternative for the proposed project exists. See RGL 93-2, Guidance on Flexibility of the 404(b)(1) Guidelines and Mitigation Banking (August 23, 1993). The §404(b)(1) guidelines define "practicable" as follows:

> An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered.

As described in comments 3a through 3g, the DEIR/EIS fails to evaluate a number of alternatives that are practicable and are less environmentally damaging.

9b. <u>The DEIR/EIS fails to provide adequate mitigation measures for impacts to wetlands</u>

The DEIR/EIS identifies significant impacts on wetland resources, but fails to establish mitigation measures without equivocation (pages 7-13 through 7-19). Rather than establish definitive mitigation measures, the DEIR/EIS describes each mitigation measure as a possibility. The text describes each mitigation measure as "*can be*", rather than "*will be*" implemented. In the following quotes the italics have been added: L20-46

- Mitigation Measure 7-4b: "EBMUD *can* coordinate with the CORPS to obtain a permit under Section 404....EBMUD *can* also coordinate with DFG to obtain a 1601 streambed alteration agreement."

- Mitigation Measure 7-1a: "the contractor *can* be required to designate ..." and "additional work areas *can* be surveyed"
- Mitigation Measure 7-1c: "EBMUD *can* require the contractor to restore the construction zone to preconstruction site conditions"
- Mitigation Measure 7-2a: "fragmentation of oak woodlands ... *can* be minimized"
- Mitigation Measure 7-3a: "a buffer *can* be established for each drainage that supports woody vegetation"
- Mitigation Measure 7-4a: "EBMUD *can* attempt to further avoid wetland plant communities to the extent feasible"

By failing to commit to a course of action associated with significant environmental impacts of each project alternative, the DEIR/EIS provides only hypothetical "mitigation measures", failing to comply with CEQA.

10. <u>The DEIR/EIS Fails to Account for Cumulative Impacts</u>

An EIR must identify and discuss significant cumulative impacts. (Guidelines 15130(a). Cumulative impacts are those that are individually limited but cumulatively considerable. (Pub. Res. Code 21083(b)). The cumulative impact analysis must contain three elements. First, it must identify related projects through the use of either a project list or a projection approach. (Guidelines 15130(b)(1)). Second, it must contain a summary of the expected environmental effects to be produced by related projects. (Guidelines 15130(b)(2)). Finally, it must contain a reasonable analysis of the cumulative impacts of the related projects and an examination of reasonable options for mitigation measures for a proposed project. (Guidelines 15130(b)(3)). L20-47

The DEIR/EIS does not adequately discuss the cumulative impacts of the proposed project in combination with other reasonably foreseeable water supply projects. The DEIR/EIS states that certain actions "*have not advanced in the planning process to the point where a quantitative analysis is warranted*" (DEIR/EIS, page 18-2). These include implementation of the CVPIA and the CALFED Bay-Delta Program and water service contracts under Public Law 101-514. CCWD disagrees that the CVPIA is not sufficiently advanced in the planning process (a Draft PEIS was been released for public comment in November 1997). Similarly, CALFED has already released a series of documents each refining the range of alternatives for fixing the Bay-Delta system. The EIR/EIS should discuss in <u>quantitative</u> terms how EBMUD's American River contract may be affected by changes in CVP operations under a representative range of CVPIA PEIS alternatives (see DEIR/EIS, page 1-15) and by the coordinated operations of the CVP and SWP under likely CALFED Bay-Delta program alternatives.

10a. <u>Cumulative impacts involving CALFED alternatives</u>

The CALFED Bay-Delta Program has developed and evaluated three "comprehensive solution alternatives" designed to address a broad range of problems in the Bay-Delta system (CALFED Phase II Alternative Descriptions, May 8, 1997). On March 16, 1998, CALFED released a Draft L20-48

EIS/EIR which describes three alternatives but does not select a preferred alternative. CEQA and NEPA require that the DEIR/EIS examine the cumulative impacts of the Project in conjunction with the CALFED alternatives currently under consideration. The DEIR/EIS fails to do so.

10b. Mitigation of impacts through EBMUD participation in Interim CALFED Projects

Because many components of the eventual CALFED Bay-Delta solution will not be able to be designed, permitted and construction for at least 10 years, CALFED is considering short-term projects, using already existing facilities such as local reservoir storage to help meet CALFED's goals and objectives. EBMUD has the opportunity to use its existing facilities in conjunction with those of other water agencies to assist CALFED on an interim as well as long term basis, while at the same time, offsetting the impacts of its project on other water users.

The DEIR/EIS concludes that no mitigation is required for impacts resulting in the impairment of Delta export water quality. It concludes that the average increase in salinity in small, and that the impact is less than significant. Yet in individual months and years, the impacts can be much greater than average and be significant to CCWD during those years. Chloride increases at Rock Slough and Old River will require CCWD to dramatically increase its use of Los Vaqueros storage to offset these salinity increases. As shown in Appendix F of this comment letter, the predicted increases in chloride concentration at Rock Slough and Old River for Alternatives 2 and 3 will be significant and will result in significant impacts on the operation of CCWD's Los Vaqueros Project. The DEIR/EIS provides no mitigation for those impacts, even though mitigation opportunities are readily available. L20-48

EBMUD's Mokelumne Aqueduct bisects the service area of CCWD as it transports water from the Mokelumne River to EBMUD's service area. EBMUD could offset the increased salinities caused by its proposed American River project, by providing surplus EBMUD water to CCWD during wetter periods for storage in Los Vaqueros reservoir. This low salinity EBMUD water will reduce the salinity of the water stored in Los Vaqueros reservoir and reduce the amount of blending water that would need to be released later to blend with the higher Delta chloride concentrations. Staff from EBMUD and CCWD have met several times during recent months to discuss the technical feasibility of such a transfer, and have concluded that sufficient water surplus to EBMUD's needs could be provided to CCWD to fully offset the water quality impacts of the American River Project. Transferring as little as 10,000 acre-feet to CCWD on an average annual basis, may be sufficient to offset the impacts on CCWD's $450 million Los Vaqueros Project.

At the same time, use could also be made of CCWD's Los Vaqueros Reservoir to store environmental water that would allows CCWD to cease diversions from the Delta during environmentally sensitive months, or transfer water to other in-Delta water users, to enable CALFED to offset reduced deliveries to other CVP water south of the Delta. Interim CALFED Projects of this type should be fully explored in the EIR/EIS to enable EBMUD to more directly participate in the CALFED process and to offset impacts of the proposed American River Project.

10c. Cumulative impacts involving PEIS alternatives

In November 1997, the U. S. Bureau of Reclamation issued a Draft Programmatic Environmental Impact Statement (PEIS) in accordance with the Central Valley Project Improvement Act (CVPIA). The Draft CVPIA PEIS examines various proposed actions to improve environmental conditions and to modify operations, management and physical facilities of the Central Valley Project. CCWD requests that the U. S. Bureau of Reclamation include a copy of the CVPIA PEIS in the administrative record of EBMUD's Supplemental Water Supply Project.

Both CEQA and NEPA require the DEIR/EIS to consider the cumulative impacts of the Project in conjunction with the actions proposed analyzed in the Draft CVPIA PEIS. The DEIR/EIS for the Supplemental Water Supply Project fails to do so. Page 1-15 of the DEIR/EIS states that "*the availability of water under EBMUD's American River contract will be affected by Reclamation's operation of CVP facilities to meet the requirements of the CVPIA.*" Yet the DEIR/EIS does not examine what impacts different CVPIA actions might have on the Supplemental Water Supply Project. If CVPIA actions significantly reduce the ability of the Project to provide water to EBMUD in drought years, then the Project may not meet one of its principal needs; the ability to augment EBMUD's dry-year water supply. L20-49

Additionally, the Draft CVPIA PEIS assumes that EBMUD diverts its water entitlement from the Folsom South Canal, and that the Hodge flows are met (Alternative 2). If Alternative 3 were adopted, the cumulative impacts of the CVPIA and Supplemental Water Supply Project would not have been evaluated in either the Draft CVPIA PEIS or the DEIR/EIS. The U.S. Bureau of Reclamation is a lead agency for both documents, and both documents were released for public review at approximately the same time. The DEIR/EIS must consider the cumulative impacts of Alternative 3 in conjunction with the impacts of CVPIA implementation to ensure an adequate analysis of the lower American River diversion alternative.

11. The DEIR/EIS Fails to Identify Specific Mitigation Measures

References to mitigation measures are vague and non-specific. The DEIR/EIS fails to establish a definite commitment to accomplish specific mitigation measures. In the case of mitigation for cumulative impacts to regional fishery management efforts, the DEIR/EIS relies on other programs, such as a proposal regarding Public Law 101-514 water service, to mitigate for impacts of the EBMUD project (page 5-24 through 5-25). The DEIR/EIS must identify specific mitigation measures without relying on other parties to develop and implement mitigation measures. The DEIR/EIS must do more than state "*EBMUD could contribute an appropriate share to these mitigation efforts*" (page 5-25). See comment 9b. L20-50

12. The DEIR/EIS Fails to Evaluate Growth Inducing Impacts

The DEIR/EIS should analyze the impacts of the project alternatives on growth inducement. The analysis should estimate the increase in urbanized area, location of urbanization, and increase in population associated with the project alternatives. L20-51

12a. The DEIR/EIS fails to identify and evaluate growth inducing impacts within the EBMUD service area

The DEIR/EIS discussion fails to satisfy the requirements of CEQA and NEPA regarding growth inducement impacts. The DEIR/EIS on page 18-7 & 18-8 states that "*Because the Supplemental Water Supply Project is intended to provide a supplemental water supply during drought years and to improve system redundancy and reliability, it would not contribute to new growth-inducing effects that have not already been evaluated for the overall Updated WSMP.*" However, the DEIR/EIS also states that of the construction and operations costs for Alternatives 2 and 3, 70% will come from "*fees charged to applicants for new water service*" (page 2-14). Funding for the project relies on the growth that will be induced.

As discussed in comment 2 of this comment letter, the EBMUD Board in 1993 found that CEQA review of any project involving use of EBMUD's American River contract should begin *de novo* because it was not adequately reviewed in the Updated WSMP to satisfy the need for a program-level alternatives analysis of such a project. The present DEIR/EIS cannot rely on the analysis of growth-inducing impacts in the WSMP to support the CEQA and NEPA review in this DEIR/EIS. The American River project will have growth inducing impacts within the EBMUD service area that were not addressed in the WSMP EIR and are not adequately analyzed in the DEIR/EIS.

12b. The DEIR/EIS fails to identify and evaluate other growth inducing impacts outside the EBMUD service area

The American River project will have growth inducing impacts in other areas of the state that are not addressed in the DEIR/EIS. For example, there are potential growth-inducing impacts in East San Joaquin County if current negotiations for a conjunctive use program are successful. These impacts must be fully analyzed in the American River project EIR/EIS in order to provide the public with an opportunity to understand the full scope of project effects under potential "full use" scenarios. L20-52

The Joint Project (Alternative 3) consists of a 140 MGD (217 cfs) new intake facility on the lower American River linked to the City of Sacramento's Fairbairn WTP. Water for both EBMUD and Sacramento County would be pumped back to the Fairbairn WTP and then distributed to EBMUD and the County's water service area. According to the DEIR/EIS (Page 2-15), this alternative also involves expansion of the existing diversion and treatment capacity at Fairbairn WTP by 100 MGD (155 cfs) and the Sacramento River WTP by 50 MGD (77 cfs) "*to provide increased capacity for the City to meet its future water supply needs.*" L20-53

The new lower American River intake and expansion of the diversion and treatment capacity at the Fairbairn and Sacramento WTPs as part of Alternative 3, will facilitate growth in the Sacramento Area (DEIR/EIS pages 18-6 through 18-7 and pages 18-10 through 18-12). The Sacramento County General Plan EIR indicates that growth in the county's service area could result in effects on terrestrial habitats and wetlands, wildlife and cultural resources, agricultural land, recreation resources, water quality, air quality, noise, and visual resources (DEIR/EIS page

18-11). There are three special status plant species and 16 animal and fish species that could potentially be affected by growth in the service area (DEIR/EIS page 18-11).

Joint Project (Alternative 3) will induce growth in the Sacramento area and these growth-related impacts will be covered to some extent by the City and County General Plans as discussed in the DEIR/EIS Chapter 18. However, the Supplemental Water Supply Project EIR/EIS also needs to identify where there are other impacts, e.g. on terrestrial species that need to mitigated as part of the proposed project.

13. Design Work Already Completed

CCWD is also concerned that EBMUD has already completed a substantial amount of predesign work for this American River project, in particular for Alternative 3. According to CEQA, environmental review must occur as early as feasible in the planning process to enable environmental considerations to influence project program and design (see, e.g., Section 15004 (b)). EBMUD's apparent commitment to this American River source should not be at the exclusion of a detailed review of alternatives and analysis of the least environmentally damaging alternative. L20-54

14. Recirculation

Contra Costa Water District appreciates the opportunity to comment on the Supplemental Water Supply Project DEIR/EIS and looks forward to reviewing the information that will be provided in response to this comment letter. Because significant amounts of new information need to be added to DEIR/EIS regarding project alternatives before it can be considered adequate, CCWD requests that EBMUD and USBR revise and recirculate the DEIR/EIS for public review and comment in accordance with Public Resources Code Section 21092.1 and Guidelines Section 15088.5. L20-55

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APPENDIX A

Statistical Analysis of EBMUD Drought Planning Sequence

This appendix evaluates the statistical probability that the EBMUD drought planning sequence will actually occur. The drought planning sequence created by EBMUD is a hypothetical 3-year sequence: year 1 is equal to the hydrologic conditions of 1976, year 2 is equal to the conditions of 1977, and year 3 is equal to the average conditions of 1976 and 1977. The actual years 1976-1977 were the driest two-year sequence on record. A three-year drought such as the EBMUD drought planning sequence has never occurred in California since records have been kept, and is far more severe than the standard drought sequences used by other water agencies in California, including the Department of Water Resources for the State Water Project and the Bureau of Reclamation for the Central Valley Project.

The data used in this analysis are derived from annual inflows of the Mokelumne River into Pardee reservoir, obtained from EBMUD staff. These data are used in the operations model *EBMUDSIM*, which simulates the EBMUD system. Monthly Pardee inflows are an input to the *EBMUDSIM* model. The data were developed by EBMUD staff using a two-step process. First, the historical record is converted to unimpaired flows by removing the effects of upstream storage diversions on the Mokelumne River watershed. Second, unimpaired flows are converted to the flows that would occur under a constant "level of development", which characterizes upstream water use and reservoir operations. For the analysis presented here, the inflow data reflect a 1995 level of development, corresponding to the Existing Conditions baseline defined in the DEIR/EIS.

Methodology

The general methodology for statistical analysis of low-flow conditions is developed in Riggs (1972). Supplemental development appears in Viessman, et al. (1977) and Stedinger, et al. (1992). The original annual data appear in Table A-1. As discussed below, the value for 1978 in the third year of the hypothetical drought is 157 thousand acre-feet (TAF). Total inflow to Pardee during the three-year sequence 1976 to 1978 is 569 TAF. The following analysis computes the probability of this design drought event.

Pardee inflow for 1978

Inflow to Pardee in 1978 is simulated to be 157 TAF, reflecting the hypothetical third year of the sequence. This value was synthesized by EBMUD staff to represent the conditions that would have occurred in 1978 if during that year conditions throughout the Mokelumne Basin would have equaled the average of 1976 and 1977 conditions. Basin processes that produce inflow to Pardee are not linear, so that the average inflow of 157 does not equal the average inflow from the previous 1976 and 1977.

The statistical analysis of historical flows requires an actual value for 1978, rather than the synthesized value that represents a third drought year. An actual historical value was computed using another data source to predict Pardee inflows. Linear regression was performed on annual inflows to Pardee from *EBMUDSIM* and annual inflows to streams on the east side of the Delta from *DWRSIM*, using the 73-year period 1922 to 1994. A high correlation would be expected, because the *DWRSIM* data set includes the Mokelumne, which is the largest stream on the east side. Results are shown on Figure A-1. Note that the coefficient of determination, a measure of linear correlation between the two sets of flows, is 90.1%.

The regression relationship was used to compute inflow to Pardee in 1978 without the hypothetical drought imposed. The computed inflow is 637 TAF.

Probability distribution

The annual sequence was then converted to three-year running totals and sorted in ascending order, as shown in Table A-2. The inflow shown for each "ending year" is the total for the three-year period that ends in that year. For instance, the total inflow for the period 1988 through 1990 is 1,092 TAF. The three-year totals do not overlap, so that the summing process does not introduce a serial correlation into the new sequence.

The three-year flows shown in Table A-2 are plotted in Figure A-2. Probability is computed using the Weibull plotting position. Note that the lowest inflow corresponds to the three-year period 1976 to 1978.

In order to compute the probability of occurrence for the design drought, a probability distribution is fit to the data shown in Figure A-2. The log Pearson III distribution is used. This is one of the standard distributions used in analyses of streamflow frequency. Log Pearson III is a three-parameter distribution obtained by solving the equation

$$X = \overline{X} + KS$$

where

X is the logarithm of any value of flow;
$\overline{X}$ is the mean of the logarithm of measured flows;
S is the standard deviation of the logarithm of measured flows;
K is the frequency factor.

The frequency factor K is a function of both the exceedence probability and the skew coefficient of the logarithm of measured flows. Table A-2 shows the mean, standard deviation, and skew coefficient for the measured flows. Frequency factors for the sample skew coefficient at various exceedence probabilities were obtained from published tables (U.S. Geological Survey, 1982).

Results

The fitted probability distribution for three-year inflows to Pardee Reservoir is shown in Figure A-3. The probability that the three-year hypothetical drought, or one more severe, will occur is approximately 0.0007, or 1 in 1,500. Stated another way, there is a 99.93 percent probability that inflows to Pardee during any three-year period will exceed the 569 thousand acre-feet that defines the EBMUD drought planning sequence.

Note that the probability of the three-year sequences associated with the 1928-1934 drought is far greater than the EBMUD sequence. For instance, the three-year sequence 1931-1933 has a total inflow to Pardee Reservoir of 1,323 TAF. The probability that this drought, or one more severe, will occur is approximately 0.12, or 1 in 8.

If the DEIR/EIS for the EBMUD Supplemental Water Supply Project were to use a reasonable drought planning sequence, such as the standard sequences 1928-1934 or 1987-1992 used throughout California, the amount of water needed from the project would be reduced, possibly to zero. The needs analysis, which concludes that a supplemental water supply is needed, relies on a hypothetical drought sequence that has a very low probability of occurring.

References

Riggs, H.C., 1972, Low-flow investigations, Techniques of Water-Resources Investigations of the United States Geological Survey, Chapter B1.

Stedinger, J.R., Vogel, R.M, and Foufoula-Georgiou, E., 1993, Frequency analysis of extreme events, in *Handbook of Hydrology*, edited by D.R. Maidment, McGraw Hill.

U.S. Geological Survey, 1982, Guidelines for determining flood flow frequency, Bulletin #17B of the Hydrology Subcommittee of the Interagency Advisory Committee on Water Data.

Viessman, W. Jr., Knapp, J.W., Lewis, G.L., and Harbaugh, T.E., 1977, *Introduction to Hydrology*, Harper & Row.

TABLE A-1
MOKELUMNE RIVER INFLOWS TO PARDEE RESERVOIR

YEAR	INFLOW (taf)	YEAR	INFLOW (taf)
1922	886	1958	1056
1923	687	1959	402
1924	269	1960	399
1925	709	1961	293
1926	394	1962	579
1927	814	1963	858
1928	647	1964	428
1929	335	1965	1167
1930	434	1966	482
1931	245	1967	1097
1932	664	1968	438
1933	415	1969	1304
1934	344	1970	899
1935	624	1971	786
1936	894	1972	491
1937	702	1973	790
1938	1228	1974	997
1939	375	1975	764
1940	821	1976	272
1941	813	1977	140
1942	980	1978	157 (1)
1943	1014	1979	574
1944	439	1980	1091
1945	752	1981	415
1946	753	1982	1496
1947	427	1983	1841
1948	555	1984	1126
1949	522	1985	457
1950	734	1986	1208
1951	1186	1987	329
1952	1285	1988	240
1953	689	1989	484
1954	543	1990	368
1955	428	1991	282
1956	1209	1992	333
1957	601	1993	940
		1994	308

(1) Hypothetical conditions assumed for 1978
Average annual inflow is 688 taf (excluding 1978)
Three-year total 1976-1978 is 569 taf

Source: EBMUDSIM data set

TABLE A-2
THREE-YEAR INFLOWS TO PARDEE RESERVOI

ENDING YEAR	INFLOW (taf)	LOG OF INFLOW
1978	1048	3.021
1990	1092	3.038
1933	1323	3.122
1930	1415	3.151
1993	1555	3.192
1963	1730	3.238
1948	1735	3.239
1924	1842	3.265
1960	1856	3.269
1936	1862	3.270
1927	1917	3.283
1987	1994	3.300
1966	2077	3.317
1981	2080	3.318
1972	2177	3.338
1945	2205	3.343
1957	2238	3.350
1939	2305	3.363
1951	2442	3.388
1954	2518	3.401
1975	2552	3.407
1942	2614	3.417
1969	2839	3.453
1984 (1)	4463	3.650
	mean	3.282
	standard deviation	0.115
	skew coefficient	-0.838

(1) Summary statistics exclude 1984 as outlier

FIGURE A-1
LINEAR REGRESSION BETWEEN PARDEE INFLOWS AND EAST SIDE DELTA STREAMFLOW

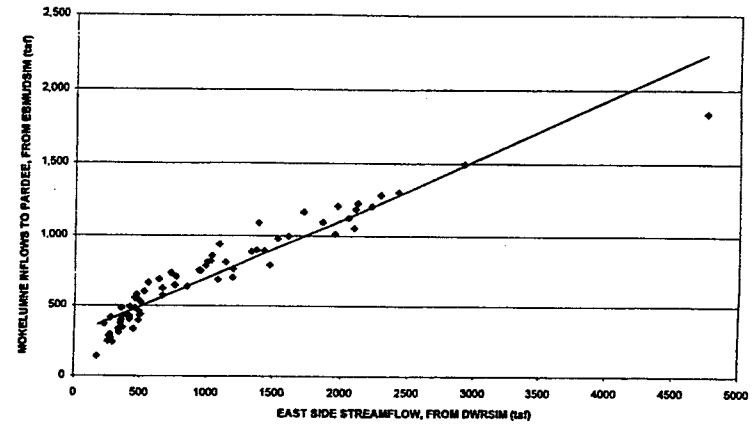
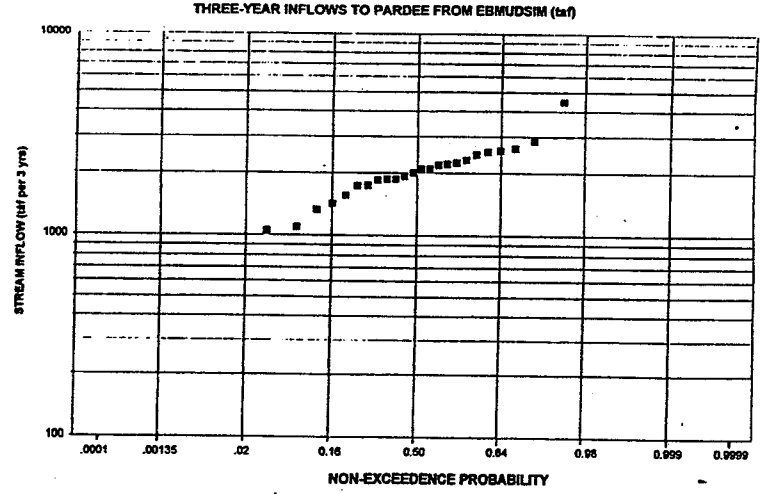
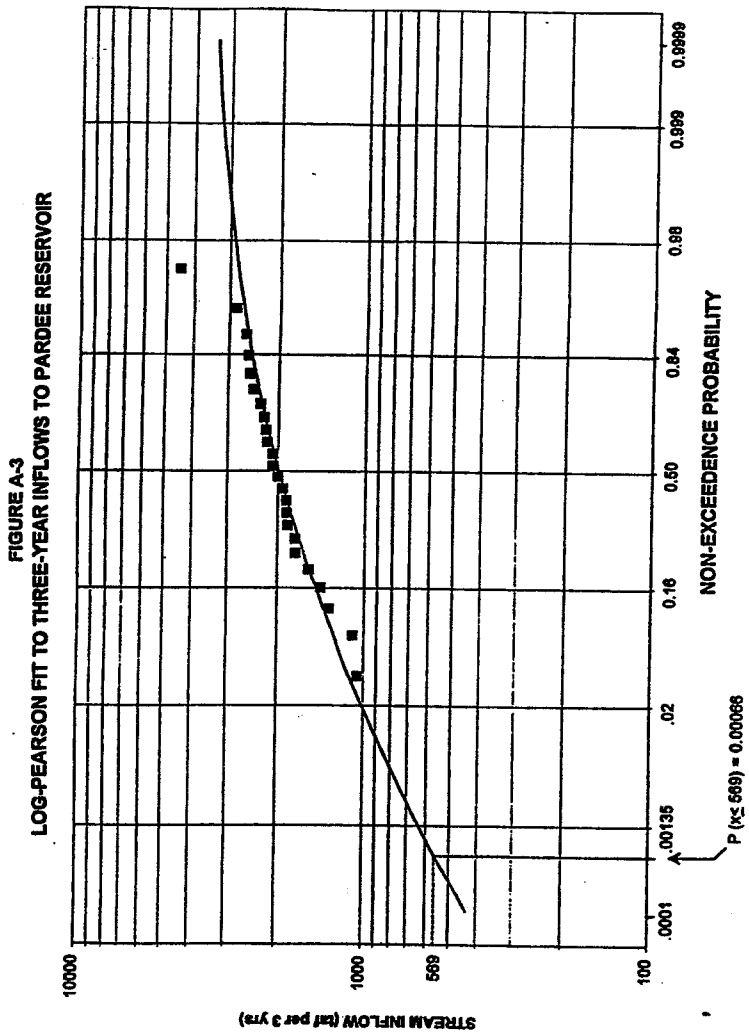


FIGURE A-2
THREE-YEAR INFLOWS TO PARDEE FROM EBMUDSIM (taf)





APPENDIX B

Water Treatment Feasibility for Alternative Surface Water Sources for EBMUD's Supplemental Water Supply Project

Introduction

The project objective in the Supplemental Water Supply Project Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) is to decrease existing and future customer deficiencies during droughts and to enhance the reliability of the East Bay Municipal Utility District's (EBMUD) water supply. The DEIR/EIS analyzes only those alternatives that divert directly from the American River and fails to discuss other points of diversion from the Sacramento River or the Sacramento-San Joaquin Delta. Diversion points downstream from the American River could be environmentally superior alternatives but were dismissed without factual analyses.

One screening criterion stated in the DEIR/EIS is the need to maintain the highest quality source to satisfy customer expectations and meet increasingly stringent drinking water standards set by the U.S. Environmental Protection Agency (USEPA) and California Department of Health Services (DOHS). The purpose of EBMUD's updated Water Supply Management Plan (WSMP) and associated EIR completed in 1993 was to identify the actions and projects necessary to provide a safe and reliable supplemental water supply that would not "degrade the quality" of EBMUD's Mokelumne River supply.

EBMUD's Bixler Pumping Plant at Indian Slough was identified in the WSMP as the point of diversion in the Delta. The Bixler facility includes a 58 million gallon per day (mgd) emergency pumping plant (about 90 cubic feet per second). This Delta source alternative and others were ranked on the basis of operational and engineering criteria, including one addressing public health, safety and a social component. While there are higher concentrations of regulated contaminants in Delta water compared with the American River, the WSMP acknowledged that treatment of Delta water "*could reduce most of these contaminants to safe levels*" (see DEIR/EIS Volume I, page 10-12). Such a Delta alternative was not considered in the current DEIR/EIS evaluation despite California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA) requirements that an EIR or EIS describes and evaluates all reasonable project alternatives. A Delta diversion of EBMUD's American River entitlement would meet the requirements of a viable alternative and should have been considered in the DEIR/EIS.

The screening analysis in the DEIR/EIS also identifies a potential water supply option currently being considered by CALFED, a consortium of state and federal agencies involved in a multi-phased program to improve, among other things, water supply and quality conditions in the Sacramento/San Joaquin Delta. CALFED is investigating a dual Delta conveyance alternative that includes the construction of an isolated transfer facility that would divert Sacramento River water from Hood and/or Freeport and convey water to the Central Valley Project and State Water Project pumping facilities in the southern Delta and to other water users, EBMUD included. The

DEIR/EIS is inadequate because it fails to consider the alternative of EBMUD taking delivery of its American River allocation from the Sacramento River as part of a CALFED dual conveyance alternative.

The DEIR/EIS claims that the use of water diverted from the Sacramento River or from the Delta would require extensive treatment in order to comply with EBMUD's Policy 81 on water quality objectives and meet current and anticipated future delivered water standards. However, the DEIR/EIS (Appendix B, Alternatives Screening Report) fails to perform a meaningful comparison of the water quality from the American River, the Sacramento River, and from the Delta in the context of meeting current and future drinking water regulations. In particular, disinfection by-product levels in EBMUD's treated water in recent years indicate that significant upgrades to EBMUD's treatment process will be required, regardless of the source of water.

The ability of current EBMUD treatment facilities to meet future regulations using Mokelumne River water and other sources has not been discussed. In particular, future upgrades that would be required, regardless of the source, could allow EBMUD to treat alternative sources of water and still meet its water quality goals. The selection of only those alternatives diverting from the American River for analysis in the DEIR/EIS is arbitrary and *a priori*, and fails to meet CEQA and NEPA requirements on the scope of alternatives.

Discussion

There are two additional feasible surface water source alternatives for meeting the project objectives in the DEIR/EIS. These two objectives are:

- "To increase system reliability by providing an alternative source of supply to EBMUD's Mokelumne River supply in case of a catastrophic event or scheduled major maintenance of Pardee Dam or Reservoir" (page 2-1); and
- "To maintain the high quality of the water supply ... includes taking steps to ensure that EBMUD's potable water will meet all existing and anticipated drinking water standards and that EBMUD's nonpotable water is of quality suitable to its use" (page 2-2).

These two additional alternatives – a CALFED/Sacramento River Diversion at Hood/Freeport and a Delta Diversion from Indian Slough at Bixler – could meet the project objectives, deliver a water quality suitable for all potable uses and comply with all present and anticipated future drinking water quality standards. Either one of these could be an environmentally superior alternative to the alternatives analyzed in the DEIR/EIS.

The project objective "*to maintain the high quality of the water supply*" in the DEIR/EIS needs to be quantified. The Alternative 3 diversion already compromises the highest water quality available by diverting lower water quality at the I-5 diversion point. There is no justification given in the DEIR/EIS why it is acceptable to accept degraded water at I-5, but not degraded water in the Sacramento River.

The California Urban Water Agencies (CUWA), of which EBMUD is a member, convened a panel of national drinking water experts in 1996 to address source water quality needs to meet drinking water regulations into the foreseeable future. This expert panel concludes that, for water agencies using Delta water supply, the Disinfectants/Disinfection By-Products Rule (D/DBP) and the Enhanced Surface Water Treatment Rule (ESWTR) will impose the most severe requirements on source water quality. These source water quality criteria, in particular, the bromide and total organic carbon concentrations under the most stringent plausible regulatory scenario, could be achieved in both of the additional project alternatives listed above but not analyzed in the DEIR/EIS. Other source water quality parameters under these two alternatives are also be examined in this appendix.

Water quality standards and treatment requirements

A water supply for municipal use must be of a sufficiently high quality such that it can be processed effectively and reliably to meet health-based standards and minimize health risks. Although there are numerous water quality constituents of health concern, the major contaminants are microbial pathogens (*Giardia and Cryptosporidium* in particular) and disinfection byproduct (DBP) precursors (bromide and organic carbon), for most water treatment processes.

Regulatory requirements on disinfection and microbial control currently focus on the removal and inactivation of *Giardia and Cryptosporidium*. A 3-log (99.9 percent) removal and inactivation of *Giardia* is currently required in the Surface Water Treatment Rule (SWTR). The final outcome for an ESWTR is uncertain, but many alternatives in the ESWTR proposed by EPA require treatment based on pathogen density in source waters (USEPA, 1994). CUWA's Expert Panel on future drinking water quality needs identified the likely regulatory scenarios to range from 90 percent (1-log) to 99-percent (2 log) inactivation of *Giardia* to 90 percent (1-log) inactivation of *Cryptosporidium*, by disinfection after treatment removal credits.

A number of organic and inorganic compounds formed during the disinfection process (the disinfection by-products) are suspected human carcinogens and will be further regulated under the D/DBP Rule. This rule has been proposed in two stages. In Stage I of the D/DBP Rule – to be promulgated in 1998 – maximum contaminant levels (MCLs) will most likely be set at 80 µg/L for total trihalomethanes (TTHMs), 60 µg/L for the sum of five haloacetic acids (HAA5), and 10 µg/L for bromate. The CUWA Expert Panel concluded that for Stage 2 these regulatory limits would further be reduced to 40 µg/L THMs, 30 µg/L HAA5, and 5 µg/L bromate, under the most stringent plausible regulatory scenario. These regulatory limits are summarized in Table 1. Note that the MCLs of DBPs are regulated as running annual averages reported quarterly.

Table 1. Potential future regulatory scenario[1]

Regulation	Parameter	Treatment requirement or MCL
ESWTR	*Giardia*	Additional 1- or 2-log inactivation by disinfection after treatment removal credit
	Cryptosporidium	Additional 1-log inactivation by disinfection after treatment removal credit
D/DBP Rule	TTHMs	40 µg/L
(Stage 2)	HAA5	30 µg/L
	Bromate	5 µg/L

[1] Source: CUWA Expert Panel Report on future drinking water needs (December 1996 Draft Report)

The Expert Panel also examined the treatment options for urban agencies using water diverted from the Sacramento River or the Delta water users to meet anticipated future regulatory standards. Based on data from treatment plant operation and finished water records for CUWA members using Delta water, the Expert Panel concluded that, depending on the outcome of ESWTR, either chlorination with enhanced coagulation or ozone disinfection would be the most cost-effective for simultaneously meeting requirements of the D/DBP and ESWTR. More specifically, these two treatment processes are:

- Coagulation with 40 mg/L of alum at a pH of 6.5 - 7.0 (possibly requiring addition of sulfuric acid to depress pH to this range) followed by chlorine disinfection and post-disinfection with chloramine residual in the distribution system; and
- Ozonation followed by chloramine as post-disinfection.

Both chlorination and ozonation are feasible for meeting a 2-log *Giardia* inactivation requirement. However, only ozonation could achieve a 1-log inactivation of *Cryptosporidium*.

The Expert Panel further concluded that a source water with bromide no higher than 50 µg/L and total organic carbon (TOC) no higher than 3 mg/L will provide sufficient flexibility in the selection of a treatment process to meet the plausible most stringent regulatory scenario. These two objectives are conservative estimates. Improvement in treatment technology and/or DBPs removal technology (e.g., bromate removal) could allow for higher levels of bromide and TOC in the source water.

Source water quality

The DEIR/EIS presents tables of the historical water quality in the Mokelumne River (at Pardee Reservoir), in the American River, in the Sacramento River at Greens Landing (downstream of Hood and Freeport), and in Indian Slough in the Delta close to the Bixler Pumping Plant (Table A-4 in Attachment A to Appendix B in the DEIR/EIS). It shows a number of characteristics pertinent to treatment facility requirements using these different source waters:

- Turbidity in the Mokelumne River (with a median of 0.5 NTU and a maximum of 10 NTU) is considerably lower than that in the American River (with a median that ranges between 1.2 and 5.3 NTU and a maximum of over 100 NTU), the Sacramento River (with a median of 5.5 NTU) and the Indian Slough (with a median of 11 NTU). Turbidities in the Sacramento River and the American River **are not significantly different** in terms of treatment needs.
- Pathogen levels in the Mokelumne River (with a median of 4 MPN/100 mL fecal coliform) are considerably lower than those in the American River (with a median between 136 and 387 MPN/100 mL fecal coliform), the Sacramento River (with a median of 196 MPN/100 mL fecal coliform) and the Indian Slough (with a median of 86 MPN/100 mL fecal coliform). Pathogen levels in the Sacramento River and the American River, as indicated by their fecal coliform levels, **are not significantly different** in terms of treatment needs
- Chloride levels in the Mokelumne River and the American River are both around 2 mg/L, with the Sacramento River slightly higher at 7 mg/L. Chloride in Indian Slough is higher with a median of 87 mg/L. Bromide values are not given but dissolved solid levels of 2, 7, and 87 mg/L chloride would correspond to about 7, 24, and 300 µg/L bromide, respectively. Samplings by the Department of Water Resource's Municipal Water Quality Investigation Program (MWQI) at Rock Slough give reasonable estimates of the bromide level in Indian Slough. The data ranges between 30 and 770 µg/L bromide and averages 280 µg/L bromide between 1991 and 1996.
- Median TOC values in the Mokelumne, American, and Sacramento are all around 2 mg/L. The TOC value in Indian Slough is higher with a median of 3 mg/L.

CALFED/Sacramento River Diversion at Hood/Freeport

The water quality characteristics presented in the DEIR/EIS show that the qualities of lower American River (at I-5) and Sacramento River water are slightly lower than the Mokelumne River water, but not significantly different from each other. In other words, American River and Sacramento River water would require similar treatment processes. In particular, the pathogen levels in the two rivers are close and suggest that the same disinfection requirements (such as filtration and/or *Giardia* or *Cryptosporidium* inactivation) in the ESWTR would apply equally to these two sources of drinking water. Furthermore, the TOC and bromide levels in the two sources are similar and considerably below the threshold values of 50 µg/L bromide concentration and 3 mg/L TOC recommended by the CUWA Expert Panel on future drinking water needs.

The DEIR/EIS incorrectly claims that the Sacramento River at Freeport potential alternatives fails to meet the economic criteria because the screening analysis assumed that "*a membrane filtration pretreatment process followed by reverse osmosis, would be necessary*" (Appendix B, page 3-5). As discussed above, the water quality in the Sacramento River at Freeport is not significantly different from the water quality in the lower American River where EBMUD proposes to divert water without the need for membrane filtration or reverse osmosis. Even at Greens Landing on the Sacramento River, the maximum recorded chloride concentration is only

19 mg/L (DEIR/EIS, Appendix B, Table A-4) which is less than 10% of the drinking water objective of 250/150 mg/L in the State Water Resources Control Board's 1995 Water Quality Control Plan (WQCP), and far below the chloride level in most Californians' water supply. A recent survey of more than 50 membrane plants in North America in the Journal of American Water Works Association by Oram J. Morin (December 1994) found that feedwaters with total dissolved solids (TDS) concentrations as high as 6,500 mg/L are being treated to drinking water standards. The lowest feedwater TDS for which reverse osmosis was being applied was 320 mg/L, much higher than the average TDS of 110 mg/L at Greenes Landing. There is no factual basis for EBMUD's claim that such low salinity water would need to be treated with reverse osmosis. At most, treatment of Sacramento River water would require only chemical coagulation and clarification of the water prior to its introduction into EBMUD's aqueduct system. Further treatment including filtration and disinfection would be provided by EBMUD's existing facilities which will likely need to be upgraded to meet capacity needs and future drinking water regulations.

The DEIR/EIS is inadequate because it has unreasonably rejected an alternative, a Sacramento River diversion, that may be less environmentally damaging, particularly if developed in conjunction with off-stream storage to eliminate the need for dry year diversions. The DEIR/EIS needs to be revised and recirculated for public review and comment.

Delta Diversion from Indian Slough at Bixler

The DEIR/EIS screening analysis rejects an alternative to divert water from Indian Slough at the Bixler Pumping Plant. The DEIR/EIS should be revised to include a Delta alternative, with diversions at Bixler or possibly a location on Middle River, and recirculated.

Delta water is of a lower quality than Sacramento or American River water. Of the critical water quality parameters, the bromide concentration in Delta water could be significantly higher than the other three sources and pose the most severe concern, especially during a prolonged drought when Delta salinity is higher than average. However, a number of recent changes in the Delta, or changes currently being studied, could reduce the bromide level in the Delta during future droughts to lower than historical levels. The Central Valley Project Improvement Act and the 1995 WQCP provide for more environmental flows (e.g., through the X2 estuarine habitat standard and Delta outflow requirements) which reduce the level of seawater intrusion. The CALFED Bay-Delta Program, through its water quality actions and storage and conveyance improvements, is also seeking ways to improve general water quality in the Delta.

However, the quality of the water delivered to EBMUD with a Delta alternative will depend on the extent of blending with Mokelumne water. The DEIR/EIS states that the main project objectives are to obtain a supplementary water supply during drought and an emergency supply when the Mokelumne River supply becomes temporarily unavailable. Because EBMUD already has its existing Mokelumne supply, only a small amount of additional water is needed to meet EBMUD's needs during a drought. The source water will, therefore, consist primarily of

Mokelumne River water with a blend of Delta water, with the concentrations of bromide, TOC and other constituents being much lower than 100% Delta water.

Blending Mokelumne water with a 15% Supplemental Delta Supply to meet Drought Needs

As a supplemental supply, Delta water could be blended with Mokelumne water stored in EBMUD's terminal reservoirs to reduce the overall bromide level in the source water. Alternatively, a limited capacity treatment facility that includes salt removal process (such as reverse osmosis or nano-filtration) could be considered to reduce the bromide level in the Delta water supply prior to blending with Mokelumne water. CCWD has carried out a simple analysis of the operations of Pardee, Camanche and the terminal reservoirs during the three-year design drought. The terminal reservoirs were kept full as much as possible and deliveries in all three design drought years were 191,700 acre-feet (EBMUD's 25% rationing goal for deliveries during the drought planning sequence). This analysis suggests that EBMUD could stay within the 25% rationing goal during the design drought with a 15% supplemental supply from the Delta, i.e., 28,800 acre-feet/year. The maximum monthly amount of supplemental water is 3,900 acre-feet or about 41 mgd.

This simple analysis suggests that the capacity requirement of such a treatment facility for supplemental Delta water would most likely only need to be 50 mgd or less. EBMUD's screening analysis presents a cost estimate of $1.08 billion for a Delta alternative (Table 5-1, DEIR/EIS Appendix B) but the capacity of the water treatment facility is not stated. The cost analysis of both Delta and Sacramento River alternatives needs to include reasonable and foreseeable upgrades for treating Mokelumne River water under the "No Action" alternative to meet future drinking water regulations. The additional cost of a 50 mgd Delta plant, taking into account the needed upgrades in capacity and treatment at EBMUD's existing plants, will be considerably less than $1.08 billion.

Note that the supplemental water for a 15% blend could also be diverted from the Sacramento River in which case no additional treatment beyond conventional treatment would be necessary (as discussed above). Note also that the discussion of a 15% blend of Delta water is based on the water needs during EBMUD's design drought sequence. As discussed in Appendix A and Appendix G to this comment letter, the EBMUD design drought is unrealistically severe and not reasonable for use for planning purposes. As shown in Appendix G to this comment letter, no supplemental water is needed to limit rationing to 25% during all historical drought years in the 1922-1995 historical planning sequence.

The DEIR/EIS is inadequate because it fails to include a Delta alternative. The DEIR/EIS needs to be revised and recirculated for review.

Treatment Requirements for Delta Water

The 50 µg/L bromide criterion developed by the CUWA Expert Panel in the December 1996 Draft Report is for meeting the bromate limit with ozonation. This will only be needed if

Cryptosporidium inactivation is required (through ESWTR). Measurements taken in the Delta so far have shown that the level of *Cryptosporidium* is low (most of the samples have not detected *Cryptosporidium*). If chlorination/chloramination is used, the health criterion concerning bromide in source water would be on brominated THMs (e.g., bromodichloromethane). The focus will be on the concentrations of brominated THMs in chlorinated water which will depend on the levels of bromide and TOC in the source water, among other factors.

EBMUD has produced treated water with high THMs recently. For example, the level of trihalomethanes in 1996 (a year when the Delta water quality is generally good) averaged 77 µg/L and ranged between 72 and 79 µg/L (see Table A-2, Attachment A in Appendix B in DEIR/EIS). This again points to the need for significant upgrades in EBMUD's treatment processes in order to meet the 80 µg/L limit in Stage 1 of the D/DBP Rule and the potential 40 µg/L limit in Stage 2. EBMUD is in the process of converting to use chloramine in post-disinfection which would reduce THMs production to a certain extent. To meet more stringent Stage 2 requirements, however, EBMUD may have to achieve a higher removal of organic carbon. This is most effectively accomplished through a improved coagulation, flocculation and sedimentation. The bromide level needed for minimizing health risks should be evaluated taking these considerations into account. Improvements in the treatment process could also allow a larger range of turbidity in its source water. This suggests that the slightly higher turbidity of Delta water would be readily treatable by EBMUD after these upgrades. With an upgraded Delta treatment plant, EBMUD would have the added advantage of an emergency supply that is not dependent on the integrity of the Mokelumne where it crosses the Delta.

Neither American nor Mokelumne River water will be available through the Mokelumne Aqueduct in the event of potential catastrophic earthquake damages to the Aqueduct. A Delta diversion is less susceptible to damages to the conveyance facility. Whereas the prevalent water quality at the time could vary over a considerable range, the impact of a potentially higher bromide could be managed through blending with water stored in EBMUD's terminal reservoirs. The limits in the D/DBP Rule address chronic exposure and compliance is measured through running annual averages, so that a lesser water quality in the delivered water would still meet safe drinking water standards during a true emergency.

Additional Considerations

In evaluating alternatives for the Supplementary Water Supply Project, it is important to consider the welfare of the over 20 million Californians using Delta water. New American River diversions during drought periods will also lead to a higher Delta salinities which would make it more difficult for other water agencies currently diverting directly from the Delta to obtain an adequate water quality during times of drought. Diversion from the American River under extreme drought conditions will also cause significant injury to the listed fishery species, which in turn could lead to subsequent restrictions to the water supply of all Delta water users. The DEIR/EIS needs to be completely revised to include alternatives a wider range of alternatives focusing on wet year rather than dry year diversions. A Draft EIR/EIS should than be reissued for review.

EBMUD should also consider taking a blend of Delta water as an interim solution to its drought year supply needs while awaiting the outcome of the CALFED Bay-Delta process. Capacity and treatment upgrades to the Walnut Creek treatment plant could incorporate treatment of Delta water. This would allow EBMUD to better evaluate whether the eventual CALFED preferred alternative is consistent with EBMUD's future water supply and water quality needs. If so, EBMUD's participation in the CALFED solution could provide cost savings to its customers while assisting in the success of the CALFED solution.

APPENDIX C

Fisheries and Wildlife Impacts of EBMUD's American River Project

These comments are divided into two sections, general and specific, and address fisheries and wildlife mitigation issues.

GENERAL COMMENTS

1. A Delta diversion alternative was evaluated by EBMUD as part of the initial alternative screening criteria process (Appendix B of the DEIR/EIS). This Delta delivery alternative has the least potential to adversely impact fishery resources. The proposed location is near the Contra Costa Water District's Rock Slough Intake. Experience with fish entrainment and salvage at the Rock Slough Intake indicates little impact to fishery resources. Take of listed species is quite low and the potential to take is also low. In addition, most species are of sufficient size to be effectively screened at this location. On the other hand, at the proposed diversion points on the Lower American River, there is a much higher presence of splittail, salmon, and sometimes even Delta smelt than there are in Rock Slough. The expected impacts of a diversion at the American River can be anticipated to be much more than a Delta diversion at Rock Slough. A Nimbus diversion would have the least impact in terms of entraining species of concern but there could be downstream flow impacts. L20-C1

2. The initial list of potential alternatives did not appear to include an alternative that diverts additional purchased water from the Mokelumne River. This option also needs to be considered. Four of the 19 alternative configurations in the recently released CVPIA PEIS Draft EIS include willing seller purchase of 70,000 acre feet of water per year to meet CVPIA purposes. If this water is available from willing sellers and the Bureau of Reclamation has determined that this purchase is feasible as required by NEPA, then EBMUD could also potentially purchase this available water. Acquiring additional water from the Mokelumne River watershed would meet EBMUD's stated water quality objectives and lessen potential fisheries impacts in other watersheds. L20-C2

3. The discussions of mitigation measures do not contain any firm commitment to implement specific mitigation measures. The discussions in the DEIR/EIS use words like "could", "might", etc. but never a commitment that "if we do this, we will mitigate by doing this." This lack of specific commitment to mitigate for project impacts needs to be corrected in the final document so that a decision maker and the public would understand what the specific mitigation measures will be carried out. Specific mitigation commitments will also be needed in a biological assessment to support an ESA Section 7 biological opinion. L20-C3

4. All of the project alternatives (except the no action alternative) fail to meet the intent of the Federal Endangered Species Act. While the DEIS/EIR established evaluation criteria L20-C4

to determine if an impact was significant, the criteria established are not appropriate or valid under ESA. As CCWD understands the Endangered Species Act, a federal agency must initiate consultation under Section 7 of the Act (including preparation of a biological opinion) prior to taking any action that adversely impacts a listed or candidate species. The Endangered Species Act does not allow the Bureau to select significance criteria and then dismiss the impacts as insignificant if they fail to meet the Bureau's significance criteria. Arbitrarily deciding an impact is small enough to be insignificant does not obviate the Bureau's obligations under the Endangered Species Act. These impacts are most apparent in the simulated water temperature and flow schedules for the lower American River presented in Chapter 5 on Fisheries. L20-C4

5. The fisheries analysis only considers impacts on anadromous fish to be significant if the frequency of simulated mean monthly flows equal to or greater than Hodge Decision or AFRP flows was reduced by 10% or more (e.g., page 5-15). This criterion fails to adequately assess the impacts on fisheries because it allows an alternative to divert water at flows well below the Hodge and AFRP flows (e.g., in alternative 3, the I-5 diversion), as long as the reduction is less than 10%. L20-C5

6. The fisheries analysis relies on simulated changes in Delta outflow and the location of X2 (the zone of freshwater and saltwater interface in the estuary where the bottom salinities are 2 ppt) to assess the impacts of the project on winter-run chinook salmon, spring-run chinook salmon, and delta smelt (see, e.g., page 5-9, 5-10, 5-14 and 5-18). The location of X2 was adopted within the December 1994 Bay-Delta Accord, and the subsequent May 1995 SWRCB Water Quality Control Plan, as a means to maintain estuarine habitat and regulate exports from the Delta in large part because of significant correlations between X2 and many species found in the Bay-Delta system. However, the 1993 San Francisco Estuary Project Report on Delta outflows failed to find any significant correlation between chinook salmon and various measures of Delta outflow, much less a cause and effect relationship between these fish and Delta outflow, exports, and X2 location. Similarly, Delta smelt also did not have a significant correlation, and certainly not a cause and effect relationship established between estimates of delta smelt abundance and any flow parameters. Recent updates of the delta smelt versus X2 location have failed to improve these correlations. The use of these flow-based parameters (Delta outflow, exports and X2 location) to assess specific impacts to these two races of chinook salmon and Delta smelt, or changes in population abundance, is not appropriate and not supported by the available scientific data. L20-C6

SPECIFIC COMMENTS

Fishery Resources

1. Chapter 2, Page 2-7, Alternative 1, 1st paragraph, 2nd & 3rd sentences state: "*In the future, the demand for Mokelumne River water by other users is expected to increase. Based on existing and projected demand in the EBMUD service area, EBMUD would continue to have water supply shortages, now and in the future.*" As noted in the General Comments section above, this statement appears to be in conflict with the Bureau's assessment of potential water supply availability from the Mokelumne River. In four of the 19 alternative configurations, including two that are considered by the Bureau to be superior from a water supply and fish and wildlife perspective, presented in the CVPIA PEIS draft recently release by the Bureau, 70,000 acre feet of water is available annually for purchase from willing sellers in the Mokelumne River watershed. Since NEPA requires that alternative actions must be feasible, the Bureau has determined that this quantity of water is available on an annual basis. It would seem prudent that this water might also be available to EBMUD. Acquiring additional water from the Mokelumne River watershed could lessen the potential impacts to Sacramento and American River fish resources but may shift impacts to the Mokelumne River. L20-C-FR-1

2. Chapter 2, Page 2-16, 2nd full paragraph states: "*The facility [American River intake proposed in Alternative 3] would include a fish exclusionary system and will be designed to meet California Department of Fish and Game (DFG), National Marine Fisheries Service (NMFS), and U.S. Fish and Wildlife Service (USFWS) criteria.*" This sentence is inconsistent with the sentence on page 5-20, Impact: Loss of Fish in the Fish Exclusion Facility which states "*... described in Chapter 2, the intake system would conform to DFG and NMFS requirements.*" The USFWS criteria have been omitted for some unknown reason. If it is because the impacts to delta smelt and splittail are consider to be insignificant, given the significance criteria used, then this second statement is in error since the USFWS would have to be involved in design criteria if any potential impact is possible. L20-C-FR-2

3. Chapter 3, Page 3-3, Table 3-1: This table contains the modeling assumptions used in the PROSIM modeling runs. These values are used to develop the simulated flow and reservoir storage levels which are the cornerstone of the impact assessments for fishery resources. These assessments are based on comparisons with the Hodge flow requirements and the Anadromous Fish Restoration Program (AFRP) flow recommendations in the CVPIA PEIS. However, there are a number of the demand values displayed in Table 3-1 which do not correspond to values displayed in Tables II-2 and II-7 on Pages II-8 and II-24, respectively, of the Draft CVPIA PEIS. These values are critical to the fisheries impact assessment since the water temperature comparisons and flow values are based on storage and demand components of the various reservoirs. If the values displayed in Table 3-1 are low, which they are in at least two categories, then the demand values are lower than what CVPIA would use. Therefore, the DEIR/EIS L20-C-FR-3

understates the potential impact to fishery resources since less flow volume and thus higher water temperatures would be available downstream. The magnitude of this impact is unknown. The EIS/EIR modeling assumptions should be clearly stated and cross referenced to a specific set of CVPIA PEIS published values or an explicit delineation of the modeling assumptions should be presented with an explanation of why the assumptions are different from the PEIS assumptions. L20-C-FR3

4. Chapter 3, Page 3-12, 2nd column, last paragraph: This paragraph discusses the recently discovered inconsistency in the PROSIM input hydrology and draws the conclusion that this inconsistency affects all operational scenarios in a similar manner and "*... probably does not significantly change the relative differences between the simulations for each alternative.*" CCWD disagrees with this assumption that the errors apply equally to each alternative and therefore cancel out. The effects of these modeling errors need to be corrected for each alternative and then compared. Different reductions in storage and flow between alternatives could significantly change the fisheries impact assessments. L20-C-FR4

5. Chapter 3, Page 3-19, second column: This column discusses the flow reductions at Freeport for alternatives 2 and 3 and concludes that changes in Delta outflow and X2 location would be insignificant. However, one of the regulatory measurement criterion for X2 compliance is Delta outflow. It appears that the burden of meeting Delta outflow requirements are being place on other users, particularly in Alternative 3 since 133,000 acre feet of outflow is no longer available to meet the standards. While this volume is small compared to total outflow, it could be significant in terms of critically dry year flows and seasonal timing of releases. The DEIR/EIS needs to provide a more detailed discussion of why the impacts on Delta outflow and X2 are insignificant. Figure 3-18 does not adequately address the critical water year type and seasonal flow requirements In some years and months, the 350 cfs maximum diversion under Alternative 3 could approach 8% of the total Delta outflow requirement. L20-C-FR5

6. Chapter 5, Page 5-3, 2nd column, 2nd full paragraph, 2nd sentence states: "*... about 120,000 fish annually in 1967-1981 (U.S. Fish and Wildlife Service 1985)*" These data are old and should be updated with current values. This may also be a misprint since the CVPIA uses 1967-1991 data for many of its analyses. In any case, these data should be current and updated throughout the document as needed. L20-C-FR6

7. Chapter 5, Page 5-3, 2nd column, 3rd full paragraph, 2nd sentence states: "*The lower American River is known to support fall run chinook salmon*". Some Department of Fish and Game biologists believe that spring run chinook salmon bound for the Feather River also use the lower American River during August as a temporary resting area. A sport fishery has developed on this stock. If this information should be confirmed, then a discussion of spring run chinook salmon and the potential impacts to adult spawners should be included in the document. L20-C-FR7

8. Chapter 5, Page 5-5, 2nd column, Sacramento Splittail section: This section contains a number of factual errors and is not consistent with the current understanding of splittail life history. This entire section should be completely rewritten and updated to reflect current data and life history information. A good reference is 1993 Biological Assessment for delta smelt and splittail and operation of the CVP and SWP. L20-C-FR8

9. Chapter 5, Page 5-5, 2nd column, Sacramento Splittail section: This section is entitled "Sacramento Splittail" and is technically incorrect. The correct name is now just plain splittail as published in the American Fisheries Society's List of Common and Scientific Names of Fishes from the United States and Canada (1990). This change should be made throughout the document. L20-C-FR9

10. Chapter 5, Page 5-5, 2nd column, 3rd paragraph, last sentence states: "*A temperature of ... and early rearing.*" This temperature is crucial to the fisheries impact analysis and should be supported with a citation. L20-C-FR10

11. Chapter 5, Page 5-5, 2nd column, 4th paragraph: As stated previously, the geographic distribution of splittail should be accurately described using the most current data and sources. The partial information presented in this paragraph gives the reader an incomplete and inaccurate description of current splittail distribution. The comprehensive and accurate description of splittail distribution should be presented in the document. L20-C-FR11

12. Chapter 5, Page 5-6, 1st column, Delta Smelt section, 1st paragraph, 1st sentence states: "... *although they may move as far upstream as the American River ...*". This sentence is incorrect and misleading. Delta smelt have been documented as far upstream in the Sacramento River as the confluence of the Feather River. This documentation is included in the second paragraph in this section. This sentence should be corrected to reflect the known distribution of delta smelt. This comment applies to the 3rd paragraph in this section also. L20-C-FR12

13. Chapter 5, Page 5-8, 2nd column, 2nd full paragraph, last sentence under section Shasta and Trinity Lakes states: "*If storage at Folsom Reservoir is maintained to enhance habitat conditions in the lower American River, releases from other CVP reservoirs, including Shasta and Trinity lakes, would increase.*" It is unclear in the DEIR/EIS what this statement is intended to convey to the reader, but it is confusing since the CVPIA PEIS states very clearly in all 19 alternative configurations that the quantity of water transferred from the Trinity River watershed to the Sacramento River watershed will <u>decrease</u>. The purpose and context of this sentence should be clarified in the document. L20-C-FR13

14. Chapter 5, Page 5-8, 2nd column, last paragraph, 2nd sentence under section Cosumnes River states: "*The extent to which splittail use the Cosumnes River is unknown; however, splittail are not likely to move upstream much past the segment of the river that is tidally*

influenced, downstream of the pipeline crossing." This statement contains incomplete and misleading information that is not supported by available documentation. Mark Caywood's 1974 Master's Thesis from Sacramento State University documents splittail use in the Mokelumne River. Also, The Nature Conservancy has documented splittail use on their Cosumnes River Preserve. The statement that splittail are not likely to use a segment of the river much past tidal influence is pure speculation and not supported by known splittail spawning migration data. Splittail have been shown to migrate many miles upstream on both the Sacramento River (USFWS beach seine catches at least 184 miles upstream of the Delta; DFG's radio telemetry study which demonstrated movements from the Delta up into the Sutter Bypass area) and San Joaquin River (1995 sampling data from areas upstream of the Merced River confluence collected by DFG's Bay Delta Division). The text of this document should be rewritten to reflect the current data on splittail distribution and eliminate any speculation about the potential distribution of splittail in the Cosumnes River. It is entirely possible that splittail could occur in the vicinity of proposed crossings. L20-C-FR14

15. Chapter 5, Page 5-9, 1st column, 1st paragraph, 2nd sentence states: "*For the lower American River, evaluations focused on fall-run chinook salmon, steelhead, striped bass, American shad, and Sacramento splittail.*" It would seem prudent to include delta smelt and, given the outcome of earlier comments on the presence of spring run chinook salmon, spring run chinook salmon in the focused evaluation. Delta smelt are listed as threatened by both the State and Federal Endangered Species acts. Spring run chinook are under formal status review by the California Fish and Game Commission and NMFS for potential listings under their respective endangered species acts. L20-C-FR15

16. Chapter 5, Page 5-9, 1st column, 1st paragraph, 2nd sentence states: "*Delta evaluations were based on the changes in Delta outflow and exports and in the location of X2 (the zone of freshwater and saltwater interface in the estuary where the bottom salinities are 2 ppt) that would potentially affect Delta fish species, including winter-run chinook salmon, spring-run chinook salmon, and delta smelt.*" As discussed in General Comment 6, the use of these flow-based parameters (Delta outflow, exports and X2 location) to assess specific impacts to chinook salmon and Delta smelt is not supported by the available scientific data. L20-C-FR16

17. Chapter 5, Page 5-10, 1st column, Flow Impacts on Fish Habitat, 2nd full paragraph, states: "*Flow-related impact thresholds for physical habitat in the lower American River were the minimum flows stipulated in the Hodge Decision and minimum flows established by the AFRP during below-normal and above-normal water year types (Table 5-3) The AFRP minimum flow objectives for above-and below-normal water-year types were used as a threshold for evaluating flow impacts on anadromous fish in the lower American River because these flows are believed to provide appropriate spawning conditions for fall-run chinook salmon, appropriate juvenile rearing habitat and outmigration flows, temperature control during May and June, and some thermal protection for juvenile steelhead during summer (US Fish and Wildlife Service 1995)*" The use of impact L20-C-FR17

thresholds for physical habitat in the lower American River based on above and below normal water year types is inappropriate. The purpose of the proposed project is to provide water to EBMUD during drought conditions (See Statement of Purpose and Need: Need section on page 1-1). If drought conditions are when EBMUD is most likely to need this supplemental water, then it would seem prudent to also evaluate the impacts for drought conditions, not in above or below normal water year types. The entire assessment methodology and justification in the DEIR/EIS needs to be re-evaluated and more extensive documentation provided. L20-C-FR17

18. Chapter 5, Page 5-10, 2nd column, 2nd full paragraph states: This paragraph describes the evaluation parameters used to determine impacts to splittail based on "... *a positive relationship between Nimbus Dam flow releases above 3,500 cfs and total acres of flooded riparian vegetation between river miles 8 and 9.*" This assessment methodology is totally inappropriate. This methodology assumes that 1) spawning habitat for splittail is limiting in the American River and 2) that splittail either spawn exclusively between river miles 8 and 9 or that the amount of riparian vegetation flooded between river miles 8 and 9 is a surrogate for the "limiting" spawning habitat available for splittail. Neither of the two assumptions are supported by any citations or other scientifically based assessments. This assessment methodology is strictly arbitrary and should not be used. A scientifically based substitute should be developed and used in a revised draft EIS/EIR. L20-C-FR18

19. Chapter 5, Page 5-10, 2nd column, 4th full paragraph continuing onto page 5-11: This paragraph discusses the use of a monthly instead of daily or weekly time step in the PROSIM modeling because PROSIM only handles monthly time steps. The text indicates that the probability of stranding was assumed to be equal for the project alternatives since it was assumed that ramping rates and flow fluctuations would not differ significantly. This scenario might be true for above and below normal water year types, but may not be valid for drought scenarios. The DEIR/EIS needs to examine the drought year scenario and determine if the current assumptions are indeed valid. L20-C-FR19

20. Chapter 5, Page 5-11, 2nd column, 3rd full paragraph, Storage Effects, 3rd sentence states: "*The relationships were quite strong (R^2 >0.5) for July-October with ...*" While these relationships are statistically significant they have limited use in the real world. What is more important than the R^2 value is the variability surrounding the regression point estimate. While the regression may be significant, it is the maximum and minimum values associated with a particular storage level that are biologically important to the fish. Examination of Figures 6-17 in Appendix D and Table 5-4 on Page 5-30 indicates that for critical months and water temperature values, use of just the regression equation derived value in an impact assessment may under estimate the real impact. CCWD suggests that confidence intervals be placed on the regression equations and that a sensitivity analysis using values near the upper confidence limit be substituted into the impact assessments. These results will give a more comprehensive picture of what conditions and impacts might be like in drought conditions. Once these sensitivity evaluations are completed, then appropriate mitigation measures can be designed, if necessary, to eliminate impacts to listed or candidate species. L20-C-FR20

21. Chapter 5, Page 5-13, 1st column, 1st full paragraph, Effect of Temperature Changes on Fisheries, last sentence states: "*Because the potential occurrence of winter-run chinook juveniles in the lower American River ... the results of the water temperature assessment for fall-run chinook salmon rearing and emigration life stages can be used to evaluate potential impacts on winter-run chinook salmon.*" This assessment methodology and conclusion should be more fully explained in the document. The conclusion that because of a partial spatial-temporal overlap between the two races (fall-run and winter-run) occurs, that a single temperature assessment is valid does not have scientific merit. Winter run juveniles (based on the current size criteria) during the early (Dec-Jan) portion of the time period mentioned could be in the 70-90 mm size range. Data from December 1997 sampling have captured fish up to 88 mm in length in early December. These fish could be in the mid-90's by the end of January. In contrast, many fall-run chinook would just be emerging from the gravels at a length of 25-30 mm. The temperature tolerances of these fish, at such varying lengths, could be substantially different. This combination of the assessment methodology for both races should be re-evaluated in the final document. L20-C-FR21

22. Chapter 5, Page 5-14, 1st column, 2nd full paragraph, Delta Fisheries, 3rd sentence states: "*Delta outflow can affect anadromous ... limits set for Delta exports were established primarily to protect winter-run chinook salmon.*" There are no studies or credible evidence to suggest that winter run chinook salmon population levels are influenced one way or the other by exports or Delta outflow levels. There have been no confirmed winter run (based on coded wire tagged fish) salvaged at the CVP or SWP. Although on-going genetic testing indicates some winter run have been salvaged, there are so few data that no relationship is available. No relationship has ever been established between Delta outflow levels and winter run chinook populations. This assessment methodology should be revised to reflect scientifically valid relationships in the final document. L20-C-FR22

23. Chapter 5, Page 5-14, 1st column, 2nd full paragraph, Delta Fisheries, 4th sentence states: "*Delta exports are determined based on the amount of Delta inflow.*" This statement is only partially correct. Export levels are determined by a variety of factors, with Delta inflow being only one component of the export/inflow ratio that in some situations controls export levels. Other factors include the need to meet the X2 estuarine habitat standards and the need to meet municipal and industrial water quality standards at CCWD's Pumping Plant #1. This statement should be clarified in the final document. L20-C-FR23

24. Chapter 5, Page 5-14, 1st column, 2nd full paragraph, Delta Fisheries, 5th sentence states: "*Impacts on Delta fisheries resources were evaluated by assessing the overall reduction in monthly Delta outflow, compared to Alternative 1, and the increase in the number of months not meeting the required export limits, compared to Alternative 1.*" See General Comment 6. L20-C-FR24

25. Chapter 5, Page 5-14, 2nd column, Assumptions, 1st bullet states: "*PROSIM reasonably simulates ...*". Without conducting the necessary studies to determine if the assumption L20-C-FR25

that the recently discovered error in input hydrology has a constant effect under varying hydrology and operational scenarios, this assumption cannot be considered valid. L20-C-FR25

26. Chapter 5, Page 5-14, 2nd column, Assumptions, 2nd bullet states: *"the daily water temperature model ..."*. This assumption may not be true given the results of the sensitivity tests recommended previously. Given the variability of the water temperature and flow relationship, the modeling results could underestimate the temperature impacts approximately 50% of the time. This is not an acceptable level of confidence given the number of listed and candidate species present in the project area. L20-C-FR26

27. Chapter 5, Page 5-15, 1st column, Assumptions, 4th bullet states: *"the carryover storage criterion of 1.9 MAF for water temperature control in the upper Sacramento River will always be met...."* Is it reasonable to assume that the 1.9 million acre foot carryover storage requirement will be met in every year? This assumption should be examined closely before it is used at the basis for modeling. L20-C-FR27

28. Chapter 5, Page 5-15, 1st column, Significance Criteria, 1st paragraph: This paragraph describes the level of impact (10% or less) that was considered to have no effect or less than significant. These significance criteria are totally arbitrary and violate the provisions of the Endangered Species Act. A federal agency may not conduct activities that have a negative impact on listed or candidate species. Dismissing impacts on endangered species as no effect or less than significant if the impact is 10% or less is not acceptable. All actions that have an effect must be covered by reasonable and prudent actions through a biological opinion. EBMUD and USBR must strive to avoid, minimize, mitigate, or compensate for all impacts on listed or candidate species. L20-C-FR28

29. Chapter 5, Page 5-15, 2nd column, 2nd bullet states: *"A 10% change ..."*. As stated previously, this level of impact is not acceptable for listed or candidate species and should be re-evaluated. L20-C-FR29

30. Chapter 5, Page 5-15, 2nd column, 4th bullet states: *"environmental impact assessments typically .."*. What justification is there for dismissing impacts of 10% or less in this case, particularly given all the listed and candidate species in the EBMUD project area. L20-C-FR30

31. Chapter 5, Pages 5-15 &5-16, 2nd column, last bullet and the first two bullets in the 1st column on page 5-16: These three bullets describe the conditions under which a significant impact was considered to have occurred to anadromous fish in the lower American River. As discussed previously, these criteria do not appear to be appropriate, given the number of listed and candidate species and the requirements of the Endangered Species Act. These criteria should be revised. L20-C-FR31

32. Chapter 5, Page 5-16, 1st & 2nd columns, 1st paragraph and the 6 bullets starting in column 1 and continuing into column 2 states: *"Impacts on fisheries resources in other* L20-C-FR32

geographic areas were considered significant if the following would be likely to occur." Six bullets follow this statement. Two problems exist with this list of significance criteria. First, the criteria fail to recognize the presence of listed or candidate species in all of the *"other geographic areas"* and thus the criteria fail to reflect the requirements of the Endangered Species Act with respect to these other species and locations. Second, the criteria are extremely vague. What is a substantial reduction and who determines if the reduction is substantial? These criteria need to be quantified in the EIR/EIS. L20-C-FR32

33. Chapter 5, Page 5-16, 2nd column, Alternative 1: In this paragraph the document discusses the impacts resulting from implementation of the No Action Alternative. How can the Bureau propose any alternative that violates the Hodge flow requirements on a more frequent basis and has potentially major impacts on a species (steelhead) currently being listed? It does not appear that this is a feasible alternative under NEPA unless significant mitigation is included in the alternative description. Including this mitigation will change the comparative results for Alternatives 2 & 3. The potential impacts are particularly severe, in particular the modeled flow reduction of 866 cfs at Nimbus Dam in August (see last sentence of the second full paragraph in the 1st column on page 5-17). This is a critical time period for juvenile steelhead and occurs at the upstream end of their primary rearing area. L20-C-FR33

34. Chapter 5, Page 5-17, Alternative 2, 2nd column, section on Impact: Reduced Fish Habitat in the Lower American River as a Result of Reduced Flows: This section, beginning on page 5-17 and continuing into the first column on page 5-18 discusses the impacts of implementing Alternative 2 on flow conditions in the lower American River. This section inappropriately concludes that the impacts are not significant and that no mitigation is necessary. Because of the potential impacts to listed and candidate species and the requirements of the Endangered Species Act, this conclusion is not valid. There are numerous avenues and mitigation measures available to the Bureau and EBMUD of eliminate these impacts in the lower American River. L20-C-FR34

35. Chapter 5, Page 5-18, Alternative 2, 2nd column, section on Impact: Reduction in Suitable Habitat as a Result of Increased Water Temperature in the Lower American River: This section, discusses the impacts of implementing Alternative 2 on water temperature in the lower American River. Same concern as comment 40. L20-C-FR35

36. Chapter 5, Page 5-18, Alternative 2, 2nd column, section on Impact: Potential Changes in Delta Habitat, last sentence states: *"The impact on anadromous fish (e.g. winter-run chinook salmon) or on estuarine-dependent species, including delta smelt, is less than significant. No mitigation is required."* As discussed previously in General Comment 6, the use of Delta outflow, exports, or location of X2 as impact assessment parameters is inappropriate since no direct cause and effect relationships have been established between fish species abundance and changes in these parameters. L20-C-FR36

37. Chapter 5, Page 5-18, Alternative 2, 2nd column, section on Impact: Potential Reduction in Habitat in the Upper Sacramento River as a Result of Reduced Flows: This section indicates that the impacts under Alternative 2 would be similar to the results of implementing Alternative 1. However, there is no discussion under Alternative 1 on page 5-16 which discusses Upper Sacramento River habitat changes. L20-C-FR37

38. Chapter 5, Page 5-18, Alternative 2, 2nd column and continuing into the 1st column on page 5-19, section on Impact: Potential Reduction in Habitat in the Lower Sacramento River: This section again inappropriately concludes that the impacts are not significant and that no mitigation is necessary for impacts to listed and candidate species (see comment 40). The assertion that a flow reduction of 3-5% is not significant is invalid. Reductions in flow of this magnitude can significantly impact the ability of other water users to meet flow requirements in the lower Sacramento and Delta. This basis for this conclusion should be fully documented and supported, this impact should be mitigated. L20-C-FR38

39. Chapter 5, Page 5-20, Alternative 3, 1st & 2nd columns, section on Impact: Loss of Fish in the Fish Exclusion Facility: The DEIR/EIS inappropriately concludes that the impacts are not significant and that no mitigation is necessary, even though listed and candidate species can be present. Also there is no discussion of the potential predation impacts on the species being evaluated as a result of placing the intake structure in the American River. There is ample literature on predation around structures in rivers and this should be discussed in detail in the EIR/EIS. The DEIR/EIS also concludes that the exclusion facility is only really important to American shad since this is not a primary spawning area for delta smelt and splittail. While it may a reasonable assumption for delta smelt, it cannot be supported for splittail. No systematic sampling for splittail eggs or larvae, or delta smelt for that matter, has been conducted in the lower American River. This conclusion is, therefore, speculation and not supported by any facts. L20-C-FR39

40. Chapter 5, Page 5-20, Alternative 3, 2nd column, section on Impact: Loss of Fish in the Fish Exclusion Facility, 2nd full paragraph, 1st sentence states: "... *populations of American shad have remained stable over years and have shown increases (Interagency Ecological Program for the Sacramento-San Joaquin Estuary 10(2):42).*" This sentence draws conclusions not supported by the facts. First, this sentence concludes that American shad populations are stable or increasing based on the reference cited. The article cited uses an estimated abundance index for young of the year American shad from a sampling program that does not cover the entire distribution of young of the year shad. No relationship has been established between young of the year abundance estimates based on the fall midwater trawl program and adult population size. The last published population estimate for adult American shad was made in 1977. The conclusion is not supported by known relationships so the assessment of impacts is not valid. The CVPIA PEIS makes no claims about trends in shad populations (see, e.g., Technical Appendix 3: Fisheries of the CVPIA PEIS). L20-C-FR40

41. Chapter 5, Pages 5-20 & 21, Alternative 3: All of the previous comments made with respect to Alternative 2, equally apply to the applicable sections of Alternative 3. The impact analysis is both inadequate and inappropriate and should be redone in the EIR/EIS. L20-C-FR41

42. Chapter 5, Page 5-22, Cumulative Impacts, 2nd column, section on Impact: Reduction Coldwater Reservoir Fish Habitat in Folsom Reservoir states: "*Average monthly storage under the cumulative scenarios would decrease by 15-19% from April to October in years when storage would already be low (Table 5-8). Therefore, significant and unavoidable cumulative impacts on coldwater reservoir species would occur during these months. No mitigation is available.*" The statement that no mitigation is available is highly questionable. There are multiple opportunities for the Bureau to avoid this impact as a result of reduced storage. The Bureau could examine the possibility of water transfers or exchanges which would result in increased storage levels in Folsom Reservoir. Possible examples of a mitigation water exchange or transfer that would mitigate potential impacts might include replacing some or all of Placer County Water Agency's (PCWA) diversions from the American River with water from the Yuba River to make additional water available for storage into Folsom Reservoir. This option is available because the Bureau has determined that 100,000 acre feet of water is available from willing sellers in 2 of the 4 alternatives proposed in the CVPIA PEIS. This reduction in diversions from the American River could also be achieved by a three way swap among PCWA, South Sutter Irrigation District, and Yuba County Water Agency. EBMUD could purchase water from irrigation districts receiving CVP water to maintain storage levels in Folsom Reservoir at appropriate levels. These suggestions are intended as examples of how the impacts could be mitigated and are not exhaustive. They are intended to demonstrate that the DEIR/EIS inappropriately concludes that no mitigation is available for certain impacts, when in fact, mitigation or avoidance of impacts is possible. This applies to all of the "*unmitigatable*" impacts defined in the DEIS/EIR. L20-C-FR42

43. Chapter 5, Pages 5-22, 23 & 24, Cumulative Impacts: As discussed in comment 42, all of the cumulative impacts could be effectively mitigated or avoided. L20-C-FR43

44. Chapter 5, Pages 5-24 &25, Cumulative Impacts, Section on Mitigation: Contribute to Regional Fishery Management Efforts: The DEIR/EIS states that there are no project-level mitigation to EBMUD for the cumulative impacts of the proposed project. This statement is not valid. There are numerous options available to mitigate or avoid the identified project impacts. Specific mitigation commitments must be made to avoid, minimize, mitigate, or compensate for any impacts resulting from the project alternatives. The language in this section suggests mitigation that "*might*" or "*could*" be done without making any firm mitigation commitments. L20-C-FR44

45. Chapter 5, Pages 5-25 & 26, Analysis of Full Use Scenario: All of the previous comments apply equally to the Full Use scenario. L20-C-FR45

46. Chapter 5, Page 5-28, Table 5-2: This table contains an incomplete description of splittail geographic distribution. The distribution should be expanded to include the Sacramento River up to at least Red Bluff Diversion Dam, the San Joaquin River upstream of the Merced River confluence, Pacheco Creek near Martinez, and the Petaluma River and Estuary. This distribution is documented in the Bureau's biological assessment for operation of the CVP and SWP for delta smelt and splittail completed in 1994. L20-C-FR46

Wildlife Resources

The wildlife resources section in the DEIR/EIS has several problems that can be easily solved.

1. No specific commitments are made to mitigate many of the construction impacts. For example, many of the statements use "can", "might", "could", etc. This lack of specific commitments makes it unclear whether EBMUD actually intends to mitigate or avoid these impacts. For example, Mitigation Measure 8-1 on Page 8-12 identifies conducting a survey as appropriate mitigation for disturbance or loss of raptor or tricolored blackbird nests during construction. While a survey by a qualified biologist may help avoid problems, it does not provide mitigation for the loss of habitat. L20-C-WR1

2. Chapter 8, Page 8-12, 1st column, Significant Impacts and Mitigation, Mitigation Measure 8-1: This mitigation measure indicates "*...If an active nest tree or colony [nesting raptors or tricolored blackbirds] cannot be avoided, the removal or disturbance of the marsh can occur outside the breeding season.*" This statement discusses only a shift in timing of the impact and does not discuss the actual habitat loss or potential mitigation for the loss of habitat. L20-C-WR2

APPENDIX D

CCWD Simulation of EBMUD Drought Planning Sequence

Because the DEIR/EIS does not present any simulations of project operations with the EBMUD drought planning sequence, CCWD carried out its own analysis of Central Valley operations that might occur under this hypothetical and unreasonably severe drought sequence. This analysis shows that even without EBMUD's proposed project, Folsom Reservoir would drop to dead storage levels and the flows in the American River would be well below the instream flow requirements of the Hodge Decision. With any diversions by EBMUD from the American River during this period, EBMUD would take a significant percentage of the already low flows. The simulated exports by the CVP and SWP during the third year of the hypothetical drought (1978) are less than for 1977, the worst in California history. Even though the third year is less severe than the second year, the system storage is so depleted that there is very little water left to export. It is during this period of significant shortages, that EBMUD and the Bureau of Reclamation are proposing to divert additional water to meet EBMUD's drought year needs.

EBMUD created a hypothetical three-year drought for planning purposes. Year 1 consists of historical conditions in 1976, year 2 consists of historical conditions in 1977, and year 3 consists of the average conditions from 1976 and 1977. The DEIR/EIS uses this hypothetical drought scenario to compute the need for water and then imposes this demand on the American River in the *PROSIM* model simulations used to conduct the impact analysis of project Alternatives 2 and 3. The impact analysis, however, does not account for the hydrologic conditions throughout the Central Valley during the third year of this hypothetical drought. Instead, the historical hydrological conditions are used for simulating 1978, i.e., wet or above normal conditions instead of the critical conditions of the third-year of the drought planning sequence. (DEIR/EIS Appendix C, Tables C-6 through C-9).

Because 1978 was actually an above average to wet year, the results of the impact analyses are not consistent with the drought sequence used to justify the need for the project. The impact analysis fails to demonstrate whether the project alternatives are able to provide "the additional amount of water required during EBMUD's drought planning sequence to limit rationing to 25% of normal levels at projected 2020 levels (page 1-10)."

This appendix evaluates the hydrologic conditions that would exist in the Central Valley during the drought planning sequence. The Department of Water Resources' Central Valley Operations Model *DWRSIM* (Version 9.06) is used to simulate the effect of EBMUD's hypothetical drought on water supply operations on the American River, the Delta, reservoir operations, deliveries, and regulatory standards for the CVP and SWP.

Methodology

DWRSIM is an operations planning tool that accounts for the State Water Project (SWP), Central Valley Project (CVP), the hydrology of the Central Valley, and regulatory standards in the Bay-

Delta estuary and in various Central Valley rivers. The model was developed and maintained by the California Department of Water Resources (DWR). It is a standard tool used by water agencies in California to evaluate impacts of proposed projects and standards.

The input files comprise "Study 514", which is being used by CALFED as the benchmark for analyses of the CALFED alternatives. The benchmark study represents the best available planning estimate of hydrologic, water use, and regulatory conditions that will exist in the Central Valley system during the next few decades, with no major new facilities. Study features include:

- The May 1995 Water Quality Control Plan for salinity and flow standards in the Delta, adopted by the State Water Resources Control Board;
- Flow criteria for the American and Sacramento rivers, recommended by the U.S. Fish and Wildlife Service for the Anadromous Fish Restoration Program (AFRP);
- Hydrologic inflows in accordance with the 2020 level of development, projected by DWR;
- SWP and CVP demands at 2020 levels.

In order to simulate the EBMUD three-year design drought sequence, two types of modifications were made to the model code and the input files. First, the water-year classification for 1978 was changed to "critical". The original designation for 1978 under the 1995 Water Quality Control Plan was "above average" for the Sacramento River and "wet" for the San Joaquin River. Second, the numerical values for all 1978 input data that vary annually were changed to equal the average of 1976 and 1977 values. These data include inflows, evaporation, fixed diversions, minimum flows, and target storage levels.

The model was then run to simulate the baseline conditions that would occur with the EBMUD drought planning sequence in place for 1976-1978. No new EBMUD project was included in the baseline run.

Results

Model results are shown in Tables D-1 through D-5. In each table, the three-year drought sequence is highlighted. During the second and third year of the drought sequence, very low flow conditions would occur in the American River (Table D-1). Flows would always be less than the Hodge requirements, so no water could be diverted by EBMUD under project alternative 2. If project alternative 3 were in place and operating in accordance with the operational assumptions described in the DEIR/EIS, EBMUD would divert 155 cfs from the lower American River every month. Thus during the second year of the drought, EBMUD would divert over two-thirds of the entire flow in April and May, and 100% of the flow from July through September. During the third year of the drought, EBMUD would divert 30% of the flow in October through February, 37% in July, 67% in August, and 43% in September. Impacts would be even larger under alternative 3 cumulative.

During this same period, storage in Folsom Reservoir would be very low, so additional releases to provide for the EBMUD diversions would be severely limited. Table D-2 shows total storage in Folsom, including the 83 TAF of dead storage that cannot be physically released. For any month when computed storage is 83 TAF, no water is available to release from the reservoir. Note that no water is available from July through September of the second year and from July through October of the third year.

Tables D-3, D-4, and D-5 show surplus Delta outflow, CVP Delta exports at Tracy, and SWP Delta exports at Banks. During the second and third year, there is no surplus Delta outflow, except for 4 TAF in the final September. Thus any diversions that EBMUD takes from the American River will cause a reduction in Delta exports. Even without the EBMUD project, however, exports are very low. During the third drought year, CVP exports (Table D-4) are already at their projected long-term minimum of 881 TAF, at which point deficiencies to agricultural contractors exceed 75%, deficiencies to M&I contractors exceed 25%, and deficiencies are imposed on deliveries to wildlife refuges. SWP exports at Banks are also at their projected long-term minimum, which is 1,091 TAF, or 26% of demand (Table D-5). Under project alternative 3, EBMUD would divert 112 TAF from the American River, causing a corresponding decrease in exports at Tracy and Banks.

An additional model run of *DWRSIM* was implemented without the hypothetical drought year imposed for 1978. Table D-6 shows a comparison of results from the two model runs. The effect of the additional hypothetical drought year (1978) extends into the 1979-1982 period, causing decreases in American River streamflow, Folsom storage, Delta outflow, and Delta exports.

TABLE D-1
COMPUTED FLOW IN THE LOWER AMERICAN RIVER
(cfs)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1922	1956	2883	2500	2250	4319	4477	4455	8167	8367	2367	3308	3553
1923	2456	2476	7101	5201	4893	2977	2955	5500	4386	5431	2794	908
1924	1956	2476	2500	2250	2000	2420	785	1053	1120	503	389	588
1925	456	575	555	500	5872	5527	2455	2500	4824	4119	2480	2393
1926	2823	2315	2152	2000	2000	1577	1205	2036	2857	3904	524	408
1927	1478	578	583	4063	13674	4947	8183	3842	4386	2853	2186	3727
1928	2456	2815	2675	2500	2500	12504	6595	3316	2325	3124	2206	1359
1929	1456	1976	2000	1750	1500	1177	1509	1051	2169	1913	389	541
1930	1601	1590	1500	1250	1250	2903	2455	2411	2834	3235	2884	408
1931	1455	976	1000	1000	1000	777	2244	661	3275	1236	389	983
1932	875	1110	542	500	4370	3791	2455	2411	8632	7088	3700	1023
1933	2547	1465	1000	1000	1000	1227	4078	661	2125	2031	389	1334
1934	1927	1759	1000	1000	1000	2624	3269	1767	3812	537	389	451
1935	573	575	555	500	500	2977	7129	5074	3636	4729	2830	3066
1936	1956	1976	2000	3233	13692	4313	5679	2911	4386	3990	2435	3235
1937	3706	2918	2500	2500	2500	2477	4040	3890	3644	3207	2583	1408
1938	2456	2476	5459	3363	10271	10997	7998	9046	7897	2971	3770	3845
1939	2456	2476	2500	2500	2500	1977	1411	661	2986	3085	589	551
1940	1193	1271	1229	1498	10703	10461	6486	2513	2986	3569	2139	1408
1941	1956	2476	3959	5917	8272	4834	3814	4557	4386	2367	2139	3247
1942	2456	2476	5214	9755	10415	3727	5210	6151	5863	2874	3786	3628
1943	2456	3756	4803	11430	7353	12477	5293	2911	3636	2590	2139	2523
1944	2456	2476	2500	2500	2500	1977	1455	2411	2869	3077	3010	1695
1945	1245	578	556	769	6588	2477	2455	2911	3636	3805	2218	1747
1946	2456	2865	6837	5640	3010	3097	4217	2756	3849	3479	2305	908
1947	2456	2476	2500	2500	2500	1977	1455	1411	3247	3332	2201	1186
1948	456	578	1090	500	819	2477	2964	3402	4386	2955	2139	3238
1949	2456	2476	2500	2500	2500	2477	3672	2733	3203	3236	2031	1715
1950	3091	2032	2049	1750	3698	3272	5108	2983	4386	3862	2139	1759
1951	2456	17351	15479	10482	8555	3518	3051	3345	3636	3351	2139	1408
1952	2456	2530	6172	9231	9676	6086	9057	10054	10199	3983	4258	4063
1953	2456	2476	2628	7771	2744	2477	2955	3661	4386	2956	3067	3778
1954	2456	2476	2500	2500	3047	4541	4755	3044	2223	2862	1573	1200
1955	1956	1976	2000	2000	2000	1577	2455	2411	2697	3086	2152	1258
1956	951	976	14250	16761	6091	2977	3705	4411	5223	2846	3770	3778
1957	2456	2476	2500	2500	2989	4855	3412	2411	2985	3354	2139	1418
1958	2456	2476	2500	2500	8945	6720	10435	9085	7056	2846	3817	3879
1959	2456	2476	2500	2500	2500	2232	1479	1161	2859	2167	1151	408
1960	2450	1132	1000	1000	1000	3689	2128	1531	2771	2761	1875	408
1961	1456	1976	2000	1750	1500	1177	956	670	2028	1639	811	408
1962	907	976	1000	1000	2744	2820	3383	2608	2138	3575	2150	1461
1963	2424	4388	3802	4111	11567	2977	6623	6167	3636	2367	2139	3272
1964	2456	4108	2500	3002	2500	1977	1455	2411	2502	3350	3500	1119
1965	1159	578	19159	12886	5387	2477	4133	3691	4386	3253	2139	3077
1966	2456	2476	2500	2563	2500	1977	1455	1655	2496	2428	1865	438
1967	1891	1976	2000	6478	4761	6216	4520	7696	6586	3638	3900	3979
1968	2456	2476	2500	2564	7012	2524	2227	1411	2729	2514	1547	792
1969	1058	1476	1500	15104	9568	4477	6838	7517	5695	2366	3624	3811
1970	2456	2476	5409	21835	6179	2477	2975	2411	2136	3142	1621	908
1971	2339	1976	5147	5266	3734	4037	3360	2911	4386	2367	2840	3593
1972	2456	2476	2709	2500	3069	4284	2455	2411	2941	3014	1977	1230
1973	1456	1976	2000	6090	7642	3639	2705	3614	2886	3439	2139	1408
1974	2456	6497	7326	12696	3769	9566	8654	4004	4386	2367	3548	3929
1975	2456	2476	2500	2500	2845	4590	3705	3620	5191	2367	3857	3457
1976	2456	3166	2500	2500	2500	1977	705	996	3120	1384	389	408
1977	1662	983	1000	1000	884	413	224	213	300	77	0	145
1978	486	578	586	808	800	1792	1341	822	1687	417	232	362
1979	963	578	556	500	500	3165	2455	3515	5518	2670	1889	908
1980	1956	2476	2500	17125	13365	3288	2604	2911	4386	2367	2139	3305
1981	2456	2476	2500	2500	2500	1877	1205	1161	2125	2063	1048	1059
1982	1521	2378	14606	6255	15092	7175	14167	9501	5947	2792	3635	4215
1983	2456	8459	8801	7932	12827	16251	7108	8192	14047	5671	4567	4668
1984	2456	15268	14844	6737	5801	2477	2536	2411	3688	3585	2193	1491
1985	2456	4175	2919	2500	2500	1977	1455	2859	3164	3426	2576	408
1986	1273	578	556	3689	33029	10526	2455	2911	4386	2367	2139	2872
1987	2456	2476	2500	2500	2500	1977	1303	860	2520	1606	587	539
1988	598	646	556	500	1313	1761	705	1497	3202	542	389	421
1989	473	578	556	500	2636	5191	4570	3205	2863	3847	2621	408
1990	1956	1976	2000	2000	2000	1577	1560	1125	2824	2015	389	408
1991	1572	712	762	500	661	1477	1455	1411	2136	1742	1389	1314
1992	1956	2436	2000	2000	2000	1577	861	1307	3287	486	389	417
1993	466	575	555	1282	5487	6005	4016	4248	4670	3053	3299	3492
1994	2456	2476	2500	2500	2500	1977	1205	1232	2756	2597	1634	408
AVG:	1942	2525	3422	4215	5043	3938	3543	3250	3904	2614	2132	1842
MIN:	456	575	542	500	500	413	224	213	300	77	0	145
MAX:	3706	17351	19159	21835	33029	16251	14167	10054	14047	7088	4567	4668

TABLE D-2
END-OF-MONTH STORAGE IN FOLSOM RESERVOIR
(TAF)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1922	487	423	468	461	575	605	732	975	975	944	800	650
1923	577	560	575	575	503	509	800	975	879	662	557	578
1924	530	454	385	310	302	200	224	229	189	176	171	166
1925	201	252	328	382	575	485	745	975	794	616	525	450
1926	352	306	283	236	379	417	699	651	479	216	189	227
1927	212	420	575	575	575	680	800	975	956	869	800	650
1928	579	575	575	568	588	679	800	823	703	492	409	391
1929	365	315	287	233	250	309	361	431	394	292	309	341
1930	306	277	406	497	572	680	738	711	587	388	248	269
1931	227	264	278	309	326	392	335	376	231	192	197	193
1932	191	199	361	498	575	585	672	861	754	432	277	285
1933	199	190	221	229	231	290	200	341	343	230	273	261
1934	223	206	319	446	557	577	482	414	190	143	110	120
1935	143	221	294	435	563	583	800	866	845	641	534	420
1936	384	364	345	575	575	680	800	967	950	814	734	614
1937	460	367	313	252	440	659	800	975	842	718	625	607
1938	536	515	575	575	575	680	800	975	975	950	800	650
1939	583	534	490	436	375	434	502	525	380	191	167	189
1940	191	189	201	575	575	680	800	943	834	674	607	591
1941	544	503	575	575	575	680	800	975	877	828	769	650
1942	579	543	575	575	575	621	800	975	975	950	800	650
1943	577	572	564	554	553	655	800	898	844	785	726	650
1944	575	518	465	407	413	508	571	611	497	352	233	199
1945	198	345	487	575	575	676	798	970	863	723	649	611
1946	554	575	575	575	573	680	800	971	810	662	585	601
1947	528	534	525	446	463	594	673	691	517	292	196	189
1948	263	326	346	498	539	539	800	975	928	842	775	650
1949	572	518	494	414	367	540	648	815	672	500	437	401
1950	280	249	215	450	575	680	800	975	893	750	685	650
1951	606	337	305	306	309	587	798	975	856	685	624	613
1952	558	575	575	575	575	680	800	975	975	950	800	650
1953	597	551	575	575	575	617	768	875	925	906	800	650
1954	576	554	534	545	575	680	800	812	703	529	496	494
1955	442	417	477	539	536	558	579	651	557	376	298	290
1956	299	332	541	398	426	577	705	975	975	950	800	650
1957	597	544	507	463	575	680	655	906	848	710	645	624
1958	557	509	519	555	575	680	800	975	975	950	800	650
1959	573	517	457	498	562	575	633	638	479	320	242	287
1960	197	199	219	268	546	680	763	794	649	451	357	388
1961	357	342	330	289	319	372	438	527	430	310	253	273
1962	269	277	318	322	575	626	785	843	804	609	527	499
1963	720	575	575	575	535	621	800	975	909	839	770	650
1964	588	575	566	575	548	522	602	647	560	362	206	201
1965	200	301	335	330	352	490	800	951	884	802	757	650
1966	582	575	568	575	556	612	774	772	613	433	354	385
1967	327	348	526	575	575	680	800	975	975	950	800	650
1968	592	573	562	575	575	680	701	702	545	359	314	324
1969	329	385	484	575	575	670	800	975	975	950	800	650
1970	594	557	565	336	353	580	617	686	640	500	463	475
1971	395	499	575	575	575	680	772	952	933	905	800	650
1972	575	542	575	565	575	680	737	797	658	477	410	400
1973	389	426	537	575	575	680	800	975	869	700	628	624
1974	565	561	556	452	515	637	800	975	929	932	800	650
1975	581	517	498	481	575	680	713	975	975	945	785	650
1976	626	567	626	464	380	342	370	389	296	233	243	282
1977	200	184	146	108	83	83	95	110	87	83	83	83
1978	143	192	225	248	261	204	180	178	86	83	83	83
1979	83	138	202	376	560	680	775	975	696	585	524	533
1980	501	478	482	421	373	618	800	947	847	630	777	650
1981	576	522	481	469	454	537	615	622	492	338	283	270
1982	260	538	332	356	309	570	800	975	975	950	800	650
1983	685	496	513	523	523	642	800	975	975	950	800	650
1984	653	333	305	308	330	572	730	956	868	734	685	650
1985	596	574	575	537	551	595	777	719	539	305	198	243
1986	233	326	483	575	358	570	790	936	864	798	735	650
1987	588	529	470	404	392	438	471	474	318	191	138	158
1988	154	169	280	419	424	403	447	397	205	143	100	94
1989	97	175	262	323	283	678	800	824	696	481	375	429
1990	400	388	354	353	338	425	471	473	338	198	206	246
1991	197	194	199	188	174	343	492	627	624	570	521	473
1992	415	333	280	204	307	398	473	429	220	169	130	103
1993	92	83	159	575	600	655	800	975	975	950	800	650
1994	573	559	517	442	419	421	497	566	435	291	194	199

TABLE D-3
SURPLUS DELTA OUTFLOW
(TAF)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1922	0	0	392	391	1322	1153	534	1867	306	0	0	22	6107
1923	108	231	1593	1465	0	204	937	185	0	0	0	0	4703
1924	0	0	0	88	214	0	0	0	0	0	0	0	302
1925	0	0	109	0	2542	0	558	91	0	0	0	0	3300
1926	0	0	0	335	1452	41	562	0	0	0	0	0	2390
1927	0	542	73	1172	6217	1159	1819	0	58	0	0	40	11080
1928	119	546	297	758	431	4935	224	0	0	0	0	0	7310
1929	0	8	45	110	221	23	0	0	0	0	0	0	405
1930	0	0	176	531	86	776	47	0	0	0	0	0	1616
1931	0	0	0	85	0	0	0	0	0	0	0	0	85
1932	0	0	477	336	466	0	0	0	0	0	0	0	1279
1933	0	0	0	131	18	128	0	0	0	0	0	0	277
1934	0	0	92	151	29	0	0	0	0	0	0	0	272
1935	0	0	0	1055	0	858	1977	0	0	0	0	0	3890
1936	0	0	0	1289	3544	102	342	153	0	0	0	0	5430
1937	0	0	28	232	2050	2243	367	0	0	0	0	0	4920
1938	0	862	3030	1114	6636	9465	3588	3528	1166	0	0	284	29473
1939	791	160	177	273	267	402	0	0	0	0	0	0	2070
1940	0	0	0	794	2321	4412	2878	0	0	0	0	0	10405
1941	0	0	2322	5485	5568	4741	3782	1850	102	0	0	206	24038
1942	471	208	3685	4718	6686	748	2313	872	519	0	0	180	20400
1943	417	382	1117	4988	1921	4326	597	0	3	0	0	4	13755
1944	14	29	30	361	1092	587	0	119	0	0	0	0	2252
1945	0	105	220	0	1864	880	185	0	0	0	0	0	3254
1946	88	264	3731	2268	0	160	104	0	0	0	0	0	6615
1947	0	86	361	45	413	351	2	0	0	0	0	0	1238
1948	0	0	0	72	0	424	855	755	132	0	0	24	2282
1949	2	0	139	117	215	2181	0	0	0	0	0	0	2854
1950	0	0	0	557	850	353	358	0	0	0	0	4	2122
1951	6	2248	5172	3944	2526	643	0	309	0	0	0	2	14850
1952	13	185	2346	5153	3129	3057	3149	3361	1069	0	0	807	22069
1953	632	330	2303	5910	306	328	382	651	351	0	0	249	11452
1954	221	290	2	1056	2582	1446	1280	0	0	0	0	0	6857
1955	0	216	752	685	0	174	202	173	0	0	0	0	2202
1956	0	0	4899	10068	3893	1107	199	1497	230	0	0	336	22329
1957	455	2	0	321	1125	1817	0	463	0	0	0	0	4183
1958	471	294	678	1729	7863	6449	5116	2105	889	0	0	513	26233
1959	611	60	65	1611	2255	0	0	0	0	0	0	44	4646
1960	0	0	0	114	774	257	0	0	0	0	0	0	1145
1961	0	39	201	101	1073	232	0	0	0	0	0	0	1646
1962	0	0	137	0	2473	0	0	0	0	0	0	0	2610
1963	1278	308	825	308	2868	5	4750	358	0	0	0	59	10755
1964	430	1057	63	773	87	130	37	0	0	0	0	0	2577
1965	0	29	4080	6892	601	0	2197	0	219	0	0	52	14050
1966	2	778	289	1225	825	809	42	0	0	0	0	0	3570
1967	0	265	1835	2490	1272	2441	2234	2579	1868	131	0	565	15480
1968	625	72	190	1266	2869	859	0	53	0	0	0	0	5734
1969	0	21	732	6845	6780	3320	2747	3017	606	0	0	785	24853
1970	626	216	3057	12412	4123	1496	0	337	0	0	0	0	22267
1971	0	583	3301	2442	0	1285	0	823	136	0	0	325	8905
1972	258	18	350	281	354	801	0	0	0	0	0	0	2060
1973	20	588	785	4170	3655	2569	252	31	0	0	0	9	12360
1974	292	3042	3867	7539	1334	5765	3072	378	207	0	0	485	25981
1975	371	131	301	297	2786	3958	483	662	228	0	0	367	9784
1976	898	148	166	184	284	330	29	0	0	0	0	0	1703
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	4	4
1979	0	0	0	847	783	848	291	18	0	0	0	0	2586
1980	0	85	849	4194	4174	2338	47	135	30	0	0	60	11721
1981	22	0	118	685	584	941	291	0	0	0	0	0	2639
1982	0	1070	4578	4310	4355	4356	7564	1862	363	0	0	872	29328
1983	1243	2333	4881	6534	6563	14814	5356	3768	4151	1034	385	1215	55279
1984	1207	4722	6370	4171	1408	1083	0	188	0	0	0	0	22107
1985	255	1420	665	151	295	207	108	0	0	0	0	0	3099
1986	0	0	178	651	11298	6309	551	38	112	0	0	76	21183
1987	58	0	0	372	710	711	0	0	0	0	0	0	1849
1988	0	0	215	800	0	0	32	0	0	0	0	0	1047
1989	0	0	0	0	0	1801	548	0	0	0	0	26	2175
1990	0	0	0	546	0	135	0	0	0	0	0	0	681
1991	0	0	0	0	0	1138	80	0	0	0	0	0	1226
1992	0	0	0	27	1189	273	0	0	0	0	0	0	1489
1993	0	0	202	2828	1397	1401	889	427	577	0	0	53	7774
1994	187	0	101	189	714	0	16	0	0	0	0	0	1207
AVG:	163	325	1033	1820	1904	1809	676	451	180	16	5	102	8485
MIN:	0	0	0	0	0	0	0	0	0	0	0	0	0
MAX:	1278	4722	6370	12412	11298	14814	7564	3768	4151	1034	385	1215	55279

TABLE D-4
CVP DELTA EXPORTS AT TRACY PUMPING PLANT
(TAF)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1922	272	278	259	259	236	292	257	258	274	208	284	273	3150
1923	272	256	259	259	365	221	242	183	197	283	283	258	3078
1924	257	199	221	259	234	77	80	3	12	3	59	194	1598
1925	133	87	259	235	149	168	210	151	213	283	283	378	2567
1926	306	255	263	259	235	157	176	138	166	283	199	187	2636
1927	215	253	259	176	100	193	251	240	224	241	283	269	2704
1928	270	255	259	259	236	339	218	181	166	283	295	301	3062
1929	217	254	259	259	235	180	90	118	119	69	104	180	2084
1930	133	150	259	259	202	260	118	107	165	283	380	237	2553
1931	217	173	173	259	228	115	109	24	8	11	10	192	1519
1932	86	152	259	259	236	151	184	188	178	283	284	182	2440
1933	258	181	166	259	110	23	120	83	16	20	87	172	1495
1934	109	139	259	259	103	130	132	157	206	133	39	187	1853
1935	112	169	213	259	51	260	265	184	246	266	244	359	2628
1936	268	221	259	259	218	202	260	192	207	242	274	324	2924
1937	371	281	259	259	225	144	158	193	178	123	283	265	2737
1938	268	254	259	259	204	99	150	235	274	283	283	270	2838
1939	270	255	259	259	85	165	134	109	197	283	283	230	2529
1940	217	178	79	259	235	260	261	184	199	283	283	265	2701
1941	267	254	259	259	238	302	283	283	274	210	283	268	3180
1942	269	255	259	259	223	206	251	283	274	283	283	270	3115
1943	270	255	259	259	237	170	228	199	187	115	283	266	2728
1944	268	254	259	259	235	235	147	134	194	283	283	272	2823
1945	190	254	259	259	235	253	211	169	219	283	283	313	2928
1946	269	255	259	259	101	260	200	169	193	283	283	264	2795
1947	266	254	259	259	235	260	128	101	190	283	283	385	2903
1948	170	177	151	259	52	219	215	234	251	265	283	283	2539
1949	266	254	259	259	235	179	187	139	224	330	275	346	2955
1950	354	254	262	259	236	197	180	150	216	282	283	264	2937
1951	259	254	259	259	230	194	177	181	175	283	283	268	2822
1952	269	256	259	259	328	297	244	211	274	283	283	267	3229
1953	269	255	259	168	106	190	163	220	269	283	283	269	2732
1954	270	255	259	259	236	323	235	184	189	283	283	329	3085
1955	267	254	259	259	236	183	107	114	187	371	266	305	2808
1956	186	198	259	259	237	251	210	283	274	281	283	289	3000
1957	270	255	259	259	236	266	187	171	192	283	283	269	2930
1958	268	254	259	322	236	260	260	258	274	283	283	269	3227
1959	270	255	259	259	158	185	117	105	203	283	283	266	2643
1960	396	156	172	259	234	260	117	100	180	283	283	225	2665
1961	225	253	259	259	140	171	104	85	202	348	297	243	2586
1962	196	173	259	259	235	266	185	168	182	283	283	352	2863
1963	269	255	259	259	237	324	253	258	245	157	283	265	3064
1964	268	254	259	259	203	183	97	109	170	283	283	265	2633
1965	205	254	259	259	236	190	246	184	246	301	283	265	2928
1966	267	254	259	259	237	297	133	140	182	283	283	266	2840
1967	367	254	259	259	237	269	250	240	274	283	283	270	3265
1968	271	256	259	236	101	185	144	106	189	283	283	353	2668
1969	343	254	259	259	236	152	201	247	274	283	283	271	3064
1970	271	256	259	259	92	181	169	161	164	283	283	265	2663
1971	346	254	259	259	195	260	195	228	246	263	283	267	3055
1972	268	255	259	259	236	315	112	110	180	283	283	336	2896
1973	266	254	259	259	237	201	247	224	136	282	283	268	2916
1974	269	255	259	341	237	306	274	263	274	283	283	270	3334
1975	270	255	259	279	236	315	266	259	274	283	336	272	3304
1976	272	256	259	293	236	226	96	97	161	76	81	248	2300
1977	124	187	133	188	39	76	90	31	32	3	51	181	1063
1978	86	141	166	148	68	2	4	5	17	200	0	67	881
1979	22	180	146	259	234	260	216	142	25	11	183	199	1877
1980	260	187	42	13	25	108	169	213	211	141	283	267	1899
1981	269	255	259	259	236	187	142	98	191	283	283	337	2797
1982	361	254	259	259	237	197	164	215	274	283	283	268	3054
1983	269	255	259	130	68	113	172	212	274	283	283	268	2595
1984	196	83	184	73	77	194	187	158	207	283	283	267	2182
1985	269	255	259	259	236	232	126	129	170	283	283	262	2763
1986	195	180	259	259	235	260	140	163	229	57	283	262	2521
1987	266	253	259	99	66	136	121	94	201	283	325	247	2350
1988	247	189	259	259	66	125	86	153	210	186	59	186	2009
1989	89	166	195	257	41	260	185	124	155	283	281	257	2283
1990	264	233	253	181	64	130	106	85	198	83	56	194	1827
1991	136	149	123	94	18	260	148	132	48	47	203	201	1561
1992	138	184	198	234	29	116	129	143	144	84	96	186	1681
1993	141	184	259	259	237	260	245	256	274	56	283	266	2705
1994	268	254	259	259	236	205	110	101	185	283	283	262	2705
AVG:	240	224	238	242	185	207	175	164	193	230	248	260	2807
MIN:	22	87	42	13	18	2	4	3	8	3	0	67	881
MAX:	396	281	263	341	365	339	283	283	274	371	380	365	3334

TABLE D-5
SWP DELTA EXPORTS AT BANKS PUMPING PLANT
(TAF)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1922	349	291	438	470	472	434	280	258	397	411	356	325	4481
1923	409	397	453	508	233	221	242	183	197	411	403	258	3915
1924	368	221	258	417	273	146	80	81	80	62	7	79	2072
1925	125	185	337	200	423	172	210	151	9	29	51	134	2036
1926	165	137	161	444	428	243	176	138	166	411	403	118	2990
1927	212	397	434	450	416	404	251	240	224	411	403	347	4189
1928	409	397	439	464	425	364	218	181	166	411	369	131	3974
1929	225	348	389	425	282	178	90	23	23	30	7	82	2100
1930	108	113	424	440	202	431	118	107	165	411	231	99	2849
1931	193	188	191	348	122	128	109	91	90	68	9	73	1610
1932	101	107	444	482	363	188	184	76	75	59	26	112	2237
1933	172	146	145	383	259	269	120	80	79	61	8	85	1607
1934	112	117	361	437	231	156	132	72	71	57	8	66	1840
1935	118	265	218	473	221	449	270	363	246	411	400	128	3580
1936	318	206	276	460	472	467	268	192	207	411	403	240	3618
1937	259	205	388	469	472	353	383	286	290	261	125	134	3627
1938	318	397	460	520	368	404	394	411	397	283	251	392	4595
1939	409	397	435	447	366	267	134	109	197	411	403	222	3797
1940	236	155	186	499	472	467	261	316	199	411	403	279	3884
1941	331	348	458	509	472	342	302	300	365	189	126	392	4134
1942	409	397	383	304	318	363	251	287	397	411	277	392	4189
1943	409	397	445	305	335	353	330	297	187	411	198	308	3935
1944	395	397	423	424	343	366	147	134	194	411	403	307	3974
1945	240	397	432	348	472	366	211	169	232	411	403	255	3958
1946	409	397	466	495	270	288	200	189	234	411	403	302	4044
1947	278	397	441	460	419	319	128	101	190	411	403	126	3673
1948	248	220	214	408	107	219	215	234	251	411	403	332	3262
1949	357	374	426	438	247	288	187	139	160	101	13	168	2898
1950	179	175	178	441	418	362	180	150	216	411	403	274	3387
1951	342	397	467	390	369	400	177	181	175	411	403	293	3995
1952	366	397	441	523	300	282	284	302	366	366	362	392	4341
1953	354	221	218	317	332	355	183	220	269	411	403	392	3655
1954	409	397	387	445	344	366	235	269	169	411	403	223	4078
1955	305	397	427	451	228	183	107	114	187	310	90	160	2959
1956	179	265	467	523	369	403	210	333	396	411	313	392	4261
1957	409	361	369	448	344	365	187	171	251	411	348	271	3975
1958	409	397	429	285	300	365	394	411	397	296	403	392	4480
1959	409	397	366	340	345	263	117	105	203	411	403	273	3652
1960	243	193	239	415	412	284	117	100	180	411	403	154	3151
1961	206	391	424	438	252	273	104	85	202	104	12	130	2621
1962	169	178	424	252	472	241	185	168	182	411	403	201	3286
1963	409	397	426	449	366	382	253	258	245	411	403	385	4416
1964	409	397	433	453	203	183	97	109	170	411	403	281	3549
1965	228	394	455	523	472	358	246	329	246	346	124	373	4094
1966	386	397	445	355	367	400	133	140	162	411	403	284	3883
1967	259	397	436	479	451	397	394	411	397	411	301	392	4727
1968	409	397	428	348	365	385	144	108	189	411	403	210	3797
1969	235	382	432	523	298	230	275	296	360	167	235	392	3825
1970	409	397	307	309	327	352	189	161	184	411	403	304	3733
1971	268	397	435	462	429	436	195	229	246	411	403	392	4302
1972	409	395	430	447	356	379	112	110	180	411	403	176	3808
1973	340	397	427	470	366	401	247	224	376	411	347	301	4307
1974	409	397	445	406	336	372	294	300	309	411	377	392	4450
1975	409	397	432	383	314	361	266	259	397	411	335	392	4356
1976	409	397	432	419	343	226	94	97	206	411	403	121	3568
1977	216	206	213	166	76	72	76	26	29	27	3	102	1268
1978	183	163	176	149	8	28	81	38	49	6	126	114	1091
1979	83	159	157	459	440	355	230	208	7	8	25	152	2283
1980	256	397	430	138	194	246	272	289	211	411	136	391	3351
1981	409	303	429	421	363	393	142	96	191	411	403	205	3766
1982	233	397	433	523	472	403	394	411	397	332	336	392	4723
1983	409	397	436	244	231	252	302	270	309	359	403	368	4002
1984	304	265	250	295	325	376	187	158	207	411	403	311	3492
1985	409	397	432	449	351	232	126	129	170	411	403	263	3772
1986	257	268	428	456	472	427	335	325	228	411	199	391	4197
1987	409	273	377	444	320	349	121	94	201	411	361	136	3496
1988	208	127	424	436	150	130	86	23	28	25	6	72	1715
1989	30	215	231	284	102	427	165	124	155	411	403	257	2804
1990	241	152	228	434	341	203	106	85	63	58	20	86	2017
1991	120	125	92	93	6	435	148	88	18	46	5	65	1241
1992	77	87	110	332	415	403	129	47	46	42	16	81	1785
1993	128	131	427	455	472	467	245	259	397	411	354	392	4138
1994	409	346	426	438	407	205	110	101	185	411	403	292	3733
AVG:	268	303	366	404	331	317	199	186	206	316	276	245	3439
MIN:	30	87	92	93	6	29	81	23	7	6	3	65	1091
MAX:	409	397	467	523	472	467	394	411	397	411	403	392	4727

TABLE D-6
EFFECTS OF THE HYPOTHETICAL DROUGHT YEAR 1978
(TAF)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
AMERICAN RIVER FLOW													
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	6	0	1	-102	-255	-247	-188	-136	-162	-129	-127	-179	-1519
1979	-91	-113	-120	-123	-113	-14	0	0	95	-55	-16	-21	-570
1980	0	0	0	-4	0	0	0	0	0	0	0	0	-5
1981	0	0	0	0	0	0	0	0	2	6	8	3	19
1982	38	-56	0	0	0	0	0	0	0	0	0	0	-19
FOLSOM STORAGE													
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	60	106	14	-329	-314	-476	-620	-797	-816	-778	-692	-567	-5209
1979	-475	-364	-248	-127	-15	0	0	0	-95	-40	-25	-4	-1393
1980	-4	-3	-4	0	0	0	0	0	0	0	0	0	-11
1981	0	0	0	0	0	0	0	0	-2	-8	-16	-19	-45
1982	-57	0	0	0	0	0	0	0	0	0	0	0	-57
SURPLUS DELTA OUTFLOW													
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	-103	-3010	-1648	-2920	-1391	-78	-12	0	0	-37	-9199
1979	-77	-15	0	-336	-994	83	245	-120	0	0	0	0	-1214
1980	-37	-60	61	-1443	-2153	-514	-260	-33	-188	0	0	-2	-4629
1981	-4	0	-4	-240	-194	-107	-29	0	0	0	0	0	-578
1982	0	-161	-72	-44	-252	-118	-9	-4	-1	0	0	0	-661
TRACY EXPORTS													
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	-24	-9	-93	-114	-169	-123	-214	-263	-226	109	-307	-206	-1639
1979	-251	-76	-113	0	-1	-69	-4	-60	-126	-272	-100	-123	-1195
1980	-6	-87	-217	-246	-173	2	7	12	-47	-77	0	1	-831
1981	1	1	0	69	141	2	-12	-10	1	0	0	-25	168
1982	35	0	0	0	0	7	0	1	0	0	0	0	43
BANKS EXPORTS													
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	136	47	-198	-333	-258	-226	-267	-255	-194	-402	-60	-254	-2264
1979	-326	-213	-232	-39	92	-43	10	6	-344	-403	-268	-43	-1803
1980	-142	0	-4	-203	-30	6	6	-32	-47	104	7	-1	-336
1981	0	-27	-1	47	-2	0	-12	-10	1	0	0	25	21
1982	0	0	-1	0	0	0	0	0	0	0	0	0	-1

APPENDIX E

Impact Analysis for Project Alternative 3 Cumulative

This appendix analyzes the hydrologic impacts of project Alternative 3.Cumulative (Lower American Diversion Joint Project), described in the DEIR/EIS for the EBMUD Supplemental Water Supply Project. The analysis was conducted using the *DWRSIM* model, which is the Central Valley operations planning tool chosen by CALFED and the State Water Resources Control Board for their impact analyses of the Bay-Delta system. Like the *PROSIM* model used in the DEIR/EIS, *DWRSIM* accounts for the State Water Project (SWP), Central Valley Project (CVP), the hydrology of the Central Valley, and regulatory standards in the Bay-Delta estuary and in various Central Valley rivers. The model has been developed and maintained by the California Department of Water Resources.

Methodology

DWRSIM version 9.06 was used for this evaluation. The input files comprise "Study 514", which is being used by CALFED as the benchmark for analyses of the CALFED alternatives. The benchmark study represents the best available planning estimate of hydrologic, water use, and regulatory conditions that will exist in the Central Valley system during the next few decades, with no major new facilities. Study features include:

- The May 1995 Water Quality Control Plan for salinity and flow standards in the Delta, adopted by the State Water Resources Control Board;
- Flow criteria for the American and Sacramento rivers, recommended by the U.S. Fish and Wildlife Service for the Anadromous Fish Restoration Program (AFRP);
- Hydrologic inflows in accordance with the 2020 level of development, projected by DWR;
- SWP and CVP demands at 2020 levels.

The analysis consists of comparing results from two model runs. The "without-project" run simulates the Central Valley system without the EBMUD project in place, and is identical to the original Study 514. The "with-project" run simulates identical conditions except for the presence of project Alternative 3 Cumulative, which is represented as new monthly diversions from the lower American River. The difference in model results between the two runs is attributable to the project and indicates project impacts.

Monthly diversions are computed as the difference between: (1) deliveries to EBMUD and the City and County of Sacramento from the American River for project Alternative 3 Cumulative, obtained from Table C-8 in Appendix C to the DEIR/EIS, and (2) deliveries to the City of Sacramento from the American River for Existing Conditions, obtained from Table C-3 in Appendix C. The structure of the comparison is identical to that utilized in the DEIR/EIS for cumulative impacts (page 3-1 of the DEIR/EIS). Table E-1 shows the monthly diversions used here.

The *DWRSIM* input file "main.dat" was modified to incorporate the project diversions. For each year of the simulation 1922 through 1991, a new line was added to the YD section of the file for control point 85. The new lines contain the data shown in Table E-1.

Results

Results indicate that the project has significant impacts on streamflow in the lower American River, storage in Folsom Reservoir, Delta outflow, and CVP and SWP exports from the Delta. The DEIR/EIS does not identify these specific impacts nor associated mitigation measures.

Table E-2 shows the change in streamflow for the lower American River, and Table E-3 shows the same results in term of percentage change from non-project conditions. The long-term average annual decrease is 210 TAF, corresponding to the average project diversions shown in Table E-1. During the drought period 1929-1934, the project removes more than 33% of the river's flow in 18 of 72 months, and removes more than 50% of the flow in 8 months. Throughout the 1922 to 1991 simulation period, the project causes a significant decrease in streamflow during other months when low-flow conditions occur. The project removes over 20% of the river's flow in 134 of 840 months, and removes over 30% of the flow in 66 months (Table E-3).

Table E-4 shows the change in end-of-month storage in Folsom Reservoir due to the project. During the period July to November 1929 (calendar year), storage without the project is approximately 300 TAF. The project removes an additional 48 to 94 TAF, or 16 to 31 percent, depending on the month. Throughout the 1922 to 1991 simulation period, the project causes a significant decrease in storage volume during other months when storage is low. The project causes a decrease of over 10% in reservoir storage in 50 of 840 months, and over 20% of storage in 13 months (Table E-5).

Table E-6 shows the change in surplus Delta outflow due to the project. The project decreases Delta outflow in nearly every year, including the drought years 1929-1934, 1976, and 1986-1991. There was no surplus outflow in drought water year 1977.

Table E-7 shows the change in combined Banks and Tracy exports. Annual water year changes in total exports for the 1928-1934 drought are summarized in Figure E-1. During the 1928-1934 drought, combined exports decline by an average of 124 TAF per year.

TABLE E-1
CHANGE IN DIVERSIONS FROM THE LOWER AMERICAN RIVER FOR PROJECT ALTERNATIVE 3 CUMULATIVE
(TAF)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1922	21	17	16	15	13	16	18	22	22	25	25	21	233
1923	21	17	16	15	13	16	18	22	22	25	25	21	233
1924	21	17	16	15	13	8	8	8	7	7	7	6	134
1925	9	8	9	9	7	16	18	22	22	25	25	21	192
1926	21	17	16	15	13	16	18	22	22	25	25	21	233
1927	21	17	16	15	13	16	18	22	22	25	25	21	233
1928	21	17	16	15	13	16	18	22	22	25	25	21	232
1929	21	17	16	15	13	16	18	22	22	25	25	21	233
1930	21	17	16	15	13	16	18	22	22	25	25	21	233
1931	21	17	16	15	13	8	8	8	7	7	7	6	134
1932	9	8	9	9	7	16	18	22	22	25	25	21	192
1933	21	17	16	15	13	16	18	22	22	25	25	21	233
1934	21	17	16	15	13	8	8	8	7	7	7	6	134
1935	9	8	9	9	7	16	18	22	22	25	25	21	192
1936	21	17	16	15	13	16	18	22	22	25	25	21	232
1937	21	17	16	15	13	16	18	22	22	25	25	21	233
1938	21	17	16	15	13	16	18	22	22	25	25	21	233
1939	21	17	16	15	13	8	8	8	7	7	7	6	134
1940	9	8	9	9	7	16	18	22	22	25	25	21	192
1941	21	17	16	15	13	16	18	22	22	25	25	21	233
1942	21	17	16	15	13	16	18	22	22	25	25	21	233
1943	21	17	16	15	13	16	18	22	22	25	25	21	233
1944	21	17	16	15	13	16	18	22	22	25	25	21	232
1945	21	17	16	15	13	16	18	22	22	25	25	21	233
1946	21	17	16	15	13	16	18	22	22	25	25	21	233
1947	21	17	16	15	13	16	18	22	22	25	25	21	233
1948	21	17	16	15	13	16	18	22	22	25	25	21	232
1949	21	17	16	15	13	16	18	22	22	25	25	21	233
1950	21	17	16	15	13	16	18	22	22	25	25	21	233
1951	21	17	16	15	13	16	18	22	22	25	25	21	233
1952	21	17	16	15	13	16	18	22	22	25	25	21	232
1953	21	17	16	15	13	16	18	22	22	25	25	21	233
1954	21	17	16	15	13	16	18	22	22	25	25	21	233
1955	21	17	16	15	13	16	18	22	22	25	25	21	233
1956	21	17	16	15	13	16	18	22	22	25	25	21	232
1957	21	17	16	15	13	16	18	22	22	25	25	21	233
1958	21	17	16	15	13	16	18	22	22	25	25	21	233
1959	21	17	16	15	13	8	8	8	7	7	7	6	134
1960	9	8	9	9	7	16	18	22	22	25	25	21	192
1961	21	17	16	15	13	8	8	8	7	7	7	6	134
1962	9	8	9	9	7	16	18	22	22	25	25	21	192
1963	21	17	16	15	13	16	18	22	22	25	25	21	233
1964	21	17	16	15	13	16	18	22	22	25	25	21	232
1965	21	17	16	15	13	16	18	22	22	25	25	21	233
1966	21	17	16	15	13	16	18	22	22	25	25	21	233
1967	21	17	16	15	13	16	18	22	22	25	25	21	233
1968	21	17	16	15	13	16	18	22	22	25	25	21	232
1969	21	17	16	15	13	16	18	22	22	25	25	21	233
1970	21	17	16	15	13	16	18	22	22	25	25	21	233
1971	21	17	16	15	13	16	18	22	22	25	25	21	233
1972	21	17	16	15	13	16	18	22	22	25	25	21	232
1973	21	17	16	15	13	16	18	22	22	25	25	21	233
1974	21	17	16	15	13	16	18	22	22	25	25	21	233
1975	21	17	16	15	13	16	18	22	22	25	25	21	233
1976	21	17	16	15	13	8	8	8	7	7	7	6	134
1977	9	8	9	9	7	8	8	8	7	7	7	6	94
1978	9	8	9	9	7	16	18	22	22	25	25	21	192
1979	21	17	16	15	13	16	18	22	22	25	25	21	233
1980	21	17	16	15	13	16	18	22	22	25	25	21	232
1981	21	17	16	15	13	16	18	22	22	25	25	21	233
1982	21	17	16	15	13	16	18	22	22	25	25	21	233
1983	21	17	16	15	13	16	18	22	22	25	25	21	233
1984	21	17	16	15	13	16	18	22	22	25	25	21	232
1985	21	17	16	15	13	16	18	22	22	25	25	21	233
1986	21	17	16	15	13	16	18	22	22	25	25	21	233
1987	21	17	16	15	13	8	8	8	7	7	7	6	134
1988	9	8	9	9	7	8	8	8	7	7	7	6	93
1989	9	8	9	9	7	16	18	22	22	25	25	21	192
1990	21	17	16	15	13	8	8	8	7	7	7	6	134
1991	9	8	9	9	7	16	18	22	22	25	25	21	192
AVG:	19	15	15	14	12	15	16	20	20	22	22	19	211
MIN:	9	8	9	9	7	8	8	8	7	7	7	6	93
MAX:	21	17	16	15	13	16	18	22	22	25	25	21	233

TABLE E-2
CHANGE IN STREAMFLOW IN THE LOWER AMERICAN RIVER
(TAF)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1922	-21	22	-16	-15	-53	-16	-18	-22	-22	-26	-25	-20	-232
1923	-21	-16	-16	-16	-11	-16	-18	-24	-22	-11	-7	-21	-199
1924	-21	-16	-16	-15	-13	-39	-2	0	-22	-4	-6	-3	-157
1925	-8	0	0	-9	-35	6	-18	-26	-13	-12	-8	7	-118
1926	-74	40	-20	-31	-41	-38	-18	-15	-19	-36	-9	-3	-264
1927	-56	0	-1	-64	-13	-16	-18	-22	-22	-18	-27	-26	-283
1928	-21	-16	-15	-16	-13	-16	-18	-18	-18	-20	-16	-18	-205
1929	-22	-17	-16	-16	-13	-16	-38	-20	-13	4	-6	-1	-174
1930	-12	-32	-48	-31	-27	-35	-18	-22	-15	-11	2	-3	-250
1931	-56	-1	-24	-42	-38	-6	-3	2	19	-34	-7	-8	-198
1932	-9	-9	0	-9	-17	-97	-12	9	-24	-6	29	-1	-146
1933	-62	-20	-27	-42	-39	-16	-7	-22	-5	-8	-6	-1	-255
1934	-21	-32	-27	-42	-3	10	48	-2	-67	-6	-6	-4	-152
1935	-7	0	0	-9	-8	-16	-43	-12	-22	-1	12	-9	-115
1936	-95	-47	-47	36	-12	-16	-18	-22	-22	-35	-11	-10	-299
1937	-97	-43	-16	-31	-41	92	4	-22	-23	-7	-12	-9	-205
1938	-52	-16	-29	-16	-13	-16	-18	-22	-22	-26	-25	-21	-276
1939	-21	-16	-16	-16	-14	-9	-7	-9	-5	-9	-6	-4	-132
1940	-12	-9	-8	-10	-7	-16	-18	-19	-23	-20	-25	-21	-188
1941	-21	-16	-25	-16	-13	-16	-18	-22	-22	-26	-25	-21	-241
1942	-21	-16	-16	-16	-13	-16	-18	-22	-22	-26	-25	-21	-232
1943	-21	-16	-15	-16	-13	-16	-18	-22	-22	-20	-25	-21	-225
1944	-21	-16	-16	-16	-13	-17	-18	-22	-18	-19	-7	-51	-234
1945	-22	0	0	-28	-35	-16	-18	-22	-22	-20	-17	2	-198
1946	-52	-21	-15	-16	-10	-19	-18	-16	-17	-18	-27	-18	-249
1947	-52	-16	-16	-31	-41	-41	-18	-22	1	29	-17	-26	-250
1948	-7	0	-9	-12	-7	-16	-48	-39	-22	-16	-25	-32	-233
1949	-21	-16	-16	-16	-14	-16	-15	-17	-20	-19	-15	-17	-202
1950	4	-19	-19	-16	-64	-16	-18	-22	-22	-18	-25	-25	-260
1951	-21	-19	-16	-15	-13	-16	-16	-25	-22	-20	-25	-21	-229
1952	-21	-20	-18	-16	-12	-16	-18	-22	-22	-26	-25	-21	-237
1953	-21	-16	-16	-16	-13	-16	-18	-22	-22	-20	-31	-21	-232
1954	-21	-16	-16	-16	-13	-16	-18	-17	-18	-22	-20	-20	-213
1955	-21	-17	-16	-16	-13	-16	-18	-22	-18	-27	-10	0	-194
1956	-5	-24	-79	-16	-13	-16	-17	-22	-22	-26	-25	-21	-286
1957	-21	-16	-16	-16	-13	-16	-16	-22	-18	-20	-25	-15	-214
1958	-21	-16	-16	-16	-31	-16	-18	-22	-22	-26	-25	-21	-250
1959	-21	-16	-16	-16	-14	-6	-7	-8	-6	-6	-4	-3	-123
1960	-18	-9	-8	-8	-8	-17	-15	-19	-16	-20	-18	-3	-161
1961	-48	-47	-47	-47	-27	-20	22	22	3	9	-2	-3	-185
1962	-7	-8	-8	-8	-1	-14	-17	-19	-18	-21	-19	-14	-154
1963	-48	-17	-15	-16	-13	-16	-18	-22	-22	-26	-25	-22	-260
1964	-21	-16	-16	-16	-13	-17	-18	-22	-19	-18	-26	-28	-230
1965	-23	0	-34	-15	-13	-15	-18	-19	-22	-13	-25	-37	-234
1966	-21	-16	-16	-16	-14	-17	-18	-19	-19	-20	-20	-5	-201
1967	-19	-17	-16	-49	-13	-16	-18	-22	-22	-26	-25	-21	-264
1968	-21	-16	-16	-16	-12	-16	-16	-22	-16	-23	-44	-3	-221
1969	-20	-17	-16	-27	-13	-16	-18	-22	-22	-26	-25	-21	-243
1970	-21	-16	-16	-16	-13	-16	-18	-22	-19	-20	-19	-21	-215
1971	-21	-17	-32	-16	-13	-16	-10	-22	-22	-21	-38	-21	-249
1972	-21	-16	-16	-16	-12	-16	-18	-22	-19	-21	-21	-32	-230
1973	-22	-17	-16	-16	-13	-16	-18	-22	-23	-20	-25	-21	-229
1974	-21	-22	-15	-16	-13	-16	-18	-22	-22	-26	-25	-21	-237
1975	-21	-16	-16	-16	-13	-16	-17	-22	-22	-26	-24	-22	-231
1976	-21	-16	-16	-16	-13	-9	-8	-7	-5	-4	-6	-3	-124
1977	-18	-22	-25	-39	-21	-4	6	2	8	12	0	-6	-107
1978	-9	-1	0	-24	-8	-16	-18	-22	-22	-18	-19	-34	-191
1979	-21	-16	-16	-16	-13	-16	-18	-22	-17	-20	-19	-20	-214
1980	-21	-16	-16	-33	-13	-16	-18	-22	-22	-26	-25	-22	-250
1981	-21	-16	-16	-16	-14	-17	-18	-22	-19	-23	-9	-8	-199
1982	-9	-63	-16	-15	-13	-16	-18	-22	-22	-26	-25	-21	-266
1983	-21	-16	-16	-16	-13	-16	-18	-22	-22	-26	-25	-21	-232
1984	-21	-16	-16	-15	-13	-16	-16	-22	-16	-20	-20	-26	-219
1985	-21	-26	-15	-16	-14	-17	-18	-17	-16	-18	-41	-3	-224
1986	-7	0	0	-62	-13	-16	-18	-22	-22	-23	-25	-25	-253
1987	-21	-16	-16	-16	-14	-9	-8	-7	-6	-9	-5	-10	-137
1988	-8	0	0	-9	-11	-12	-8	-10	-21	-1	-6	-4	-90
1989	-7	0	0	-9	-5	-40	-18	-15	-16	-17	-11	-3	-141
1990	-52	-17	-16	-31	-41	-33	18	-2	7	-6	-6	-4	-183
1991	-13	-2	-11	-9	-7	-16	-18	-22	-22	-20	-24	-5	-169
AVG:	-25	-15	-17	-20	-17	-16	-15	-18	-16	-17	-17	-15	-210
MIN:	-97	-63	-79	-62	-64	-97	-48	-39	-67	-36	-44	-51	-299
MAX:	4	40	0	36	-1	92	48	22	19	29	29	7	-90

TABLE E-3
CHANGE IN STREAMFLOW IN THE LOWER AMERICAN RIVER
(percent)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
1922	-18	14	-10	-11	-22	-6	-7	-4	-4	-18	-12	-9	-8
1923	-14	-11	-4	-5	-4	-9	-10	-7	-8	-3	-4	-39	-7
1924	-18	-11	-10	-11	-12	-26	-4	0	-33	-13	-25	-9	-14
1925	-29	0	0	-29	-11	2	-12	-18	-5	-5	-5	5	-6
1926	-43	29	-15	-25	-37	-39	-25	-12	-11	-15	-28	-13	-18
1927	-62	0	-3	-26	-2	-5	-4	-9	-8	-10	-20	-12	-9
1928	-14	-10	-9	-10	-9	-2	-5	-9	-13	-10	-12	-22	-6
1929	-24	-14	-13	-15	-16	-22	-42	-31	-10	3	-25	-3	-17
1930	-12	-34	-50	-40	-39	-20	-12	-15	-9	-6	1	-13	-17
1931	-63	-2	-39	-69	-68	-13	-2	5	10	-45	-29	-20	-22
1932	-17	-14	0	-29	-7	-42	-8	6	-7	-1	13	-2	-7
1933	-39	-23	-44	-69	-70	-21	-3	-54	-4	-6	-25	-1	-22
1934	-18	-30	-44	-69	-5	6	25	-2	-30	-18	-25	-15	-13
1935	-20	0	0	-29	-29	-9	-10	-4	-10	0	7	-5	-6
1936	-79	-40	-38	18	-2	-6	-5	-12	-8	-14	-7	-5	-10
1937	-43	-25	-10	-20	-29	61	2	-9	-10	-4	-8	-11	-10
1938	-34	-11	-9	-9	-2	-2	-4	-4	-5	-14	-11	-9	-7
1939	-14	-11	-10	-10	-10	-7	-8	-22	-3	-5	-17	-12	-9
1940	-16	-12	-11	-11	-1	-2	-5	-12	-13	-9	-19	-25	-7
1941	-18	-11	-10	-4	-3	-5	-8	-8	-6	-18	-19	-11	-8
1942	-14	-11	-5	-3	-2	-7	-6	-6	-6	-15	-11	-9	-6
1943	-14	-7	-5	-2	-3	-2	-6	-12	-10	-13	-19	-14	-6
1944	-14	-11	-10	-10	-9	-14	-21	-15	-11	-10	-4	-50	-13
1945	-29	0	0	-60	-7	-11	-12	-12	-10	-9	-13	2	-11
1946	-34	-12	-3	-5	-6	-10	-7	-11	-7	-8	-19	-33	-9
1947	-34	-11	-10	-20	-29	-34	-21	-25	1	14	-13	-37	-15
1948	-25	0	-13	-39	-15	-11	-27	-19	-8	-9	-19	-17	-15
1949	-14	-11	-10	-10	-10	-11	-7	-10	-10	-10	-12	-17	-11
1950	2	-16	-15	-15	-31	-6	-6	-12	-6	-8	-19	-24	-12
1951	-14	-2	-2	-2	-3	-7	-9	-12	-10	-10	-19	-25	-5
1952	-14	-13	-5	-3	-2	-4	-3	-4	-4	-11	-10	-9	-5
1953	-14	-11	-10	-3	-9	-11	-10	-10	-8	-11	-16	-9	-9
1954	-14	-11	-10	-10	-8	-6	-6	-9	-14	-13	-21	-28	-11
1955	-18	-14	-13	-13	-12	-16	-12	-15	-11	-14	-8	0	-13
1956	-9	-41	-9	-2	-4	-9	-8	-8	-7	-16	-11	-9	-7
1957	-14	-11	-10	-10	-8	-6	-8	-15	-10	-10	-19	-18	-11
1958	-14	-11	-10	-10	-6	-4	-3	-4	-5	-18	-10	-9	-7
1959	-14	-11	-10	-10	-10	-4	-8	-11	-4	-4	-5	-13	-9
1960	-12	-13	-13	-13	-14	-7	-12	-20	-11	-12	-16	-13	-12
1961	-53	-40	-38	-44	-33	-28	39	54	2	9	-4	-13	-19
1962	-13	-14	-13	-13	-1	-8	-8	-12	-14	-10	-14	-16	-10
1963	-32	-7	-7	-6	-2	-9	-5	-6	-10	-18	-19	-11	-8
1964	-14	-7	-10	-9	-9	-14	-21	-15	-13	-9	-12	-42	-12
1965	-32	0	-3	-2	-4	-10	-7	-8	-8	-7	-19	-20	-6
1966	-14	-11	-10	-10	-10	-14	-21	-19	-13	-13	-20	-19	-14
1967	-16	-14	-13	-12	-5	-4	-7	-5	-4	-12	-10	-9	-8
1968	-14	-11	-10	-10	-3	-10	-12	-25	-10	-15	-46	-6	-12
1969	-31	-19	-17	-3	-2	-6	-4	-5	-6	-18	-11	-9	-6
1970	-14	-11	-5	-1	-4	-11	-9	-15	-15	-10	-19	-39	-7
1971	-15	-14	-10	-5	-6	-6	-5	-12	-8	-14	-22	-10	-10
1972	-14	-11	-10	-10	-7	-6	-12	-15	-11	-11	-17	-44	-12
1973	-24	-14	-13	-3	-3	-7	-11	-10	-13	-9	-19	-25	-9
1974	-14	-6	-3	-2	-6	-3	-5	-9	-8	-18	-11	-9	-6
1975	-14	-11	-10	-10	-8	-6	-8	-9	-7	-18	-10	-11	-10
1976	-14	-9	-10	-10	-9	-7	-19	-11	-4	-5	-25	-13	-10
1977	-18	-37	-41	-64	-43	-16	46	15	44	240	0	-67	-26
1978	-41	-3	0	-18	-3	-4	-7	-11	-8	-12	-13	-17	-9
1979	-14	-11	-10	-10	-9	-8	-12	-10	-7	-9	-14	-27	-11
1980	-18	-11	-10	-3	-2	-8	-12	-12	-8	-16	-19	-11	-7
1981	-14	-11	-10	-10	-10	-14	-25	-31	-15	-19	-16	-13	-15
1982	-16	-32	-2	-3	-2	-4	-2	-4	-6	-15	-11	-8	-5
1983	-14	-3	-3	-3	-2	-2	-4	-4	-3	-7	-9	-8	-4
1984	-14	-2	-2	-4	-4	-11	-11	-15	-8	-9	-15	-29	-8
1985	-14	-11	-8	-10	-10	-14	-21	-10	-9	-9	-26	-13	-12
1986	-9	0	0	-36	-1	-2	-12	-12	-8	-18	-19	-15	-7
1987	-14	-11	-10	-10	-10	-7	-10	-13	-4	-9	-14	-31	-10
1988	-22	0	0	-29	-15	-11	-19	-11	-11	-3	-25	-16	-12
1989	-24	0	0	-29	-3	-13	-7	-8	-9	-7	-7	-13	-9
1990	-43	-14	-13	-25	-37	-34	19	-3	4	-5	-25	-17	-15
1991	-13	-6	-23	-29	-18	-18	-21	-25	-17	-19	-28	-6	-18
AVG:	-22	-11	-12	-16	-12	-9	-8	-10	-8	-7	-16	-16	-11
MIN:	-79	-41	-50	-69	-70	-42	-42	-54	-33	-45	-46	-67	-26
MAX:	2	29	0	18	-1	61	46	54	44	240	13	5	-4

TABLE E-4
CHANGE IN END-OF-MONTH STORAGE IN FOLSOM RESERVOIR
(TAF)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1922	0	-39	-39	-39	0	0	0	0	0	0	0	0
1923	0	0	0	0	-2	-3	-2	0	0	-14	-32	-32
1924	-32	-31	-32	-32	-33	-2	-9	-18	-3	-5	-6	-9
1925	-10	-19	-28	-28	0	-21	-22	-16	-26	-39	-58	-84
1926	-30	-88	-83	-68	-41	-19	-19	-25	-29	-19	-33	-50
1927	-16	-33	-48	0	0	0	0	0	0	-7	-4	0
1928	0	0	0	0	0	0	0	-5	-9	-14	-23	-26
1929	-27	-26	-27	-26	-27	-26	-7	-9	-18	-48	-66	-86
1930	-94	-79	-49	-32	-19	0	0	0	-8	-22	-49	-66
1931	-31	-47	-39	-11	13	10	6	-5	-31	-4	-4	-2
1932	-2	-1	-10	-9	0	81	75	44	46	26	-28	-47
1933	-7	-3	8	35	60	59	48	48	31	13	-5	-26
1934	-25	-10	2	28	18	0	-57	-63	-2	-3	-4	-6
1935	-7	-16	-25	-25	-24	-25	0	-11	-11	-34	-71	-82
1936	-8	21	53	0	0	0	0	0	0	10	-6	-16
1937	59	84	85	101	129	21	0	0	0	-18	-30	-43
1938	-13	-13	0	0	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	-1	-2	-4	-1	-2	-4
1940	-1	-1	-2	0	0	0	0	-4	-4	-9	-9	-9
1941	-9	-10	0	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	-5	-5	-5
1944	-5	-5	-5	-5	-5	-5	-5	-5	-9	-15	-33	-2
1945	-2	-18	-34	-22	0	0	0	0	0	-5	-11	-35
1946	-4	0	0	0	-3	0	0	-4	-8	-15	-13	-16
1947	15	15	15	30	58	82	81	82	58	4	-3	1
1948	-14	-30	-37	-41	-46	-47	-17	0	0	-10	-10	0
1949	0	0	0	0	0	0	-2	-8	-10	-17	-26	-31
1950	-56	-53	-51	-52	0	0	0	0	0	-6	-6	-3
1951	-3	0	0	0	0	0	-2	0	0	-5	-5	-5
1952	-5	-2	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	-6	0	0
1954	0	0	0	0	0	0	0	-5	-9	-12	-16	-17
1955	-17	-17	-17	-17	-17	-17	-17	-17	-20	-18	-33	-55
1956	-71	-63	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	-3	-2	-7	-11	-12	-17
1958	-17	-18	-17	-17	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	-2	-3	-2	-3	-4	-6	-10
1960	-2	-1	-1	0	-1	0	-3	-6	-11	-16	-22	-39
1961	-14	16	47	77	92	104	74	43	34	17	12	9
1962	6	6	6	7	0	-1	-3	-5	-10	-13	-20	-27
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	-3	-11	-9	-2
1965	-1	-18	0	0	0	-1	0	-3	-3	-16	-15	0
1966	0	0	0	0	0	0	0	-4	-7	-12	-16	-33
1967	-34	-34	-34	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	-3	-2	-8	-10	8	-10
1969	-11	-11	-10	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	-2	-2	-4	-10	-16	-16
1971	-16	-17	0	0	0	0	-7	-7	-7	-13	0	0
1972	0	0	0	0	0	0	0	0	-3	-7	-12	0
1973	-1	0	0	0	0	0	0	0	0	-5	-5	-5
1974	-5	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	-1	-2	-6	-7	-10
1977	-1	13	30	61	70	66	55	45	30	6	0	0
1978	0	-3	-16	0	0	0	0	0	0	-7	-13	0
1979	0	0	0	0	0	0	0	0	-5	-10	-17	-18
1980	-17	-17	-16	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	-3	-5	-21	-34
1982	-47	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	-2	-2	-6	-12	-16	-11
1985	-11	0	0	0	0	0	0	-5	-11	-18	-2	-20
1986	-34	-50	-66	0	0	0	0	0	0	-4	-3	0
1987	0	0	0	0	0	0	-1	-2	-2	0	-2	1
1988	0	-8	-17	-17	-13	-9	-9	-7	7	1	-1	-3
1989	-4	-13	-21	-21	-24	0	0	-7	-13	-21	-35	-53
1990	-22	-22	-21	-6	21	45	20	14	0	-1	-2	-4
1991	-1	-7	-5	-5	-5	-4	-5	-5	-5	-10	-10	-26
AVG:	-9	-10	-7	-2	3	4	2	0	-2	-7	-12	-15
MIN:	-94	-88	-83	-68	-46	-47	-57	-63	-31	-48	-71	-86
MAX:	59	84	85	101	129	104	81	82	58	26	12	9

TABLE E-5
CHANGE IN END-OF-MONTH STORAGE IN FOLSOM RESERVOIR
(percent)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1922	0	-9	-8	-8	0	0	0	0	0	0	0	0
1923	0	0	0	0	0	-1	0	0	0	-2	-6	-6
1924	-6	-7	-6	-10	-11	-1	-4	-8	-2	-3	-4	-5
1925	-5	-8	-9	-7	0	-4	-3	-2	-3	-6	-11	-19
1926	-9	-29	-29	-29	-11	-5	-3	-4	-6	-9	-17	-22
1927	-8	-8	-8	0	0	0	0	0	0	-1	-1	0
1928	0	0	0	0	0	0	0	-1	-1	-3	-6	-7
1929	-7	-8	-9	-11	-11	-8	-2	-2	-5	-16	-21	-25
1930	-31	-29	-12	-6	-3	0	0	0	-1	-6	-20	-25
1931	-14	-18	-14	-4	4	3	2	-1	-13	-2	-2	-1
1932	-1	-1	-3	-2	0	14	11	5	6	6	-10	-16
1933	-4	-2	4	15	26	20	24	14	9	6	-2	-10
1934	-11	-5	1	6	3	0	-12	-15	-1	-2	-4	-5
1935	-5	-7	-9	-6	-4	-4	0	-1	-1	-5	-13	-20
1936	-2	6	15	0	0	0	0	0	0	1	-1	-3
1937	13	23	27	40	29	3	0	0	0	-3	-5	-7
1938	-2	-3	0	0	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	0	0	-1	-1	-1	-2
1940	-1	-1	-1	0	0	0	0	0	0	-1	-1	-2
1941	-2	-2	0	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	-1	-1	-1
1944	-1	-1	-1	-1	-1	-1	-1	-1	-2	-4	-14	-1
1945	-1	-5	-7	-4	0	0	0	0	0	-1	-2	-6
1946	-1	0	0	0	-1	0	0	0	-1	-2	-2	-3
1947	3	3	3	7	13	14	12	12	11	1	-2	1
1948	-5	-9	-11	-8	-9	-9	-2	0	0	-1	-1	0
1949	0	0	0	0	0	0	0	-1	-1	-3	-6	-8
1950	-20	-21	-24	-12	0	0	0	0	0	-1	-1	0
1951	0	0	0	0	0	0	0	0	0	-1	-1	-1
1952	-1	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	-1	0	0
1954	0	0	0	0	0	0	0	-1	-1	-2	-3	-3
1955	-4	-4	-4	-3	-3	-3	-3	-3	-4	-5	-11	-19
1956	-24	-19	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	-1	-2	-2	-3
1958	-3	-4	-3	-3	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	-1	-1	-3	-3
1960	-1	-1	0	0	0	0	0	-1	-2	-4	-8	-10
1961	-4	5	14	27	29	28	17	8	6	5	5	3
1962	2	2	2	2	0	0	0	-1	-1	-2	-4	-5
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	-1	-3	-4	-1
1965	-1	-6	0	0	0	0	0	0	0	-2	-2	0
1966	0	0	0	0	0	0	0	-1	-1	-3	-5	-9
1967	-10	-10	-6	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	-1	-3	3	-3
1969	-3	-3	-2	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	-1	-2	-3	-3
1971	-4	-3	0	0	0	0	-1	-1	-1	-1	0	0
1972	0	0	0	0	0	0	0	0	0	-1	-3	0
1973	0	0	0	0	0	0	0	0	0	-1	-1	-1
1974	-1	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	-1	-3	-3	-4
1977	-1	7	21	56	64	80	58	41	31	7	0	0
1978	0	-3	-8	0	0	0	0	0	0	-1	-2	0
1979	0	0	0	0	0	0	0	0	-1	-2	-3	-3
1980	-3	-4	-4	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	-1	-1	-7	-12
1982	-15	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	-1	-2	-2	-2
1985	-2	0	0	0	0	0	0	-1	-2	-8	-1	-8
1986	-15	-15	-14	0	0	0	0	0	0	-1	0	0
1987	0	0	0	0	0	0	0	0	-1	0	-1	1
1988	0	-5	-6	-4	-3	-2	-2	-2	3	1	-1	-3
1989	-4	-7	-8	-7	-8	0	0	-1	-2	-4	-8	-12
1990	-6	-6	-6	-2	6	11	4	3	0	-1	-1	-2
1991	-1	-4	-3	-3	-3	-1	-1	-1	-1	-2	-2	-5
AVG:	-3	-3	-2	0	2	2	1	0	0	-1	-3	-4
MIN:	-31	-29	-29	-29	-11	-9	-12	-15	-13	-16	-21	-25
MAX:	13	23	27	56	64	80	58	41	31	7	6	3

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TABLE E-6
CHANGE IN SURPLUS DELTA OUTFLOW
(TAF)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1922	0	0	-16	-57	1	7	-18	-35	-30	0	0	-7	-155
1923	-21	-17	-48	-15	0	-12	-18	-23	0	0	0	0	-154
1924	0	0	0	-5	-8	0	0	0	0	0	0	0	-13
1925	0	0	0	0	-24	0	-15	-25	0	0	0	0	-84
1926	0	0	0	-46	-57	-41	-28	0	0	0	0	0	-172
1927	0	0	0	-78	-148	-31	-23	0	-15	0	0	-9	-304
1928	-21	-29	-16	-15	-8	-55	-24	0	0	0	0	0	-168
1929	0	-5	-5	-6	-8	-11	0	0	0	0	0	0	-35
1930	0	0	-47	-31	-18	-24	-21	0	0	0	0	0	-141
1931	0	0	0	-20	0	0	0	0	0	0	0	0	-20
1932	0	0	0	-9	-11	0	0	0	0	0	0	0	-20
1933	0	0	0	-15	-18	-12	0	0	0	0	0	0	-45
1934	0	0	-9	-43	-2	0	0	0	0	0	0	0	-54
1935	0	0	0	-8	0	-11	-45	0	0	0	0	0	-64
1936	0	0	0	21	-65	-94	-30	-26	0	0	0	0	-194
1937	0	0	-6	-31	-26	90	17	0	0	0	0	0	44
1938	0	-16	-32	-15	-152	-25	-20	-23	-25	0	0	-21	-329
1939	-44	-17	-16	-28	-15	-6	0	0	0	0	0	0	-126
1940	0	0	0	-11	-52	-41	-23	0	0	0	0	0	-127
1941	0	0	-48	-116	-24	-42	-22	-24	-24	0	0	-22	-324
1942	-54	-17	-18	-15	-32	-18	-19	-26	-23	0	0	-21	-243
1943	-21	-29	-54	-16	-23	-21	-21	0	-3	0	0	-4	-192
1944	-7	-15	-6	-51	-75	-30	0	-18	0	0	0	0	-202
1945	0	-15	-15	0	-49	-32	-32	0	0	0	0	0	-143
1946	-43	-49	-16	-16	0	-40	-23	0	0	0	0	0	-187
1947	0	-17	-16	-30	-25	-27	-2	0	0	0	0	0	-117
1948	0	0	0	-4	0	-11	-40	-166	-37	0	0	-10	-268
1949	-2	0	-16	-11	-9	-33	0	0	0	0	0	0	-71
1950	0	0	0	-31	-79	-34	-36	0	0	0	0	-4	-184
1951	-6	-19	-169	-11	-26	-31	0	-28	0	0	0	-2	-292
1952	-8	-20	-112	-15	-41	-45	-21	-26	-25	0	0	-21	-335
1953	-71	-17	-16	-15	-17	-19	-18	-23	-18	0	0	-35	-247
1954	-21	-17	-2	-63	-14	-26	-22	0	0	0	0	0	-165
1955	0	-60	-16	-15	0	-11	-16	-19	0	0	0	0	-137
1956	0	0	-123	-73	-23	-18	-17	-31	-15	0	0	-22	-322
1957	-22	-2	0	-70	-40	-50	0	-25	0	0	0	0	-209
1958	-60	-10	-16	-14	-78	-22	-19	-24	-26	0	-6	-21	-296
1959	-45	-16	-39	-16	-25	0	0	0	0	0	0	-1	-142
1960	0	0	0	-3	-7	-11	0	0	0	0	0	0	-21
1961	0	-22	-62	-33	-119	-44	0	0	0	0	0	0	-280
1962	0	0	-8	0	32	0	0	0	0	0	0	0	24
1963	-48	-61	-16	-15	-73	-5	-18	-60	0	0	0	-7	-323
1964	-21	-16	-16	-15	-8	-10	-16	0	0	0	0	0	-102
1965	0	-5	-223	-16	-35	0	8	0	-15	0	0	-13	-299
1966	-2	-17	-47	-30	-23	-22	-42	0	0	0	0	0	-183
1967	0	-42	-70	-49	-74	-28	-25	-24	-25	-25	0	-21	-383
1968	-22	-17	-20	-14	-19	-22	0	-18	0	0	0	0	-132
1969	0	-11	-31	-134	-43	-21	-20	-25	-26	0	0	-48	-359
1970	-22	-17	-43	-16	-16	-18	0	-18	0	0	0	0	-150
1971	0	-63	-33	-15	0	-87	0	-40	-19	0	0	-33	-290
1972	-22	-5	-16	-62	-8	-17	0	0	0	0	0	0	-130
1973	-8	-17	-24	-77	-64	-45	-19	-19	0	0	0	-7	-280
1974	-36	-63	-16	-49	-17	-21	-19	-24	-15	0	0	-21	-282
1975	-81	-17	-16	-13	-14	-20	-21	-23	-23	0	0	-22	-250
1976	-21	-45	-39	-15	-9	-6	-7	0	0	0	0	0	-142
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	-25	-84	-21	-45	-29	-12	0	0	-12	-228
1979	-51	-6	0	-16	-67	-17	-15	-21	0	0	0	0	-193
1980	-8	-17	-16	-132	-29	-21	-20	-23	-18	0	0	-9	-293
1981	-15	0	-16	-110	-14	-25	-19	0	0	0	0	0	-199
1982	0	-104	-70	-16	-18	-18	-19	-24	-24	0	0	-47	-340
1983	-21	-18	-41	-16	-16	-17	-19	-23	-24	-25	-25	-21	-264
1984	-21	-17	-18	-15	-14	-18	0	-18	0	0	0	0	-119
1985	-62	-37	-16	-18	-8	-10	-16	0	0	0	0	0	-164
1986	0	0	-15	-97	-62	-79	-26	-18	-17	0	0	-8	-322
1987	-21	0	0	-35	-21	-8	0	0	0	0	0	0	-85
1988	0	0	0	-8	0	0	-7	0	0	0	0	0	-15
1989	0	0	0	0	0	-40	-19	0	0	0	0	-2	-81
1990	0	0	0	-42	0	-22	0	0	0	0	0	0	-64
1991	0	0	0	0	0	-16	-17	-8	0	0	0	0	-41
AVG:	-13	-14	-25	-30	-29	-21	-14	-14	-7	-1	0	-7	-174
MIN:	-81	-104	-223	-134	-152	-94	-45	-166	-37	-25	-25	-48	-383
MAX:	0	0	0	21	32	90	17	0	0	0	0	0	44

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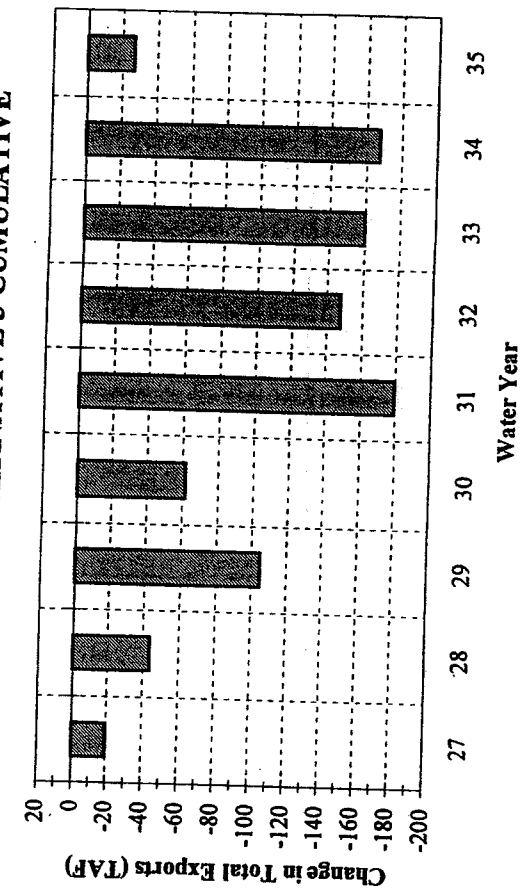
TABLE E-7
CHANGE IN BANKS AND TRACY EXPORTS
(TAF)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1922	-11	33	0	0	0	-28	0	0	0	-19	-1	-13	-39
1923	0	0	0	0	0	-6	0	-4	0	0	0	0	-10
1924	1	-16	-9	-10	-5	-14	0	-21	-21	-13	-5	-2	-116
1925	-8	0	0	-8	-11	-4	-4	-4	2	-12	-6	-15	-70
1926	-95	52	-9	0	-1	-16	-6	-2	0	0	-32	-35	-144
1927	-1	0	0	14	-14	-1	0	2	-8	4	0	-16	-20
1928	0	0	0	0	-5	1	0	2	0	0	-30	-12	-44
1929	-15	-10	-11	-10	-8	-6	0	-18	-18	-10	0	-1	-105
1930	-1	0	0	0	-9	-13	-4	0	0	0	-32	-3	-62
1931	1	-11	-36	-37	-58	-27	0	-11	6	-2	-4	-1	-180
1932	-10	-2	0	0	-8	-92	0	8	-33	-7	-3	-1	-148
1933	-1	1	-22	-27	-14	-6	0	-30	-17	-11	-32	-1	-160
1934	-4	-4	-16	0	-1	-11	0	-14	-61	-49	-6	0	-168
1935	-7	0	0	0	-8	-6	0	0	0	3	-1	-8	-27
1936	-45	-61	-116	0	18	58	-5	-4	0	-39	9	0	-186
1937	-61	-42	-10	0	-16	-3	-8	-20	1	-22	-5	-7	-193
1938	-52	0	0	0	1	0	-1	0	0	-2	-25	0	-79
1939	0	0	0	13	0	-3	0	0	0	0	0	3	13
1940	2	-3	0	0	0	0	0	1	0	0	-5	0	-5
1941	0	-17	0	0	0	22	1	1	0	-19	0	0	-12
1942	0	0	1	0	14	0	0	0	0	-1	0	0	14
1943	0	0	0	0	0	1	0	1	-2	0	0	-6	-6
1944	-13	-2	-11	35	-3	-16	0	-4	2	0	0	0	-12
1945	11	0	0	-44	0	-4	-6	0	0	0	0	1	-42
1946	-9	0	0	0	-5	-21	-4	0	1	0	0	-1	-39
1947	-19	0	0	0	-19	-14	0	0	0	0	0	-45	-97
1948	-7	1	-60	-8	-9	-4	-8	-32	-8	16	-14	-21	-152
1949	-4	-1	0	-5	-6	17	0	0	-35	-10	0	-21	-85
1950	-6	-3	-10	0	0	-12	-4	2	0	-1	-24	-20	-78
1951	-15	0	0	-4	7	12	0	-6	0	0	0	-3	-9
1952	-14	0	0	0	20	0	0	0	0	-25	-25	0	-44
1953	50	0	0	0	0	0	-4	-4	-8	0	0	0	34
1954	0	0	-4	0	1	0	0	1	0	0	0	-20	-22
1955	-21	0	0	0	-31	-4	-2	-4	4	13	14	1	-30
1956	-1	-24	0	0	0	-1	-2	0	-6	-19	6	0	-49
1957	0	-4	0	0	0	19	0	-6	1	0	5	0	15
1958	0	0	0	-1	-4	1	-1	0	0	-1	-20	0	-26
1959	0	0	23	0	1	0	0	0	0	0	0	-3	21
1960	0	1	-5	-6	0	-6	0	0	0	0	-10	-4	-30
1961	-31	-40	0	-29	29	-3	0	0	1	-40	-1	-4	-118
1962	3	-8	0	-8	0	-1	0	0	0	0	0	-4	-18
1963	0	0	0	0	4	0	0	0	2	-18	0	-13	-25
1964	0	0	0	0	-4	-6	-2	2	-2	0	0	-1	-13
1965	1	-10	0	0	0	-36	0	0	-8	27	0	-24	-50
1966	-3	0	0	0	0	-9	-6	0	0	0	0	1	-17
1967	0	0	0	0	0	1	2	0	0	0	-25	0	-22
1968	0	0	5	-2	0	0	0	-4	6	0	0	0	5
1969	-3	-21	0	0	16	2	1	1	1	1	-25	0	-27
1970	0	0	27	0	0	0	0	-4	0	0	0	0	23
1971	-13	0	0	0	-11	0	2	-10	-8	-1	0	0	-41
1972	0	-11	0	0	-5	0	2	0	0	0	0	-7	-21
1973	-14	0	0	0	0	-1	-4	-4	0	1	-12	-14	-48
1974	0	0	0	32	0	-17	0	0	-8	0	9	0	16
1975	0	0	0	-3	0	1	0	0	0	0	1	0	-1
1976	0	0	0	0	-8	-2	-2	2	0	1	-4	-4	-15
1977	0	-1	2	-39	-2	-5	0	2	2	-8	0	0	-47
1978	-1	0	-1	0	6	-7	0	0	-8	5	4	-22	-23
1979	0	-11	0	0	15	0	-2	-4	1	0	11	-19	-9
1980	-14	0	0	31	2	0	0	0	-8	-14	0	-13	-16
1981	-6	-17	0	58	0	0	-4	0	2	0	0	0	33
1982	3	0	0	0	0	-1	0	0	0	0	-25	0	-23
1983	0	0	25	0	0	0	0	0	0	0	0	0	25
1984	0	0	0	0	0	0	0	-4	2	0	0	0	-2
1985	0	0	0	0	-8	-5	-4	0	0	0	0	0	-16
1986	9	0	0	0	0	-38	-12	-5	-8	-10	-5	-16	-85
1987	0	-17	0	20	6	0	0	0	0	0	0	-101	-92
1988	1	-13	0	0	-4	-8	-2	0	-1	57	-35	0	-3
1989	0	0	0	-8	-3	0	-2	0	0	-1	-1	-2	-17
1990	-13	-18	-10	11	-41	-12	0	0	-30	-49	-7	-3	-172
1991	-10	-40	14	-8	0	0	-4	-14	-6	-15	-18	3	-98
AVG:	-8	-5	-3	-1	-3	-5	-1	-3	-4	-4	-5	-7	-47
MIN:	-95	-61	-116	-44	-58	-92	-12	-32	-61	-49	-35	-101	-193
MAX:	50	52	27	58	29	58	2	8	6	57	14	3	34

Figure E-1
CHANGE IN TOTAL DELTA EXPORTS
WITH PROJECT ALTERNATIVE 3 CUMULATIVE



APPENDIX F

Water Quality Impacts on Contra Costa Water District

Introduction

The water quality analysis presented in Chapter 4 of the DEIR/EIS confirms that the American River project, as currently defined, will impact Contra Costa Water District's water quality, water supply and operation of CCWD's Los Vaqueros Project. The largest impacts will occur in the drier years when the American River project seeks to augment EBMUD's supply. EBMUD's diversions from the American River increase the chloride concentrations at CCWD's Rock Slough and Old River intakes.

The DEIR/EIS is inadequate because it fails to provide complete information on the impacts of the proposed project on water quality at CCWD's intakes. The DEIR/EIS only presents a water quality analysis for one of CCWD's intakes (Rock Slough) and none for CCWD's new intake on Old River near Highway 4. The Old River intake is the intake that will be used for filling Los Vaqueros reservoir, providing CCWD with emergency supply and the ability to blend to improve delivered water quality. Operation of the Old River intake is key to the performance of CCWD's $450 million Los Vaqueros Project. The DEIR/EIS also fails to analyze the impacts of the American River project on CCWD's water quality because of changes in the distribution of agricultural drainage in the south Delta. Increased CVP diversions from the American River with the proposed project will have the net effect of reducing the amount of freshwater entering the Delta from the Sacramento River, reducing the amount of pumping from the south Delta by the CVP, and reducing the removal of agricultural drainage from the south Delta by the Tracy Pumping Plant. Even if the Delta outflow were to remain unchanged, these factors will contribute to a net increase in the concentrations of salinity from agricultural drainage in the vicinity of CCWD intakes.

The DEIR/EIS is also inadequate because it fails to analyze the water quality impacts in the third year of EBMUD's drought planning sequence. Diversions by EBMUD of 70,000 acre-feet/year during a design drought that is much more severe than any of the drought in the 1922-1998 historical period (see Appendix A of this comment letter), at a time when other CVP exporters south of the Delta would receive severe cutbacks in their Delta supply, will have significant impacts on Central Valley operations and Delta operations in particular, and yet the DEIR/EIS does not present any analysis of the water quality or water supply of the proposed project during this third year of an artificially severe drought.

The DEIR/EIS indicates that the project will increase chloride concentrations at Rock Slough by more than 40 mg/L in some months (e.g., Figure 4-7 in Chapter 4 of the DEIR/EIS). The largest impacts will be in the drier years. On the other hand, the comparisons between the no-action case and the project alternatives, both at year 2030 level of development, show smaller but still significant increases in Rock Slough chlorides – up to 13 mg/L in some months. The DEIR/EIS starting on page 4-1 provides an incomplete analysis of water quality impacts in the Delta because there is no presentation of the impacts of the project alone relative to existing conditions. The

effect is to mask, or minimize, project impacts on Delta water quality in the presentation. Nonetheless, the DEIR/EIS shows (Figures 4-4 through 4-7) that the American River project will degrade water quality for CCWD approximately twenty percent of the time.

The DEIR/EIS dismisses the impacts based on criteria established by EBMUD (Page 4-3 and 4-4) that are not based on science. These criteria dismiss any impacts provided they do not "*result in an increase in average annual chloride levels at delivery points in the Delta by more than 3 mg/l or an increase of more than 30 mg/l in 10% of the months that were evaluated.*" Consequently, the DEIR/EIS classifies significant impacts caused by the project as "insignificant," based on the arbitrary choice of significance criteria, not on the actual degradation caused. While the DEIR/EIS considers increases in chloride concentration of 30 mg/L to have an insignificant impact on users of Delta water, EBMUD's screening criteria calls for membrane filtration and reverse osmosis whenever absolute chloride concentrations exceed that of American River water, i.e., an average chloride concentration greater than 8 mg/L (Table A-4 in Appendix B of the DEIR/EIS).

The DEIR/EIS states: "*Because of its location closer to Suisun Bay than other major exporters, Rock Slough was assumed to represent worst-case conditions for the purposes of impact analysis*" (page 4-3). This statement is incorrect and indicates a lack of understanding of the important role of the Old River intake in the operation of the Los Vaqueros Project. The Old River intake is the only intake used to fill Los Vaqueros Reservoir. Even small increases in salinity at this location will reduce the ability of CCWD to fill the reservoir with high quality water suitable for blending to meet CCWD's 65 mg/L chloride goal. While the seawater intrusion at this intake is less than at the Rock Slough intake, other factors such as drainage from the San Joaquin Valley and Delta islands can cause salinity increases at Old River that may or may not occur at Rock Slough. Changes in pumping at the export pumps, in particular the Tracy Pumping Plant, can change the distribution of agricultural drainage in the Delta and cause increases in salinity at CCWD's intakes.

The EIR/EIS needs to present analyses of the water quality impacts at both of CCWD's Delta intakes as well as the intakes of CCWD's raw water customers and the Banks Pumping Plant which supplies water to Metropolitan Water District of Southern California, Santa Clara Valley Water District, Alameda County Water District, and other urban water agencies. Also, requested by CCWD staff at a meeting with EBMUD staff and consultants at CCWD on July 1, 1997, the EIR/EIS also needs to analyze the full water quality impacts of the American River project not just the changes due to seawater intrusion.

Misrepresentation of Impact Significance

The DEIR/EIS fails to accurately characterize the significance of the water quality impacts of future changes in Central Valley demands and operations and the American River project. The most glaring example is in the presentation of impacts of the No Action alternative in Figure 4-3 and the discussion on page 4-4 of the DEIR/EIS. The DEIR/EIS states that "*The plot of the differences shows that either high or low chloride levels in Rock Slough, future conditions (i.e., Alternative 1) do not appreciably change in concentration from existing conditions*" (page 4-4). However,

Figure 4-3 clearly contradicts this statement. There are large monthly increases in Rock Slough chlorides – up to a maximum of 46 mg/L in a month.

Figure F-1 in this appendix plots the same data from Figure 4-3 as a cumulative probability distribution. Also shown are the DEIR/EIS significance criteria, i.e., less than 30 mg/L for 10% of the months, less than 3 mg/L for the remaining months. The increases in Rock Slough chlorides clearly exceed both of these criteria and are, therefore, significant even according to the DEIR/EIS's generous significance criteria.

It is not sufficient to assume that any reductions in Rock Slough chloride offset any increases. As can be seen from Figure F-2 in this appendix, there are periods lasting many years when there are only increases in Delta salinity caused by the proposed project. These impacts on CCWD and other Delta water users are significant and need to be addressed in the EIR/EIS. This also applies to impacts caused by the proposed project (Alternatives 2 and 3).

Additional Estimates of Water Quality Impacts

EBMUD has relied on a salinity-outflow model developed by CCWD to analyze the water quality impacts on CCWD (DEIR/EIS page 4-3). However, this model only simulates the effects of seawater intrusion on salinity and does not account for the other influences on salinity at CCWD's Delta intakes such as agricultural drainage and effects in the interior Delta due to the complexities of the hydrodynamics and salt transport in the many interior Delta channels. In fact CCWD's salinity-outflow model is only applicable for simulating seawater intrusion in Suisun Bay and the western Delta as far as Rock Slough. Because this salinity-outflow model is not applicable further into the south and central Delta, the DEIR/EIS fails to analyze the water quality impacts at CCWD's Old River intake or further south at the Clifton Court Forebay.

CCWD has carried out an independent analysis of the potential impacts of the American River project alternative 3 using *DWRSIM*. The analysis was based on CALFED's 2020 basecase (Study 514). This study includes flow criteria for the American and Sacramento rivers, recommended by the U.S. Fish and Wildlife Service for the Anadromous Fish Restoration Program (AFRP). The "without-project" study is identical to the original Study 514. The "with-project" run simulates identical conditions except for lower American River monthly diversions based on project Alternative 3 Cumulative (Table C-8, DEIR/EIS Appendix C). The original study includes the same existing City of Sacramento demands given in Table C-3 (DEIR/EIS Appendix C). These existing City demands were subtracted from the Alternative 3 Cumulative demands and applied at a diversion point on the lower American River (Control Point 85 in *DWRSIM*). The difference in model results between the two runs is attributable to the project and indicates project impacts.

CCWD performed additional analysis using the Fischer Detla Model to develop additional estimates of the impacts of the proposed American River project diversions (Alternative 3 Cumulative) on Delta water quality. The Delta outflows from the Central Valley operations studies, with and without the project, were used as input to CCWD's seawater intrusion model

and the simulated inflows to the Delta were used as boundary conditions for a full Fischer Delta Model simulation of the water quality impacts.

CCWD's Seawater Intrusion Model

Figure F-3 shows the changes in Rock Slough chlorides predicted using CCWD salinity-outflow model. The maximum increase in Rock Slough chloride concentration is 26 mg/L. Note that the Central Valley operations study on which this analysis was based was the same in the with and without project cases and represented year 2020 level of development. The only change was an increase in diversions at from the lower American River according to Alternative 3 Cumulative. The results shown in Figure F-3 are most closely related to a comparison between the Alternative 3 Cumulative and Alternative 1 (No Action) cases discussed in the DEIR/EIS. The maximum increase in Rock Slough chlorides from those two cases in the DEIR/EIS was only 11 mg/L chlorides.

Fischer Delta Model Simulation

A comparison of the chloride changes at Rock Slough for the with and without-project cases is given in Figure F-4 along with the changes in Rock Slough chlorides. The largest increase in chloride concentration is 50 mg/L (compared to only 26 mg/L using the seawater intrusion model). These results indicate that there is a great deal of uncertainty over the magnitude of the potential impacts of EBMUD's American River project on Delta water quality at CCWD's intakes. Figure F-4 shows that there are a number of months when there are also reductions in salinity at Rock Slough. However, these reductions generally occur in different years than the increases in salinity and cannot be considered as offsetting impacts. In other words, it is not appropriate to express the impacts on CCWD in terms of 70-year averages as has been done throughout Chapter 4 in the DEIR/EIS.

Figure F-5 compares the simulated changes in chloride concentrations at CCWD's Rock Slough and Old River intakes from the Fischer Delta Model simulation with the predicted changes at Rock Slough using the seawater intrusion model. The period shown in water year 1958 through water year 1961. In general, the Fischer Delta Model predicts that the changes in chloride concentration at Old River are about one half to two thirds the change at Rock Slough although the changes are not always related because of agricultural drainage. In this example (Figure F-5), the Fischer Delta Model estimates of impacts are significantly larger than the prediction at Rock Slough using the seawater intrusion model. Because water quality is very important to CCWD and its customers, CCWD again requests that additional analyses of the water quality impacts of the American River project be performed using a salinity transport model like the Fischer Delta Model and the EIR/EIS be reissued for public review and comment.

Impacts on CCWD's Los Vaqueros Project

Increases in salinity in the Delta as a result of EBMUD's American River Project will impact CCWD in a number of ways:

- Reduced ability to fill Los Vaqueros Reservoir with high quality water
- Increase salinities in Los Vaqueros Reservoir
- Decrease storage in Los Vaqueros Reservoir
- Increased pumping costs to refill Los Vaqueros Reservoir
- Increased salinity of water delivered to CCWD service area
- Reduced ability of the Los Vaqueros Project to provide anticipated environmental benefits

During periods of increased Delta salinity, to effectively blend Delta water down to CCWD's delivered chloride goal of 65 mg/L, CCWD will typically only fill the reservoir if the water at CCWD's Old River intake that has a chloride concentration significantly less than this goal. Even a small increase in Old River salinity could make that water unsuitable for filling CCWD's water quality reservoir. When filling does occur, the reservoir would be filled with saltier Delta water, and the salinity of the stored water will also increase which in turn will increase the amount of water that would need to be released to blend direct diversions from the Delta down to meet CCWD's 65 mg/L chloride goal. If the water being diverted for delivery directly from the Delta is also saltier because of EBMUD's project, even more water will need to be released from Los Vaqueros Reservoir. These factors will result in lower reservoir storage on average. This will mean that all of the blending water will be used sooner during prolonged dry periods, leaving CCWD without the ability to blend in these drought periods. There will also be less water available in case of a major emergency in the Delta such as a contaminant spill when CCWD would need to rely on the reservoir to meet its demands. Because more of the saltier water in Los Vaqueros Reservoir would need to be released to blend with higher salinity water diverted directly from the Delta, CCWD will incur additional pumping costs replacing that reservoir water. All these factors will combine to cause a net increase in the salinity of water delivered to CCWD's customers and reduce the ability of CCWD to meet its 65 mg/L delivered chloride goal. Additionally, if Los Vaqueros reservoir levels are lowered because of the American River project, the environmental benefits of reduced Delta diversions during April will be realized less often, as CCWD would have fewer chances to rely solely on the reservoir during that environmentally sensitive period.

Suggestions for Mitigating Water Quality Impacts on CCWD

CCWD has examined the results of the modeling presented in the DEIR/EIS and analyzed the impacts on delivered chlorides to CCWD's service area. CCWD has examined ways that these impacts could be offset by transferring water from EBMUD to CCWD. High quality water from EBMUD's Mokelumne Aqueduct could be provided to CCWD and placed in Los Vaqueros Reservoir during wetter periods when EBMUD has both surplus water and capacity in its aqueducts, in lieu of CCWD diverting from the Delta to fill the reservoir. The low-chloride water from EBMUD would reduce the overall chloride concentrations in Los Vaqueros Reservoir. Increases in Delta salinity resulting from the American River project would be offset by the release of the lower salinity water in Los Vaqueros Reservoir. The water provided by EBMUD to CCWD through the Mokelumne Aqueduct would be in lieu of CCWD's diversion and rediversion of water from the Delta and would not result in any net increase in CCWD supply. This proposed method for offsetting the impacts of the American River project on

CCWD has the potential to provide real environmental benefits because EBMUD would generally only provide water to CCWD during periods of very high runoff and would enable CCWD to reduce its diversions from the Delta during fish-sensitive periods. For example, CCWD is required under its Los Vaqueros Project biological opinions to cease all diversions from the Delta for 30 days during the April-May and meet its service area demands from the reservoir, provide the reservoir storage is above emergency storage levels. This proposal for offsetting the water quality impacts of the American River Project could result in higher average storage in Los Vaqueros Reservoir and enable CCWD to cease Delta diversions more often during the April-May period. Preliminary analysis by CCWD suggests that, because of the large difference in chloride concentration between the Mokelumne Aqueduct water and Delta water, as little as an annual average of 10,000 acre-feet of water per year would be needed to offset the water quality degradation.

The DEIR/EIS does not adequately analyze the salinity impacts at CCWD's water supply intakes. The DEIR/EIS should be revised and reissued for public review.

Figure F-1: Impacts of No-Action Alternative Relative to Existing Conditions

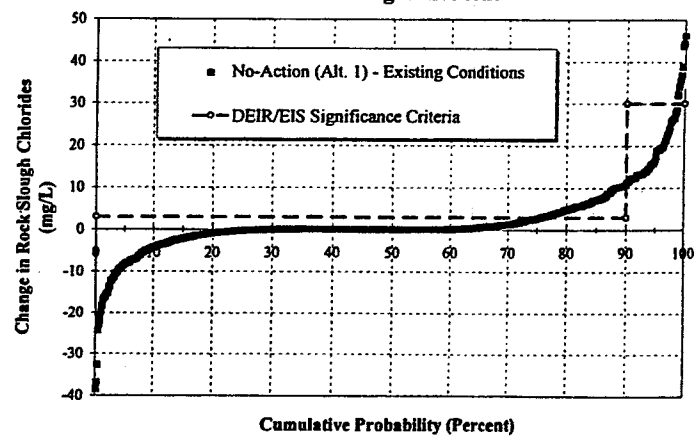


Figure F-2: Difference between No Action Alternative and Existing Conditions

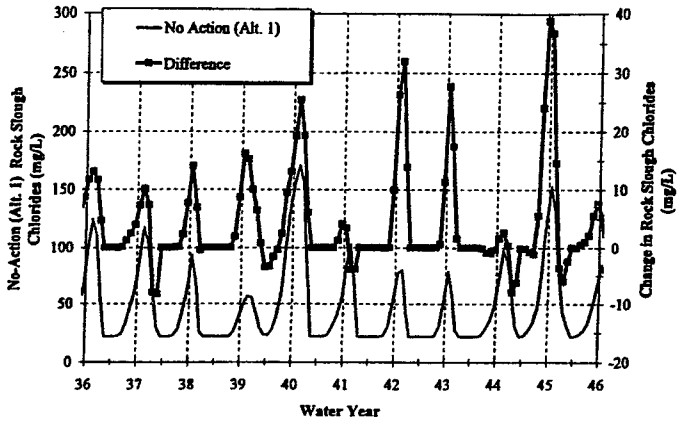


Figure F-3: Salinity-Outflow Model Simulation

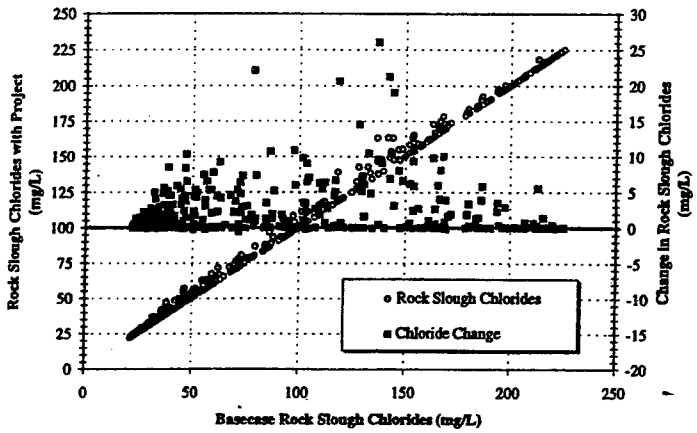


Figure F-4: Fischer Delta Model Simulation

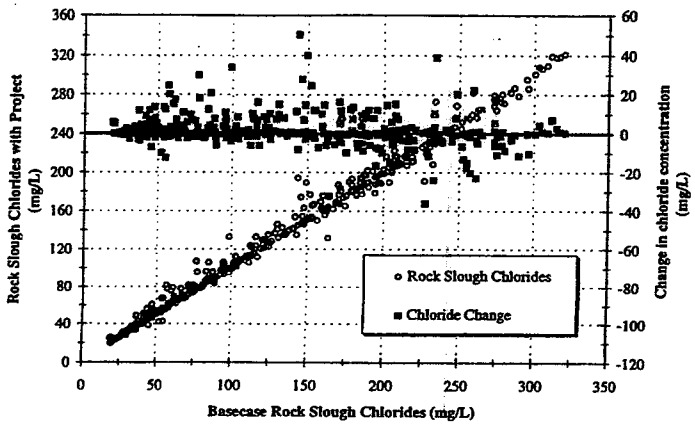
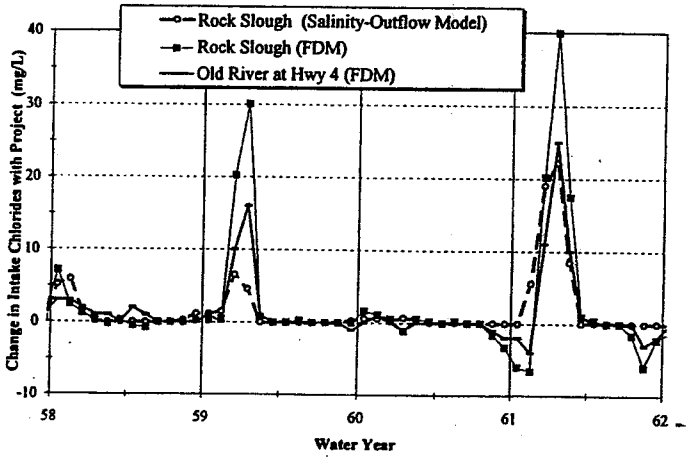


Figure F-5: Impact on CCWD Intake Chlorides



APPENDIX G

EBMUD's Simulation of Customer Deliveries with Drought Planning Sequence

EBMUD has provided to CCWD the results of simulated Mokelumne River deliveries to EBMUD customers for the No-Action (Alternative 1), Nimbus Diversion (Alternative 2), and Joint Project (Alternative 3) alternatives. EBMUD's drought planning sequence is a hypothetical 3-year sequence: year 1 is equal to the hydrologic conditions in 1976, year 2 is equal to the conditions in 1977, and year 3 is equal to the average of 1976 and 1977 conditions. The actual historical drought years 1976-1977 is the driest two-year sequence on record (1921 to present). The hypothetical three-year drought is far more severe than any three-year drought sequence that has occurred in California since records were kept. As discussed in Appendix A to this comment letter, the probability of such a three-year drought is about 1 in 1,500.

EBMUD's water year deliveries under the three alternatives are tabulated below (Table G-1). The DEIR/EIS on page 1-10 states that: *"the Need for Water is the additional amount of water required during EBMUD's drought planning sequence to limit rationing to 25% of normal levels at projected 2020 levels."* The full demand is 228 MGD (256,000 acre-feet per year) and the delivery goal with rationing limited to 25% is 171 MGD (192,000 acre-feet per year). As can be seen in the table below, the 192,000 acre-feet delivery goal is able to be met in the No-Action case in a repeat of the historical hydrology, including all recorded droughts. The only two years the delivery goal is not met is in the hypothetical third year of the drought planning sequence (which was simulated to replace the actual conditions of 1978) and the year following this unreasonable severe design drought. These data are also plotted as a time series in Figure G-1.

Historical water year 1978 was actually an "above average" year for the Sacramento River under the 1995 Water Quality Control Plan 40/30/30 classification and "wet" for the San Joaquin River 60/20/20 water year type classification. The customer delivery goal was shown to be easily met for historical 1978.

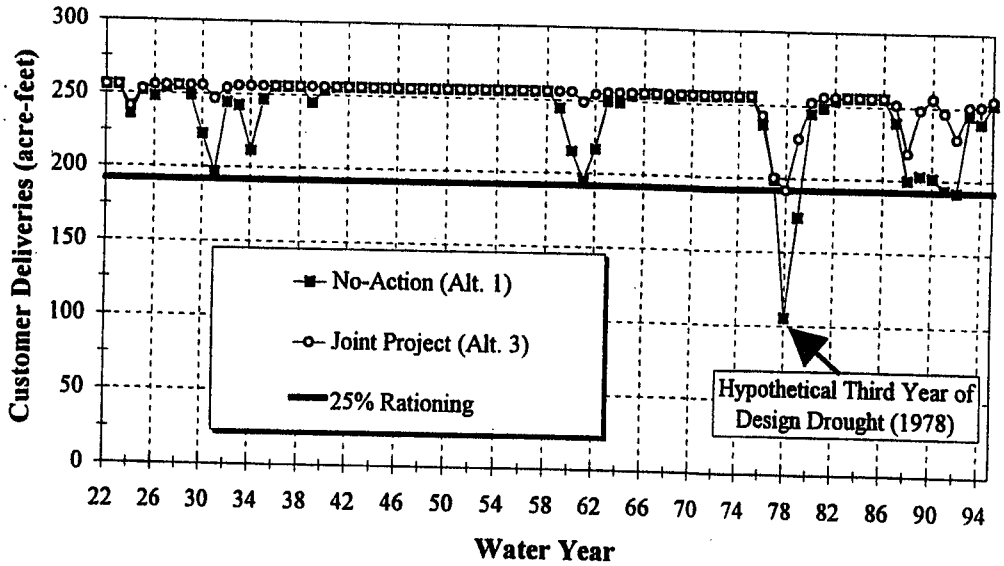
Note that EBMUD provided simulated customer delivery data for the period 1922-1995 for the No-Action and Joint project simulations (Study Numbers 6041 and 6046, respectively), but only 1922-1991 for the Nimbus Diversion alternative (Study Number 6090).

The customer delivery data presented in this appendix demonstrate that EBMUD should be able to meet its goal of 25% rationing or less at year 2020 level of development for historical drought conditions, without the use of either of the two American River project alternatives presented in the DEIR/EIS. The only reason the delivery goal cannot be met for the drought planning sequence is that EBMUD uses a hypothetical drought that is unreasonably severe. A simulated drought sequence of this severity is not reasonable for use in planning for EBMUD's future water supply needs.

Table G-1: EBMUD Customer Deliveries with Drought Planning Sequence 1976-77-78
Full demand = 228 MGD or 256 TAF/year
25% Deficiencies in dry years = 171 MGD or 192 TAF/year

Water Year	Alt. 1 (TAF)	Alt. 2 (TAF)	Alt. 3 (TAF)	Water Year	Alt. 1 (TAF)	Alt. 2 (TAF)	Alt. 3 (TAF)
1922	255.6	255.6	255.6	1959	244.6	253.0	255.6
1923	255.6	255.6	255.6	1960	215.3	221.2	255.6
1924	236.1	241.1	240.9	1961	195.3	199.4	248.6
1925	251.5	252.5	252.5	1962	217.1	240.1	254.1
1926	247.8	255.6	255.6	1963	249.8	254.5	255.6
1927	253.9	255.6	255.6	1964	249.2	255.1	255.6
1928	255.6	255.6	255.6	1965	254.2	255.5	255.6
1929	249.0	250.9	255.6	1966	255.6	255.6	255.6
1930	223.1	226.2	255.6	1967	255.6	255.6	255.6
1931	196.5	197.5	246.9	1968	252.8	255.6	255.6
1932	244.5	244.6	253.7	1969	255.0	255.6	255.6
1933	242.7	255.6	255.6	1970	255.6	255.6	255.6
1934	211.6	240.6	255.6	1971	255.6	255.6	255.6
1935	246.9	252.4	255.6	1972	255.6	255.6	255.6
1936	255.6	255.6	255.6	1973	255.6	255.6	255.6
1937	255.6	255.6	255.6	1974	255.6	255.6	255.6
1938	255.6	255.6	255.6	1975	255.6	255.6	255.6
1939	244.8	255.6	255.6	1976	236.7	239.6	242.6
1940	253.3	255.6	255.6	1977	198.8	199.4	200.1
1941	255.6	255.6	255.6	1978	**105.4**	**96.1**	191.7
1942	255.6	255.6	255.6	1979	**173.5**	**178.6**	227.3
1943	255.6	255.6	255.6	1980	244.5	245.9	252.0
1944	255.6	255.6	255.6	1981	248.4	255.6	255.6
1945	255.6	255.6	255.6	1982	254.1	255.6	255.6
1946	255.6	255.6	255.6	1983	255.6	255.6	255.6
1947	255.6	255.6	255.6	1984	255.6	255.6	255.6
1948	255.6	255.6	255.6	1985	255.6	255.6	255.6
1949	255.6	255.6	255.6	1986	255.6	255.6	255.6
1950	255.6	255.6	255.6	1987	239.4	247.0	251.3
1951	255.6	255.6	255.6	1988	199.4	202.1	218.3
1952	255.6	255.6	255.6	1989	202.8	208.6	247.9
1953	255.6	255.6	255.6	1990	201.5	210.0	255.6
1954	255.6	255.6	255.6	1991	193.3	194.9	246.0
1955	255.6	255.6	255.6	1992	191.7	[illegible]	228.4
1956	255.6	255.6	255.6	1993	244.5	[illegible]	250.3
1957	255.6	255.6	255.6	1994	239.2	[illegible]	250.5
1958	255.6	255.6	255.6	1995	252.1	[illegible]	254.5

Figure G-1: EBMUD Customer Deliveries



Note: The hydrologic conditions for water year 1978 represent the third year of EBMUD's design drought planning sequence (critical year) and not the historical 1978 hydrology.

Response to Comments of the Contra Costa Water District

Note:

CCWD's comments on the Supplemental Water Supply Project are contained in a comment document with supporting appendices and a cover letter. Responses to these comments are keyed to the summary comment document and to specific comments on fisheries and wildlife impacts contained in one of the supporting appendices. The comments identified in the CCWD cover letter are the primary comments on each topic. The CCWD cover letter summarizes the comment document but raises no separate comments. Therefore no responses are provided to the cover letter.

L20-1, Richard A. Denton, Contra Costa Water District
The project need is fully described in the 1997 Draft EIR/EIS and is reasonable. EBMUD undertook an extensive planning process, the Updated WSMP, which was adopted by the EBMUD Board of Directors in 1993. EBMUD has a significant responsibility to ensure adequate supplies to its over one million residential customers, and numerous major institutional and industrial customers both during times of drought and during planned or unplanned outages of its Pardee Reservoir supply. EBMUD recognizes that the Mokelumne Aqueducts are a key part of the water delivery system and has taken substantial steps through the Mokelumne Aqueduct Security Program to minimize risks to this portion of the system. Moreover, EBMUD has decided that the project is necessary, which is solely at its discretion.

After undertaking careful and thorough analysis as part of the Updated WSMP, EBMUD determined its need for supplemental water supplies. The objectives of the proposed project are fully described on page 2-1 of the 1997 Draft EIR/EIS. The alternatives have been developed to achieve these project objectives. Some aspects of the improvements required to upgrade Pardee Reservoir facilities cannot be completed without significantly drawing down the reservoir. Although the terminal storage reservoirs could meet a significant part of the supply during such an planned outage, they may not be sufficient should an unplanned event occur, and relying to such a great extent on the terminal reservoirs would result in almost completely emptying the terminal reservoirs, leaving no flexibility in the system should other unforeseen circumstances arise.

L20-2, Richard A. Denton, Contra Costa Water District
The planning basis for the project is sound. EBMUD conducted a significant integrated resource planning effort as part of the Updated WSMP process and determined that the district has a substantial need for supplemental water supplies during extended drought periods. Also as part of the Updated WSMP process, EBMUD established significant water conservation, water reclamation, and dry-year rationing programs that go well beyond the efforts of most other water purveyors in the state. Additionally, because EBMUD currently relies exclusively on the Mokelumne River for its customers' supplies, it is not necessary that the EBMUD drought planning sequence occur statewide, but only that it occur in the Mokelumne River watershed.

The objectives of the project are described on page 2-1 of the 1997 Draft EIR/EIS and do not include fully meeting EBMUD's needs during the third year of the drought planning sequence. The

extent to which the Joint Project alternative meets EBMUD's need for water as compared to the Folsom South Canal Connection alternative may be a key factor in determining which alternative to implement, but it is not fundamental to the 1997 Draft EIR/EIS analyses. If 1978 were incorporated into the hydrology as an artificial drought year, the project impacts in comparison to the base case (also including an artificial 1978 drought year) would be expected to be similar to those shown in the 1997 Draft EIR/EIS. The contract deliveries to EBMUD during an extended drought sequence would be determined in the EBMUD/Reclamation water service contract.

L20-3, Richard A. Denton, Contra Costa Water District
As described in the response to Comment L20-2, meeting EBMUD's needs during the third year of the drought planning sequence is not a basic objective of the Supplemental Water Supply Project, although it may be important in deciding which alternative to adopt. The project objectives include utilizing EBMUD's water service contract with Reclamation, maintaining water quality, increasing flexibility, and reducing customer deficiencies. Both alternatives considered in the 1997 Draft EIR/EIS achieve these objectives.

Meeting EBMUD's total need for water was not one of the primary project objectives. The primary project purpose is to make use of the existing water service contract between Reclamation and EBMUD so as to achieve a number of objectives. Effects on the Mokelumne River system are described in the 1997 Draft EIR/EIS at pages 3-18 and 3-19 and Figures 3-16 and 3-17. These effects are considered very minor and generally beneficial. Therefore, detailed analyses were not undertaken. The drought planning sequence is a reasonable basis for conducting water resource planning.

L20-4, Richard A. Denton, Contra Costa Water District
See response to Comments L20-1 and L20-10 and to the "Delta and Sacramento River Alternatives" major issue in Chapter 3 of this document. While implementation of the Supplemental Water Supply Project would result in continued reliance on portions of the Mokelumne Aqueducts system, it would substantially reduce reliance on Pardee Reservoir and portions of the Mokelumne Aqueducts system upstream of the new connection to the aqueducts, thereby substantially improving system redundancy.

L20-5, Richard A. Denton, Contra Costa Water District
The 1997 Draft EIR/EIS does not formally tier from the 1993 Updated WSMP but instead incorporates that document by reference and is a separate project under CEQA and NEPA. Extensive information was collected during the planning process for the Updated WSMP, and the 1997 Draft EIR/EIS for the Supplemental Water Supply Project incorporates this information, where applicable, such as conservation, reclamation, and growth in the EBMUD service area. The 1997 Draft EIR/EIS also includes updated information regarding the need for supplemental water supplies and potential alternatives for making use of EBMUD's water service contract with Reclamation.

L20-6, Richard A. Denton, Contra Costa Water District
See the response to the "Alternatives Considered" and the "Delta and Sacramento River Alternatives" major issues in Chapter 3 of this document. See also the REIR/SEIS. The screening criteria for the project reflect the project objectives. The screening report described in detail EBMUD's implementation of extensive conservation and water reclamation efforts. The need for the project is premised on full

implementation of these extensive conservation and reclamation programs. As noted on page 2-1 of the 1997 Draft EIR/EIS, the project objective, and the basic project purpose, is to "allow EBMUD to make use of its water service contract with Reclamation for delivery of American River water, consistent with the conditions set forth in the Hodge Decision." EBMUD has identified an overall need for water to meet its drought and reliability needs, and use of the water service contract to contribute toward meeting a portion of those needs is one of the project objectives.

L20-7, Richard A. Denton, Contra Costa Water District
See response to "Delta and Sacramento River Alternatives" and "Alternatives Considered" in Chapter 3 of this document.

Alternative 2: Folsom South Canal may in fact meet the water quality objectives incrementally better than Alternative 3: Joint Water Supply. However, Alternative 3 meets other project objectives while still meeting the water quality criteria. Therefore, both alternatives were carried forward into the 1997 Draft EIR/EIS.

L20-8, Richard A. Denton, Contra Costa Water District
See response to "Delta and Sacramento River Alternatives" major issue in Chapter 3 of this document.

L20-9, Richard A. Denton, Contra Costa Water District
See the response to the "Alternatives Considered" major issue in Chapter 3 of this document. EBMUD has discussed the project with the U.S. Army Corps of Engineers and will provide appropriate information to support a Section 404 permit decision. Alternatives 2 and 3 may not have identical permitting requirements.

L20-10, Richard A. Denton, Contra Costa Water District
The U.S. Army Corps of Engineers, in commenting on the Updated WSMP, indicated an alternative involving enlarging Pardee Reservoir may not meet the test of the least environmentally damaging practicable alternative. In addition, enlarging Pardee Reservoir would not meet the Supplemental Water Supply Project objective of increasing flexibility by providing an alternative source of water to EBMUD. Enlarging Pardee Reservoir also would not enable EBMUD to make use of the existing Reclamation water service contract consistent with the conditions set forth in the Hodge Decision. EBMUD is evaluating the feasibility of enlarging Pardee Reservoir, but no decision on the feasibility of that project has been made.

L20-11, Richard A. Denton, Contra Costa Water District
See the response to the "San Joaquin County Conjunctive Storage" major issue in Chapter 3 this document. An alternative involving only the Mokelumne River would not provide additional operational flexibility to EBMUD, as described in the response to Comment L20-10 above.

L20-12, Richard A. Denton, Contra Costa Water District
The availability of the 70,000 AF described in the CVPIA PEIS is seriously in doubt. Although the CVPIA PEIS identifies this water as available, no willing sellers of these water supplies have been identified. EBMUD has thoroughly examined all Mokelumne River options and determined that such water supplies are not available. As described on pages 1-12 and 1-13 of the 1997 Draft EIR/EIS, a conjunctive use project within San Joaquin County making use of wet-year Mokelumne River water supplies might be a potential solution. See the response to the "San Joaquin County Conjunctive Storage" major issue in Chapter 3 of this document.

L20-13, Richard A. Denton, Contra Costa Water District
While different operational assumptions distinguish the alternatives considered in the 1997 Draft EIR/EIS, the project objectives are the same. Alternative 3: Joint Water Supply is considerably more costly than Alternative 2, but the availability of water during dry years under Alternative 3 provides additional benefits as compared to Alternative 2. Regarding different operational assumptions as a permutation of Alternative 3, see Alternative 4 of the REIR/SEIS.

Because of the operational constraints of Alternative 2, limited amounts of water are available during dry periods. No additional storage is associated with Alternative 2 and, therefore, although all the water delivered to EBMUD is in fact used by EBMUD customers, some additional water is released from the Mokelumne River system, thereby decreasing the potential for benefits. Because the operations assumed for Alternative 3 allow more direct use of American River supplies during the times that EBMUD is lacking other supplies, it would result in greater reduction in EBMUD customer deficiencies and more efficient operations.

The shortage provisions are subject to the terms of the Reclamation contract. EBMUD and Reclamation have negotiated a draft amendatory contract. See Appendix A of this document. The terms of the shortage provision are among many items included in the negotiations.

L20-14, Richard A. Denton, Contra Costa Water District
The "full-use scenario" was included in the 1997 Draft EIR/EIS as additional information (pages 2-29 and 2-30). There are currently no plans to operate the Alternative 3 facilities as described in the full-use scenario. For purposes of cumulative impact analysis, the full use of the facilities associated with Alternatives 2 and 3 was evaluated to describe the full range of potential cumulative impacts.

L20-15, Richard A. Denton, Contra Costa Water District
It is not possible to predict what new facilities or treatment upgrades to existing EBMUD facilities may be required in the future. The key point, however, is that such upgrades would almost certainly be required regardless of whether one of the alternatives were implemented. Therefore, costs associated with such upgrades would be the same with or without the project, and the incremental costs of implementing the alternatives would be similar to those described in the 1997 Draft EIR/EIS.

Alternative 3: Joint Water Supply was formulated in conjunction with the County of Sacramento and the City of Sacramento and assumes for purposes of analysis that this alternative would meet the conditions and intent of the Hodge Decision. The joint project partners have not approached the court to validate this assumption, because the final elements of a joint project agreement have not been developed by all the parties. Should the court determine that Hodge Decision restrictions apply to a joint project concept with a diversion near the mouth of the American River, the feasibility of the alternative would need to be reexamined. See also the response to Comment L20-13 above.

The project description in the 1997 Draft EIR/EIS does not contemplate any sales of water to other parties. Should the joint project be implemented, additional environmental documentation would be required before such sales or transfers could be completed.

L20-16, Richard A. Denton, Contra Costa Water District
The 1997 Draft EIR/EIS provides appropriate analysis to comply with CEQA and NEPA and to support a decision regarding an amendment of EBMUD's water service contract with Reclamation. Additional documentation may be needed to comply with other permitting requirements. As is typical of the environmental review process, some of these permits and approvals cannot be obtained until after completion of the CEQA/NEPA process; therefore, the potential implications of such decisions cannot be incorporated into the EIR/EIS. Should these future approvals fundamentally alter the nature of the project in such a way as to require changes to the project, supplemental environmental documentation may be required to address those changes.

L20-17, Richard A. Denton, Contra Costa Water District
See response to "PROSIM Modeling" major issue in Chapter 3 of this document.

L20-18, Richard A. Denton, Contra Costa Water District
The purpose of the 1997 Draft EIR/EIS is to identify potentially significant environmental impacts of the proposed project. The information presented in the 1997 Draft EIR/EIS is adequate to identify such potential effects. The Federal Energy Regulatory Commission (FERC) decision regarding increased flows on the lower Mokelumne River was the subject of separate proceedings. The interaction of these proceedings with Alternatives 2 and 3 and the potential for environmental effects is fully presented in the 1997 Draft EIR/EIS (pages 3-18 and 3-19 and Figures 3-16 and 3-17). The result of the FERC proceedings is a binding requirement regardless of whether the Supplemental Water Supply Project alternatives are implemented.

L20-19, Richard A. Denton, Contra Costa Water District
The impact analysis is appropriate. There are numerous possible and reasonable sets of assumptions to make in any water-project-related analysis. While Alternatives 2 and 3 are compared to the No-Action Alternative, the No-Action Alternative and the action alternatives have identical assumptions, except for the addition of "with project" information for the action alternative. The analyses would not show substantially different results if existing conditions were used as the baseline for analysis for the "with-project" effects. Although some of the modeled conditions might change, there is no reason to anticipate that the incremental effects of Alternatives 2 and 3 would be substantially different regardless of what baseline conditions were used. The cumulative impact analysis was compared to the existing conditions scenario to provide a full range of discussion of potential environmental effects.

The primary differences between the existing conditions scenario and the No-Action Alternative is that AFRP flow requirements were included in the No-Action Alternative. Future (2030) water demands were also included in the no-action alternative, although actual deliveries of these demands were limited by the current existence of physical facilities and permits to allow increase diversions. This modeling approach is reasonable because Reclamation is currently operating to try to achieve AFRP flows and is expected to continue to do so in the future. As the Supplemental Water Supply Project alternatives have an expected life of at least 50 years, it should not be assumed that additional regulatory flow requirements, such as the AFRP, would not be implemented and that no additional demands would be in place.

L20-20, Richard A. Denton, Contra Costa Water District
See response to Comment L20-2 above. Even assuming that the analysis summarized in this comment and discussed in more detail in Appendix D to CCWD's letter is correct, the result may be that there is insufficient water available under EBMUD's water service contract with Reclamation to provide all of EBMUD's water needs. As noted above, fully meeting EBMUD's needs during the third year of the drought planning sequence is not an objective of the Supplemental Water Supply Project, although it does bear on the benefits of each alternative. In addition, it is not possible to know how other agencies, including Reclamation, would react to such a severe drought condition. Therefore, it is not possible to predict water supply availability or impacts under such conditions. If no deliveries were made to EBMUD under these conditions, no environmental effects specific to this project would result.

L20-21, Richard A. Denton, Contra Costa Water District
See response to "PROSIM Modeling" major issue in Chapter 3 of this document.

L20-22, Richard A. Denton, Contra Costa Water District
See responses to "PROSIM Modeling" and "Coordinated Operations Agreement Modeling" major issues in Chapter 3 of this document.

L20-23, Richard A. Denton, Contra Costa Water District
The analysis presented in the 1997 Draft EIR/EIS is sufficient for purposes of identifying potential environmental effects. Based on the PROSIM modeling conducted for the project, average flows below Nimbus would be approximately 35 cfs lower each month during the 1928–1934 period under Alternative 2, and average flows below Nimbus would be approximately 25 cfs lower each month during the 1928–1934 period under Alternative 3. These flow changes are consistent with the analysis presented in the 1997 Draft EIR/EIS and are considered minor and essentially unmeasurable.

Changes under cumulative conditions are more substantial, and the 1997 Draft EIR/EIS recognizes that many of these impacts would be considered significant cumulative impacts (see Chapters 3–6 in the 1997 Draft EIR/EIS).

EBMUD and Reclamation have made the detailed information from PROSIM modeling available to CCWD and other agencies that have requested it. This information is highly technical in nature, and it is not essential for the general reader to be provided the full analyses. Other recent CEQA/NEPA efforts have provided essentially identical levels of information regarding hydrologic modeling output.

L20-24, Richard A. Denton, Contra Costa Water District
The potential effects of flow changes on riparian and related habitats are described on pages 7-13 and 7-19 of the 1997 Draft EIR/EIS. No significant impacts on flows supporting riparian habitats were identified.

L20-25, Richard A. Denton, Contra Costa Water District
The flow reductions described in this comment would occur only below the new joint project intake facility near the mouth of the American River. This lowest stretch of the river is not important fisheries habitat for most species of fish and essentially serves as a migration route for fish moving upstream. The lower American River in this area is heavily influenced by Sacramento River flows, and there would be no incremental effect beyond what is already occurring in base conditions as a

result of implementing Alternatives 2 and 3. This conclusion is supported by the analysis contained in Chapter 5 of the 1997 Draft EIR/EIS.

L20-26, Richard A. Denton, Contra Costa Water District
The effects of Alternative 3 on aquatic life, streamflow, and other water users are fully described in the 1997 Draft EIR/EIS (Chapters 3 and 5). Most effects were found to be less than significant.

L20-27, Richard A. Denton, Contra Costa Water District
The effects of Alternatives 2 and 3 should be distinguished from the cumulative impact analysis contained in the 1997 Draft EIR/EIS. The findings discussed in the comment are generally consistent with the findings of the 1997 Draft EIR/EIS for cumulative conditions. However, these effects are attributable only in part to Alternatives 2 and 3. The average annual decrease in Delta exports under Alternatives 2 and 3 during the 1928–1934 period is approximately 5,000 AF for both the CVP and SWP, or about 0.3% of Delta exports for the CVP and SWP. These project-related changes are considered less than significant. Changes related to cumulative conditions are largely a result of increased diversions by upstream water rights holders and CVP water contractors, not EBMUD. It is also important to note that these changes are measured from existing conditions. A substantial proportion of the changes occur between the existing conditions scenario and the No-Action Alternative, which are largely attributable to changes in instream flow requirements related to implementation of the AFRP.

L20-28, Richard A. Denton, Contra Costa Water District
The 1997 Draft EIR/EIS includes an evaluation of changes in operations by the City of Sacramento that are intended, in part, to provide availability of water for EBMUD deliveries (page 2-20). Other possible changes are not defined and are not considered in the 1997 Draft EIR/EIS. It would be speculative and therefore premature to consider all possible changes prior to such actions being proposed. Should such actions be identified and incorporated into the project at some future date, appropriate environmental analysis would be undertaken at that time as required by state and federal law.

L20-29, Richard A. Denton, Contra Costa Water District
See response to "PROSIM Modeling" major issue in Chapter 3 of this document.

L20-30, Richard A. Denton, Contra Costa Water District
The 1997 Draft EIR/EIS uses a water quality significance criterion of 30 mg/L as a measure to determine whether changes in chloride concentrations in the Delta are potentially significant. This screening criterion is based on the existing water quality standards established in the Delta to protect beneficial uses. It is important to note that chloride concentration is only one measure of water quality and is not the most important measure to EBMUD in determining the ability of the alternatives to achieve the water quality objectives of the Supplemental Water Supply Project. See also response to Comment L20-7 above.

L20-31, Richard A. Denton, Contra Costa Water District
Nearly all project-related changes in Delta water quality are less than 5 mg/L, or less than 5% of the projected ambient conditions. In response to earlier discussions with CCWD, EBMUD examined the water quality changes using significance

thresholds essentially identical to those used by CCWD for its Los Vaqueros Project. This evaluation revealed that, even if CCWD's significance thresholds were used, no significant impacts would be identified. Additionally, the modeling indicates nearly as many positive changes as negative changes. The extremely minor and infrequent negative changes in Delta water quality, coupled with modeled water quality improvements and the accuracy of the tools available, strongly indicate that no significant impacts would result. The annual average change in chloride concentration at CCWD's intake attributable to the project alternatives would range from 0.1 to 0.3 mg/L, which is not a significant change.

L20-32, Richard A. Denton, Contra Costa Water District
The analysis in the 1997 Draft EIR/EIS presents reasonable scenarios for evaluating the impacts of Alternatives 2 and 3. There is no reason to anticipate that the incremental impacts of these alternatives would be substantially different, regardless of the baseline conditions used. Again, it is important to note that the impacts of the alternatives on CCWD water quality are infrequent, improvements are identified nearly as often as decreases, and the net result is an annual average change of less than 0.3 mg/L.

L20-33, Richard A. Denton, Contra Costa Water District
As discussed previously, the changes in water quality attributable to Alternatives 2 and 3 are extremely small and are generally considered within the margin of error of the modeling tools available to conduct the analysis. Changes of greater than 5% occur in only about 12 months of the 840 months in the modeling period of record (1922–1991). Of these 12 changes, five are improvements in water quality to CCWD. The remaining changes greater than 5% are infrequent and do not display any clear patterns. Therefore, no significant impacts are anticipated.

L20-34, Richard A. Denton, Contra Costa Water District
The analysis is appropriate. Seawater intrusion is the only element of Delta salinity that the alternatives are able to influence. Other influences on Delta salinity, such as those discussed in this comment, are likely to occur regardless of whether the Supplemental Water Supply Project alternatives are implemented. In addition, the changes identified in the 1997 Draft EIR/EIS are extremely small, and even if minor differences did occur between Rock Slough and CCWD's Old River intake, these changes would not affect the analysis.

L20-35, Richard A. Denton, Contra Costa Water District
As discussed in response to Comment L20-34 above, Alternatives 2 and 3 do not have the ability to substantially influence factors that control Delta salinity other than seawater intrusion. Although even minute changes in Delta salinity can be calculated based on modeling output, there is unlikely to be any direct relationship between implementation of Alternatives 2 and 3 and other factors that influence Delta salinity.

L20-36, Richard A. Denton, Contra Costa Water District
Reclamation and the SWP currently have primary responsibility to meet Delta water quality standards while also delivering millions of acre-feet of water each year to their contractors. The water quality standards will be met with or without implementation of the Supplemental Water Supply Project alternatives. Given the extremely small changes caused by Alternatives 2 and 3, the analysis is appropriate.

L20-37, Richard A. Denton, Contra Costa Water District
The analysis is adequate for CEQA and NEPA purposes and clearly shows the extremely small changes in Delta water quality attributable to Alternatives 2 and 3. Given the minor changes shown in the 1997 1997 Draft EIR/EIS, the analysis is considered appropriate.

L20-38, Richard A. Denton, Contra Costa Water District
This comment generally agrees with the analysis conducted in the 1997 Draft EIR/EIS. For its independent analysis, CCWD used upstream demands that are similar to the demands included in the Alternative 3 cumulative impact analysis in the 1997 Draft EIR/EIS. CCWD's findings for Rock Slough are essentially consistent with the findings in Chapter 4 of the 1997 Draft EIR/EIS. As shown in Figure 4-7, the largest changes modeled approached 50 mg/L, which is similar to that described in this comment. It is also important to note that, based on CCWD's modeling, changes at Old River were approximately 50% of those at Rock Slough, which appears to confirm the approach used in the 1997 Draft EIR/EIS that assumed that water quality impacts at Rock Slough are representative of a worst-case analysis. If this relationship holds true under all conditions, then the minor impacts shown at Rock Slough for the alternatives analyzed would be even less substantial at Old River. To the extent that results are different under the two approaches for cumulative impacts analysis (CCWD identified a maximum change of 26 mg/L using its salinity-outflow model and up to 50 mg/L using the Fischer Delta Model), it is difficult to compare the results. CCWD used a different system-wide planning model, a different baseline condition, and a different salinity model.

It is important to note that all of these results are focused on cumulative conditions, rather than conditions attributable to Alternatives 2 and 3.

L20-39, Richard A. Denton, Contra Costa Water District
The 1997 Draft EIR/EIS fully and appropriately discloses potential impacts of Alternatives 2 and 3 and fully complies with all state laws and regulations. The very minor effects of these alternatives would not result in degradation of existing water quality for beneficial uses.

L20-40, Richard A. Denton, Contra Costa Water District
See response to Comment L20-21 above.

L20-41, Richard A. Denton, Contra Costa Water District
See response to Comment L20-7 above.

L20-42, Richard A. Denton, Contra Costa Water District
Reclamation and EBMUD have coordinated with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service and are in the process of consulting under Section 7 of the Endangered Species Act. The criteria of significance used in the 1997 Draft EIR/EIS are appropriate under CEQA and NEPA.

L20-43, Richard A. Denton, Contra Costa Water District
Section 15126(b) of the 1996 State CEQA Guidelines addressed only project-level impacts. Section 15130 of the State CEQA Guidelines addresses cumulative impacts. It is important to note that only under cumulative conditions were significant impacts identified for fishery resources. The impacts identified for cumulative conditions are based on increased demands on the American River by other water rights holders and Reclamation contractors. Although measures such as those

described in this comment may be possible, they are not likely to be able to offset the substantial increased demands associated with cumulative conditions. Additionally, such measures are likely to have impacts on other portions of the CVP and are therefore not considered feasible at this time.

L20-44, Richard A. Denton, Contra Costa Water District
The impact analysis contained in the 1997 Draft EIR/EIS is appropriate for determining potential effects on fish species. The EIR/EIS for CVP water supply contracts under Public Law 101-514, Section 206, used a different impact assessment methodology and different significance criteria, therefore resulting in different findings. For example, the 1997 Draft EIR/EIS for the Supplemental Water Supply Project used a daily temperature model rather than Reclamation's more general monthly model, which incorporates target release temperatures. It is important to note that Reclamation, the federal lead agency for both efforts, approved the modeling approach used in the 1997 Draft EIS/EIR for the Supplemental Water Supply Project.

L20-45, Richard A. Denton, Contra Costa Water District
See response to Comment L20-9 above.

L20-46, Richard A. Denton, Contra Costa Water District
Appropriate mitigation measures will be adopted at the time that a project is approved. Under CEQA, the EBMUD Board of Directors must adopt findings that discuss each significant environmental impact identified in a draft EIR/EIS and either adopt mitigation to reduce these effects to less-than-significant levels or explain why such mitigation is infeasible. EBMUD is also required under CEQA to adopt a mitigation monitoring program for those mitigation measures that it does adopt.

L20-47, Richard A. Denton, Contra Costa Water District
The subject sentence on page 18-2 of the 1997 Draft EIR/EIS states that "other programmatic actions can be considered reasonably foreseeable, but have not advanced in the planning process to the point where a *quantitative* analysis is warranted" (emphasis added). The 1997 Draft EIR/EIS does include a qualitative cumulative impact analysis of Alternatives 2 and 3 in conjunction with CALFED and the CVPIA. In addition, much of the hydrologic modeling included in the 1997 Draft EIR/EIS is consistent with modeling conducted for the CVPIA. The cumulative impact analysis is appropriate given the broad scope and uncertainty in both programs and timing associated with CALFED and the CVPIA.

L20-48, Richard A. Denton, Contra Costa Water District
See response to "Relationship to CALFED" major issue in Chapter 3 of this document. As described in responses above, the impacts on CCWD and Delta water quality are not significant. Although EBMUD staff have met with CCWD staff on several occasions, and EBMUD is an active participant in the CALFED process, each of the measures identified in this comment are separate projects that require development of appropriate project description information and project-specific evaluation in an appropriate environmental document. Such efforts may be possible and even desirable, but they are not directly related to the Supplemental Water Supply Project because they would be premature at this time.

L20-49, Richard A. Denton, Contra Costa Water District
The analysis contained in Chapter 18 of the 1997 Draft EIR/EIS is appropriate for evaluating cumulative effects. It is important to note that the CVPIA EIS and process is a CVP-wide analysis that is much broader in scope and intent than the Supplemental

Water Supply Project analysis. Implementation of the CVPIA could affect the amount of water available to EBMUD as well as all other CVP contractors, including CCWD. However, it is not expected that implementation of the CVPIA will alter the feasibility of the project nor substantially alter the ability of Alternatives 2 and 3 to meet the Supplemental Water Supply Project objectives described on page 2-1 of the 1997 Draft EIR/EIS.

L20-50, Richard A. Denton, Contra Costa Water District
The 1997 Draft EIR/EIS does not identify any significant impacts associated with Alternatives 2 and 3 related to fishery resources in the lower American River. However, significant cumulative impacts are identified (pages 5-22 through 5-25). These impacts are considered likely to occur regardless of whether Alternative 2 or 3 is implemented. NEPA does not specifically require identification or implementation of mitigation measures. Under CEQA, mitigation measures are required to be identified for all significant impacts, including cumulative impacts. However, as noted in Section 15130(c) of the State CEQA Guidelines, with some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis. EBMUD believes that this section of the State CEQA Guidelines is directly applicable to the cumulative impacts identified in the 1997 Draft EIR/EIS. The cumulative impacts identified are likely to occur even if Alternative 2 or 3 were not implemented; therefore, it is reasonable that the most appropriate mitigation would be implementation of river-wide programs. Because there is already an ongoing program that is attempting to address these issues, EBMUD believes that participating in and contributing to those efforts is the most feasible approach to mitigation.

L20-51, Richard A. Denton, Contra Costa Water District
The 1997 Draft EIR/EIS adequately evaluates the potential for growth-inducing effects (pages 18-7 through 18-12). The fact that a significant portion of project funding would come from fees on new connections does not mean that the project is therefore growth-inducing. The new connections are assumed to occur with or without a Supplemental Water Supply Project. Connection fees are simply one of the funding mechanisms available to EBMUD to finance project construction. See also the response to Comment L20-5 above.

L20-52, Richard A. Denton, Contra Costa Water District
See response to "San Joaquin County Conjunctive Storage" major issue in Chapter 3 of this document.

L20-53, Richard A. Denton, Contra Costa Water District
The analysis contained in the 1997 Draft EIR/EIS is appropriate. The City of Sacramento and the County of Sacramento are currently in varying stages of preparing environmental evaluations covering the potential for growth within the City and County service areas and associated environmental effects.

L20-54, Richard A. Denton, Contra Costa Water District
Although EBMUD has engaged in predesign activities, these efforts were required to provide sufficient information to conduct a reasonable and informed environmental analysis, including pipeline routing analysis, through the City of Sacramento and technical evaluations of various alternative configuration options raised during the scoping and public involvement process. The effort expended by EBMUD during the environmental review process is consistent with other projects of similar complexity, including the Los Vaqueros Reservoir Project, for which, at the time that CCWD was

preparing and circulating an EIR/EIS, CCWD was engaged in significant land acquisition and design activities related to its preferred alternative. Moreover, no construction or any environmental impacts would occur prior to EIR certification and project approval.

L20-55, Richard A. Denton, Contra Costa Water District
The extensive review undertaken by CCWD in reviewing the 1997 Draft EIR/EIS is recognized. See the 2000 REIR/SEIS.

Response to Comments Included in Appendix C to Contra Costa Water District Comments

General Comments

L20-C1, Richard A. Denton, Contra Costa Water District
See response to Comment L20-8 above. The potential to substantially affect fish species in the Delta from a diversion such as CCWD's is likely to be low. However, CCWD's use of its points of diversion is currently severely restricted because of concerns over the potential to affect species listed under the state and federal endangered species acts. One of the major concerns of a Delta point of diversion, in addition to the potential for direct take at an intake structure, is the alteration of flows within the Delta. Currently, CCWD, Reclamation's CVP, and the SWP are all subject to significant operational restrictions because of possible effects on listed species. On the basis of this information, there is no reason to believe that resource agency concerns over a Delta intake would be less than with a delivery point on the American River.

L20-C2, Richard A. Denton, Contra Costa Water District
See response to the "Delta and Sacramento River Alternatives" major issue in Chapter 3 of this document. The alternative suggested in the comment would not be capable of meeting the basic project purpose of the Supplemental Water Supply Project, as described in Chapter 2 of the 1997 Draft EIR/EIS, which is to allow EBMUD to make use of American River water under its water service contract with Reclamation, consistent with the conditions set forth in the Hodge Decision. Therefore, the suggested concept was not included in the Alternatives Screening Report presented in Appendix B to the 1997 Draft EIR/EIS.

L20-C3, Richard A. Denton, Contra Costa Water District
Project-specific mitigation will be developed once a preferred project has been identified. Neither CEQA nor NEPA requires that mitigation be committed to in a draft document. The 1997 Draft EIR/EIS presents the range of feasible mitigation measures.

L20-C4, Richard A. Denton, Contra Costa Water District
This comment appears to confuse the intent of CEQA and NEPA. Neither law requires that any effect on a species listed under the state or federal endangered species acts be identified as a significant impact. Compliance with the endangered species acts is a separate legal requirement. Other recent efforts, including the EIR/EIS for CCWD's Los Vaqueros Project, have taken a similar approach in identifying minor impacts on listed and proposed species as less than significant under CEQA and NEPA. Reclamation and EBMUD are coordinating and consulting with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for effects on listed and proposed species.

L20-C5, Richard A. Denton, Contra Costa Water District
As described in Chapter 2 of the 1997 Draft EIR/EIS, only Alternative 3 is presumed to be capable of taking delivery of water when flows are below the Hodge Decision flow criteria. This assumption is clearly stated in the 1997 Draft EIR/EIS on page 2-20. The City of Sacramento and County of Sacramento have expressed support for this assumption. Additionally, the significance criterion used in the 1997 Draft EIR/EIS was applied to the frequency that flows would fall below Hodge or AFRP criteria regardless of whether EBMUD were taking delivery of water at the time. This criterion is considered conservative.

L20-C6, Richard A. Denton, Contra Costa Water District
The relationship between the parameters discussed in this comment and impacts on sensitive fish species is the approach most commonly used in fishery impact assessments. Additionally,

if, in fact, there is no relationship between flow, the location of X2, and impacts on fish, the analysis is very conservative because it assumes the existence of such a relationship.

Specific Comments

Fishery Resources

L20-C-FR1, Richard A. Denton, Contra Costa Water District
EBMUD has thoroughly examined Mokelumne River options and does not anticipate that additional water will be available in the Mokelumne River watershed during dry years. In addition, obtaining an additional Mokelumne River supply would not meet the Supplemental Water Supply Project project objectives described on page 2-1 of the 1997 Draft EIR/EIS.

L20-C-FR2, Richard A. Denton, Contra Costa Water District
Although the design of the intake facility associated with Alternative 3 is still very preliminary, the following criteria are being used for project planning purposes:

- approach velocity of 0.33 feet per second,
- wedge wire slot size of between 2.38 and 1.75 millimeters,
- 27% open area,
- sweeping velocity of at least two times the approach velocity, and
- ability to clean 25% of the screen area every 5 minutes.

These criteria are protective of all fishery resources likely to be exposed to the intake facility.

L20-C-FR3, Richard A. Denton, Contra Costa Water District
Every attempt was made to be consistent with the CVPIA PEIS. To the extent that there are differences, these differences are small and are largely a result of a very slightly different distribution of demands, rather than a difference in overall CVP demands. For example, the 1997 Draft EIR/EIS modeling assumed a total north-of-Delta demand of 3,097,000 AF per year, while the CVPIA PEIS assumed a demand of 3,170,000 AF. This amounts to approximately a 2% difference in demand. However, the south-of-Delta demand assumed in the 1997 Draft EIR/EIS is 3,128,000 AF per year, while the CVPIA PEIS demands are 3,020,000 AF, a difference of less than 3%. These minor variations in modeling assumptions do not substantively affect the system-wide modeling results. In addition, the CVPIA PEIS is an environmental document displaying the potential effects of alternative programmatic actions that Reclamation may undertake, rather than an adopted operations plan. It is believed that the information in the 1997 Draft EIR/EIS is appropriate.

L20-C-FR4, Richard A. Denton, Contra Costa Water District
See response to Comment L20-21 above.

L20-C-FR5, Richard A. Denton, Contra Costa Water District
Figure 3-18 in the 1997 Draft EIR/EIS clearly displays that there is not a substantial change in Delta outflows under Alternative 2 or 3. Reclamation, in conjunction with the SWP, currently operates the CVP and SWP to meet all water quality and flow criteria. The alternatives considered would not substantially alter the obligation or ability of these agencies to meet water quality and flow requirements. As a Reclamation contractor, EBMUD will be subject to contractual shortage provisions that may be imposed during dry and critical years. Therefore, the project alternatives are not expected to have a significant effect on Delta outflow or X2.

L20-C-FR6, Richard A. Denton, Contra Costa Water District
This information represents the best information available on commercial catches of fish produced by the American River. It is

intended only to provide context for the discussion of fisheries resources.

L20-C-FR7, Richard A. Denton, Contra Costa Water District
Whether Chinook salmon bound for the Feather River temporarily use the lower American River as a resting area is uncertain and speculative. Even if these fish were to use the lower American River temporarily, they would not be subjected to an impact. As adult upstream migrants, they could not be affected by minor flow changes in the lower American River, nor would they be subject to entrainment or impingement effects from a new intake facility because of their size and the relatively small volume and flow of the diversion. In addition, temperatures in the lower American River in August are typically lower than in the Sacramento River; therefore, temperature changes in the lower American River would not affect these fish. No impacts are anticipated, even assuming that these fish do occur in the lower American River.

L20-C-FR8, Richard A. Denton, Contra Costa Water District
The life history section is a very brief summary of the available information because Alternatives 2 and 3 have the ability to affect only splittail in the lower American River. A more extensive discussion on splittail life history would not add to the impact analysis and would not assist the reader in understanding the potential impacts of these alternatives.

L20-C-FR9, Richard A. Denton, Contra Costa Water District
Comment noted.

L20-C-FR10, Richard A. Denton, Contra Costa Water District
The source of this information is Wang (1986) (refer to Chapter 21, "Citations," of the 1997 Draft EIR/EIS). The citation is provided in the preceding sentence on page 5-5 of the 1997 Draft EIR/EIS.

L20-C-FR11, Richard A. Denton, Contra Costa Water District
See response to Comment L20-C-FR8 above.

L20-C-FR12, Richard A. Denton, Contra Costa Water District
This discussion describes the extent of formally recognized critical habitat for delta smelt (58 FR 12854, March 5, 1993). The sections in Chapter 5 of the 1997 Draft EIR/EIS that discuss delta smelt appropriately describe the potential effects on this species as they relate to Alternatives 2 and 3.

L20-C-FR13, Richard A. Denton, Contra Costa Water District
The likely decrease of Trinity River imports to the Sacramento River system was included in all alternatives considered in the 1997 Draft EIR/EIS. See Appendix C to the 1997 Draft EIR/EIS for a description of modeling assumptions.

L20-C-FR14, Richard A. Denton, Contra Costa Water District
Although splittail may occasionally use tributary rivers in areas upstream of the Delta, the potential river crossings are all many miles upstream of any areas thought or reported to be used by splittail, and no impacts are anticipated. The Cosumnes River at the potential crossing locations is outside the habitat for this species.

L20-C-FR15, Richard A. Denton, Contra Costa Water District
These species were selected as primary evaluation species because they have been the focus of fisheries management and restoration efforts in the lower American River, and because general information on the flow requirements for these species is available. Potential impacts on delta smelt and spring-run Chinook salmon were not addressed to the same extent because of very limited information and incidental, if any, occurrence of these species in the lower American River.

L20-C-FR16, Richard A. Denton, Contra Costa Water District
The use of Delta outflow, exports, and X2 standards for impact assessment is supported by available information on delta smelt distribution and entrainment in export. Delta outflow, exports,

and X2 have been identified as key variables in managing Delta flows for the protection and recovery of Delta smelt (USFWS 1993, 1995). Reductions in Delta outflows, entrainment losses at water diversions, and high outflows are believed to be major contributors to the decline in delta smelt abundance (Moyle et al. 1996). Estuarine salinity (as indicated by X2) is highly correlated with delta smelt distribution. The proportion of the delta smelt population in the Delta and Suisun Bay is determined by salinity. Delta smelt larvae, juveniles, and adults are entrained by SWP and CVP diversions. Although not clearly supported by data, shifts in the distribution of delta smelt into the Delta and closer to the export facilities potentially increases vulnerability to entrainment. Similarly, juvenile winter- and spring-run Chinook salmon are entrained by SWP and CVP exports. Although the level of exports and entrainment is unclear, entrainment does occur. The protective measures for winter-run Chinook salmon, including seasonal limits on export/inflow ratios, are also considered to provide biological benefits to Chinook salmon and delta smelt (USFWS 1995).

L20-C-FR17, Richard A. Denton, Contra Costa Water District
The potential impacts of Alternatives 2 and 3 on physical habitat were evaluated in Chapter 5 of the 1997 Draft EIR/EIS by applying AFRP flow objectives for wet, above- and below-normal, and dry and critical years to the appropriate water years under each alternative. The results were similar to those based on applying above- and below-normal flow objectives only. Because these results were essentially identical to the analysis presented in the 1997 Draft EIR/EIS, that analysis was considered to be representative and to adequately describe the potential impacts of the project alternatives.

L20-C-FR18, Richard A. Denton, Contra Costa Water District
Existing data indicate that splittail spawn and rear in areas of flooded vegetation, such as the Yolo and Sutter bypasses, portions of the Delta islands, and river mouths. In general, loss of riparian marshlands (floodable areas) in recent decades is considered to be a likely contributor to the decline in splittail numbers (Moyle et al. 1996). As stated in the 1997 Draft EIR/EIS, no information is available on the use or location of spawning and rearing habitat for splittail in the lower American River. In the absence of this information, the 3,500-cfs threshold is simply used as a general indicator of the frequency of overbank flooding and potential opportunities for splittail to use flooded vegetation in the lower American River. In fact, it is more likely that splittail spawning habitat on the lower American River is correlated with very high flows (much higher than 3,500 cfs) that cause overbank flooding and that would not be affected by Alternative 2 or 3.

L20-C-FR19, Richard A. Denton, Contra Costa Water District
Alternatives 2 and 3 would not affect daily Reclamation operations. Reclamation currently attempts to operate the lower American River to minimize stranding effects. There is no reason to expect that daily operations would differ significantly regardless of whether Alternative 2 or 3 is implemented.

L20-C-FR20, Richard A. Denton, Contra Costa Water District
The temperature assessment in Appendix D to the 1997 Draft EIR/EIS provides estimates of the monthly risk of water temperature increases in the lower American River associated with projected changes in Folsom Reservoir storage and American River flows. Monthly regressions between storage and water temperature were generated to determine the changes in Nimbus release temperatures attributable to the project (i.e., changes in storage). The remaining variability, after accounting for the effects of storage, represents effects of other factors (e.g., air temperature) unrelated to storage and not within the influence of Alternative 2 or 3. The analysis is appropriate for assessing potential project impacts.

L20-C-FR21, Richard A. Denton, Contra Costa Water District
The water temperature analyses for fall-run Chinook salmon are considered adequate for addressing potential impacts on winter-run Chinook salmon, because there is currently no evidence for significant race- or size-related differences in temperature tolerances between fall- and winter-run juveniles. It should also be recognized that the potential for water-temperature impacts on winter-run Chinook salmon is low, because any project effects on water temperature would be negligible during winter, when winter-run juveniles are most likely to occur in the lower American River.

L20-C-FR22, Richard A. Denton, Contra Costa Water District
Although it is true that no absolute relationship has been established between Delta flow variables and winter-run Chinook salmon survival, the results from mark-recapture studies of fall-run Chinook salmon released into the lower San Joaquin River at Jersey Point indicate that the survival of smolts migrating through the lower San Joaquin River is reduced during periods of reverse flow (USFWS 1992). Based on these and other available data, NMFS concluded that proposed export limits, in combination with periodic Delta Cross Channel closures, are likely to improve survival of juvenile winter-run Chinook salmon by reducing diversion of migrating juvenile salmon into the central Delta and improving transport and guidance of juveniles to suitable rearing habitat in the northern and western Delta (pre-smolts) and to the ocean (smolts) (National Marine Fisheries Service 1995). Therefore, the impact assessment methodology is considered appropriate.

L20-C-FR23, Richard A. Denton, Contra Costa Water District
Comment regarding factors influencing export populations is noted. This information does not affect the impact analysis.

L20-C-FR24, Richard A. Denton, Contra Costa Water District
See the response to Comment L20-C-FR16 above.

L20-C-FR25, Richard A. Denton, Contra Costa Water District
See response to Comment L20-21 above.

L20-C-FR26, Richard A. Denton, Contra Costa Water District
It should be recognized that the water temperature modeling approach uses the estimated maximum daily change in water temperature for a given flow to estimate potential warming effects associated with flow changes. See Appendix D to the 1997 Draft EIR/EIS, "Simulated Temperature Response to Changes in Flow." The temperature model is also likely to overestimate impacts a significant proportion of time. The temperature analysis is reasonable and represents the best available scientific information. Although additional improvements are undoubtedly possible, technical refinements beyond the scope of the 1997 Draft EIR/EIS are not necessary at this time.

L20-C-FR27, Richard A. Denton, Contra Costa Water District
This criterion was used to evaluate potential impacts on winter-run Chinook salmon in the upper Sacramento River. Reclamation is required to operate to meet this criterion, and it is therefore a reasonable assumption.

L20-C-FR28-32, Richard A. Denton, Contra Costa Water District
As stated in the 1997 Draft EIS/EIR, the 10% criterion for significance was considered reasonable for distinguishing potential real impacts from those attributable to modeling technicalities. It should also be recognized that this significance criterion was applied to changes in the environmental variables, not changes in fish abundance or survival. Furthermore, the predicted increases in the frequency of flows and water temperatures above specific thresholds for proposed or listed species were much smaller than 10% (typically 0–1% and not

exceeding 4%). Thus, even a 5% significance criterion would have resulted in the same impact conclusions for these species. In reference to the comment that "a federal agency may not conduct activities that have a negative impact on listed or candidate species," the Endangered Species Act actually states that a federal agency shall ensure that an agency action "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in destruction or adverse modification of critical habitat." Reclamation and EBMUD are currently coordinating and consulting with USFWS and NMFS under the federal Endangered Species Act.

L20-C-FR33, Richard A. Denton, Contra Costa Water District
The No-Action Alternative is simply a baseline for comparing the effects of the project alternatives. Selection of the No-Action Alternative would not result in any action, but would rather result in no implementation of the project alternatives. Reclamation is not currently obligated to operate the lower American River to meet Hodge flows. The primary change between the modeling for existing conditions and the No-Action Alternative is the inclusion of AFRP flows in the No-Action Alternative.

L20-C-FR34, Richard A. Denton, Contra Costa Water District
See the responses to Comments L20-C-FR28-32 above.

L20-C-FR35, Richard A. Denton, Contra Costa Water District
No response is necessary. See response to Comment L20-C-FR40 below.

L20-C-FR36, Richard A. Denton, Contra Costa Water District
See the responses to Comments L20-C-FR16 and L20-C-FR22 above.

L20-C-FR37, Richard A. Denton, Contra Costa Water District
The key issue discussed in this section is that there would be no changes between the No-Action Alternative and Alternative 3. Therefore, no impacts would result.

L20-C-FR38, Richard A. Denton, Contra Costa Water District
The analysis is appropriate. The information contained in Appendix C to the 1997 Draft EIR/EIS indicates that the greatest change in flows under Alternative 2 is approximately 0.3%, rather than 3–5%. The analysis on page 5-19 of the 1997 Draft EIR/EIS used a simplified approach and in all likelihood may have actually overstated the true impact of Alternative 2, as water would not generally be available to EBMUD in drier years under Alternative 2.

L20-C-FR39, Richard A. Denton, Contra Costa Water District
See the responses to Comments L20-C-FR28-32 on the rationale for significance criteria. The conclusions about the potential for diversion-related impacts are based on current knowledge and data on the distribution of eggs and larvae of these species. The fish screen would be designed to minimize predation impacts. As stated in the 1997 Draft EIS/EIR, the design must meet current DFG and NMFS fish screen guidelines. There is no available information that would support a conclusion that the lower American River is an important spawning area for splittail.

L20-C-FR40, Richard A. Denton, Contra Costa Water District
The 1997 Draft EIR/EIS uses the best available information to assess potential effects. If it is true that there is not a clear relationship between young-of-the-year abundance and adult populations, then it also cannot be assumed that potential project effects on young of the year have any relationship to adult populations. Therefore, the analysis is appropriate.

L20-C-FR41, Richard A. Denton, Contra Costa Water District
See all previous responses in this section.

L20-C-FR42-43, Richard A. Denton, Contra Costa Water District
The measures described in this comment are not considered feasible. The institutional complexity of implementing such measures is significant, and they would likely result in impacts on other areas and water users that are just as substantial as those described for cumulative impacts in the 1997 Draft EIR/EIS. In essence, such actions are major actions themselves that would require independent and separate study and environmental documentation.

L20-C-FR44, Richard A. Denton, Contra Costa Water District
The 1997 Draft EIR/EIS notes that no significant project-level impacts were identified, and therefore no mitigation is required. In addition, implementation of project-level mitigation, if it were necessary and available, would still not noticeably reduce the anticipated cumulative impact. Contribution to regional efforts in proportion to the effects of the project is an appropriate and reasonable approach to mitigation of cumulative impacts.

L20-C-FR45, Richard A. Denton, Contra Costa Water District
See previous responses in this section.

L20-C-FR46, Richard A. Denton, Contra Costa Water District
Comment noted. See responses to Comments L20-C-FR8 and L20-C-FR11 above.

Wildlife Resources

L20-C-WR1, Richard A. Denton, Contra Costa Water District
This comment does not accurately reflect the commitments contained in Mitigation Measure 8-1. The mitigation measure includes specific actions to be implemented if the species in question is found to be present along the alignment at the time construction is occurring (1997 Draft EIS/EIR, p. 8-12). Also see the response to General Comment L20-C3 above.

L20-C-WR2, Richard A. Denton, Contra Costa Water District
Mitigation for loss of marsh habitat is discussed in Chapter 7 of the 1997 Draft EIR/EIS. Loss of foraging habitat for raptors is considered less than significant, as described on page 8-12 of the 1997 Draft EIR/EIS.

Citations

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U.S. Fish and Wildlife Service. 1996. Sacramento-San Joaquin Delta Native Fishes Recovery Plan. November 26, 1996. Region 1. Portland, OR.

U.S. Fish and Wildlife Service. 1993. 1992 annual progress report, FY 92 work guidance. June. Sacramento-San Joaquin Estuary Fishery Resource Office. Stockton, CA.

U. S. Fish and Wildlife Service. 1995. Formal consultation and conference on effects of long-term operation of the Central Valley Project and State Water Project on the threatened delta smelt, delta smelt critical habitat, and proposed threatened Sacramento splittail. March 8, 1995. Memorandum from Ecological Services, Sacramento Field Office. Sacramento, CA.

National Marine Fisheries Service. 1995. Amendments to the CVP-OCAP biological opinion and incidental take statement. Memorandum from Rolland A. Schmitten, Office of the Director. May 17, 1995. Silver Spring, MD.

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March 19, 1998

VIA FEDERAL EXPRESS

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Re: Comments on the Draft Environmental Impact Report/Draft Environmental Impact Statement for the East Bay Municipal Utility District Proposed Supplemental Water Supply Project

Dear Mr. Ladensack:

This firm serves as special legal counsel to the County of Sacramento and Sacramento County Water Agency (collectively referred to as the "County"). This letter is submitted on behalf of the County, and provides comments regarding the Draft Environmental Impact Report/Draft Environmental Impact Statement for EBMUD's Supplemental Water Supply Project ("DEIR/DEIS"). In particular, these comments primarily address the insufficiency of the DEIR/DEIS to support any decision by EBMUD to proceed with the so-called Folsom South Canal Connection Project, which is analyzed as Project Alternative 2 in the DEIR/DEIS. We appreciate the opportunity to provide, on behalf of the County, these comments on the DEIR/DEIS.[1]

The County's major concerns are as follows:

1. The descriptions of the project background, project objective, and the purpose and need for the Supplemental Water Supply Project ("Project") are confusing, misleading and insufficient for informed decision-making, and therefore, are not adequate for the purposes of the California Environmental Quality Act (CEQA) or the National Environmental Policy Act (NEPA).

2. The discussion of alternatives and the feasibility of alternatives is not adequate to comply with CEQA and NEPA. In this regard, the dismissal of downstream alternatives on the Sacramento River is a major deficiency in the DEIR/DEIS. EBMUD, moreover, has employed subjective criteria in the DEIR/DEIS to reach a predetermined decision, and the criteria do not relate to whether or not the basic objectives of the Project are achieved. In

[1] Please note that the County of Sacramento has submitted, under separate cover, additional comments on the DEIR/DEIS.

addition, as to Alternative 2, EBMUD has clearly piecemealed the Project. In this regard, Alternative 2 will not achieve EBMUD's WSMP goals, unless EBMUD pursues additional projects. This violates both CEQA and NEPA.

3. The DEIR/DEIS fails to adequately analyze the full range of potential impacts of the Project. In this regard, the DEIR/DEIS fails to adequately describe and analyze the existing baseline condition from which potential impacts are measured. Existing conditions should have been, but were not, used as a baseline for comparison rather than the described No-Action Alternative (Alternative 1), in order to satisfy CEQA's requirements. The DEIR/DEIS, moreover, utilizes inappropriate impact significance threshold criteria. As to Alternative 2, particularly, significant revisions to the impact assessment approach and methodology would be required in order to rely upon the DEIR/DEIS for accurate impact assessments and decision-making.

4. The DEIR/DEIS fails to adequately explain, and therefore one cannot determine for informed decision-making, how EBMUD has modeled the so-called Hodge Decision in *EDF v. EBMUD*, Alameda County Superior Court, Case No. 425,955. The modeling may assume that more water is available than actually is available under the Hodge Decision. In any event, the project, as modeled, results in impacts contrary to the intent of the Hodge Decision.

5. The assumptions, analysis, approach and conclusions within the DEIR/DEIS are not consistent with the Hodge decision, and the Stipulation and Order in *Buckhorn Canyon Legal Defense Fund v. EBMUD*.

More detailed discussion of the foregoing concerns, plus additional comments, are provided below. These comments are organized as general comments on each chapter of the DEIR/DEIS and the related appendices, followed by specific comments on each chapter. These comments are based, in part, upon a thorough review and analysis of the DEIR/DEIS performed by hydrology and biology experts at Surface Water Resources, Inc., and input received from those experts.

I. SUMMARY CHAPTER (DEIR/DEIS, pp. S-1 TO S-18)

A. General Comments

The DEIR/DEIS states that NEPA compliance is necessary solely to support any decision by the USBR to amend its water service contract with EBMUD in order to accommodate the proposed project. (DEIR/DEIS, p. S-2.) This is inaccurate and misleading. Instead, the USBR's original decision to execute its CVP water service contract with EBMUD was never subjected to environmental review as required by NEPA. NEPA compliance is necessary, therefore, to evaluate any and all potential environmental impacts resulting from EBMUD's CVP contract as a whole. As a related matter, the DEIR/DEIS has been circulated for comments prior to the USBR's completion of the Biological Assessment for the proposed project. This is inconsistent with NEPA's policy of encouraging the integration and coordination of Biological Assessments and EIS preparation for the same project. (*See* 40 C.F.R. §1502.25.) The DEIR/DEIS, moreover, should, at the very least, append a copy of the current draft contract amendments to the USBR/EBMUD CVP water supply contract, in order to adequately inform the public of the scope and nature of these proposed amendments. L21-1 L21-2 L21-3

The DEIR/DEIS fails to adequately disclose the relationship/integration of the proposed Project with the accomplishment of EBMUD's Water Supply Management Plan ("WSMP"), L21-4

and the Project alternatives do not achieve common outcomes. The DEIR/DEIS provides a condensed description of the history of EBMUD's Water Supply Management Plan, and the decisions that have been made during the plan's implementation. (DEIR/DEIS, pp. 1-5 to 1-14.) In particular, the DEIR/DEIS is not entirely consistent with EBMUD's previous decisions regarding the WSMP, because the DEIR/DEIS evaluates "projects" that may not achieve "program" goals of the WSMP. In this regard, the DEIR/DEIS misleads the public by implying that the only decision to be made is which version of an American River supply option is best for EBMUD's WSMP.

The Project Objectives and the Purpose and Need for the project, as stated in the DEIR/DEIS (DEIR/DEIS, p. S-2), illustrate how EBMUD has cleverly attempted to reprioritize the American River supply from a WSMP option, which was almost previously abandoned due to its failure to achieve WSMP "program" goals, to the panacea for meeting EBMUD's future water supply needs. The WSMP history and EBMUD's decision to proceed with pursuing an American River supply can be summarized as follows:

- EBMUD adopted its Updated WSMP which included six alternative composite programs with elements that include seismic fixes to the Mokelumne Aqueduct, water conservation programs, a wastewater reclamation reuse program, a management plan for the lower Mokelumne River, and a supplemental water supply project. When it adopted the Updated WSMP, EBMUD's preferred supplemental water supply project involved the groundwater banking of Mokelumne River water in Eastern San Joaquin County. Other options considered were enlargement of Pardee Reservoir, creating new storage in the Sierra, and connection to the American River. L21-5

- EBMUD then pursued the development of its preferred option through negotiations with San Joaquin County interests, but determined that the program would not be easily implemented. Program level analysis also concluded that significant impacts would be associated with the Pardee Project.

- EBMUD then adopted an Updated WSMP Action Plan to explore other water supply options. The Updated WSMP Action Plan called for four actions: (1) initiate preliminary analysis for a pipeline connection between the Folsom South Canal ("FSC") and the Mokelumne Aqueduct as a "stand alone project not dependent on any additional water supply components;" (2) continue negotiations with San Joaquin County on a joint EBMUD-San Joaquin County conjunctive use project; (3) initiate discussions with Sacramento area interests (and San Joaquin County interests) on a mutually acceptable project; and (4) initiate project level studies for raising Pardee, or other Sierra sites for reservoir storage.

- After further evaluation of the Pardee Reservoir enlargement project and continued unsuccessful efforts to implement a conjunctive use program, EBMUD then decided to make use of its Reclamation water service contract for American River water as a supplemental water supply, and released a Notice of Preparation for this DEIR/DEIS.

- EBMUD then formulated its Purpose and Need statement in this DEIR/DEIS to exclude all options that require use of the Mokelumne River diversion facilities (e.g., Pardee). This exclusion was framed in terms of requiring options that

"provide an alternative water supply in case of planned or unplanned outages at EBMUD's Mokelumne River diversion facilities . . ." (DEIR/DEIS p. 1-2.) EBMUD then further modified its WSMP goals by narrowly pursuing its project objective to "allow EBMUD to make use of its water service contract with reclamation for delivery of American River water, consistent with the conditions set forth in the Hodge decision." (DEIR/DEIS p. 2-1.)

This narrow articulation of the project objective evinces the disconnect in EBMUD's water supply planning process. In this regard, when reviewing the outcomes of EBMUD's alternatives within this project-level DEIR/DEIS, Alternative 2 clearly fails an underlying WSMP goal to eliminate unacceptable deficiencies during drought sequences. Specifically, EBMUD has indicated that its revised "need" for water amounts to 185,000 acre feet over its drought planning sequence. (DEIR/DEIS p. 1-10, 1-12.) Alternative 2 will not provide this amount of water. (*See* DEIR/DEIS, Figure 3-2, years 1976 and 1977 as depicted, and assume no water would be available during the third year of EBMUD's drought planning sequence).

The water available from each alternative is illustrated in Figure 3-2, for Alternative 2, and Figure 3-3, for Alternative 3. The operation assumption as to when water will be diverted is different for each of these Project alternatives. Due to the inability to take water at under Alternative 2 Nimbus (during low-flow months), EBMUD assumes it must divert the water whenever it is *available*. Under Alternative 3, however, the availability of allowable diversions greatly increases, and the diversion of water occurs when it is *needed* in EBMUD's system (according to a rule relating to EBMUD total system reservoir storage). The frequency and magnitude of diversion, therefore, is clearly different between the two alternatives. Most importantly, the alternatives greatly differ from each other as to the amount of water that could be diverted during EBMUD's drought planning sequence. In this regard, Figure 3-2 evidences that Alternative 2 results in EBMUD being able to divert approximately 50,000 acre feet at Nimbus during 1976, and nothing more during the drought planning sequence. Figure 3-3 evidences that Alternative 3 results in EBMUD being able to divert at least its "need for water," which is 185,000 acre feet during the drought planning sequence. This difference is significant in that Alternative 3 would meet EBMUD's WSMP planning goals, and Alternative 2 would not. The DEIR/DEIS, therefore, does not discuss alternatives that would accomplish common outcomes. In this regard, without disclosure as to the additional projects that would be needed to develop comparable projects with common outcomes, an informed decision cannot be made as to a preferred alternative. Although identified as a project objective, the differences between each alternatives in terms of "reliability" have not been adequately disclosed either. For instance, the DEIR/DEIS fails to disclose that the reliability of Alternative 2 to provide back up to the Pardee system during unplanned outages *must* be less than the reliability of Alternative 3. L21-6

Although Alternative 2 achieves the project objective (simply because the objective was framed to not exclude Alternative 2), Alternative 2 fails in respect to the overall goal of the WSMP to meet EBMUD's "need" for water. Alternative 2, therefore, could only achieve the WSMP program goals if it is combined with a storage facility (e.g., groundwater basin or surface reservoir such as Pardee). Plainly stated, Alternative 2 is not consistent with the stated project objectives. The DEIR/DEIS states that EBMUD is proposing to take delivery of its American River entitlement "in order to decrease existing and future customer deficiencies during droughts and to enhance the reliability of the East Bay's water supply." (DEIR/DEIS, p. S-1.) (Emphasis added.) The DEIR/DEIS also acknowledges however, that delivery of water from the FSC under Alternative 2 would be subject to conditions set forth in the Hodge decision, which obviates EBMUD's ability to divert water in dry years if flows do not exceed specified levels. (DEIR/DEIS, p. S-2.) Based on average unimpaired annual inflow to Folsom Reservoir over the 70-year hydrologic period of record, the Hodge flows do not occur L21-7

on the Lower American River ("LAR") approximately forty percent of the time. As a result, EBMUD would not be allowed to divert from the FSC in the driest approximately forty percent of the years. Alternative 2, therefore, does not meet the goal of providing drought or dry year flow augmentation, as stated in the objectives.

EBMUD covers this blatant attempt to frame the project to fit a desired outcome through a project objective that allows projects to "*contribute to* achieving EBMUD's planning objectives established as part of the Updated WSMP." (DEIR/DEIS, p. 2-1.) (Emphasis added.) However, the DEIR/DEIS does not clearly indicate that the alternatives do not achieve common outcomes. In fact, additional projects would be required for Alternative 2 to fully achieve the Updated WSMP goals. This piecemeal approach to the documentation is not adequate for an informed decision, and this piecemealing of the project violates both CEQA and NEPA.

B. Specific Comments

Page S-3,
The DEIR/DEIS states that most of EBMUD's increasing demands for the next twenty years are for "increased flows for senior water rights holders and for resource protection in the Mokelumne River and the San Francisco Bay Sacramento-San Joaquin River Delta." Due to technical deficiencies in the impact analysis (as discussed *infra*), however, numerous potential adverse impacts to the American River and Sacramento River systems were not identified. In any event, the appropriateness of protecting resources in the Mokelumne River and Bay/Delta in exchange for incurring impacts on the American and Sacramento rivers is highly questionable. The DEIR/DEIS, moreover, should state whether the agreement to provide 20% of any actual yield of new water projects to Mokelumne River fishery flows would apply to the project alternatives. Any such operation, of course, would violate the Hodge Decision, and its prohibition on EBMUD using American River water outside its service area. L21-8

Page S-6,
The DEIR/DEIS incorrectly states that neither action alternative is environmentally superior. In fact, Alternative 3 is clearly environmentally superior, but has not been identified as such due to the inaccurate, inappropriate, and incomplete analysis which did not correctly identify potential impacts associated with Alternative 2. L21-9

Page S-6,
The DEIR/DEIS must clarify how "hydrologic simulation modeling and scour analysis" constitute mitigation measures, as stated. L21-10

Page S-7,
Table S-1 is deficient because it fails to identify potentially adverse significant impacts associated with Alternative 2. As explained below, these impacts are not identified due to the insufficient impact analysis. L21-11

Page S-8,
Mitigation measure 8-1, which simply states "conduct surveys for nesting raptors and tri-colored black-birds," does not constitute mitigation without some identified remedial action. L21-12

Page S-11,
Table S-2 is deficient because it fails to identify potentially adverse significant impacts associated with Alternative 2. As explained below, these impacts are not identified due to the insufficient impact analysis. L21-13

Page S-16,
Table S-3 is deficient because it fails to identify potentially adverse significant impacts associated with Alternative 2. As explained below, these impacts are not identified due to the insufficient impact analysis.

Under Fisheries, every one of the mitigation measures states that mitigation would be accomplished by contributing to ongoing regional fishery management efforts. This simple statement is not sufficient. It does not constitute appropriate mitigation because it does not specify the level of commitment, or identify the ongoing management efforts and specific mitigation elements within those efforts that would mitigate for significant impacts associated with the proposed project. L21-14

Under Recreation, the DEIR/DEIS incorrectly states that no mitigation is available for recreation opportunities in the lower American River or Trinity Lake. L21-15

Page S-18,
Table S-4 is deficient because it fails to identify potentially adverse significant impacts associated with Alternative 2. As explained below, these impacts are not identified due to the insufficient impact analysis. L21-16

II. CHAPTER 1 - Purpose and Need for the Supplemental Water Supply Project

A. General Comments

The demand projections and water conservation assumptions through 2020 are not well supported and require additional justification or, at the very least, some reference to the assumptions made in the WSMP or Updated WSMP. Additionally, summaries of the assumptions adopted from the WSMP or Updated WSMP, and relied upon in this DEIR/DEIS, would significantly clarify the ambiguity regarding the application of these assumptions in the DEIR/DEIS. Without those summaries, the DEIR/DEIS is deficient. L21-17

The DEIR/DEIS confirms that under the No-Action alternative, current water supplies can meet the ultimate buildout demands within EBMUD's Urban Services Boundary (USB) through 2020 even with the assumption of 25% deficiencies during dry years. This disclosure suggests that: (1) the No-Action Alternative could represent the environmentally preferable alternative; and (2) there is some question as to whether, or to what extent, a supplemental water need exists for EBMUD. L21-18

In the DEIR/DEIS, EBMUD's current level water conservation savings throughout their service area appear low (approximately 3.5%) compared to industry norms. (*See* DEIR/DEIS, p. 1-11, Table 1-2.) This raises the issue of how EBMUD rationalizes the need for this supplemental water supply project given this substandard water management objective.

B. Specific Comments

Page 1-1,
The DEIR/DEIS states that the two project alternatives were compared to the No-Action Alternative. Existing conditions, rather than the No-Action Alternative, however, should have been used as the baseline for comparison in order to satisfy CEQA and NEPA requirements. L21-19

Further explanation of the deficiencies in the impact assessment approach is provided below in the comments referring to Chapter 3, p. 3-1.

Page 1-2,

In the Project Need statement, the DEIR/DEIS states that a supplemental water source is needed because existing water supplies are insufficient to meet existing and future customer demands in droughts. However, because Alternative 2 is subject to conditions set forth in the Hodge Decision, it does not and cannot meet the project need. On page 1-3, moreover, the DEIR/DEIS states that one of the intended functions of EBMUD's terminal reservoirs is for drought reserve to meet supply shortages in dry periods such as those which occurred in 1928-1934, 1976-1977, and 1987-1992. The DEIR/DEIS fails to provide a detailed explanation justifying the need for American River water, particularly in consideration of limitations imposed upon Alternative 2, and EBMUD's utilization of the terminal reservoirs during drought conditions. L21-20

Page 1-5,

The DEIR/DEIS should explain its criteria for deciding whether and how to use case testimony and evidence from *EDF et al. v. EBMUD*. The County believes that all of the testimony and exhibits that it presented should be considered, and cited as appropriate. L21-21

Page 1-9,

The DEIR/DEIS fails to describe the implementation date and time line for EBMUD's Water Reclamation Implementation Plan (WRIP). The projected reclamation savings through 2030 would appear to be significantly influenced by the implementation of this plan. The DEIR/DEIS, therefore, should provide this information. L21-22

Page 1-11, Table 1-2,

Assuming that the water conservation and water reclamation adjustments are additive, the row titled "Planning level of demand" does not appear to add up correctly. The planning levels of demand should be lower. L21-23

For current conditions (1995), water conservation (including water reclamation) savings appear to be 8 MGD (or approximately 3.5% of current customer demand). The DEIR/DEIS should discuss how this compares with current level water conservation (and water reclamation) savings of typical Central Valley municipal and industrial purveyors. L21-24

Regarding footnote "b", it is unclear how reliable the assumption is that linear savings can be realized from water conservation for the duration of the 26-year program. Have any external factors arisen that were unknown at the time of completion of the June 1994 Water Conservation Master Plan, and which could affect these original projections? The identification of the potential factors that could affect these projections would assist in verifying (and conditioning) these estimates. L21-25

EBMUD should explain how the 230 MGD figure for 1995 was derived. In footnote "a", EBMUD should explain why the average of FY 1984, 1985, and 1986 was used. The reliance on more recent or current data should provide a higher level of accuracy regarding EBMUD's current level demands. L21-26

Page 1-12,

The DEIR/DEIS states that "EBMUD has determined that the instream flow requirements accounted for in the Mokelumne River Joint Settlement Agreement provide reasonable increases in flow to fulfill EBMUD's obligations in these other [Bay-Delta or L21-27

implementation of CVPIA] proceedings." This statement is misleading and incorrect for the following reasons. First, the May 30, Revised Draft Restoration Plan ("Revised Draft") for the Anadromous Fish Restoration Program (AFRP) does not discuss flow recommendations for the Mokelumne River. As to flows on the Mokelumne River, the AFRP simply states that "[s]upplemental flows with water acquired from willing sellers consistent with applicable guidelines or negotiated agreements to improve conditions for all life stages of chinook salmon and steelhead." (*See* Revised Draft, p. 80.) Thus, there is no means of comparison to determine if instream flow requirements accounted for in the Mokelumne River Joint Settlement Agreement are "reasonable" to fulfill obligations under the CVPIA.

Second, the May 9, 1995 AFRP Working Paper on Restoration Needs of habitat restoration actions does discuss instream flow regimes that are recommended for the Mokelumne River, to be provided along its entirety to the San Joaquin River. These flow requirements outlined in the AFRP Working Paper are significantly higher than those discussed in the Joint Settlement Agreement for most months in all year types (i.e., wet, normal and dry years). For example, during normal and above normal year flows under the Joint Settlement Agreement, expected flows below Woodbridge Dam from October through February would be 33% of that recommended for the same period during normal years in the working draft AFRP. These significant differences in flow can greatly impact salmonid spawning, rearing, and emigration success. Thus, it is extremely difficult to conclude that flow requirements accounted for in the Mokelumne River Joint Settlement Agreement provide reasonable increases in flow to fulfill EBMUD's obligations under the CVPIA, as stated in the document.

The text is misleading in its characterization of EBMUD's WSMP actions in 1993. The DEIR/DEIS should specifically state that the EBMUD Board of Directors specifically determined not to proceed with an American River project at that time. L21-28

The basis for the 2001 deadline for the completion of the project (and the use of this deadline as a screening criterion) is not explained, but should be. The relationship between this deadline and the assumed no-action condition (which assumes no impacts until 2030) should also be explained. L21-29

Page 1-13,

The DEIR/DEIS should discuss in detail the progress of any negotiations for a mutually acceptable agreement with San Joaquin interests. This should include a discussion of whether EBMUD is still pursuing Mokelumne River conjunctive use. Without some continuing proactive effort at implementing a conjunctive use program(s), it is doubtful that the most effective water management strategies are being implemented by EBMUD, based on the information provided in the DEIR/DEIS. L21-30

The DEIR/DEIS should discuss, in detail, the status of the Reclamation contract modifications. Without a clear delineation of the federal agencies' (i.e., Reclamation) actions and more importantly, the potential impacts of these actions, Reclamation is unable to adequately discharge its responsibilities under NEPA to proceed with, let alone approve, the proposed project. L21-31

Page 1-17, Table 1-3,

The City of Sacramento and the U.S. Bureau of Reclamation Fish Screen Replacement Project, jointly funded by the City of Sacramento and the Anadromous Fish Screen Program under the CVPIA, should be added to this table. L21-32

As to the P.L.101-514 water contracts, the table should acknowledge that there are two new contracts being negotiated, along with a subcontract with the City of Folsom. L21-33

The Sacramento County Water Agency, not the County of Sacramento, is the proposed contractor for the P.L. 101-514 water service contract. L21-34

III. CHAPTER 2 - Project Objectives and Alternatives Under Consideration

A. General Comments

The dismissal of downstream alternatives on the Sacramento River is a major deficiency in the DEIR/DEIS. An EIR must describe a reasonable range of alternatives to the proposed project, that could feasibly obtain most of the basic objectives of the project while avoiding adverse impacts. An EIR or other document in the record must describe the rationale for rejecting an alternative. Here, EBMUD has employed subjective criteria to reach a predetermined decision, and the criteria do not relate to whether or not the basic objectives of the project are achieved. The following are some examples:

- It is unclear how the alternatives analysis relates to EBMUD's overall water supply planning. For example, raising Pardee was a component of the Updated WSMP and related Action Plan. It is unclear what happened to that alternative, and how it would be subsequently coordinated with the proposed supplemental supply.
- Alternatives were screened out if they did not allow EBMUD to take its full 150,000 acre-foot contract amount consistent with the Hodge Decision. This can lead to misleading comparisons of the accomplishments and costs of alternatives, since the Hodge Decision does not apply to all alternatives.
- Alternatives were screened out if they did not meet EBMUD's Policy 81. (DEIR, Vol. II, p. 4-3.) Policy 81 was adopted in 1997 and is a rather obvious attempt to manufacture criteria to make certain alternatives fail the screening test. It is also full of subjective and vague pronouncements that give the screener free latitude to throw alternatives out based on an interpretation of the policy. CEQA and NEPA do not allow this. An agency must develop objective screening criteria to analyze alternatives. It is not permissible to develop criteria based on a desired outcome of the screening process. Similarly, it is arbitrary to require that an alternative *must* be completed by 2001 in order to be feasible. (DEIR, Vol. II, p. 4-8.)
- The discussion of the Sacramento River alternative overestimates the water treatment costs.

L21-35

The descriptions and assumptions regarding how Alternative 2 will be implemented are inconsistent with the Hodge Decision. EBMUD's assumption that it will operate its diversion from Nimbus under Alternative 2 whenever it is allowed from a water availability perspective (i.e. whenever flows in the river are "above" Hodge flow levels) is inconsistent with the Physical Solution decreed by the Court in at least two ways. First, Condition 4 of the Physical Solution states that "EBMUD shall use its best efforts to divert as much water as possible during those times when instream flows are least required for the protection of environmental interests and public trust values." Condition 4, however, is not considered within the L21-36

formulation of the operations assumptions underlying Alternative 2, and therefore, the hydrologic analysis and impact assessment will be flawed. Second, Condition 6 of the Physical Solution states that EBMUD "shall not divert water except to meet the demands for customers within the EBMUD utility district." This condition appears to be blatantly ignored within the formulation of Alternative 2. As illustrated by DEIR/DEIS Figure 3-17 (Camanche Release Flows), EBMUD's operation to take water from the American River whenever it is allowed will result in more water diverted from the American River than will be needed for ~~EBMUD's customers. This outcome is shown as increased releases to the Mokelumne River,~~ including additional releases during critical years. When reviewed with flow impacts on the American River, the Mokelumne River will be improved at the expense of the American River. This circumstance is not consistent with the Hodge Decision, and further flaws the viability of Alternative 2. L21-37

Condition 7 of the Physical Solution, moreover, states that "EBMUD shall not market nor sell any part of its water diverted hereunder to any third party." Information and impact analysis disclosed in the DEIR/DEIS, however, implies the potential use of Alternative 2 facilities and water availability by parties other than EBMUD. This analysis is clearly inappropriate in view of the institutional hurdles presented by the Hodge Decision, and it appears that it is included within the DEIR/DEIS simply to provide incidental environmental documentation for a future aspect of the Project that is not clearly identified and disclosed. This violates both CEQA and NEPA. L21-38

The DEIR/DEIS fails to provide adequate cost information in order to support an informed decision. Cost information regarding the alternatives is not adequately disclosed to allow an informed decision on the differences between the alternatives. In particular, the non-comparability of Alternative 2 and Alternative 3 in terms of water supply and reliability make the cost comparisons almost useless. Comparable projects with associated costs must be developed and disclosed. L21-39

The DEIR/DEIS identifies EBMUD's planning objectives (listed on page 2-2) as part of the Project Objectives. It is uncertain, however, how the Folsom South Canal diversion (Alternative 2) could "protect and improve the biological resources . . ." The subsequent discussion of impacts associated with Alternative 2 evidences that this objective cannot be realistically met. L21-40

The DEIR/DEIS identifies environmental and biological protection and enhancement, as one of its alternatives screening criteria. (DEIR/DEIS, vol. II., p. 4-6, 4-7.) The description of this criterion, however, is focused on the Mokelumne River resources only with no consideration of Folsom Reservoir or the American River. As EBMUD is aware, the Hodge Decision specifically addresses the protection of the resources of the lower American River. This omission of the lower American River as part of this screening criterion represents a gross oversight, evidencing the inadequacy of the alternatives analyzed in the DEIR/DEIS. L21-41

In several places in Chapter 2, reference is made to the application of screening criteria for the selection of alternatives carried forward for detailed study in the DEIR/DEIS. Specifically, statements are made suggesting that failure of one or more screening criteria may eliminate an alternative from analysis in the DEIR/DEIS. Proper justifications for carrying forward certain alternatives is lacking in several instances. L21-42

The DEIR/DEIS fails to adequately discuss how the various environmental commitments (e.g., Hydrologic Simulation Modeling and Scour Analysis) identified as part of the proposed project would be integrated into the proposed project after it is approved. L21-43

(DEIR/DEIS, pp. 2-3 to 2-7.) The results from these activities and other analyses may require project alteration or redefinition, depending on the conclusions reached in the analysis. The DEIR/DEIS provides no discussion or assurances as to how these commitments will be met. If these commitments are truly part of the proposed project and this DEIS/DEIR represents a project-level document, a much more defined relationship with elevated specificity is required. L21-43

B. Specific Comments

Page 2-2,
The EBMUD planning objectives differ from the Project Objectives on the previous page. The DEIR/DEIS should clarify whether both sets apply for the purposes of this environmental document, or just one of the two sets. L21-44

Page 2-3,
The DEIR/DEIS must clarify whether EBMUD intends to include all of the environmental commitments under both Alternatives 2 and 3. It is unclear whether all of the environmental commitments would also apply to Alternative 2. From an environmental protection perspective, implementing such plans (i.e., Dust Suppression, Phase I and II Hazardous Materials Studies, Hazardous Materials Management Plan, Storm Water Pollution Prevention Plan, etc.) for a FSC Connection alternative would be necessary. L21-45

Page 2-7,
The Project Planning Coordination and Communication Plan discussion is wholly deficient for the purposes of a project-level EIR. The DEIR/DEIS must explain the specifics of the Plan. L21-46

Page 2-7,
The DEIR/DEIS states that "EBMUD would have no backup supply for use during scheduled or unplanned facility outages at Pardee Reservoir." This begs the question as to what is EBMUD's current operational strategy for scheduled or unplanned facility outages at Pardee Reservoir. The statement and discussion imply that under the No-Action Alternative (i.e. no supplemental water supply project), no backup supply exists. The DEIR/DEIS does not adequately explain this scenario. L21-47

Page 2-8,
The DEIR/DEIS should explain the implication in the text that even in the absence of new water supplies, local land use agencies would approve new development indefinitely. L21-48

Page 2-8,
The DEIR/DEIS acknowledges that the No-Action Alternative is "anticipated to be adequate to meet full buildout of the USB with implementation of water conservation and water reclamation programs and assuming up to 25% deficiencies in dry years, although at significant costs to ratepayers..." This implies that the No-Action Alternative might well represent the preferred alternative given that the other alternatives considered include those that are more costly. L21-49

Page 2-11,
The DEIR/DEIS lacks detailed documentation confirming that the alternative pipeline alignment(s) have been routed to avoid structures, sensitive environmental resources, and other land use and environmental resource conflicts. As a purported project-level document, more detailed specifics regarding the pipeline alignments must be included in the DEIR/DEIS. L21-50

Pages 2-11, 12,
The DEIR/DEIS states that diversions at the FSC would be permitted based on an instantaneous evaluation of whether instream flows exceeded "Hodge flows." Operationally, EBMUD assumed diversions at any time flow levels exceeded those of the Hodge Decision. These statements and assumptions in the evaluation are problematic for several reasons. First, EBMUD's diversions would remove water from the system that otherwise would have been available for meeting CVP-wide environmental or contract delivery obligations. The removal of water by EBMUD could, under some circumstances, require higher releases from Folsom Reservoir to simultaneously account for diversions by EBMUD and provide water for meeting other CVP-wide obligations. This circumstance would result in lower storage levels in Folsom Reservoir. L21-51

Second, with regard to potential impacts to fishery resources in the LAR, lower storage levels have several possible implications. EBMUD diversions may reduce storage levels such that in subsequent months, despite complete curtailment of EBMUD diversions, storage may be insufficient to maintain "Hodge flows" and meet target carryover storage in Folsom Reservoir. Under this circumstance, although EBMUD would not instantaneously violate the Hodge Decision as interpreted by EBMUD in the DEIR/DEIS, EBMUD's diversions could nonetheless result in flow levels below "Hodge flows" in subsequent months. In addition to potentially impacting flow levels in subsequent months, depending on the hydrologic conditions, storage levels could remain "depressed" in subsequent water years, resulting in lower flows than would have occurred without EBMUD's diversions. L21-52

Third, information pertaining to hydrologic modeling of the "Hodge criteria" is insufficient for evaluation, and the modeling of the Hodge Decision conditions appears to be deficient. For example, the Hodge Decision included a 60 TAF block of water dedicated for CDFG's discretionary utilization. There is no indication that this 60 TAF block was included in the assessment. L21-53

Page 2-13,
The DEIR/DEIS fails to describe the specific strategy to ensure that sensitive resources are not disturbed or affected. A reference to the appropriate chapter would be of assistance. As a purported project-level document, detailed specifics regarding all proposed access roads and staging areas must be addressed in the DEIR/DEIS. L21-54

Page 2-14,
Additional detail is required in the DEIR/DEIS to verify, confirm, or accept the capital costs numbers presented in Table 2-3. Since costs were identified as a screening criteria in the selection of the initial array of alternatives, detailed discussion and complete disclosure of all assumptions used in the estimation of capital costs must be included in the DEIR/DEIS. Without this important background information, the public is unable to properly assess the adequacy of the screening process, and the DEIR/DEIS is insufficient for informed decision-making. L21-55

The DEIR/DEIS should also explain why the ratepayer cost assessment for Alternative 2 was based on the assumption that total average annual deliveries would total 29,000 AF. L21-56

Page 2-21,
The DEIR/DEIS should clarify that the Sacramento County Water Agency's point of diversion under its proposed action is from the Sacramento River, although the new CVP contract that it is seeking under the authorization of P.L.101-514 is from Reclamation's L21-57

American River Division water rights. The Sacramento County Water Agency would divert from the American River only as an alternative to the proposed action under P.L. 101-514.

Page 2-24,

The DEIR/DEIS states that "[f]ailure of a potential alternative to substantially achieve one or more of the specific criteria resulted in elimination of the alternative from detailed consideration in this EIR/EIS." Table 2-8, on p. 2-29 indicates which alternatives met the screening *criteria* as a whole. (Emphasis added.) The DEIR/DEIS should further explain, however, whether any of these alternatives failed one or more of the individual criteria. L21-58

C. General Comments on Alternatives Screening Report (DEIR/DEIS, Vol. II, Append. B.)

Page 4-1 re: Alternatives Screening Criteria,

The criterion addressing EBMUD's use of its Reclamation contract should clarify that Alternative 3, involving delivery of water from the lower American River *in the vicinity of* the Interstate 5 Bridge crossing, may not require compliance with the Hodge Decision's flow criteria. The Hodge Decision clearly applies to Alternative 2, which has a diversion point upstream of the I-5 crossing. L21-59

Page 4-6 re: Environmental and Biological Criteria,

The criterion states that an alternative must increase opportunities for protection and enhancement of Mokelumne River resources but makes no mention of the resources of Folsom Reservoir or the American River. This represents a significant omission in the breadth of the environmental and biological screening criteria used. L21-60

IV. CHAPTER 3 - Hydrology, Water Supply, and Power

A. General Comments

In general, the DEIR/DEIS fails to provide a sufficient level of detail for a thorough evaluation of the appropriateness of the hydrologic modeling approach. It is clear, however, that the information provided is not sufficient to support the conclusions derived from the modeling results, which serve as the basis for all water-based (e.g., fisheries) impact assessments.

The DEIR/DEIS apparently ignores any discussion of impacts to CVP contractors north of the Delta which would include water settlement contractors, M&I contractors, and agricultural contractors, and what effect the proposed project has on those deliveries. Also, no discussion is provided regarding the effects of the proposed project on CVP contractors south of the Delta, which would include exchange contractors, M&I contractors and agricultural contractors receiving water through the export facilities at Tracy. In addition, no discussion or evaluation is presented regarding impacts to CVP contractors or other contractors along the American River, or of impacts of this project on State Water Project (SWP) contractors south of the Delta. The DEIR/DEIS is deficient because of its failure to evaluate the effects of the proposed project on those other users of CVP or SWP water. L21-61

No discussion is provided concerning modeling the American River upstream from Folsom Reservoir. Upstream operations have a tremendous influence on the operation of Folsom Reservoir. Upstream operations can affect the flood operation because storage in upstream reservoirs influences the flood control diagram for Folsom Reservoir. Folsom L21-62

Reservoir inflow is affected by upstream diversions and upstream operations. It is not clear whether the inflow has been adjusted for changes in upstream operations or diversions other than for PCWA.

The DEIR fails to provide an adequate evaluation of hydrologic alterations in the LAR to assess potential impacts to splittail. Splittail spawn over flooded vegetation and could be adversely affected if EBMUD's diversions reduce the frequency or extent of flooded vegetation along the Lower American River. Splittail, however, were not considered the development of "Hodge Flow" levels, and therefore, the Hodge Decision provides no basis for evaluating impacts to this species. L21-63

B. Specific Comments

Page 3-1,

An incorrect baseline was used to assess the potential for significant environmental effects of the proposed project and, therefore, the DEIR/DEIS does not meet CEQA and NEPA requirements. As discussed previously, existing conditions, rather than the No-Action Alternative, should have been used as the baseline for comparison.

The hydrologic data analyses are described on p. 3-1 of the DEIR/DEIS. Existing conditions, the No-Action Alternative, and Project Alternatives 2 and 3 are presented. The basis for assessing the environmental effects of the alternatives is also presented, including an explanation that two baseline conditions were used in the evaluations. The document states in paragraph 4 that the hydrologic data served as the primary assessment tool for the evaluation of effects on water supply, power production, water quality, fisheries, and recreation. L21-64

Paragraph 5 on pg. 3-1 states that "Alternative 1, which is the No-Action Alternative, was used as the baseline for assessing effects of the project alternatives and existing conditions was used as the baseline for assessing cumulative effects." CEQA and NEPA, however, requires that the No-Action Alternative be analyzed relative to existing conditions in the same manner as project alternatives so that decision makers can compare the impacts of approving the project with the impacts of not approving the project.

Use of incorrect baselines for analyzing impacts of the alternatives misrepresents the potential environmental consequences of both the proposed action and the No-Action Alternative. In this regard, the DEIR/DEIS does not meet CEQA or NEPA requirements. To correct these deficiencies, the environmental effects of the project alternatives (Alternative 2 and Alternative 3) should be analyzed relative to the existing conditions, and the No-Action Alternative (Alternative 1) should also be analyzed relative to existing conditions. The differences in impacts among the alternatives should then be compared to allow the public and decision makers to clearly understand the potential consequences of the alternatives. This was not done in the DEIR/DEIS.

Page 3-1,

The statement that "EBMUD has used available technology to extensively model hydrologic and water quality conditions" is misleading and inaccurate. For example, numerous environmental documents recently prepared have utilized USBR's water temperature model for the American River to assess potential water temperature-related impacts. It is insufficient for EBMUD to fail to utilize this readily available and previously accepted technology, and instead develop a complex and uncertain suite of modeling exercises, which have not been subject to review, in order to perform water temperature impact assessments for the DEIR/DEIS. L21-65

Pages 3-3, 3-8, 3-13,

On p. 3-3, the DEIR/DEIS shows that modified D-1400 was used to characterize the existing instream flow conditions on the American River. This is reiterated on p. 3-13. However, on page 3-8 the DEIR/DEIS acknowledges that USBR has, in recent years, operated Folsom Dam to attempt to meet flows specified in the AFRP. Clearly, the wrong instream flow requirement was used in analyzing impacts on the LAR, which underestimates the potential significant impacts to aquatic resources. L21-66

Page 3-3,

American River demands for both the 1995 level and 2030 level are inconsistent with the Water Forum. The DEIR/DEIS 1995 demand of 285,000 AF, assuming this does not include 35,000 AF for PCWA, is 56,000 AF higher than the 1995 level demand for the Water Forum. It is not clear where this demand is located. This increase in diversions for the existing condition will result in lower available supply, and tend to decrease cumulative impacts. The DEIR/DEIS 2030 American River demand of 368,000 AF is 124,000 AF lower than the 2030 Water Forum demand. This inconsistency similarly results in lesser cumulative impacts. L21-67

The DEIR/DEIS presents the 1995 SWP demands as 3,998,000 AF. Assuming these represent south of Delta demands only, these demands are greater than demands used by DWR (3,6000,000 AF) for existing level studies. The SWP future (2030) level demands of 4,222,000 AF are consistent with the DWR future level studies. The exaggerated existing level demands used in the DEIR/DEIS diminishes the difference in available water supply between the 1995 and 2030 scenarios, which again results in the inappropriate minimization of all water-related cumulative impacts. L21-68

Page 3-4, Table 3-2,

Demands upstream from Folsom Reservoir are not included in this table. It is unclear what is assumed for upstream diversions. This is an important consideration regarding inflow to Folsom Reservoir, water availability, and subsequent impact assessments. L21-69

Page 3-6, Table 3-3,

A portion of the demands for El Dorado County are diverted directly from Folsom Dam. It is unclear how this is accounted for in the modeling. L21-70

Page 3-8,

The DEIR/DEIS states that, in general, AFRP criteria require larger instream flows than the Water Forum F-pattern. Presumably, this statement is based upon data on storage-flow relationships for AFRP and Water Forum instream flows included in Appendix C, Tables C-1 and C-2. However, the criteria presented in Table C-1 are obsolete, and do not adequately represent the implementation of the AFRP flow requirements. Storage-flow relationships, as well as flow stabilization criteria, have been revised from that which is presented. The Water Forum F-Pattern storage-flow relationship is influenced by demands on the American River. The "trigger" values presented in Table C-2 are not consistent with the American River demands specified in Table 3-3. This will result in a flow regime in the LAR that will differ from the intent of the F-Pattern. Also, the flow regime for the LAR prescribed by the F-Pattern will differ from the regime prescribed by the AFRP. The monthly flow patterns will vary, although the total average annual flow released to the LAR will remain relatively constant. Given that the storage-flow relationships used for the analysis in the DEIR/DEIS contain inconsistencies, resulting flows used in the impact assessment for the LAR are not appropriate. L21-71

The DEIR/DEIS states that several entities divert water from Folsom Reservoir including San Juan Water District, City of Roseville, Folsom State Prison and El Dorado Irrigation District. The City of Folsom also diverts from Folsom Reservoir. L21-72

Page 3-10,

The reference to the "Kern Canal" should be changed to the Friant-Kern Canal. L21-73

Page 3-10, 3-11,

The DEIR/DEIS incorrectly refers to Yolo Bypass inflows to the Delta as deliveries when, in reality, they are overflows. L21-74

Page 3-12,

The DEIR/DEIS must explain, in much greater detail, the "inconsistency in the PROSIM input hydrology" and how this could affect the impact analysis. In particular, if the original hydrologic analysis was in error with regard to water deliveries, the DEIR/DEIS must explain what it is relying on to prove that the Alternative 2 meets project objectives. The DEIR/DEIS must also fully explain the basis for its conclusion that corrected hydrology would not change its impact analysis. This modeling error also begs the question of whether the PROSIM simulations have, in fact, been updated, and if so, whether they have been utilized by EBMUD. This should be fully explained to the public. L21-75

Page 3-13,

In its discussion of deliveries from the American River, the DEIR/DEIS states that deliveries to EBMUD would be made during periods when Hodge flows are exceeded in the American River. It is not clear, however, how these diversions would be implemented. For example, would EBMUD take its entire demand when Hodge flows are exceeded in the river, or is the demand limited by the amount of water flowing down the river in excess of the Hodge Decision, or is water withdrawn from storage in Folsom Reservoir when Hodge flows are exceeded? These questions should be addressed. L21-76

The DEIR/DEIS states that the 1928-34 period is considered the representative period for dry conditions. This statement is incorrect. Several other known drought series have occurred throughout the 70-year period of record, as well as numerous individual dry years that collectively represent dry conditions. L21-77

Page 3-14,

For Alternative 2, cumulative conditions, the DEIR/DEIS assumed that water would be delivered to EBMUD whenever water was available under the Hodge Decision criteria and would be limited only by available capacity in the Folsom South Canal pipeline (up to 350 cfs). This implies that CVP-imposed deficiencies, which are imposed on CVP contractors during dry years were incorrectly assumed not to apply to the EBMUD-CVP contract. This should be clarified and fully explained. L21-78

Page 3-15,

The DEIR/DEIS states that project alternatives would negligibly affect Folsom Reservoir elevations throughout the year, and therefore it is assumed that generating capacity would be negligibly affected because project deliveries would not result in substantial lake elevation fluctuations compared to existing conditions. However, the DEIR/DEIS does not provide technical information for individual years to substantiate this assertion. L21-79

The operations and energy use by pumping operations from Folsom Reservoir to EID and the City of Folsom depend on the Folsom Reservoir elevation, which is governed by L21-80

storage and releases. The DEIR/DEIS should explain why other entities such as San Juan Water District and the City of Roseville were excluded from this discussion.

Page 3-16,

The DEIR/DEIS discussion of the PROSIM's simulation of monthly operations suggests that accumulated EBMUD deliveries may trigger a threshold effect which in turn, may cause different instream flow requirements and Folsom Reservoir storage differences, which are greater than the "original" difference. The discussion also states that, in general, agency personnel operating the water supply and delivery control systems have more flexibility in controlling operations than the monthly model would suggest and, therefore, the maximum delivery rates of 350 cfs (Alternative 2) and 381 cfs (Alternative 3) would not affect operations. This conclusion is not supported by the information presented in the DEIR/DEIS. L21-81

Page 3-17,

The Folsom Reservoir discussion states that end-of-month storage values are somewhat higher in July through December, and lower in January through June, under Alternative 1 when compared to the existing conditions, primarily as a result of reserving storage for higher release flows for fish in late fall and winter (November-March). This discussion implies that large releases would be made during January under Alternative 1. It would appear that these flows contradict AFRP goals of providing spawning flows in the fall for chinook salmon. The DEIR/DEIS fails to provide sufficient information to support these conclusions regarding flow changes in the LAR. L21-82

The DEIR/DEIS states that under cumulative conditions, average Folsom reservoir carryover storage values are 61,000 AF higher for Alternative 2 and 70,000 AF higher for Alternative 3, relative to existing conditions. The data presented, however, contradicts these conclusions. L21-83

The DEIR/DEIS fails to reference any data or output which substantiates the claimed reductions in Folsom Reservoir water surface elevation changes. L21-84

Based upon the hydrologic modeling that was conducted, the DEIR/DEIS concludes that the mean annual flow at Nimbus Dam under Alternative 1 is reduced by 27,000 AF under Alternative 2, and by 2,000 AF under Alternative 3. Given that the DEIR/DEIS states that the mean annual delivery to EBMUD under Alternative 2 (FSC diversion) is 29,000 AF, it is unclear how this discrepancy can be accounted for. Moreover, a more detailed explanation must be provided as to why a difference in mean annual flow at Nimbus Dam occurs under Alternative 3, given that water would not be delivered under this alternative until it reaches the intake structure near the mouth of the American River. The DEIR/DEIS does not provide sufficient technical information to support these conclusionary statements. L21-85

Page 3-18,

The discussion of Figure 3-9 includes the statement that flows are reduced in summer and increased in winter. Figure 3-9, however, is a cumulative probability distribution of flows, and it is impossible to make any conclusions regarding seasonality of flows from this information. L21-86

The DEIR/DEIS states that "[m]ean annual flow at Nimbus is reduced by 291,000 AF and 191,000 AF, respectively, under Alternative 2 and Alternative 3 cumulative conditions, compared to existing conditions." The difference between 291,00 AF and 191,000 AF would be understandable if the diversion under Alternative 2 is 100,000 AF. However, the estimated 191,000 AF change in Nimbus flow under Alternative 3 relative to the existing conditions is L21-87

not clear. The DEIR/DEIS reported increase in diversion upstream from Nimbus is less than 191,000. Sufficient information is not provided to ascertain diversions upstream from Folsom Reservoir, although the increase in diversions from Nimbus and Folsom Reservoir are approximately 107,000 AF. For these reasons, the DEIR/DEIS must explain how the mean annual flows at Nimbus can vary so greatly.

Page 3-19,

The DEIR/DEIS discussion regarding flows in the Sacramento River is inadequate, and lacks supporting technical reference. For example, no discussion is provided regarding the extent of flow changes below Keswick Dam in the future, which would be expected to be significant, due to the nature of system-wide integrated operations. L21-88

The discussion of the Trinity River system lacks technical support for its conclusionary statements. In this regard, the DEIR/DEIS states that "CVP operations of Trinity River do change appreciably under Alternative 1. Under Alternatives 2 and 3, reductions in mean storage and carryover storage are small." These statements apparently contradict the modeling assumptions, which increase flows in the Trinity River from a requirement of 340,000 AF per year under existing conditions to requirements of 390,000 to 720,000 AF annually under future conditions.

The discussion of the Sacramento-San Joaquin River Delta is nonsensical. The first sentence in the paragraph relates to water supply deliveries and should be deleted. The remainder of the paragraph only refers to Delta outflow, and fails to even address Delta inflow. L21-89

Pages 3-20, 3-21,

Table 3-4 contains apparent inconsistencies. For example, under Lake Shasta storage, the first row is listed as Alternative 1 minus No-Action, when it probably should be listed as existing condition. Also, the headings for Sacramento River flows at Keswick and Freeport indicate that values are expressed in terms of cfs. These figures appear incorrect. Also, it is unclear whether these figures are expressed as 70-year average values. L21-90

Page 3-21,

Although not discussed in the text (as previously mentioned), Table 3-4 contains information on total Delta inflow. This is problematic. For example, the reduction in total Delta inflow for Alternative 2 minus No-Action is a plus 1,000 AF, yet the Freeport flow for Alternative 2 minus No-Action is a minus 24,000 AF. This does not seem to correspond. Also, total Delta inflow for Alternative 3 minus No-Action is shown to be minus 30,000 AF, yet the Sacramento River flow at Freeport for Alternative 3 minus No-Action is shown to be a minus 133,000 AF. This would indicate that 100,000 AF of additional flow is entering between Freeport and the Delta. It is unclear where that water could be coming from. L21-91

Page 3-22,

The DEIR/DEIS states that the "distributions for Alternatives 2 and 3 indicate that the small quantity of project deliveries should not appreciably affect the timing or quantity or water available to meet SWP demands." However, the distribution shown in Figure 3-19 (which was referenced for this conclusion) does not contain any information regarding the timing or quantity of water available. It is unclear whether that information exists elsewhere in the document. L21-92

The section on hydropower and energy production is woefully inadequate. There is no discussion of capacity impacts, there is no discussion of individual year impacts to energy or L21-93

capacity production, and there is no discussion of effects on pumping for EID or for the pumping plant at Folsom Dam. None of this data appears to be available in the DEIR/DEIS.

C. Additional Comments On Volume II, Appendix C

1. General Comments

Appendix C presents results of PROSIM and EBMUDSIM modeling. With the exception of tables showing EMBUD deliveries and deliveries to the City and County from the American River, there are no detailed results from the modeling for other important parameters such as Folsom Reservoir and other CVP reservoir storages. The only information that appears to be available in the appendix are a number of tables which give only monthly minimum, maximum, and 70-year average values for the period of record. That information is insufficient to perform an analysis or to understand the impacts or the effects of this proposed project on the various parameters. Also, modeling assumptions used in the entire analysis are not documented, and therefore, cannot be examined. There is merely a list of computer files used, and a list of changes to those computer files. It is not clear what is contained in the listed computer files. L21-94

2. Specific Comments

Appendix C, Page 4, Note 6,
The AFRP flow requirements used in the PEIS Alternative 1 have been significantly modified over the past years. This may result in different flows in the Sacramento River, Clear Creek, and the American River, than the flows used for impact assessment in the DEIR/DEIS. L21-95

Appendix C, Page 4, Note 7,
It appears that 35 TAF was subtracted from Folsom Reservoir inflow. PCWA's existing diversion from the upper American River is 8.5 TAF, and this diversion has been accounted for in the upstream simulation. It appears that in PROSIM simulations where 35 TAF was removed, the resulting PCWA upstream diversion is 35 TAF plus 8.5 TAF, which equates to a 43.5 TAF diversion for PCWA. This will alter the water supply in Folsom Reservoir, flows in the lower American River, and water supplies throughout the entire CVP. It is unclear how other changes in upstream diversions were accounted for. L21-96

Appendix C, Page 5, Note 11,
This note states that the reservoir file was adjusted to account for differences in PROSIM versions. It is not clear which PROSIM version was used in the analysis, or if any modifications were made to PROSIM for this analysis. L21-97

Appendix C, Page 6, Table 3,
American River demands are presented for the future conditions only. It is unclear what specific demands were included in the existing conditions. L21-98

Appendix C, Page 7, Table 4,
This Table shows the demand used for Alternative 2 is 28.9 TAF, and the demand used for Alternative 3 is 112 TAF. The DEIR/DEIS, however, states on page 3-13 that the simulated delivery under Alternative 2 was 29,000 AF, with a maximum take of 105,000 AF. There appears to be an inconsistency, therefore, between demand and delivery, and this must be explained L21-99

Appendix C, Table C-3,
The existing condition for the City of Sacramento's American River diversion is stated as 85,000 AF per year. This is higher than current City of Sacramento American River diversions. For example, the Water Forum uses 50,000 AF per year for the American River diversion for the City of Sacramento. This discrepancy should be explained. L21-100

Appendix C, Table C-4,
It is unclear what criteria were used to decrease water right deliveries to the City of Sacramento. L21-101

Appendix C, Table C-6, and Table C-9,
These tables represent the delivery to EBMUD, City of Sacramento, and the County of Sacramento from the American River. The annual delivery is as low as 45 TAF in seven years. This discrepancy should be explained, given the City's demand at 100 TAF, the County's demand at 27.7 TAF, and EBMUD's demand at 112 TAF. L21-102

V. CHAPTER 4 - Water Quality

A. General Comments

The water quality discussion makes determinations of less-than-significant impacts for a number of water quality issues without sufficient technical evaluations upon which to base such conclusions. In addition, the water quality discussion fails to evaluate all the relevant water quality issues that should be evaluated for this proposed project. For example, the impact assessment focused on impacts to water quality in terminal reservoirs and the Delta, but did not address potential water quality impacts to Folsom Reservoir, Lake Natoma, or the lower American and Sacramento Rivers. Moreover, it did not address potential impacts to parties discharging to or diverting from the lower Sacramento River (e.g., Sacramento Regional County Sanitation District). This chapter completely lacks any discussion of the State Antidegradation Policy (State Water Resources Control Board Resolution No. 68-16). Resolution No. 68-16 states that whenever the existing quality of water is better than that defined by State water quality objectives and policies, such existing high water quality will be maintained until it has been demonstrated to the State that any change will: (1) be consistent with the maximum benefit to the people of the State; (2) not unreasonably affect present and anticipated beneficial use of such water; and (3) not result in water quality less than that prescribed in water quality control plans or policies. Resolution No. 68-16 was not addressed at all in the DEIR/DEIS water quality section. The narrow focus taken for assessing impacts, the lack of technical data and assessments to support impact determinations, and the failure to address a key State water quality protection policy, renders this water quality section deficient under both CEQA and NEPA. L21-103

B. Specific Comments

Page 4-1,
This subsection lacks any discussion of the State Antidegradation Policy. This is an important water quality protection policy that should be addressed in the context of this proposed project, since the proposed action will negatively change chloride and other water quality parameters in surface waters of the State. It is possible for the proposed project to result in significant water quality impacts, even if the project does not cause specific water quality parameters to exceed State water quality standards or objectives. Although water L21-104

quality may comply with baseline State standards and/or objectives, substantial degradation of existing water quality may constitute a significant impact.

Page 4-3,

The DEIR/DEIS fails to provide any discussion to indicate whether the proposed project will affect the ability to meet State water quality standards/objectives, or if it will further degrade existing water quality in Folsom Reservoir, Lake Natoma, or the lower American and Sacramento Rivers. Similarly, Delta water quality has not addressed in a comprehensive fashion. Instead, the entire assessment methodology discussion focused on Delta chloride levels at the Contra Costa intake only. Even if water quality impacts to these other water bodies are less than significant, the DEIR/DEIS must provide sufficient technical discussion to support such a conclusion. Without adequate assessment of potential water quality impacts to these other water bodies, and a more complete assessment of potential impacts to Delta water quality as defined by the 1995 Delta Water Quality Control Plan (which includes flow and electrical conductivity standards at various locations in addition to chloride standards), a full disclosure of potential water quality impacts to the Delta is not provided. For example, Delta water quality objectives for agricultural beneficial uses (i.e., Sacramento River at Emmaton and San Joaquin River at Jersey Point), as defined in the 1995 Water Quality Control Plan, have not been assessed at all. In addition, impacts to fish and wildlife beneficial uses were not addressed in this section, nor was there any reference to whether they are addressed in another section of the DEIR/DEIS, such as the fisheries section. Project-related impacts to Delta outflow and X2 position are critical in this regard. L21-105

Pages 4-3, 4-4,

The DEIR/DEIS states that the primary water quality issues of the proposed project are: (1) surface soil and instream disturbances from construction of facilities: (2) changes to the water quality of terminal reservoirs that may receive water from the LAR; and (3) changes in ambient water quality variables in the Delta as a result of reduced Delta inflow.

Although these are relevant water quality issues, this chapter fails to address other relevant issues, including: (1) water quality impacts to Folsom Reservoir, Lake Natoma and the lower American and Sacramento Rivers due to reduced water volumes (i.e., storage/flows), and thus, reduced dilution capacity for contaminant input due to urban runoff, stormwater discharges, and effluent discharges from the Sacramento Regional Wastewater Treatment Plant (SRWTP) at Freeport; and (2) potential for increases in taste and odor problems for purveyors diverting raw municipal water supplies from Folsom Dam and the Fairbairn and Sacramento River Water Treatment Plants. These issues need to be addressed both in terms of State water quality standards and objectives, as well as the State's Antidegradation Policy (Resolution No. 68-16). Key assessment issues for the SRWTP would include effects of the proposed project on: (1) seasonal dilution ratios, particularly the frequency of when the minimum 14:1 dilution ratio for discharge to the river is not met, thereby preventing discharge for a period of time; (2) changes in receiving water quality that may result in more strict effluent limits in the future which could, in turn, result in higher treatment costs; (3) the ability of the SRWTP discharge to comply with current regulatory limits for temperature impacts to the Sacramento River; and (4) future TDS, TOC, and pathogen loading to the Sacramento River and Delta when this proposed project is in place, and the SRWTP is discharging at significantly higher rates, relative to existing conditions. The latter issue affects not only the SRWTP, but also municipal water purveyors diverting raw water supplies from the Sacramento River and Delta. By not addressing these and related water quality issues, this section fails to fully address the potential water quality impacts that could result from implementation of the proposed project. L21-106

An insufficient technical basis and rationale are provided for the quantitative significance criteria for increases in average annual chloride levels at delivery points within the Delta (i.e., more than 3 mg/l or an increase of more than 30 mg/l in 10% of the months that were evaluated). Moreover, changes in chloride levels under the alternatives were not evaluated in light of the State's Antidegradation Policy. It should be noted that an increase of 30 mg/l represents a relative increase of more than 20% when chloride levels (under existing conditions) are below 150 mg/l. Increases of this magnitude are considered to be substantial. Hence, the timing of such occurrences (i.e., a single month occurring randomly among the 70+ years of assessment, or changes of this magnitude for several consecutive months during dry years) becomes important. The assessment performed, however, does not disclose the "pattern" or "timing" of changes in chloride levels in excess of 30 mg/l. The chloride impact assessment itself, therefore, is technically deficient. L21-107

Page 4-4,

The DEIR/DEIS states that changes to conditions under Alternative 1 were compared to existing conditions; changes under Alternatives 2 and 3 were compared to no action. The next subheading immediately following this statement is "Alternative 1: No-Action." The first paragraph of this section reads as follows: "Reduction of annual flows in the lower American River as a result of deliveries from the basin under 2030 conditions could reduce Delta outflow compared to existing conditions. Figure 4-3 shows chloride concentrations under Alternative 1 and changes that would occur compared to existing conditions. Both sets of data are plotted against the corresponding existing condition value to show how values are distributed." It is unclear whether the Alternative 1 data presented in Figure 4-3 are at the existing, or 2030, level hydrology. This should be clarified.

The standard deviation represents the range of values in which approximately 68% of the monthly values would fall, not 70%. The DEIR/DEIS states that only 2% of the monthly differences in chloride levels exceed 30 mg/l. Although this may be true for the entire period of assessment, it is not disclosed whether this is true for all individual years. This assessment approach fails to identify when this 2% occurs. If it tends to occur during consecutive months during one or more dry years, there may be a significant adverse impact to Delta water quality during those years. Providing summary statistics for the entire period of assessment only, without also assessing individual years, does not provide the opportunity to identify impacts that may occur in individual years. This same comment applies to the chloride assessment performed for the cumulative condition (pg. 4-6).

The DEIR/DEIS states that "EBMUD and its contractors would obtain all required local permits, clearances, and NPDES permits from the CVRWQCB and implement appropriate BMPs to protect water resources from contamination. This impact is less than significant." Acquisition of necessary permits does not provide sufficient evidence to conclude that construction will result in less-than-significant water quality impacts. The specific BMPs that will be employed to assure that no significant impacts occur, as well as the parties responsible for implementing and monitoring their effectiveness, should be disclosed. Moreover, contingencies should be identified in the event that initial BMPs that are implemented prove to be inadequate to protect water quality. In addition, these discussions provide no information as to the timing of key activities such as coffer damming, which could affect the timing and magnitude of impacts (such as stranding juvenile fish). The technical assessment for these impacts is insufficient to support the impact determination of less than significant. L21-108

Pages 4-5 and 4-6,

In the first paragraph on pg. 4-5, the DEIR/DEIS states that because "effective and environmentally safe methods of control are available for algae and taste and odor control, this L21-109

impact is less than significant." The level of assessment performed and discussed for the algal taste and odor issue is insufficient, both technically and geographically for the following reasons. First, the foregoing statement suggests that controlling taste and odor problems in reservoirs used for raw drinking water supplies is rather simple; however, this is typically not the case. Control of and/or changes in watershed land use practices and control of nutrient-laden runoff within watersheds are difficult endeavors. Second, whether the terminal reservoirs in question have the physical facilities to divert water from multiple elevations and blend these waters is not stated. Folsom Reservoir, for example, lacks such facilities. Third, artificial circulation of large reservoirs can be logistically difficult and costly. Fourth, in the first paragraph on pg. 4-6, the DEIR/DEIS states that "it is difficult to predict the effect of the imported water on taste and odor." In other words, a great deal of uncertainty exists with regard to the potential for taste and odor impacts to occur in terminal reservoirs as a result of the proposed project. The lack of technical assessment provided and the fact that a great deal of uncertainty exists regarding this potential impact does not support the impact determination of less than significant. Without substantial technical evidence to indicate that this impact would be minimal, it should be concluded that a potentially significant impact exists. Finally, there should be a similar assessment for potential increases in taste and odor problems for purveyors diverting raw municipal water supplies from Folsom Dam and both the Fairbairn and the Sacramento River Water Treatment Plants.

VI. CHAPTER 5 - Fisheries

This chapter on Fisheries contains numerous subtopics. Given the extreme importance of water temperature considerations with respect to fisheries impacts, comments on the Lower American River Water Temperature Assessment contained in the DEIR/DEIS, Vol. II, Appendix D are provided separately below.

A. Lower American River Water Temperature Assessment

The following comments are made with respect to the Lower American River Water Temperature Assessment contained in Chapter 5 and Appendix D. Additional comments are provided with respect to hydrologic modeling as they pertain to statements made in Chapter 5 and Appendix D. The DEIR/DEIS makes five broad methodologic statements that attempt to describe and justify the methodology used in assessing impacts caused by lower American River temperature changes that result from the project. The following comments are made in the context of these five statements.

1. Methodologic Statement 1 - DEIR/DEIS, pp. 5-11, Appendix D-1: The effect of storage on Nimbus release temperatures was estimated based on regressions developed using the historical storage and temperature data.

Based upon a number of qualifying assumptions, linear regression equations relating historical end-of-month Folsom Reservoir storage and historical "end-of-month" Nimbus Hatchery inflow temperatures were developed. The slopes of the regression equations (one for each of twelve months in units of °F/100 TAF) are then used to calculate temperature impacts corresponding to an alternative's impact on Folsom storage (Tables 5-4 and D-1). This temperature impact, due to storage only, is then combined with another flow only temperature impact to determine the overall impact of an alternative. L21-110

An examination of Table D-1 and Figures D-6 through D-17, evidences that the use of the regression equations developed will fail to identify temperature impacts related to simulated alternatives. In the months for which regressions show the highest statistical significance (P value < 0.001; June - October), from 30% up to 70% of the variability in hatchery intake temperatures remains unaccounted for, due to Folsom Reservoir storage conditions. Table D-1 does not identify the confidence interval associated with either temperature estimates at the 200 TAF or 1000 TAF Folsom Reservoir storage levels, or the error associated with the estimate of the regression slope. After analyzing the related figures, especially in October, it appears that the confidence interval associated with a range of Folsom Reservoir storage conditions would be rather wide compared to the associated slope used to identify the impact of a storage change. In illustrating the regression equations it is important to note that the maximum temperature ever determined by the regression equations (based on minimum Folsom Reservoir storage of approximately 150 TAF) will never exceed 64.7°, 69.2°, 71.3°, 70.0°, and 64.6° F in June through October, respectively. The actual maximums based on the 1959-1995 historic record are approximately 68°, 70°, 73°, 71°, and 68° for those respective months. Based on a 70-year record consistent with the period of record used in the PROSIM analysis, the frequency and magnitude of values exceeding those estimated by the regression equations are certain to increase. Because temperature-related impacts to fisheries are largely determined by the exceedance of physiologically important temperature thresholds, and given the failure of the regression equations to adequately describe the means by which Folsom Reservoir operations cause temperature conditions to exceed those estimated by the regressions, the analysis will fail to identify significant temperature impacts of the alternatives.

The DEIR/DEIS, moreover, makes the following sequence of assumptions : (1) historic high Folsom Reservoir storage conditions relate to historic high Folsom Dam releases; (2) historic low Folsom Reservoir storage conditions relate to historic low Folsom Dam releases; (3) simulated conditions do not differ [in this respect] greatly from the historic conditions; and therefore (4) the regressions used, even though based *solely* on Folsom Reservoir end-of-month storage conditions, adequately serve to assess the *combined* Folsom Reservoir storage and Folsom Dam release impacts of Folsom operations on Nimbus Hatchery intake temperatures. (DEIR/DEIS, p. 5-11, and Appendix D-2.)

This logic is flawed. After the above assumptions, the DEIR/DEIS recognizes that future "Folsom Reservoir operations may allow the monthly reservoir release temperatures to be less dependent on storage than the historical Nimbus Dam temperatures," but states that the methodology of determining impacts at the Nimbus Hatchery remains adequate for impact assessment purposes (pg. 5-12). At Appendix D-7, the DEIR/DEIS states that "the comparisons of the PROSIM flow and storage values show that a simulated reduction in storage does not necessarily cause a simulated reduction in flow," thereby agreeing with the statement on DEIR/DEIS, p. 5-12, but contradicting both the statement on p. 5-11 and the conclusion drawn on p. 5-12. Of course, Folsom Reservoir operations will vary from historic operations in at least the following ways: (1) application of AFRP or F-Pattern storage-release flow relationships, (2) change in magnitude and pattern of future demands, (3) operation of Folsom Dam shutters and associated Coldwater Pool Management, (4) changes in Delta requirements for which coordinated Folsom and Shasta Dam releases may be required, (5) changes in Folsom Dam flood control-related operations, and (6) changes in future level hydrologies. EBMUD actions will contribute to the modification of Folsom Reservoir operations. Failure to properly consider the dynamics of the coldwater pool in Folsom Reservoir and its efficient management, in both project and non-project (No-Action) scenarios, will lead to serious misinterpretation of lower American River temperature changes. Figures D-6 through D-17 illustrate this serious concern. The bottom of these figures contain plots comparing historic and No-Action simulated Folsom Reservoir storage versus Nimbus Dam

releases. Every one of the months plotted demonstrate substantial operation changes at Folsom Dam. A No-Action scenario that fails to recognize these future changes will cause the project alternative scenarios to indicate benefits that will not actually be realized, and impacts that would be, perhaps grossly, underestimated. Use of historic data as the basis for all simulations ignores what is evidenced in the data presented.

2. Methodologic Statement 2 - DEIR/DEIS, p. 5-12, Appendix D-1: Temperature changes resulting from flow changes in the lower American River were estimated using a daily river temperature model.

The DEIR/DEIS utilizes a daily riverine temperature model to evaluate potential temperature-related impacts. The daily model was calibrated for the years 1986 - 1989 and verified for the years 1990 - 1994 using historic meteorological conditions, historic Nimbus Hatchery intake temperatures, and historic Nimbus Dam release flows. Similar to the use of the regression equation slopes discussed earlier, "slopes" were developed relating temperature decrease to flow increase at various locations in the LAR. These "slopes" were defined for each month by comparing the daily results of two simulations. One simulation used the Hodge flows instead of the historic flows. The other simulation used the Hodge flows plus 500 cfs, instead of the historic flows. The two simulations were compared, and for each month at various locations, the largest maximum daily difference was computed. "Slopes" in the units of °F / 500 cfs (one for each of twelve months) were computed (Tables 5-5, D-2). These slopes were then used to calculate temperature impacts corresponding to EBMUD diversions in a particular month of the PROSIM simulation. This temperature change, due to flow only, was combined with another temperature change [storage-only] to determine the overall impact of an alternative.

After analyzing Table D-2 and Figures D-25 through D-44, it appears that the determination of the "largest maximum daily difference" for a flow change from Hodge to Hodge + 500 cfs may have some utility for determining the *maximum potential* temperature increase related to some reduction of flow (e.g., 312 cfs reduction), *as long as the remaining flow in the river is above the Hodge criteria*, and as long as Nimbus Dam release temperatures and meteorological conditions remain within the range used in the daily simulations. The calibration period of the daily model appears to have a wide variety of hydrologic, meteorological and operational conditions to provide a sufficient dataset to calibrate a daily model. L21-111

Page 5-12,

The DEIR/DEIS states that "Hodge Decision flows were chosen as the lower flow level for the simulations because EBMUD is not permitted to take delivery of water at the FSC when diversions would reduce Nimbus Dam releases to below Hodge Decision flows." Apparently, the impact assessment approach assumed that temperature impacts in the lower American River need only be considered if EBMUD is taking a diversion in the same month, and therefore, the determination of the "largest maximum daily difference," as described, may be sufficient because there would be no temperature impacts considered when flows are below the Hodge criteria.

This assumption is problematic, however, because it does not accurately reflect operational changes at Folsom Reservoir due to the EBMUD's diversions. EBMUD's action of diverting off the system will change the operations of Folsom Reservoir in subsequent months which, in turn, may change allocations to other CVP contractors, minimum flow requirements (because of storage changes), requirements for Delta water quality standards, and Delta exports. Flow changes in the lower American River and storage changes in Folsom Reservoir

will occur as a direct result of EBMUD's action, even if EBMUD is not taking water in the particular month in question. If, indeed, temperature impacts in non-diversion months were ignored, which appears to be the case, then the water temperature assessment is fundamentally flawed and the DEIR/DEIS is technically deficient regarding temperature-related impacts in the lower American River.

The DEIR/DEIS states that "PROSIM results may indicate changes in American River flows under Alternatives 2 and 3. The monthly change in temperature associated with these simulated changes in river flow are calculated for each alternative using the monthly maximum temperature change[s] . . ." This statement indicates that the DEIR/DEIS apparently recognized the issues in the previous comment. If so, then the DEIR/DEIS applied the "*largest maximum daily difference*" per 500 cfs "slope" values previously determined for flow changes above the Hodge criteria to flow changes actually *below* the Hodge criteria. Applying these "slope" calculations, regardless of the magnitude of flow, will substantially underestimate the temperature-related impact due to a flow change when the resulting flow is lower than the Hodge criteria. The actual temperature-flow relationship is non-linear. Temperatures increase at higher rates as flow is reduced. A 500 cfs *reduction* from the Hodge criteria, in a typical July for example, may result in a temperature increase more than twice as much as what would be determined by reducing the flow from Hodge + 500 cfs to the Hodge criteria. If impacts were actually considered in months in which EBMUD was not diverting, the actual impacts from the proposed action are grossly understated because of the error in determining the "largest maximum daily difference" per 500 cfs.

3. Methodologic Statement 3 - DEIR/DEIS, p. 5-11, Appendix D-1: The temperature assessment methodology estimates the monthly risk of temperature increases in the lower American River of greater than 1° F caused by simulated hydrology changes for each project alternative. The DEIR/DEIS states that "[f]or each reach and month in which the potential for temperature impacts existed, an incremental warming of 1° F was used to evaluate temperature impacts, because a change of less than this magnitude cannot be differentiated from other sources of natural variability."

This statement reveals a fundamental flaw in the DEIR/DEIS analysis of water temperature-related impacts. Obviously, future meteorological conditions will vary from historical conditions. Also, future hydrologic, regulatory and operational conditions will vary from historical conditions. However, by using datasets that are developed through a rational, defensible process in which the sources of variability can be understood, the impacts of that variability can also be understood. It is insufficient to simply excuse variability as irrelevant to the process of assessing the potential impacts related to a proposed action. Because of the rational basis of assumptions that the analysis is built upon, variability must be fully considered and explained. If this cannot be done, then either the assumptions are not rational and defensible, or the analyst does not adequately understand the assumptions involved in the modeling process. Clearly, the analysis in the DEIR/DEIS did not appropriately identify the impacts of the proposed action. L21-112

Pages 5-14, 5-15,

The DEIR/DEIS states that "PROSIM reasonably simulates river and Delta flows and reservoir storage effects under existing conditions and alternatives." The DEIR/DEIS also states (at p. 5-15) "that the natural variation in hydrologic conditions is substantially larger than hydrologic changes associated with the alternatives." These statements are susceptible to the critique in the previous comment. Consider the scenario in which PROSIM identifies a 312 cfs

reduction in lower American River flow during July, and Folsom Reservoir end-of-month storage is reduced by 17 TAF as a result of the proposed action. The approach used in the DEIR/DEIS indicates, based solely on this information, that there is a potential warming of 0.62° F at Goethe Park and 0.99° F at the Fairbairn WTP. According to the approach in the DEIR/DEIS, there is assumed to be no temperature impact at Goethe Park or the Fairbairn WTP because "natural variation" means this < 1° F change really doesn't happen, and can be arbitrarily dismissed. Moreover, as additional constraints have been and will be imposed on Folsom Reservoir operations, flexibility in operating Folsom Reservoir is decreased. For example, increase of a minimum flow requirement may be associated with a decrease in variability in river flows during that same time, as is illustrated in Figures D-6 through D-17. Again, the DEIR/DEIS misrepresents potential impacts resulting from the proposed actions due to inappropriate analytical procedures and arbitrary dismissal of actual, potentially significant impacts.

4. Methodologic Statement 4 - Appendix D-1: The DEIR/DEIS states that the possible effects of the modified temperature control panels (shutters) "are not specifically included in the EBMUD temperature assessment." The DEIR/DEIS, however, also states that there "are several ongoing efforts within the American River Basin that could mitigate the cumulative impacts ... For example ... install a temperature control device on the Folsom Dam raw water inlet to various northern Sacramento County water users and to implement a coldwater management approach that attempts to most efficiently use the available cold water for fishery purposes." (DEIR/DEIS, p. 5-25.)

Although the DEIR/DEIS failed to simulate coldwater pool management via shutter manipulation, the document acknowledges that there may be some temperature benefits to the lower American River derived from operating the temperature control device ("TCD") and Folsom shutters for coldwater pool management purposes. Shutters are being operated currently to enhance temperature conditions in the lower American River. These actions (shutter changes) are being determined and implemented by the USBR through efforts of the lower American River Operations Work Group. To adequately model the existing conditions, the temperature assessment must consider shutter operations representative of the current actions taken by the USBR in support of the lower American River Operations Work Group. Future conditions must consider shutter operations representative of a more sophisticated coldwater pool management strategy. This failure to consider coldwater pool management in the temperature assessment, potentially mislabels actual temperature impacts as non-impacts. L21-113

As illustrated in Appendix D, a comparison was made between the EBMUD regression approach for assessing temperature impacts due to Folsom Reservoir storage changes, and the USBR Temperature Model. The comparison was based upon an analysis of the No-Action alternative. Figures D-45 through D-50 compare the resulting Nimbus Dam release temperatures computed by the USBR based on results from PROSIM, against the regression equations developed based on historic data. The DEIR/DEIS states that "[t]hese differences may be caused by the relatively high summer target temperatures in the Reclamation model and other differences between the simulated conditions under Alternative 1 and historical conditions." (Appendix D-6.) It is interesting to note that the temperature targets used in the comparison to drive the temperature simulation with the USBR model are the Folsom Dam release targets from the CVPIA PEIS. These target temperature release objectives, however, are obsolete. Frequently, simulations based on these target temperature release objectives will result in a depleted coldwater condition by mid-summer. Meanwhile, river temperatures will reflect flow release variations during times when Folsom Dam is able to release water of a

specified target temperature. This is the dynamic that is documented in this section of Appendix D. This, however, is not the methodology of cold water pool management.

The DEIR/DEIS asserts that "incremental temperature changes in the lower American River associated with each alternative will not change under future changes in the operations of other facilities (e.g. Folsom Reservoir temperature control device)." (DEIR/DEIS, p. 5-15.) This statement is not substantiated and, more importantly, is not correct. The DEIR/DEIS' failure to model the Folsom shutters or the TCD in the future constitutes a failure to consider the full range of impacts of EBMUD's action on the lower American River temperature conditions.

5. Methodologic Statement 5 - DEIR/DEIS, p. 5-11, Appendix D-1: Changes to Folsom Reservoir release elevations may allow increased flexibility in the timing of coldwater releases. However, changes in release temperatures resulting from such modifications will probably be less than 5° F for any particular month and, because there is a limited supply of cold water, seasonal temperature patterns in the future are expected to be similar to historic patterns.

The foregoing statement regarding seasonal temperature patterns is unsubstantiated, and incorrect. Data used in the daily riverine temperature analysis shows a dramatic drop in temperature at the confluence of the American and Sacramento Rivers on July 8, 1992. (Figure D-22.) The DEIR/DEIS correctly identified this as the removal of temperature control shutters at Folsom Dam. All shutters were pulled because of insufficient water elevations in Folsom Reservoir. However, this took place under the old shutter configuration (configuration 1-1-7; *see* Figure D-58), which no longer exists.

Presently, Folsom Dam has a new shutter configuration (configuration 3-2-4; *see* Figure D-58). The DEIR/DEIS correctly concludes that the 1-1-7 configuration left very little flexibility. The new configuration, however, which has been in place in recent years, provides an opportunity to improve the management of Folsom Reservoir's coldwater pool. The July 8, 1992 condition was a rather abrupt and drastic change in river temperature conditions. Under this scenario, the coldwater was used up very quickly. L21-114

Coldwater pool management is the efficient use of coldwater from Folsom Reservoir for the greatest benefit to lower American River fisheries. To achieve a desired temperature suitable for fish resources in the lower American River, an appropriate water temperature needs to be released from Folsom Reservoir. A given temperature release from Folsom Dam will cost a specific amount of the coldwater reserve in Folsom Reservoir. The actual temperatures achieved during May-November are dependent on (1) inflows, (2) the amount of coldwater in storage at the beginning of the season, (3) the rate at which coldwater is released from or lost through the thermodynamics of Folsom Reservoir, and (4) the duration of coldwater releases from Folsom Dam.

If a proposed action such Alternative 2 adds to the losses of Folsom Reservoir's coldwater reserve, then temperature goals in the LAR may not be achieved. Because of the failure to conduct a coldwater pool management analysis of the project alternatives, the full impacts of the proposed action have not been adequately considered, and it is likely that the impacts of the proposed action were understated. In any case, lack of coldwater pool management using the current shutter configuration to characterize the existing condition, and the failure to include more sophisticated coldwater pool management strategies and tools (e.g., TCD) to characterize future conditions, also renders this section (and all dependent sections) of the DEIR/DEIS deficient.

B. Additional Specific Comments on Chapter 5

Page 5-1,

The background description pertaining to special-status species is awkwardly phrased. It should be revised so that it does not provide misleading information implying that delta smelt occur in the LAR. Moreover, the DEIR/DEIS states that "the potential exists for delta smelt to occur in the lowermost reaches of the American River." It is confusing and contradictory that these statements are prominent in the "background" section of the report, yet no impact evaluations were conducted or even addressed for the "potential" delta smelt in the LAR. L21-115

Page 5-2,

The DEIR/DEIS should clarify that the County of Sacramento and CDFG did *not* recommend, during *EDF, et al. v. EBMUD*, that EBMUD take water at Nimbus, or that any such diversion should be conditioned on specific flows. The text is extremely misleading in this regard. L21-116

Pages 5-7, 5-16, 5-18,

The DEIR/DEIS emphasizes the importance of the Delta, including the statement that the Delta "is the primary habitat for several euryhaline species, including the delta smelt." However, the impact assessment conducted for Delta fishes, including delta smelt, is contradictory and technically deficient. For example, the DEIR/DEIS states that impacts would be considered significant with "substantial reductions in . . . Delta outflows and exports . . . and/or substantial changes in the location of X2." (DEIR/DEIS, p. 5-16.)

The DEIR/DEIS concludes less than significant impacts on Delta fishes for Alternative 2 because of "[m]inimal to no changes in Delta outflow exports, or location of X2...." (DEIR/DEIS, p. 5-18; Tables 5-31 and 5-32.) However, Tables 5-31 and 5-32 do not contain information on the location of X2 whatsoever, nor does it appear that the location of X2 was even evaluated in the DEIR/DEIS. Similarly, the DEIR/DEIS states that "monthly Delta outflow, exports, and X2 under the full-use scenario would be essentially the same as under Alternative 3 (Tables 5-54 and 5-55)." (DEIR/DEIS, p. 5-26.) However, Table 5-54 does not even refer to Delta parameters (it only presents limited information on lower American River temperatures) and Table 5-55 presents only limited outflow information. L21-117

Page 5-8,

The DEIR/DEIS acknowledges that one of the factors affecting fish populations in the Sacramento River is "unfavorable water temperatures during incubation, rearing, and emigration phases. " However, the DEIR/DEIS did not even evaluate water temperatures in the Sacramento River, and concomitant impacts to fish resources. The DEIR/DEIS's failure to assess potential water temperature-related impacts to fisheries in the upper Sacramento River is a fundamental flaw. Of particular importance are potential impacts to winter-run chinook salmon, although impacts to other runs of chinook salmon should also be evaluated.

EBMUD's diversions have the potential to affect operations of Folsom Reservoir and other CVP reservoirs including Shasta Reservoir. The Reasonable and Prudent Alternative (RPA) in the winter-run chinook salmon biological opinion specifies water temperature objectives for sections of the upper Sacramento River to provide suitable conditions for winter-run chinook salmon spawning, egg incubation and juvenile rearing. Complying with the RPA is strongly influenced by storage levels in Shasta Reservoir. Because EBMUD's diversions may affect CVP operations, the proposed project could impact water temperature conditions for winter-run chinook salmon in the upper Sacramento River in two ways. First, the proposed project may increase the frequency of occurrence of water temperature violations in the upper L21-118

Sacramento River. Second, even if the proposed project did not increase the frequency of occurrence water temperature violations, it likely would result in higher water temperatures in years when water temperatures exceed the criteria. Depending on the frequency of occurrence and magnitude of water temperature increase, potentially significant impacts to winter-run chinook salmon could occur.

Other runs of chinook salmon are currently under a status review by the National Marine Fisheries Service and have recently been proposed for listing under the ESA. Spring-run chinook salmon is a California Species of Special Concern and has been approved for listing under the ESA, and as such, should be addressed. In addition to winter-run chinook salmon, spring-run chinook salmon may be adversely affected by water temperature changes in the upper Sacramento River due to alterations in Shasta Reservoir operations. In addition, the Bureau's Sacramento River Chinook Salmon Mortality Model is one of the best available tools for evaluating potential impacts to chinook salmon in the Sacramento River. This tool, however, was not used in the DEIR/DEIS for assessing potential impacts to chinook salmon in the Sacramento River.

Page 5-9,

Given the previous comments on the hydrological assessment in the DEIR/DEIS, all flow-related impact assessments are of questionable utility. L21-119

Page 5-10,

The DEIR/DEIS states that "Flow-related impact thresholds for physical habitat in the lower American River were the minimum flows stipulated in the Hodge Decision and minimum flows established by the *AFRP during below-normal and above-normal water year types*." [Emphasis added.] The DEIR/DEIS fails to note that these minimum flows under the AFRP for the stated year types are synonymous. The DEIR/DEIS artificially and inappropriately constrained all analyses by not evaluating "wet" conditions. This results in minimizing/eliminating potential impacts that would be expected to result, particularly from Alternative 2. L21-120

As part of the AFRP development process, technical teams consisting of fishery biologists with expertise on anadromous fishes in each of the Central Valley Project (CVP) streams were assembled. These technical teams developed specific recommendations for each stream to achieve the "doubling goal" of the AFRP. As part of this effort, flow levels were recommended for chinook salmon and steelhead in the lower American River. The flow recommendations for the LAR vary by water year type, in contrast to the "Hodge flows" which do not vary. Relative to the Hodge flows, the AFRP recommendations provide higher flows in wet years, similar flows for chinook salmon spawning and rearing during normal water years, and lower flows during dry and critically dry years. These flow recommendations were developed using the best available information on the flow and temperature requirements of anadromous salmonids in the LAR, as well as information on water availability. L21-121

The AFRP flow recommendations recognized an increase in physical habitat availability for anadromous salmonids for some flow levels above "Hodge flows," and the fishery biologists involved in the AFRP development regarded this greater physical habitat availability as biologically significant for anadromous salmonids. Based on the flow recommendations in the AFRP, diversions which reduce flow levels could reduce physical habitat availability, and thereby impact anadromous salmonids even if flow levels exceed "Hodge flows." Therefore, the DEIR/DEIS's assertion that alterations in flow under the proposed project would result in less-than-significant impacts to fishery resources, as long as flows exceed "Hodge flow" levels, is not supported with the currently available information. An adequate assessment of

potential fishery impacts necessitates an evaluation of the frequency and magnitude of flow and temperature alterations under the proposed project in consideration of all AFRP recommendations, not just an arbitrarily constrained subset.

Page 5-14, 5-15,
The DEIR/DEIS states that one of the assumptions upon which the fisheries impact evaluation was based included "the carryover storage criterion of 1.9 million AF for water temperature control in the upper Sacramento River will always be met (specified by NMFS in its 1993 biological opinion for winter-run chinook salmon)." This assumption is false. Not only will 1.9 MAF carryover storage in Shasta Reservoir not always be met under any future scenario, it is not even always met under the existing condition, according to information presented in DEIR/DEIS Appendix C, Table C-14. L21-122

Page 5-15,
The DEIR/DEIS states that one of the assumptions upon which the fisheries impact evaluation was based included "incremental temperature changes in the lower American River associated with each alternative will not change under future changes in the operations of other facilities (e.g., Folsom Reservoir temperature control device)." No defensible basis is provided in the DEIR/DEIS to support this assumption. L21-123

Page 5-16,
One of the significance criteria used for fisheries impact determination included the situation when "a temperature increase of at least 1°F would occur at least 10% of the time in months when baseline temperatures are likely to exceed acceptable levels for the evaluation species and life stages." The DEIR/DEIS also states that relative to the existing condition "[h]igh water temperature in summer and fall also is a major limiting factor for natural steelhead production." (DEIR/DEIS, p. 5-4.) This situation will be exacerbated with increased water demands in the future, including the future No-Action alternative, and particularly Alternative 2. The DEIR/DEIS briefly acknowledged this with its statement that "[f]low differences are of the most interest during summer when the differences have the greatest impact on water temperatures. The largest flow difference occurs in August when average flows under Alternative 1 at Nimbus Dam are 866 cfs less than flows under existing conditions." (DEIR/DEIS, p. 5-17.) L21-124

Use of this 1° F significance criteria, particularly within the context of the foregoing DEIR/DEIS statements, is very problematic. The impact assessment focused on the incremental change in water temperature in the LAR River between the proposed action alternatives and the future (2030) No-Action alternative. Even with such a constrained assessment, elevated water temperatures were predicted. Given the foregoing discussion, and in consideration of the recent listing of steelhead as "threatened" under the Federal Endangered Species Act, additional justification must be provided for establishment of a 1°F incremental increase (at least 10% of the time) in temperature as significance criteria, and for the findings of less-than-significant impacts. In fact, fishery agencies have concluded that *any* increase in summertime water temperatures represents a potentially significant adverse impact to steelhead.

Page 5-19,
The technical evaluation of Alternative 2's potential effects on fish resources in the lower Sacramento River is deficient. The assessment approach was restricted to potential reductions in flow (given the foregoing limitations on the methodology, as previously discussed.). However, potential impacts in the lower Sacramento River would most likely be water temperature-related, which was not even addressed in the DEIR/DEIS. L21-125

The DEIR/DEIS discussion of the planned outage needs is confounding due to a lack of clarity, lack of specificity, and lack of impact assessment. The DEIR/DEIS states that EBMUD would meet its planned outage needs by taking delivery of up to 350 cfs for a 6-month period during a wet year from the FSC. The DEIR/DEIS also states that "Because it is not possible to determine when such a planned outage might occur, detailed modeling and analysis is not practical. However, this operation would be similar in scope and magnitude to operations included in the detailed impact analysis [of Alternative 2]" and "[b]ased on the finding that no significant impacts would result from typical project operations, any impacts resulting from planned outage operations are also less than significant." L21-126

Several concerns arise from this cursory discussion. First, the DEIR/DEIS must clarify the amount of water that the planned outage would represent. A 350 cfs delivery for a 6-month period could be as much as nearly 125,000 AF. Second, detailed modeling and analysis should have been conducted based on reasonable assumptions as to the timing (e.g., "wet" years) and frequency (e.g., "no more than 12 months in a 20-year period." p. 2-12) in order to at least address an impact evaluation. Third, no basis is provided to support the stated assumption that "this operation would be similar in scope and magnitude to operations included in the detailed impact analysis . . ." (DEIR/DEIS, p. 5-19.) Fourth, appropriate analyses were not conducted to support the conclusion that "any impacts resulting from planned outage operations are also less than significant." (*Id.*)

VII. CHAPTER 6 - Recreation

A. General Comments

A discussion of service area recreation impacts should be included in the document. L21-127

The document should reference a technical appendix or some associated document where all of the hydrologic modeling output relied upon for this chapter can be independently reviewed for verification of impact conclusions. Within the text, references to the specific technical appendices would significantly assist the public and decision makers in quickly correlating the appropriate quantitative data. L21-128

B. Specific Comments

Page 6-7,
It is unclear how the terms "substantial" and "long-term" are defined within the significance criterion. L21-129

Page 6-10, Table 6-4,
The DEIR/DEIS, as mentioned previously, does not assess the potential impacts of the proposed project under Existing Conditions. This a major fatal flaw of the document. If the project impacts were evaluated against the Existing Condition as defined, it is unclear what the expected impact results would be. L21-130

The DEIR/DEIS identifies 2,500-12,000 cfs as representing the optimal boating range for the Sacramento River. There is, however, no documented source of this recreation threshold. If it was developed by EBMUD, the DEIR/DEIS should explain the specific assumptions and rationale behind its development. Additionally, the information should state where specifically along the Sacramento River the flows would apply. L21-131

Page 6-11,
The DEIR/DEIS should identify and discuss the potential for recreation impacts along any of the proposed 4 conveyance alignments from the FSC to the Mokelumne River. L21-132

Page 6-12,
The DEIR/DEIS should include a discussion of whether trail use would be affected, and the magnitude of any effect. The DEIR/DEIS acknowledges that trail use is an important recreational activity along the lower American River Parkway, and some discussion of potential impacts to this recreational activity should be included. L21-133

Page 6-13,
The DEIR/DEIS states that "[u]nder Alternatives 2 and 3, river flows in the reach from Nimbus Dam to Fairbairn WTP would be above the minimum necessary for boating more frequently than under *existing conditions*." This statement should be revised. Since the comparison upon which this statement was made was based on the existing condition, and the DEIR/DEIS makes it clear that all cumulative impact assessments were made by comparing the project alternatives to the existing condition, it is assumed that the evaluation and conclusion represents a cumulative impacts analysis. The results of the comparison using the CVPIA threshold of 1,750 cfs for minimum boating flows showed that in 48 additional months, relative to the existing condition, Alternative 2 would be unable to meet this threshold. L21-134

The DEIR/DEIS states that "[n]o mitigation is available to reduce this impact (water development recreation in the lower American River) to a less-than-significant level." This conclusion needs further explanation. The DEIR/DEIS should state what specific mitigation measures were considered in coming to this conclusion, and whether reduced project withdrawals would have any effect on this cumulative impact and, if so, to what extent. The DEIR/DEIS is clearly deficient by lacking the analysis to support the claim that no mitigation is available. L21-135

Page 6-14,
The DEIR/DEIS states that "[f]or the lower American River, the frequency river flows would be above minimum flows or within optimum ranges would not change substantially compared to conditions under Alternative 1." This appears to be inconsistent with at least some of the data presented in Table 6-6. For example, the minimum boating threshold range of 1,500 - 2,000 cfs for either the portion of the LAR from Nimbus to the Fairbairn WTP or Fairbairn WTP to I-5 showed that with the proposed project these flows would be less than the No-Action in 10 additional months (or 17% less). Incrementally, this would represent a 14% reduction in the number of months that the river flow would be above the minimum threshold, relative to Alternative 1. L21-136

VIII. CHAPTER 7 - Vegetation and Wetland Resources

A. General Comments

The analysis and discussion of potential impacts to vegetation and wetland resources does not include an evaluation of service area affects within the EBMUD's service area, or otherwise as a result of Alternative 2. This is a major omission of the DEIR/DEIS. L21-137

This chapter also fails to provide a sufficient hydrological analysis. There is no impacts evaluation presented relating lower Sacramento River flows downstream of the confluence with the American River. The integrated nature of the CVP/SWP and the manner and extent that L21-138

Sacramento River flows would be influenced by additional American River diversions should at least be evaluated, and the results disclosed in the DEIR/DEIS. This is a major omission of the DEIR/DEIS.

The Biological Assessment (when complete) should address EBMUD service area impacts of the proposed new water deliveries and specifically include assessment of historical land use conversions (with acreage of habitat loss), listing of special conservation projects and other "good faith" efforts by EBMUD at protecting and maintaining vegetation and wetland resources, and a record of past mitigation monitoring for development projects. Recent efforts by EBMUD alone, or in consultation with coordinated projects with Contra Costa and Alameda County Planning Departments, also need to be presented in the Biological Assessment. L21-139

B. Specific Comments

Page 7-9,
No environmental setting descriptions are provided for Folsom, Camanche, or Pardee reservoirs. Similarly, no environmental setting descriptions are provided for the lower American River, lower Sacramento River, Folsom South Canal or any other watercourse/waterbody potentially affected by the proposed project. Without an identification of the appropriate environmental setting, the reader is unable to determine whether the DEIR/DEIS has adequately covered the breadth of resources and issues identified in the impacts discussion. L21-140

Page 7-13,
The DEIR/DEIS states that "[c]hanges in river flows would be minor and would remain well within the typical seasonal and annual variations of these locations." Again, specificity is required regarding these typical seasonal and annual variations. L21-141

Page 7-13,
The DEIR/DEIS suggests that flows in the Mokelumne River would increase slightly under a FSC connection alternative. The DEIR/DEIS should describe the magnitudes of these increases. The public cannot confirm these conclusions without the data or specific reference(s) to the location where such data can be found. L21-142

IX. CHAPTER 8 - Wildlife

A. General Comments

The DEIR/DEIS appears to lack any discussion of cumulative wildlife impacts. L21-143

B. Specific Comments

Page 8-11,
The DEIR/DEIS states that "EBMUD is committed to working with local jurisdictions to ensure that county general plan policies are implemented and to assist in mitigating the impacts of growth on biological resources." Examples of EBMUD's recent commitment(s) on this matter should be provided to substantiate this statement. L21-144

The DEIR/DEIS does not provide an adequate indication of what the potential loss of this important habitat might be. The DEIR/DEIS should describe the anticipated magnitude of Swainson's hawk foraging habitat loss, even if this loss is only temporary. L21-145

X. CHAPTER 9 - Geology, Soils, Seismicity, and Groundwater

A. Specific Comments

Page 9-4,
It is unclear why only the two significance criterion identified in the second paragraph were utilized in the analysis, when additional criteria are identified within the CEQA Guidelines.

XI. CHAPTER 10 - Land Use

The DEIR/DEIS does not contain any discussion of land use issues or the potential impacts of the proposed project on areas within EBMUD's service area. L21-146

XII. CHAPTER 17 - Cultural Resources

The DEIR/DEIS fails to provide any discussion regarding Indian Trust Assets (ITAs) in the potentially affected project area. Reclamation's policies require proper consideration and analysis of ITAs.

The DEIR/DEIS fails to provide any discussion or analysis regarding the potential for impacts to cultural resources (either exposed or submerged) along the LAR or lower Sacramento River as a result of the additional diversions above existing conditions contemplated by the proposed project. L21-147

XIII. CHAPTER 18 - Cumulative and Growth-Related Effects

A. General Comments

This chapter fails to provide cumulative environmental impacts information (e.g., quantitative data from hydrologic modeling), and is, therefore, insufficient to satisfy the requirements of a project-level EIR/EIS. This chapter, moreover, is inconsistent in its organization and structure. Clearly, there exists quantitative data which would allow a cumulative impacts evaluation for those resource categories (e.g., aquatic resources) where it is stated that only a qualitative impacts assessment was made.

The P.L.101-514 water contracts are part of the Water Forum and have been included in all Water Forum hydrologic modeling simulations. These new withdrawals from the CVP have been quantitatively addressed in both the Water Forum environmental documentation and in the P.L.101-514 EIS/EIR. It is incorrect to suggest otherwise. L21-148

The reference to the resource category-specific chapters as the location where quantitative cumulative impacts are presented and discussed is incorrect. Not all resource chapters in the DEIR/DEIS contain this information.

Impact conclusions reached in several places in this chapter are unsupported. This remains a major omission of the DEIR/DEIS.

The cumulative impact discussions should include a detailed description of Judge Hodge's findings on cumulative impacts.

B. Specific Comments

Page 18-4,
The DEIR/DEIS states that "[i]mpacts related to construction and operation of water conveyance pipelines associated with the project alternatives would generally result in minor and temporary impacts." The DEIR/DEIS should explain what, specifically, these minor and temporary impacts would be. These and other similar statements need documented support, without which the public cannot confirm that the analysis and conclusions presented are correct. L21-149

Page 18-4,
The DEIR/DEIS states that the proposed project "would contribute to the cumulative loss of identified sensitive resources, including wetlands, riparian woodlands, and habitats for sensitive wildlife species." Again, the DEIR/DEIS fails to identify what specific cumulative losses would occur. These and other similar statements are unsubstantiated in the DEIR/DEIS. Without substantiation, the public cannot confirm that the analysis and conclusions presented are correct. L21-150

Based upon the foregoing, the County believes that if EBMUD decides to proceed with Alternative 2, and/or the USBR decides to amend its CVP water supply contract with EBMUD to accommodate Alternative 2, a revised draft of the DEIR/DEIS must be circulated in compliance with CEQA and NEPA. L21-151

Thank you for considering these comments.

Cordially yours,

De Cuir & Somach

By _____
Andrew M. Hitchings

cc: Robert Thomas
Robert A. Ryan
John Whisenhunt
Keith DeVore
Darrell Eck
Donna Dean

Response to Comments of Counsel to County of Sacramento

De Cuir & Somach

L21-1, Andrew M. Hitchings, Counsel to County of Sacramento
The original water service contract was executed prior to the enactment of NEPA, and no environmental review was therefore required. The fact that EBMUD and Reclamation are now proposing to amend the existing contract does not require environmental review of the original decision under NEPA. In addition, all Supplemental Water Supply Project alternatives have been evaluated pursuant to NEPA and CEQA. See response to "Alternatives Considered" major issue in Chapter 3 of this document. Contrary to this comment, all potential environmental impacts related to Alternatives 2 and 3 have been considered on "EBMUD's CVP contract as a whole" and resulting from EBMUD's use of water from its water service contract have already been addressed in the 1997 Draft EIR/EIS. The commentator has failed to provide any examples of impacts that have not been considered with regard to the contract that would necessitate additional environmental review.

L21-2, Andrew M. Hitchings, Counsel to County of Sacramento
Reclamation has prepared two biological assessments for Alternatives 2 and 3; one evaluates the effects on threatened and endangered terrestrial species as a result of construction of the pipeline linking the American River with the Mokelumne Aqueducts, and the other evaluates the effects on threatened and endangered aquatic species associated with operation of the alternatives. The preparation of both biological assessments was consistent with Section 3.13.2, "Endangered Species Act," in the U.S. Bureau of Reclamation's NEPA Handbook.

L21-3, Andrew M. Hitchings, Counsel to County of Sacramento
The draft amendatory contract is included as Appendix A to this document. The draft amendatory contract terms are entirely consistent with the 1997 Draft EIR/EIS.

L21-4, Andrew M. Hitchings, Counsel to County of Sacramento
The objectives of the Supplemental Water Supply Project are described on page 2-1 of the 1997 Draft EIR/EIS. One of the project objectives is to contribute to meeting EBMUD's planning objectives established in the WSMP. Common outcomes of Alternatives 2 and 3 include increasing operations flexibility, maintaining water quality, decreasing deficiencies, and accommodating planned outages of Pardee Reservoir. The 1997 Draft EIR/EIS discloses the relative benefits and tradeoffs between the alternatives. For example, although Alternative 3 would help eliminate unmanageable deficiencies in water supply to a greater degree than Alternative 2, it would result in greater urban impacts. See response to "Alternatives Considered" major issue in Chapter 3 of this document.

L21-5, Andrew M. Hitchings, Counsel to County of Sacramento
If implemented, Alternative 2 would provide substantial benefits by increasing operations flexibility, maintaining water quality, decreasing deficiencies, and accommodating planned outages of Pardee Reservoir. Elimination of unmanageable deficiencies may be an additional benefit of Alternative 3 compared to Alternative 2 and is an important factor in determining which alternative to implement. A discussion of the WSMP and relationship to Alternatives 2 and 3 is included on pages 1-5 through 1-14 of the 1997 Draft EIR/EIS.

L21-6, Andrew M. Hitchings, Counsel to County of Sacramento
As demonstrated in Appendix B to the 1997 Draft EIR/EIS, Alternatives 2 and 3 both meet the objectives of the Supplemental Water Supply Project. Alternative 3 could provide better

reliability compared to Alternative 2 because deliveries would not be constrained by the Hodge Decision. The greater reliability afforded by Alternative 3 would cost substantially more compared to Alternative 2 (pages 2-14, 2-15, and 2-23 of the 1997 Draft EIR/EIS). Reliability, costs, and many other factors will be evaluated in deciding which project alternative to select.

L21-7, Andrew M. Hitchings, Counsel to County of Sacramento
As stated on page 2-1 of the 1997 Draft EIR/EIS, one of the Supplemental Water Supply Project objectives is to "contribute to achieving EBMUD's planning objectives as part of the Updated WSMP." Alternative 2 would contribute to meeting EBMUD's need for water and is consistent with project objectives. Based on the PROSIM hydrologic modeling and as indicated in Figure 3-2 and in Table C-4 of the 1997 Draft EIR/EIS, under Alternative 2, EBMUD would be able to take delivery of water during dry periods, including the 1928 to 1934 period (recognized in the CVPIA PEIS as a "dry period") and during the 1976–1977 period.

Chapter 3 of and Appendix C to the 1997 Draft EIR/EIS provide detailed information on the amount of water that would be delivered under Alternatives 2 and 3. As stated in Chapter 3 of the 1997 Draft EIR/EIS, the amount of water delivered under Alternatives 2 and 3 would not be the same.

The Supplemental Water Supply Project is not a "piecemeal" approach to meeting the project objectives because no additional facilities to those described in the 1997 Draft EIR/EIS are required to implement either Alternative 2 or 3. There are no plans for any additional facilities to be constructed as part of the project alternatives. Under both alternatives, the additional water EBMUD receives from the American River would be used in conjunction with the Mokelumne River system to meet EBMUD customer demands. This operation allows additional storage to be maintained in the Mokelumne River for use in subsequent dry periods that would otherwise not be available. See response to "Project Segmentation/Piecemealing" major issue in Chapter 3 of this document.

L21-8, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS accurately evaluates and discloses impacts of Alternatives 2 and 3. Alternatives 2 and 3 are consistent with the Hodge Decision and protect the public trust resources of the lower American River. Operation of the Mokelumne River water supply system would be subject to the FERC order of November 1998. The 1997 Draft EIR/EIS concludes that resources on the lower American River and the Sacramento River would not be adversely affected by Alternative 2 or 3 and that the project would comply with the requirements of the Hodge Decision.

L21-9, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS accurately evaluates and discloses impacts of Alternatives 2 and 3. The document does not indicate an environmentally superior alternative because hydrologic-related effects (i.e., water supply, power, fisheries, and recreation) would be nearly the same under both alternatives.

L21-10, Andrew M. Hitchings, Counsel to County of Sacramento
As part of the permitting process for the lower American River intake facility, EBMUD would have to secure an encroachment permit from the State Reclamation Board. The permit is intended to maintain the integrity and safety of flood control levees and floodways. To secure this permit, EBMUD would have to complete a hydrologic simulation and scour analysis to ensure that the intake facility would not adversely affect operation of the American River floodway. This approval process would ensure that the intake structure would not affect the flood control capacity of the lower American River.

L21-11, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS accurately evaluates and discloses impacts of Alternative 2.

L21-12, Andrew M. Hitchings, Counsel to County of Sacramento
Mitigation Measure 8-1 on page 8-12 of the 1997 Draft EIR/EIS identifies actions that can be taken if nesting raptors or tricolored blackbirds are identified.

L21-13, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS accurately evaluates and discloses impacts of Alternative 2.

L21-14, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS accurately evaluates and discloses impacts associated with Alternatives 2 and 3. The analysis of lower American River fisheries concluded that project-level impacts under Alternatives 2 and 3 were less than significant. Significant impacts on fisheries were identified under cumulative conditions, and the fisheries mitigation on pages 5-24 and 5-25 of the 1997 Draft EIR/EIS address types of mitigation that could be implemented to reduce cumulative impacts and specifically refers to the Water Forum's efforts. The mitigation measures also state that EBMUD could contribute an appropriate share of money or services to the overall mitigation efforts. Mitigation measures address these cumulative impacts.

L21-15, Andrew M. Hitchings, Counsel to County of Sacramento
No mitigation is available to directly offset the cumulative effects on water-dependent recreational opportunities. EBMUD may be willing to participate in regional efforts to enhance recreational opportunities. The commentor fails to provide information to support the conclusion that feasible mitigation exists.

L21-16, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS accurately evaluates and discloses impacts of Alternative 2.

L21-17, Andrew M. Hitchings, Counsel to County of Sacramento
The demand assumptions shown in Table 1-2 of the 1997 Draft EIR/EIS accurately reflect future customer demands. As indicated at the bottom of Table 1-2, the source of the information is EBMUD's "Urban Water Management Plan." EBMUD water conservation and reclamation efforts are discussed on pages 1-7 through 1-12 of the 1997 Draft EIR/EIS.

L21-18, Andrew M. Hitchings, Counsel to County of Sacramento
A discussion of EBMUD water conservation efforts is included in Chapter 2 of Appendix B to the 1997 Draft EIR/EIS. Table 2-2 of Appendix B summarizes EBMUD's demand and supply projection through 2020 and describes the amount of water that EBMUD is projected to conserve. The conservation measures are aggressive, and future water savings shown in Table 2-2 are accurate. Future dry-year water supply demands and the need to ensure a reliable supply when Pardee Reservoir is taken off line cannot be met under the No-Action Alternative.

L21-19, Andrew M. Hitchings, Counsel to County of Sacramento
See response to Comment L20-19.

L21-20, Andrew M. Hitchings, Counsel to County of Sacramento
Alternative 2 meets the project objectives by increasing operations flexibility, maintaining water quality, decreasing deficiencies, and accommodating planned outages of Pardee Reservoir. The need for the project is explained in Chapter 1 of the 1997 Draft EIR/EIS.

L21-21, Andrew M. Hitchings, Counsel to County of Sacramento
EBMUD reviewed, considered, and incorporated into the 1997 Draft EIR/EIS relevant information from the testimony and evidence presented in EDF et al. v. EBMUD.

L21-22, Andrew M. Hitchings, Counsel to County of Sacramento
The timing of reclamation project implementation is shown in Table 1-2 on page 1-11 of the 1997 Draft EIR/EIS. Savings would total 14.2 million gallons per day by 2005 based on savings of 5.2 million gallons per day by 1995 and 8.3 million gallons per day by 2005. The information contained in Table 1-2 is accurate. EBMUD is committed to implementing future reclamation projects to achieve the conservation and reclamation targets by the dates shown in Table 1-2.

L21-23, Andrew M. Hitchings, Counsel to County of Sacramento
The amounts shown in the row titled "planning level of demand" in Table 1-2 were calculated by subtracting the amounts shown in the rows titled "natural replacement of ultra low flush toilets," "EBMUD's existing and adopted conservation program," "EBMUD's existing and adopted reclamation program," and "potential water reclamation" from the row titled "customer demand (adjusted for accounts)." The amounts shown in the row "potential water reclamation" are the totals of the six geographic areas indicated directly below that row.

L21-24, Andrew M. Hitchings, Counsel to County of Sacramento
A detailed discussion of EBMUD water conservation efforts is included in Chapter 2 of Appendix B to the 1997 Draft EIR/EIS. Table 1-2 of the 1997 Draft EIR/EIS summarizes EBMUD's demand and supply projection through 2020 and shows the amount of water that EBMUD is projected to conserve. The conservation measures are aggressive, and the future water savings estimates shown in Table 1-2 are reasonable. EBMUD has been implementing an aggressive water conservation and reclamation program.

L21-25, Andrew M. Hitchings, Counsel to County of Sacramento
The conservation and reclamation targets shown in Table 1-2 are reasonable assumptions.

L21-26, Andrew M. Hitchings, Counsel to County of Sacramento
The 230 MGD was estimated based on water demand during a typical year, rather than the average of a wet and dry years.

L21-27, Andrew M. Hitchings, Counsel to County of Sacramento
The statement on page 1-12 of the 1997 Draft EIR/EIS was included to indicate that meeting the objectives of the CVPIA could include modifying flows in the Mokelumne River. The flow requirements in the Mokelumne River FERC order could help meet the objectives indicated in the AFRP. The Joint Settlement Agreement is acceptable to DFG and USFWS. If the Joint Settlement Agreement is formally accepted by SWRCB, it will become a binding agreement.

L21-28, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS accurately characterizes the actions of the EBMUD Board of Directors. Approval of the WSMP did not eliminative other projects from consideration in the future. As indicated on pages 29-33 of the October 1993 findings of the Board of Directors on the WSMP, the analysis was appropriate for an EBMUD-only alternative for use of American River water.

L21-29, Andrew M. Hitchings, Counsel to County of Sacramento
2001 is a reasonable target date for alternatives screening based on the time necessary to complete the environmental clearance process and design and construct the pipeline and/or intake structure. The 2001 screening criteria alone did not eliminate any alternative from consideration in the 1997 Draft EIR/EIS. At the time the 1997 Draft EIR/EIS was prepared, the 2001 date was the earliest practical date to begin delivery of water based on constructing and permitting the project. Delays in the project schedule affect all alternatives equally.

L21-30, Andrew M. Hitchings, Counsel to County of Sacramento
See response to "San Joaquin County Conjunctive Storage" major issue in Chapter 3 of this document.

L21-31, Andrew M. Hitchings, Counsel to County of Sacramento
EBMUD and Reclamation have negotiated a draft amendatory contract. See Appendix A of this document and response to Comment L21-3.

L21-32, Andrew M. Hitchings, Counsel to County of Sacramento
Comment noted. See Chapter 12 of this document, "Errata." No additional modification of the 1997 Draft EIR/EIS is necessary, and the analysis of environmental impacts does not change.

L21-33, Andrew M. Hitchings, Counsel to County of Sacramento
Comment noted. Two new contracts and a subcontract have been negotiated as a result of Public Law 101-514.

L21-34, Andrew M. Hitchings, Counsel to County of Sacramento
Comment noted. The Sacramento County Water Agency rather than Sacramento County is the contract party.

L21-35, Andrew M. Hitchings, Counsel to County of Sacramento
See the response to "Alternatives Considered" major issue in Chapter 3 of this document. The screening criteria are appropriate for screening alternatives to meet the project objective of allowing EBMUD to use its water service contract with Reclamation to take delivery of American River water. The relationship of the Supplemental Water Supply Project to the WSMP is described on pages 1-5 through 1-14 of the 1997 Draft EIR/EIS. The treatment costs for Sacramento River water are not overestimated, as extensive treatment and additional conveyance facilities would be required. See response to "Delta and Sacramento River Alternatives" major issue in Chapter 3 of this document. Also, as clearly noted on Table 5-1 of the 1997 Draft EIR/EIS, no alternatives were "screened out" because of the fact that the Hodge Decision does not apply to all alternatives considered.

L21-36, Andrew M. Hitchings, Counsel to County of Sacramento
Under Alternative 2, delivery of water is based on EBMUD system needs and is sometimes limited by flow requirements stipulated in the Hodge Decision. As shown in Table C-5 of Appendix C to the 1997 Draft EIR/EIS, most of the water deliveries to EBMUD under Alternative 2 would occur between November and April. According to PROSIM hydrologic modeling output, peak flows in the lower American River typically occur during this period. This suggests that water would be delivered to EBMUD more frequently when flows in the American River were high.

L21-37, Andrew M. Hitchings, Counsel to County of Sacramento
The delivery schedule under Alternative 2 is based on EBMUD system demand and when flows in the American River are above those stipulated in the Hodge Decision. The operations presented in the 1997 Draft EIR/EIS are consistent with the Hodge Decision.

L21-38, Andrew M. Hitchings, Counsel to County of Sacramento
A full-use scenario was evaluated for the joint project facilities and to assess cumulative effects under Alternative 2. The scenario did not assume that water delivered to EBMUD would be sold. As stated on page 2-21 of the 1997 Draft EIR/EIS, any additional use of the joint project facilities above that evaluated under Alternative 3 would be subject to additional environmental documentation.

The cumulative impact evaluation for Alternative 2 assumed the full use (350 cfs delivery) of facilities constrained only by the requirement to meet Hodge flow criteria. The 1997 Draft EIR/EIS adequately evaluates the cumulative impacts of Alternatives 2 and 3, and a worst-case way to evaluate these impacts was to assume that the delivery capacity of Alternatives 2 and 3 facilities could be used by other parties.

L21-39, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS provides adequate cost information for construction of Alternatives 2 and 3. As indicated on page 2-14, the capital cost of Alternative 2 is estimated to range from $183.5 million (Alignment 2) to $326.5 million (Alignment 1) and, as indicated on page 2-23, the capital cost for Alternative 3 is estimated to total $463 million. New cost estimates have been developed and included in the REIR/SEIS.

L21-40, Andrew M. Hitchings, Counsel to County of Sacramento
Alternatives 2 and 3 would not result in significant impacts on lower American River biological resources. The evaluation of impacts on fisheries, vegetation and wetlands, and wildlife are included in Chapters 5, 7, and 8 of the 1997 Draft EIR/EIS, respectively.

L21-41, Andrew M. Hitchings, Counsel to County of Sacramento
As described on page 3-13 of the 1997 Draft EIR/EIS, delivery of water under Alternative 2 would occur only when Hodge Decision flows are met downstream of Nimbus Dam. As indicated on page 3-14, it was assumed that the delivery of water under Alternative 3 would not be constrained by the Hodge Decision flow requirements because of the downstream location of the intake facility. The flows stipulated in the Hodge Decision are protective of the public trust resources on the lower American River. Because these flow requirements would be met, either because deliveries would not occur or because deliveries would occur near the mouth of the river, riverine resources would be protected under both alternatives. This conclusion is supported by the evaluation of biological resources on the lower American River and at Folsom Reservoir. The evaluation indicates that impacts on these resources would be less than significant under both alternatives.

L21-42, Andrew M. Hitchings, Counsel to County of Sacramento
See response to "Alternatives Considered" major issue response in Chapter 3 of this document.

L21-43, Andrew M. Hitchings, Counsel to County of Sacramento
See response to "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document and response to Comment L21-10.

L21-44, Andrew M. Hitchings, Counsel to County of Sacramento
The objectives of the Supplemental Water Supply Project are stated on page 2-1 of the 1997 Draft EIR/EIS. As indicated on page 2-1, one of the objectives is to "contribute to achieve EBMUD's planning objectives established as part of the updated WSMP." The WSMP planning objectives are included on page 2-2 of the 1997 Draft EIR/EIS.

L21-45, Andrew M. Hitchings, Counsel to County of Sacramento
The environmental commitments described on pages 2-3 through 2-7 of the 1997 Draft EIR/EIS would be implemented under both Alternatives 2 and 3. Under Alternative 3, EBMUD would implement the environmental commitments in partnership with the City and County. Under Alternative 2, the environmental commitments would be implemented by EBMUD only.

L21-46, Andrew M. Hitchings, Counsel to County of Sacramento
See response to "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document.

L21-47, Andrew M. Hitchings, Counsel to County of Sacramento
A discussion of the water supply reliability of the EBMUD system under different conditions is provided in Chapter 4 of Appendix B to the 1997 Draft EIR/EIS. Conditions such as structural damage to Pardee Dam, contamination or water quality degradation, extended drought, and failure of conveyance facilities could

render the water supply system unusable for an extended period. Strengthening the largest EBMUD pipeline through the Delta would reduce risk, as would connecting to another water source.

L21-48, Andrew M. Hitchings, Counsel to County of Sacramento
As indicated on page 2-8 of the 1997 Draft EIR/EIS, it was assumed that growth in the EBMUD Ultimate Service Boundary (USB) would continue to occur and would be based on planning projections and approval processes of local governments. The 1997 Draft EIR/EIS did not assume that growth within the USB would occur indefinitely. Pages 2-7 and 2-8 of the 1997 Draft EIR/EIS also provide information on EBMUD's policies and requirements for providing water within and outside of EBMUD's USB.

L21-49, Andrew M. Hitchings, Counsel to County of Sacramento
Alternative 1: No Action would not meet all the Supplemental Water Supply Project objectives, as indicated on page 2-1 of the 1997 Draft EIR/EIS. Additionally, customer deficiencies would exceed 25% during the 3-year drought planning sequence.

L21-50, Andrew M. Hitchings, Counsel to County of Sacramento
A detailed siting alignment study was conducted for Alternative 2. The alignment study included an evaluation of engineering and environmental considerations in the selection of the alignments that were evaluated in the 1997 Draft EIR/EIS. The study has been incorporated by reference in the 1997 Draft EIR/EIS (CH2M-Hill and Montgomery Watson 1996[1]). In response to public outreach and property owner meetings, additional refinement and analysis were conducted to address specific routing issues. This has included evaluating other locations for the lower American River intake, a C Street bypass option, and other pipeline routing refinements. See Chapter 2 of the 1997 Draft EIR/EIS.

L21-51, Andrew M. Hitchings, Counsel to County of Sacramento
As indicated in Chapter 3 of the 1997 Draft EIR/EIS, the delivery of water under Alternative 2 would occur when a demand for supplemental water by EBMUD exists and when flows in the lower American River were above the flows stipulated in the Hodge Decision. The hydrologic modeling for Alternative 2 did not assume that EBMUD would take delivery of water whenever flows were above Hodge Decision requirements. Storage space within EBMUD's system was an additional constraint. The change in storage at Folsom Reservoir under Alternative 2 is described in Chapter 3 of and Appendix C to the 1997 Draft EIR/EIS. On average, carryover storage in Folsom Reservoir would be approximately 2,000 AF lower under Alternative 2 than under the No-Action Alternative.

L21-52, Andrew M. Hitchings, Counsel to County of Sacramento
Chapter 3 of and Appendix C to the 1997 Draft EIR/EIS provide detailed information on the changes in river flows and reservoir storage that are expected under each alternative. Chapter 5 of the 1997 Draft EIR/EIS evaluates flow and temperature changes on lower American River fisheries. The analysis concludes that impacts on fisheries under Alternatives 2 and 3 would be less than significant.

L21-53, Andrew M. Hitchings, Counsel to County of Sacramento
Chapter 3 of and Appendix C to the 1997 Draft EIR/EIS provide information on the assumptions used for the PROSIM hydrologic modeling effort. The Hodge Decision physical solution states that "an additional 60,000 AFA will be maintained in reserve at the reservoir from mid-October through June for release upon the recommendation of the Department of Fish and Game in response

[1] CH2M Hill, Inc., and Montgomery Watson, Inc. 1996. Folsom South Canal siting and alignment study. May. Prepared for East Bay Municipal Utility District, Oakland, CA.

to specific fishery requirements." EBMUD recognizes that this reservation is indicated in the Hodge Decision, but the specific operation constraints of the 60,000-AF/year requirement have never been defined.

L21-54, Andrew M. Hitchings, Counsel to County of Sacramento
As indicated in Chapters 7 and 8 of the 1997 Draft EIR/EIS, wildlife and botanical surveys would be conducted prior to beginning ground-disturbing activities associated with pipeline construction. Measures to avoid impacts on sensitive resources as a result of these activities are described in these chapters. In addition, the environmental commitments described in Chapter 2 of the 1997 Draft EIR/EIS are applicable to construction and use of staging areas and access roads.

L21-55, Andrew M. Hitchings, Counsel to County of Sacramento
Detailed cost assumptions for the project's capital cost estimate were shared with the County of Sacramento and are available to the public. The cost information presented in Chapter 2 of the 1997 Draft EIR/EIS is adequate for evaluation of project alternatives.

L21-56, Andrew M. Hitchings, Counsel to County of Sacramento
The ratepayer costs for Alternative 2 were based on costs for water delivered to the EBMUD system. The proportional funding for this cost breakdown assumed 30% would be funded by all ratepayers, and 70% would be funded by system capacity charges. One way to express the cost to ratepayers was based on the amount of water delivered on an annual basis. As indicated on page 3-12 of the 1997 Draft EIR/EIS, the average annual delivery of water to EBMUD over the hydrologic modeling period was 29,000 AF.

L21-57, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS does not specify a delivery point for water delivered to the Sacramento County Water Agency pursuant to Public Law 101-514. Page 2-16 of the Draft EIR/EIS on Public Law 101-514 indicates that water shall be made available to the Sacramento County Water Agency at either the Sacramento River Water Treatment Plant, at a new intake on the American River near the I-5 bridge, or near Freeport on the Sacramento River.

L21-58, Andrew M. Hitchings, Counsel to County of Sacramento
As shown in Table 5-1 of Appendix B to the 1997 Draft EIR/EIS, Alternatives 2 and 3 met all the screening criteria.

L21-59, Andrew M. Hitchings, Counsel to County of Sacramento
As indicated in Chapter 3 of the 1997 Draft EIR/EIS, the hydrologic modeling assumed that Hodge Decision flows would be met before water would be delivered under Alternative 2 and that flow criteria were not limiting factors for deliveries under Alternative 3.

L21-60, Andrew M. Hitchings, Counsel to County of Sacramento
As indicated on page 2-1 of the 1997 Draft EIR/EIS, the project objectives would be met only as long as they were consistent with the conditions set forth in the Hodge Decision. The flows established in the Hodge Decision are protective of the public trust resources of the lower American River.

L21-61, Andrew M. Hitchings, Counsel to County of Sacramento
Changes in SWP and CVP deliveries are shown respectively in Tables C-21 and C-22 of Appendix C to the 1997 Draft EIR/EIS. No changes in SWP deliveries would occur, and an annual reduction of 3,000 AF in CVP deliveries would occur under Alternative 2. Under Alternative 3, PROSIM indicates that deliveries to the SWP would increase by 5,000 AF annually, and no change in CVP deliveries is expected. Compared to the amount of

water delivered by the SWP and the CVP, the slight increases and decreases in deliveries attributable to Alternatives 2 and 3 are considered extremely small.

L21-62, Andrew M. Hitchings, Counsel to County of Sacramento
The PROSIM hydrologic modeling for Alternatives 2 and 3 was based on the modeling assumptions used in the CVPIA PEIS. This information was modified to reflect known changes in operations since the model was developed for the CVPIA assessment. As indicated in Appendix C to the 1997 Draft EIR/EIS, the PCWA diversion of 35,000 AF was subtracted from the data representing Folsom Lake inflow. The hydrologic modeling for Alternatives 2 and 3 assumed that no new water delivery facilities on the American River would become operational besides those specified in each alternative. No other changes to the inflow to Folsom Reservoir were known when the hydrologic modeling was conducted.

L21-63, Andrew M. Hitchings, Counsel to County of Sacramento
Operation of Alternatives 2 and 3 is not expected to affect high-flow conditions in the lower American River. As shown in Figures 3-8 and 3-11 in Chapter 3 of the 1997 Draft EIR/EIS, the exceedance frequency of high flows would be nearly the same under Alternatives 2 and 3 compared to Alternative 1: No Action. This suggests that opportunities for splittail to spawn over flooded vegetation would not be affected by Alternative 2 or 3.

L21-64, Andrew M. Hitchings, Counsel to County of Sacramento
See response to Comment L20-19.

L21-65, Andrew M. Hitchings, Counsel to County of Sacramento
The method used to evaluate water temperatures in the lower American River is accurate and useful in describing impacts. See responses to Comments L21-110, L21-111, L21-112, L21-113, and L21-115. Additionally, Reclamation's temperature model for the lower American River was used for purposes of comparison. The results of this comparison are included in Appendix D of the 1997 Draft EIR/EIS. Results would be similar using either approach.

L21-66, Andrew M. Hitchings, Counsel to County of Sacramento
As indicated in Chapter 3 of the 1997 Draft EIR/EIS, the hydrologic analysis used to evaluate Alternatives 2 and 3 is generally based on the same criteria used in the CVPIA PEIS. The AFRP flows are not yet required.

L21-67, Andrew M. Hitchings, Counsel to County of Sacramento
The demand information shown in Table 3-3 of the 1997 Draft EIR/EIS was closely coordinated with the Water Forum to the extent the Water Forum was willing to share information. The best available information was used when the 1997 Draft EIR/EIS was prepared. The Draft EIR for the Water Forum was reviewed, and it was concluded that the 1997 Draft EIR/EIS used very similar demands, and the publication of the Water Forum EIR does not require a more extensive reevaluation of the information contained in the 1997 Draft EIR/EIS.

L21-68, Andrew M. Hitchings, Counsel to County of Sacramento
The State Water Project demands used in the hydrologic modeling for Alternatives 2 and 3 are consistent with other studies conducted by Reclamation, most notably studies done for the CVPIA. This information represents the best available information and is appropriate for conducting impact analyses.

L21-69, Andrew M. Hitchings, Counsel to County of Sacramento
The hydrologic modeling for Alternatives 2 and 3 is consistent with other studies conducted by Reclamation, most notably studies done for the CVPIA. This information represents the best available information and is appropriate for conducting impact analyses. Upstream demands are appropriately accounted for in the analyses. See Chapter 3 of the 1997 Draft EIR/EIS.

L21-70, Andrew M. Hitchings, Counsel to County of Sacramento
The hydrologic modeling for Alternatives 2 and 3 is consistent with other studies conducted by Reclamation, most notably studies done for the CVPIA. This information represents the best available information and is appropriate for conducting impact analyses. El Dorado County demands are appropriately accounted for in the analyses. See Chapter 3 of the 1997 Draft EIR/EIS.

L21-71, Andrew M. Hitchings, Counsel to County of Sacramento
The hydrologic modeling for Alternatives 2 and 3 is consistent with other studies conducted by Reclamation, most notably studies done for the CVPIA. This information represents the best available information and is appropriate for conducting impact analyses. The relationship of AFRP flows to the Water Forum F-Pattern flows are not relevant to determining the potential environmental effects of Alternatives 2 and 3 because Reclamation is committed to meeting AFRP flows.

L21-72, Andrew M. Hitchings, Counsel to County of Sacramento
See Chapter 12 of this document, "Errata." The City of Folsom diverts water from Folsom Reservoir.

L21-73, Andrew M. Hitchings, Counsel to County of Sacramento
See Chapter 12 of this document, "Errata." EBMUD agrees that the reference to "Kern-Canal" should be changed to "Friant-Kern Canal."

L21-74, Andrew M. Hitchings, Counsel to County of Sacramento
Commented noted. Flows through the Yolo Bypass are considered part of the Delta inflow.

L21-75, Andrew M. Hitchings, Counsel to County of Sacramento
See response to "PROSIM Modeling" major issue in Chapter 3 of this document.

L21-76, Andrew M. Hitchings, Counsel to County of Sacramento
As discussed on page 3-13 of the 1997 Draft EIR/EIS, PROSIM simulated deliveries when an EBMUD demand occurs and flows in the lower American River are above the Hodge Decision criteria. River flows and releases from Folsom Reservoir and Nimbus are not a direct function of EBMUD demand.

L21-77, Andrew M. Hitchings, Counsel to County of Sacramento
The 1928–1934 period is the representative dry period for the CVP and SWP, and it is therefore appropriate for the analysis in the 1997 Draft EIR/EIS.

L21-78, Andrew M. Hitchings, Counsel to County of Sacramento
As a CVP contractor, EBMUD would be subject to contractual shortage provisions. How those provisions could affect delivery of water to EBMUD was not known at the time the 1997 Draft EIR/EIS was prepared. The draft amendatory contract is included as Appendix A to this document. The contract terms are summarized in Chapter 2 of this document.

L21-79, Andrew M. Hitchings, Counsel to County of Sacramento
The analysis of energy production accurately describes potential changes under Alternatives 2 and 3. Changes in average annual energy production at Folsom Dam and for the CVP are shown in Table 3-5 of the 1997 Draft EIR/EIS. Tables C-26 and C-27 of Appendix C to the 1997 Draft EIR/EIS show average monthly changes in energy production at Folsom Dam and the CVP, respectively.

L21-80, Andrew M. Hitchings, Counsel to County of Sacramento
As discussed on page 3-15 of the 1997 Draft EIR/EIS, energy use associated with pumping water from Folsom Reservoir by the City of Folsom and Eldorado Irrigation District is not expected to change, because lake levels under Alternatives 2 and 3 are expected to be the same or similar to levels under

Alternative 1: No Action. The City of Roseville and San Juan Water District typically begin to pump water from Folsom Reservoir when lake elevations fall to 433 feet above mean sea level (msl), and the City of Folsom begins to pump when lake levels fall below 414 feet above msl. A comparison of PROSIM hydrologic data indicates that, under Alternative 2, lake levels would be above 414 feet msl for an additional 10 months and below 433 feet msl for an additional 3 months. Under Alternative 3, the lake levels would fall below 414 feet msl for an additional 4 months and would be above 433 feet msl for the same number of months as under Alternative 1: No Action. The four additional months the lake level falls below 414 feet msl represent less than a 1% change compared to Alternative 1.

L21-81, Andrew M. Hitchings, Counsel to County of Sacramento
The PROSIM output was used for purposes of comparison of hydrologic conditions expected under each alternative. As stated on page 3-13 of the 1997 Draft EIR/EIS, PROSIM is not an operations model for day-to-day operation of the CVP. Changes in flow predicted by the hydrologic model may not be as large as indicated because of the stepped nature of the PROSIM output. Monthly hydrologic simulation models are currently used for CEQA and NEPA documents by numerous agencies; however, all parties agree that changes within a given month occur.

L21-82, Andrew M. Hitchings, Counsel to County of Sacramento
The PROSIM output for existing conditions indicates that over the 70-year modeling period, flows in the lower American River would be higher from October to March and lower from April to September under Alternative 1: No Action, compared to existing conditions. The AFRP storage-flow relationships are shown in Table C-1 of Appendix C to the 1997 Draft EIR/EIS.

L21-83, Andrew M. Hitchings, Counsel to County of Sacramento
A comparison of Folsom Reservoir storage for each alternative is provided in the 1997 Draft EIR/EIS in Appendix C, Table C-10. PROSIM indicates that end-of-September storage (carryover storage) at Folsom Reservoir is 484 TAF under existing conditions, 545 TAF under Alternative 2 cumulative conditions, and 554 TAF under Alternative 3 cumulative conditions.

L21-84, Andrew M. Hitchings, Counsel to County of Sacramento
Reservoir water elevations in feet above msl were determined based on PROSIM model output for the end-of-month reservoir storage values. Each elevation was determined by matching the modeled storage prediction to a table of values showing the known storage-to-elevation relationship. In addition to Folsom Reservoir, reservoir elevations were calculated for Lake Oroville, Shasta Lake, Whiskeytown Lake, and Trinity Lake. As stated on page 3-17 of the 1997 Draft EIR/EIS, mean monthly surface elevation over the 70-year hydrologic period of Folsom Reservoir would be reduced by less than 1 foot under Alternative 2 and less than 3 feet under Alternative 3. Detailed lake level information for the 70-year hydrologic period is available on request.

L21-85, Andrew M. Hitchings, Counsel to County of Sacramento
Mean annual flows in the American River below Nimbus Dam under existing conditions and Alternatives 1, 2, and 3 are shown in Table C-11 of Appendix C to the 1997 Draft EIR/EIS. The PROSIM output accurately characterizes conditions expected under each alternative. Factors that could account for the remaining differences between alternatives when changes in deliveries are taken into account include carriage water losses, evaporation, and other factors associated with the model. Given the small differences relative to the overall annual flow, performing detailed analysis of these small differences would not be meaningful, and the results and conclusions in the 1997 Draft EIR/EIS would not be different.

L21-86, Andrew M. Hitchings, Counsel to County of Sacramento
A comparison of average monthly flows in the lower American River is shown in Appendix C to the 1997 Draft EIR/EIS, Table C-11. Under Alternative 2 and 3 cumulative conditions, flows would generally increase in winter and decrease in summer, as compared to existing conditions.

L21-87, Andrew M. Hitchings, Counsel to County of Sacramento
See response to Comment L21-85.

L21-88, Andrew M. Hitchings, Counsel to County of Sacramento
Information on flows in the Trinity River and the Sacramento River are provided in Tables C-13 and C-15, respectively, in Appendix C to the 1997 Draft EIR/EIS. The PROSIM hydrologic model used for this analysis was based on the best available information at the time the 1997 Draft EIR/EIS was prepared. The assumptions used in the development of the PROSIM model are described in Appendix C to the 1997 Draft EIR/EIS. These assumptions are consistent with the assumptions used for the hydrologic modeling for the CVPIA PEIS. Alternatives 2 and 3 would not cause changes in the Trinity River system.

L21-89, Andrew M. Hitchings, Counsel to County of Sacramento
See Chapter 12 of this document, "Errata." Information on Delta inflow is provided in Table 3-4 of the 1997 Draft EIR/EIS and in Appendix C, Table C-19.

L21-90, Andrew M. Hitchings, Counsel to County of Sacramento
See Chapter 12 of this document, "Errata." The first row under Lake Shasta represents Alternative 1 values minus existing conditions values. The monthly values for the Sacramento River at Keswick and Freeport are shown in cubic feet per second. The annual mean value is shown in thousand acre-feet. The values are based on the 70-year period simulated by PROSIM.

L21-91, Andrew M. Hitchings, Counsel to County of Sacramento
"Delta inflow" includes inflow from sources other than the Sacramento River, including the San Joaquin River system, Mokelumne River, and Cosumnes River.

L21-92, Andrew M. Hitchings, Counsel to County of Sacramento
Information on average monthly deliveries to the SWP is included in Appendix C to the 1997 Draft EIR/EIS, Table C-21.

L21-93, Andrew M. Hitchings, Counsel to County of Sacramento
The discussion of hydropower and energy production is provided on page 3-22 of the 1997 Draft EIR/EIS. The analysis accurately characterizes changes in power production at Folsom Reservoir and CVP as a whole. See response to Comment L21-80 regarding effects on pumping water from Folsom Reservoir.

L21-94, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS concisely and accurately conveys the results of the PROSIM hydrologic analysis. PROSIM output data are available on request from EBMUD and are incorporated by reference.

L21-95, Andrew M. Hitchings, Counsel to County of Sacramento
The PROSIM hydrologic model used for the impacts analysis was based on the best available information at the time the 1997 Draft EIR/EIS was prepared. See response to "PROSIM Modeling" major issue in Chapter 3 of this document.

L21-96, Andrew M. Hitchings, Counsel to County of Sacramento
The hydrologic modeling for the alternatives considered in the 1997 Draft EIR/EIS is consistent with other studies conducted by Reclamation, most notably studies done for the CVPIA. This information represents the best available information and is appropriate for conducting impact analyses. Upstream demands are appropriately accounted for in the analyses.

L21-97, Andrew M. Hitchings, Counsel to County of Sacramento
The hydrologic modeling for the alternatives considered in the 1997 Draft EIR/EIS is consistent with other studies conducted by Reclamation, most notably studies done for the CVPIA. This information represents the best available information and is appropriate for conducting impact analyses. Appendix C to the 1997 Draft EIR/EIS describes PROSIM modeling assumptions.

L21-98, Andrew M. Hitchings, Counsel to County of Sacramento
As described on page 3-13 of the 1997 Draft EIR/EIS, the primary difference between existing conditions and Alternative 1 is increased demands and changes in instream flow requirements. Table 3-1 of the 1997 Draft EIR/EIS shows the differences between the PROSIM model runs for existing conditions and Alternative 1.

L21-99, Andrew M. Hitchings, Counsel to County of Sacramento
Average annual deliveries under Alternative 2 are 29,000 AF. As shown in Figure 3-2 of the 1997 Draft EIR/EIS, annual deliveries are estimated to range from zero in some years to 105,000 AF in one year. For the Alternative 2 modeling assumptions, demand exists whenever storage capacity is available in EBMUD reservoirs. Availability occurs whenever flows in the lower American River are above Hodge flow criteria.

L21-100, Andrew M. Hitchings, Counsel to County of Sacramento
The City of Sacramento has water rights and facilities to divert up to 85,000 AF per year. Therefore, this level of demand was used for the existing conditions hydrologic modeling. This assumption represents a reasonable assumption regarding City water use. Use of a different demand level would not substantively alter the impact analysis or conclusions.

L21-101, Andrew M. Hitchings, Counsel to County of Sacramento
Table C-4 in Appendix C to the 1997 Draft EIR/EIS shows only one year, 1978, with an assumed decrease in diversions by the City of Sacramento. That year was a significant drought year, and water was not available to be diverted by the City in the hydrologic modeling.

L21-102, Andrew M. Hitchings, Counsel to County of Sacramento
Tables C-6 and C-9 in Appendix C to the 1997 Draft EIR/EIS show deliveries, not demands. The variability in deliveries is because of changes in hydrologic conditions and timing of demands. The hydrologic modeling for Alternative 3 assumed that a County of Sacramento demand of 45,000 AF was met all the time, deliveries to EBMUD would reach 112,000 AF when needed, and the City of Sacramento would shift demand to the Sacramento River during dry years.

L21-103, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS adequately evaluated and disclosed impacts on water quality. Water quality impacts associated with construction and operation of Alternatives 2 and 3 are described in Chapter 4, "Water Quality." SWRCB Resolution 68-16 does not provide specific guidance to help evaluate the significance of impacts on water quality. Additionally, other recent environmental impact assessments on projects that would affect the flow of the lower American River, including the Draft EIR/EIS on Public Law 101-514 and the EIR/EA on interim reoperation of Folsom Reservoir, do not specifically address SWRCB Resolution 68-16. The resolution does indicate that it is the policy of the state to maintain the high quality waters of the state to the maximum extent possible. As disclosed in the 1997 Draft EIR/EIS, Alternatives 2 and 3 would not result in significant impacts on water quality in the lower American River, Sacramento River, or Bay-Delta and would maintain the quality of these waters.

L21-104, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS adequately evaluated and disclosed impacts on water quality. See response to Comment L21-103.

L21-105, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS discloses potential impacts of Alternatives 2 and 3. As discussed in Chapter 3 of the 1997 Draft EIR/EIS, the minor effects of Alternatives 2 and 3 on reservoir storage, river flows, and Delta outflows would not result in degradation of existing water quality for beneficial uses. A discussion of impacts on Delta water quality is included in Chapter 4 of the 1997 Draft EIR/EIS. Impacts on Delta fisheries based on X-2 is included in Chapter 5 of the 1997 Draft EIR/EIS.

L21-106, Andrew M. Hitchings, Counsel to County of Sacramento
See response to Comments L10-1 and L10-2.

L21-107, Andrew M. Hitchings, Counsel to County of Sacramento
As indicated in Chapter 4 of the 1997 Draft EIR/EIS, the 150 mg/L threshold is a state standard. See response to Comment L20-31.

L21-108, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS adequately describes construction-related impacts and avoidance measures. NPDES and other local permits are issued to ensure that construction activities would not result in significant environmental impacts. As described on page 4-4, EBMUD would ensure that these permits were secured and that best management practices were implemented during the construction phase of the project.

L21-109, Andrew M. Hitchings, Counsel to County of Sacramento
As indicated above, no changes in water quality in Folsom Reservoir are expected under Alternative 2 or 3. As discussed on page 3-18 and 3-19 of the 1997 Draft EIR/EIS, changes in lower American River flows attributable to Alternatives 2 and 3 would be small when compared to conditions under the No-Action Alternative. Because changes in reservoir storage and river flow would be slight, no substantial changes in the quality and quality of water diverted at the Fairbairn or Sacramento River Water Treatment Plants are expected under either alternative.

L21-110, Andrew M. Hitchings, Counsel to County of Sacramento
The comment raises two objections: regression equations do not cover the full range of historical release temperatures, and historical operations and release temperatures should not be used to estimate future operations and release temperatures. The historical storage and release temperatures are used to represent the most accurate possible description of the relationship between Folsom storage and Nimbus release temperatures. Because the specific goal of impact assessment is to adequately characterize the likely changes in temperature caused by the effects of the project alternatives, only the changes from no-action conditions are evaluated. Although the historical data may provide a good indication of the likely future range of monthly release temperatures at Nimbus, the regressions were developed to indicate the potential increase in release temperature likely from a decrease in storage that could result from the project alternatives.

Future operations of Folsom may be different from historical operations in three major respects: the linkage between storage and release flow will be specified in the AFRP or similar F-pattern storage-flow relationships, water demands will be greater, and some changes in the temperature panels and cool-water management procedures will be implemented. The general relationship between storage and flow (i.e., lower storage is associated with reduced releases) is the major problem with separating the effects of storage changes from flow changes. The fact that these relationships may be specified in future fisheries management objectives does not invalidate the use of the historical observed correlations to approximate the magnitude of these linked temperature effects. Lower storage will always be correlated with reduced flows and warmer release temperatures. The methodology used in the 1997 Draft EIR/EIS establishes the

likely magnitude of these storage-release flow-temperature relationships.

L21-111, Andrew M. Hitchings, Counsel to County of Sacramento
Evaluating changes in water temperature is an important component of the fisheries impact assessment. Actual temperatures depend on several factors that govern no-action conditions. The potential risk of a temperature increase when no-action temperature is within a range that may have an adverse effect on a particular life stage of concern is the focus of the temperature assessment presented in Chapter 5.

The comment incorrectly implies that potential impacts were evaluated only during months when EBMUD was diverting water. Potential impacts on American River temperature were evaluated for each month of the hydrologic PROSIM simulations.

The comment suggests that the monthly temperature impacts may be underestimated in some cases because the flow-temperature relationship is nonlinear, and the same change in flow produces a greater increase in temperature when no-action flow is lower. This is true. However, the 1997 Draft EIR/EIS methodology approximates the warming potential using the Hodge flow criteria with a 500-cfs change, because direct EBMUD effects on American River flow are limited by the Hodge flow criteria, and the physical capacity of the proposed diversion facilities. If indirect effects of the EBMUD diversions cause flow changes in subsequent months, when no-action flows are substantially less than the Hodge flow criteria, the temperature effects would be higher than estimated by the monthly warming coefficients.

The comment suggests that the effects would be much larger (i.e., more than twice) in July than described in the 1997 Draft EIR/EIS. However, Hodge specifies July flow of 1,750 cfs, while the maximum AFRP flow target is 2,500 cfs, and the average simulated July flow is 2,450 cfs. Furthermore, the expected indirect flow change caused by reduced storage would most likely occur as a general reduction in flows throughout the summer/fall period (i.e., 250 cfs for several months). The simulated maximum daily change in temperature associated with a reduction of flow from 2,250 cfs to 1,750 cfs in July is an adequate characterization of the potential flow-related temperature effects from the operation of Alternatives 2 and 3 (direct and indirect) in July.

L21-112, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS used the best available tools to accurately reflect possible temperature conditions in the lower American River. As described in the response to "PROSIM Modeling" major issue in Chapter 3 of this document, PROSIM is a planning-level model and is not intended to precisely portray Reclamation's day-to-day operations. Many operations are approximated in the model by "step functions," which may result in relatively small input changes (e.g., system-wide demands) producing disproportionately large output changes (e.g., reservoir storage or river flows) as the model attempts to balance the system. PROSIM can be useful in evaluating potential changes in reservoir levels and river hydrology. However, this model sensitivity is taken into account when performing temperature analyses.

For example, for water year 1936, a representative year when total EBMUD diversions in the model were 227 cfs in November and 31 cfs in December under Alternative 2, flows under Alternative 2 (as compared to the no-action alternative) were reduced by 515 cfs in July, increased by 134 cfs in August, and increased by 498 cfs in September. These flow changes are results of internal model operations and do not reflect how Reclamation would actually respond to a minor increase in diversions by EBMUD on a monthly basis. Because of approximations made in the PROSIM model, any temperature impact of EBMUD diversions on fishery range can only be an estimate that relies on professional judgment.

In applying that professional judgment, the analysis estimates the monthly risk of measurable temperature increases that could result from implementation of Alternatives 2 and 3, rather than attempting to predict actual temperatures. Evaluation of PROSIM flow information to determine whether temperatures increased by at least 1°F in at least 10% of the months provides a reasonable estimate of whether the project alternatives could increase the risk of higher temperatures during critical fish life stages. The 1997 Draft EIR/EIS indicates that minimal temperature changes would result from implementation of either of Alternative 2 or 3. The analysis also looked only at those months when temperatures were predicted to increase. There are many months when temperatures were predicted to decrease. See Table 24 in Appendix B of this document.

It is worth noting that this approach is not conceptually dissimilar to the approaches used by the County of Sacramento (and other agencies) for the Public Law 514 water service contracts and the Water Forum EIR in determining impact significance. In each of those certified environmental documents, examination of the data shows that frequent and sometimes substantial changes in temperatures were predicted on a monthly basis in the modeling. In each of those cases, the basis for significance was the average of each of the months throughout the period of record. Although substantial increases in temperature were predicted in those modeling efforts during certain months of certain years, if the overall increases in each month were balanced by decreases in other years, the impacts were determined to be less than significant despite predicted temperature increases of several degrees in some cases. This approach can be viewed as either a reasonable attempt to take into account the uncertainties inherent when conducting temperature modeling, or as a misrepresentation of potentially significant impacts. If the modeling data developed for Alternatives 2 and 3 were examined using the same approach, essentially no or only extremely small net changes in temperatures would be identified. The approach used in the 1997 Draft EIR/EIS represents a worst-case analysis and likely overestimates impacts. Even with such a worst case approach, no significant impacts were identified.

As stated in state CEQA Guidelines section 15064, "The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data . . . . The decision as to whether a project may have one or more significant effects shall be based on substantial evidence in the record of the lead agency." The 1997 Draft EIR/EIS analyzed all available scientific and factual data in its analysis of the project, and the document's conclusions are supported by the record. The 1997 Draft EIR/EIS therefore properly addressed impacts on fisheries in compliance with CEQA and NEPA.

L21-113, Andrew M. Hitchings, Counsel to County of Sacramento
Appendix D to the 1997 Draft EIR/EIS includes an extensive discussion of these modified panel sections and the possible effects of other future temperature management actions. The comment implies that the operation of future temperature control operations would have very effective results. It is assumed that any of these future temperature management actions would reduce, rather than increase, the temperature effects described in the 1997 Draft EIR/EIS methodology. The discussion in Appendix D is provided

to allow the reader to better understand the limited flexibility available at Folsom Dam for release temperature management. The Reclamation temperature model, when used with specified target release temperatures, tends to minimize the actual release temperature increases caused by storage changes. Future temperature management actions would not increase the temperature effects associated with Alternatives 2 and 3.

L21-114, Andrew M. Hitchings, Counsel to County of Sacramento
Potential future actions to better manage release temperatures from Folsom reservoir are not a part of existing Reclamation procedures or capabilities and are not considered in the no-action alternative or Alternatives 2 and 3. Such potential future actions are properly discussed as part of likely cumulative future conditions. No quantitative evaluation of the effectiveness of these future temperature management actions is made in the 1997 Draft EIR/EIS because the existing Reclamation temperature model is not adequate to simulate the differences in the specific management actions, and the ultimate choices that must be specified by fisheries management agencies to balance the competing cool-water requirements of anadromous fish species in the lower American River have not been made.

L21-115, Andrew M. Hitchings, Counsel to County of Sacramento
The fisheries section does not contain a section on "special-status species." The discussion of delta smelt was provided for background information. The impact analysis for delta smelt was based on an evaluation of changes in Delta habitat.

L21-116, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS does not state that the County of Sacramento and CDFG recommended that EBMUD take delivery of water at Nimbus. The discussion on page 5-2 was intended to indicate that the river flows stipulated in the Hodge Decision were established after consideration of testimony and evidence provided by federal, state, and local agencies and interest groups.

L21-117, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS adequately discloses impacts on Delta fish species. The assessment of impacts on Delta fisheries included an evaluation of the change in X2 that would occur under Alternatives 2 and 3 compared to conditions under the No-Action Alternative. X2 is calculated by inputting average monthly Delta outflows. The changes predicted by this calculation are typically less than the changes in Delta outflow. See Chapter 5 of the 1997 Draft EIR/EIS.

L21-118, Andrew M. Hitchings, Counsel to County of Sacramento
As indicated on pages 5-18 and 5-21 of the 1997 Draft EIR/EIS, impacts on fisheries habitat on the upper Sacramento River under Alternatives 2 and 3 were considered less than significant. This conclusion was based on the PROSIM hydrologic modeling for each alternative. As shown in Table C-14 in Appendix C to the 1997 Draft EIR/EIS, Shasta Reservoir storage is not expected to change substantially under Alternative 2 or 3. Similarly, as shown in Table C-15, flows in the Sacramento River measured at Keswick would not change substantially under Alternative 2 or 3 and are expected to slightly increase under these alternatives. The Sacramento River Chinook salmon mortality model was reviewed and was not used to evaluate impacts because of the small changes of Shasta Reservoir storage and Keswick releases.

L21-119, Andrew M. Hitchings, Counsel to County of Sacramento
The PROSIM hydrologic modeling of Alternatives 2 and 3 accurately depicts hydrologic conditions under existing conditions, the No-Action Alternative, and Alternatives 2 and 3. The hydrologic modeling is based on a similar set of assumptions to those used in the modeling for the CVPIA PEIS. These are shown in Table 3 of Appendix C to the 1997 Draft EIR/EIS. The

impact assessment methods are similar to those used in environmental evaluations of other projects on the lower American River and provide useful information for evaluating impacts.

L21-120, Andrew M. Hitchings, Counsel to County of Sacramento
The exceedance frequency analysis of AFRP flows shown in Tables 5-9, 5-10, and 5-11 of the 1997 Draft EIR/EIS accurately describe the changes in the frequency that the AFRP flows would be met under each alternative regardless of hydrologic conditions.

Appendix C to the 1997 Draft EIR/EIS, Table C-1, provides information on the storage flow relationships for AFRP flows in the lower American River. A review of the recommended flows during a wet period (1967 through 1971 hydrology) and flows shown in the first line entitled "Flow (cfs) of Table C-1" indicates that the frequency that AFRP flows would be met would be the same under no-action and Alternatives 2 and 3, or 66% of the time. A review of the flows during a dry period (1928 through 1934 hydrology) and flows shown in the seventh line entitled "Flow (cfs)" of Table C-1 indicates that the frequency that AFRP flows would be met would be the same under no-action and Alternatives 2 and 3, or 96% of the time.

L21-121, Andrew M. Hitchings, Counsel to County of Sacramento
The fisheries impact assessment in the 1997 Draft EIR/EIS (Chapter 5) evaluated changes in the frequency that the lower American River would be below both Hodge Decision flows and below AFRP flows. The changes in frequency are exceedingly small, and no significant effects are anticipated.

L21-122, Andrew M. Hitchings, Counsel to County of Sacramento
The fisheries evaluation assumed that Reclamation would operate Shasta Reservoir to meet the requirements of the 1993 biological opinion for winter-run salmon. The project alternatives do not measurably affect operations at Shasta Reservoir.

L21-123, Andrew M. Hitchings, Counsel to County of Sacramento
This assumption is appropriate. The incremental change in reservoir and river water temperatures resulting from implementation of Alternatives 2 and 3 would be similar. There is no reason to anticipate otherwise.

L21-124, Andrew M. Hitchings, Counsel to County of Sacramento
See response to Comment 21-112. Given the roughness of the available modeling and data, there is no predictable risk of significant summertime temperature increases in the reaches of the lower American River that are critical for steelhead. See Table 24 in Appendix B of this document.

L21-125, Andrew M. Hitchings, Counsel to County of Sacramento
The primary effect on Sacramento River water temperatures associated with Alternatives 2 and 3 would occur in June under Alternative 2. Based on the temperature modeling conducted for the fisheries analysis, during this period there would be a net increase in the number of months with a potential temperature increase of greater than 1°F. However, in June, American River flows average approximately 3,500 cfs, and Sacramento River flows average approximately 16,500 cfs (measured at Freeport). Given the relatively small contribution of flows from the American River (approximately 20%) and the minor and infrequent increases in temperature under Alternatives 2 and 3, there is no potential for substantial increases in Sacramento River temperatures.

L21-126, Andrew M. Hitchings, Counsel to County of Sacramento
As indicated on page 2-12 of the 1997 Draft EIR/EIS, delivery of water during a planned outage would occur infrequently and would total no more than 12 months during a 20-year period. No single planned outage event would last longer than 6 months.

Review of the PROSIM hydrologic data indicates that a 350-cfs delivery can be accommodated over the 12 months without flows in the lower American River dropping below Hodge Decision criteria. The exact timing of a planned outage would be mutually agreeable to Reclamation, EBMUD, and the City of Sacramento (for Alternative 3). However, because the planned outage would be timed to occur during a period of relatively high river flows and reservoir storage, no significant impacts on riverine or reservoir resources would be expected.

L21-127, Andrew M. Hitchings, Counsel to County of Sacramento
A discussion of relevant impacts associated with growth within the EBMUD service area is included in Chapter 18 of the 1997 Draft EIR/EIS. Recreational opportunities in the EBMUD service area are not expected to be affected.

L21-128, Andrew M. Hitchings, Counsel to County of Sacramento
Hydrologic data included in Appendix C to the 1997 Draft EIR/EIS accurately summarize the detailed information used in the impact assessment. Detailed monthly hydrology for the 70-year hydrologic period is available on request.

L21-129, Andrew M. Hitchings, Counsel to County of Sacramento
"Substantial" and "long-term" are not defined within the recreation significance criteria because the significance of impacts on recreational activities were evaluated, in part, based on the context and intensity of the change that would be expected to occur under Alternatives 2 and 3.

L21-130, Andrew M. Hitchings, Counsel to County of Sacramento
Resources that could be affected by changes in hydrologic conditions (i.e., fisheries, water quality, recreation) were evaluated based on 2020 hydrologic conditions. The baseline for evaluating impacts on other resources (i.e., vegetation, wildlife, traffic, public safety, air quality) was 1997 conditions. The primary difference between the two model runs is that existing conditions assumed that Reclamation operated Folsom Reservoir to meet modified D-1400 standards, whereas under Alternative 1, Reclamation operated the reservoir to meet AFRP flows. Evaluating impacts based on 2020 baseline conditions (no action) more accurately depicts the baseline conditions that would occur when the Supplemental Water Supply Project becomes operational, rather than evaluating impacts based on 1995 conditions. For informational purposes, Table 3-1 of the 1997 Draft EIR/EIS provides a comparison of the PROSIM hydrologic model runs for existing conditions and no action.

L21-131, Andrew M. Hitchings, Counsel to County of Sacramento
The source of the 2,500–12,000 cfs flow range for boating on the lower Sacramento River is indicated in Table 6-1 of the 1997 Draft EIR/EIS. This threshold was developed and used in the CVPIA PEIS. The flows are applicable to the entire length of the river.

L21-132, Andrew M. Hitchings, Counsel to County of Sacramento
Impacts on recreation along the alternative pipeline alignments were not evaluated because the alignments primarily cross private agricultural land and follow roadways or railroads. These land uses do not provide for substantial public recreation.

L21-133, Andrew M. Hitchings, Counsel to County of Sacramento
An evaluation of impacts on land-based activities within the American River Parkway is included on page 6-12 of the 1997 Draft EIR/EIS. The analysis describes impacts on recreation as a result of the short-term loss of the use of the road on top of the south levee as a result of construction of the intake structure.

L21-134, Andrew M. Hitchings, Counsel to County of Sacramento
As shown in Table 6-3 of the 1997 Draft EIR/EIS, flows in the lower American River between Nimbus Dam and Fairbairn WTP would be above the minimum (1,750 cfs) less frequently under

Alternative 2 and 3 cumulative conditions than under existing conditions. The evaluation of impacts on recreational opportunities on the lower American River indicates that the reduction in flows under Alternatives 2 and 3 cumulative conditions is expected to result in a significant impact on water-dependent recreation. See Chapter 12 of this document, "Errata."

L21-135, Andrew M. Hitchings, Counsel to County of Sacramento
No feasible mitigation exists to directly offset the cumulative effects on water-dependent recreation as a result of changes in river flows. EBMUD may be willing to participate in regional efforts to enhance recreational opportunities along the lower American River.

L21-136, Andrew M. Hitchings, Counsel to County of Sacramento
In Table 6-6 of the 1997 Draft EIR/EIS, the information shown in the column titled "full-use scenario change" indicates the change in the number of months that thresholds are met compared to existing conditions. The percentage indicates the frequency the flows would be above the threshold, not the percent change compared to Alternative 1: No Action.

L21-137, Andrew M. Hitchings, Counsel to County of Sacramento
Pages 7-9 through 7-12 of the 1997 Draft EIR/EIS discuss the vegetation and wetland resources within the EBMUD service area. Impacts on these resources resulting from projected growth are noted on page 7-10. These impacts are mitigated through measures imposed by City and County planning agencies to regulate new development. The projected growth impacts are discussed for the No-Action Alternative because they will occur regardless of the proposed Supplemental Water Supply Project. Impacts on vegetation and wetland resources within the service area are also analyzed in the EIR for the Updated WSMP completed in 1993. Chapter 18 of the 1997 Draft EIR/EIS contains a discussion of the projected growth within the service area as analyzed in the Updated WSMP EIR.

L21-138, Andrew M. Hitchings, Counsel to County of Sacramento
Hydrological analysis for the Sacramento River is contained in Chapter 3 of the 1997 Draft EIR/EIS. No impacts on vegetation or wildlife were identified because changes in the hydrologic conditions for the Sacramento River downstream of the confluence with the American River would be imperceptible.

L21-139, Andrew M. Hitchings, Counsel to County of Sacramento
The biological assessment includes a discussion of effects on threatened and endangered species in the EBMUD service area.

L21-140, Andrew M. Hitchings, Counsel to County of Sacramento
Plant community and habitat types at Folsom Reservoir, the American River, and the Mokelumne River are summarized in Table 7-2 of the 1997 Draft EIR/EIS. Impacts on vegetation at these sites would occur as a result of changes in reservoir elevation or river flow. As discussed on page 7-13 of the 1997 Draft EIR/EIS, changes in plant communities would not be expected under Alternative 2 or 3.

L21-141, Andrew M. Hitchings, Counsel to County of Sacramento
Figure 3-15 of the 1997 Draft EIR/EIS shows average monthly changes in river stage at Sailor Bar and Sacramento Bar on the lower American River. As indicated, changes in river stage under Alternatives 2 and 3 would be very small.

L21-142, Andrew M. Hitchings, Counsel to County of Sacramento
Figure 3-17 of the 1997 Draft EIR/EIS shows anticipated increases in Mokelumne River flows resulting from Alternatives 2 and 3.

L21-143, Andrew M. Hitchings, Counsel to County of Sacramento
Chapter 18 of the 1997 Draft EIR/EIS contains a discussion of cumulative impacts on wildlife.

L21-144, Andrew M. Hitchings, Counsel to County of Sacramento
A description of EBMUD's commitment to protecting biological resources is provided on page 7-10 of the 1997 Draft EIR/EIS.

L21-145, Andrew M. Hitchings, Counsel to County of Sacramento
A discussion of potential impacts on Swainson's hawk is provided on page 8-11 of the 1997 Draft EIR/EIS. The impacts identified on pages 9-4 through 9-7 of the 1997 Draft EIR/EIS were identified through the utilization of the six significance criteria outlined on page 9-4.

L21-146, Andrew M. Hitchings, Counsel to County of Sacramento
Impacts on land use within the service area are discussed for the No-Action Alternative in Chapter 10 of the 1997 Draft EIR/EIS. Neither Alternative 2 nor 3 would have impacts on the projected growth within the service area. The Updated WSMP EIR provides impact analysis of projected growth in the service area.

L21-147, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS complies with NEPA and CEQA regulations by analyzing potential impacts using impact criteria for cultural resources listed on pages 17-10 through 17-12. The impact analysis considers mitigation for impacts on known and unknown historic and archeological sites. Page 17-10 identifies the potential for unknown archeological sites to exist submerged in Folsom Reservoir. Reclamation's Indian Trust Asset Coordinator confirmed that no Indian Trust Assets are located within the project area, as noted on page 20-4 of the 1997 Draft EIR/EIS.

L21-148, Andrew M. Hitchings, Counsel to County of Sacramento
Cumulative impacts on hydrologic conditions are analyzed in Chapter 3 of the 1997 Draft EIR/EIS. Figures 3-2, 3-9, 3-12, and 3-14 provide data from the cumulative impact analysis. The cumulative impacts on aquatic resources were assessed quantitatively within Chapters 3, 4, 5, and 6 of the 1997 Draft EIR/EIS, and Chapter 18 contains a qualitative assessment of aquatic resources to augment the quantitative analysis.

The qualitative analysis section of Chapter 18 of the 1997 Draft EIR/EIS includes a discussion of the temperature control system to be installed in conjunction with Folsom Dam shutters described in the Draft EIR/EIS prepared under Public Law 101-514. Because this system had not been installed, only qualitative analysis was presented as to how this system would add to cumulative impacts. Cumulative impacts associated with the water deliveries of Public Law 101-514 have been quantitatively analyzed in Chapters 3 and 5 of the 1997 Draft EIR/EIS.

The list on page 18-1 of the 1997 Draft EIR/EIS of chapters that include quantitative cumulative analysis (Chapters 3, 4, 5, 6, 7, and 16) is correct. The Hodge Decision does not discuss cumulative impacts of existing water diversion contracts on the American and Sacramento Rivers, but rather focuses on flows needed to protect the existing environment.

L21-149, Andrew M. Hitchings, Counsel to County of Sacramento
Chapters 7 through 16 of the 1997 Draft EIR/EIS analyze impacts on terrestrial resources. The cumulative impact assessment summarizes the impact conclusions presented in each of the resource chapters.

L21-150, Andrew M. Hitchings, Counsel to County of Sacramento
Chapters 7 and 8 of the 1997 Draft EIR/EIS identify specific impacts of Alternatives 2 and 3 on vegetation, wetlands, and wildlife. The cumulative impacts are the combined impacts noted in these two chapters, as well as similar impacts from other projects in the project area. Mitigation measures outlined in Chapters 7 and 8 would adequately reduce the project's contribution to the overall cumulative impacts on these resources.

L21-151, Andrew M. Hitchings, Counsel to County of Sacramento
The 1997 Draft EIR/EIS provides a complete analysis of the potential environmental effects of all alternatives considered, including Alternative 2. No additional environmental analysis is required to implement Alternative 2 or 3.

L 22

COUNTY OF SACRAMENTO

WATER RESOURCES DIVISION.....KEITH DEVORE, Chief
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District Engineering
PATRICK L. GROFF, Director
Public Works Administration

March 19, 1998

Kurt Ladensack
Water Supply Improvements Division
East Bay Municipal Utility District
PO Box 24055
Oakland, CA 94623

Subject: Comments on DEIS/DEIR for the EBMUD Supplemental Water Supply Project

Dear Kurt:

The comments from the County's Water Quality Division, Waste Management and Recycling Division, Transportation Division, and Regional Parks and Recreation Department referenced in Water Resources Division comments to the Draft Supplemental Water Supply EIS/EIR were inadvertently omitted from our FedEx submittal. While these comments were faxed to your office yesterday, this transmittal of the attachments is meant to complete the submittal made via FedEx.

Attachments

Sincerely:

Darrell K. Eck
Senior Civil Engineer

County of Sacramento
Department of Regional Parks, Recreation and Open Space

EATION & PARK
& GAME COMMISSION
J. Bastian
ney A. Inglis
re M. Robinson
ite
Zimmerle

GENE W. ANDAL
Director

DEPUTY DIRECTORS
Roy Imai - Planning
Gary Kukkola - Rangers
Thom Oliver - Maintenance
Ron Suter - Administration

March 19, 1998

Keith DeVore, Chief
Water Resources Division
Sacramento County Public Works Agency
827 7th Street, Room 301
Sacramento, CA 95814

RE: DRAFT E.I.R. FOR E.B.M.U.D. - SACRAMENTO JOINT WATER SUPPLY PROJECT AND FOLSOM-SOUTH CANAL CONNECTION PROJECT

Dear Mr. DeVore:

As the agency intrusted with the stewardship of the American River Parkway, terrestrial habitat protection, and public use, we naturally have grave concerns regarding the cumulative impacts of the numerous water diversions from the Lower American River. In addition, increasing water flows during winter months and decreasing water retention in Folsom Lake to accommodate flood control needs; consequent reduction of water quality and adverse impacts upon the aquatic habitat; increasing demands placed on the American River Parkway by a growing population will add to the degradation of water quality; and agricultural chemicals and increasing urban run-off all add to degradation of water quality in the Lower American River.

This letter is sent as our comments to the Draft E.I.R. for E.B.M.U.D. - Sacramento Joint Water Supply Project and Folsom-South Canal Connection Project. Please incorporate our comments with other County comments to EBMUD.

1. Water Diversion Point - Of the five possible diversion points being considered in the EIR, the Department is supportive of Diversion Point #5. We believe that, though this is the farthest up-river and may present adverse consequences to water quality down-river as related to the other points being considered, this diversion point also creates the least impact on the Parkway, its users, and is the point that presents the least visual impact to the surrounding area. L22-1

2. Cost Savings - In supporting Diversion Point #5, we also recognize that considerable cost savings will accrue to EBMUD. In consideration of the cost savings L22-2

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that this option provides, we would suggest that EBMUD fund mitigation projects in the amount, not less than, 50% of the cost savings realized for this option.

3. Recommended Mitigation Projects -

a) Purchase Urrutia Property and convey property to Sacramento County for inclusion in the American River Parkway. L22-3

b) Provide Two Million Dollars for partial development and restoration of Urrutia Property for public use and habitat restoration.

c) Provide Three Million Dollars to Sacramento County for the establishment of a trust fund for planning, maintenance and upkeep of the American River Parkway.

d) Fund the development of a levee-top, multi-use trail from Tiscornia east to Capital City Freeway (HWY 80).

e) Fund the development of a lower bank, multi-use trail from Capital City Freeway (HWY 80) east to CSUS.

f) Fund the acquisition of other properties in the vicinity of Diversion Point #5 as identified by SARA.

g) Undertake other mitigation work as may be required for the project.

4. Alternative Design for Diversion Structure - It does not appear that adequate efforts have been taken to consider alternative design for the diversion structure and how the water may be drawn from the river. Granted that this may be a tried and reliable solution, it does add a massive additional structure into the river. It may present a greater engineering challenge, but a structure on the south landward side of the levee with diagonal pump shaft into the river would present the least visual impact. L22-4

Please call me at 875-6729 if you have any questions regarding our comments.

Sincerely,

Roy M. Imai, Deputy Director

cc: John O'Farrell, Deputy Directors
r/arp/ebmud2.ltr

County of Sacramento
Waste Management & Recycling Division
9850 Goethe Road
Sacramento, CA 95827-3561

Public Works Agency
Mail Code: 61-001
Phone: (916) 875-6789
Fax: (916) 875-6767

MEMORANDUM

Date: March 12, 1998

To: Darrell Eck
Senior Civil Engineer
Water Resources Division

From: Patrick Maxfield
Principal Civil Engineer
Waste Management & Recycling Division

Subject: REVIEW OF EBMUD SUPPLEMENTAL WATER SUPPLY PROJECT EIR/EIS

If Alternative 3 is selected, it appears from Figure 2-6b, that traffic delays could occur at the intersection of Kiefer Blvd. and Bradshaw Road during construction of the project. Therefore, it is likely that WMRD refuse collection vehicles travelling to and from Kiefer Landfill would experience unavoidable traffic delays as a result of these construction activities. L22-5

Please contact me at 875-6789 ext. 307 if you have any further questions.

Printed on recycled paper, naturally!

COUNTY OF SACRAMENTO

Intra-Agency Correspondence

February 11, 1998

To: Darrell Eck

From: Steve Pothour

Subject: COMMENTS TO SUPPLEMENTAL WATER SUPPLY DRAFT EIR/EIS

The Transportation has the following comments to the above document:

L22-6

1. A traffic control plan will be required for all construction within existing County streets.
2. Location of pipeline within street right of way must be dilenated and coordinated with the County at the beginning of the design phase.
3. Trench backfill shall conform to Standard Drawing H-36.
4. Striping, raised markers and signs must be inventoried prior to construction, maintained during construction and replaced prior to acceptance.
5. The Kiefer Boulevard alignment pavement and any other adjacent streets used by the contractor will be inventoried prior to construction and any damage due to the contractor's operations will be repaired by the contractor.
6. A full time inspector will be assigned to the project.
7. The preliminary alignment of Kiefer Boulevard east of Bradshaw Road appears to be acceptable.
8. Under Alternative 2, I have the following comments:
   a. The roads listed on Table 12-1 and 12-3, other than Grant Line Road, have only marginal structural section. The pavement will be inventoried prior to construction and any damage caused by the contractor's operations will be repaired by the contractor.
   b. The "surface repair plan" alluded to on page12-5 could not be found.

SJP:sjp

Attachment:

c: Mike Penrose
Steve Hetland

COUNTY OF SACRAMENTO

Public Works Agency
Water Quality Division Memorandum

March 19, 1998
E225.000

TO: Darrell Eck
Water Resources Division

FROM: Neal Allen NBA
Water Quality Division

SUBJECT: DRAFT EIR FOR EBMUD SUPPLEMENTAL WATER SUPPLY PROJECT

L22-7

Water Quality Division staff on behalf of Sacramento Regional County Sanitation District and County Sanitation District No. 1 (Districts) has reviewed the subject document and has the following comments.

The Districts own, operate and maintain sewerage facilities along both of the proposed alignments identified in the Draft EIR (Alternative No. 2: Folsom South Canal Connection and Alternative No. 3: Joint Water Supply). Coordination with our staff will be required to provide for protection and maintenance of these facilities during design and construction. If you should have any questions regarding this matter please call me at 875-6875.

NBA:baf

Cc: Wendell H. Kido
Michael A. Maggi
John C. Boehm

allen\eck107r.mem\209339

Response to Comments of the County of Sacramento

L22-1, Darrell K. Eck, County of Sacramento
The comment regarding the County's support of the intake Site 5 for Alternative 3: Joint Water Supply is noted.

L22-2, Darrell K. Eck, County of Sacramento
The comment that, under Alternative 3, 50% of the cost savings to EBMUD of constructing intake Site 5 compared to intake Site 1 be used for enhancement and mitigation projects is noted. Chapter 2 of this responses to comments document describes the status of the project. The County would also realize savings if intake Site 5 were implemented.

L22-3, Darrell K. Eck, County of Sacramento
Those community enhancement measures that are not mitigation for project impacts would be addressed through one or more implementation agreements.

L22-4, Darrell K. Eck, County of Sacramento
The design of the intake Site 3 facility has been the subject of extensive engineering studies, and representatives from the City of Sacramento and the County of Sacramento have been involved throughout the process. EBMUD, the City, and the County have determined that the general design described in the 1997 Draft EIR/EIS is the appropriate design. EBMUD is aware of the sensitivity of the resources of the American River Parkway and has taken steps to minimize effects. Intake Site 5 is not generally visible from public areas, and thus impacts would be lower there compared to the other intake sites. EBMUD is committed to working with the City, the County, and other interested groups to further reduce the visual effects to the extent feasible through architectural design.

L22-5, Darrell K. Eck, County of Sacramento
The potential for delays to the Waste Management and Recycling Division's refuse collection vehicles at Kiefer Boulevard and Bradshaw Road during the construction process would be addressed in the traffic control plan. The final construction schedule would be described in the plan, and alternate routes during construction would be recommended where feasible. Detailed design and construction plans will not be completed before the preferred alternative is selected. See the response to the "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document and the response to Comment L15-12.

L22-6, Darrell K. Eck, County of Sacramento
These issues will be addressed through the environmental commitments described in Chapter 2 of the 1997 Draft EIR/EIS. See the response to "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3.

L22-7, Darrell K. Eck, County of Sacramento
EBMUD would coordinate with the County throughout the project development process and with the Water Quality Division about its sewerage facilities along the alignments for Alternative 2 or 3.

L 23

COUNTY OF SACRAMENTO

WATER RESOURCES DIVISION.....KEITH DEVORE, Chief
COUNTY ADMINISTRATION BUILDING Phone: (916) 874-6851
827 SEVENTH STREET, ROOM 301 Fax: (916) 874-8693
SACRAMENTO, CA 95814

PUBLIC WORKS AGENCY

WARREN H. HARADA, Administrator
CHERYL F. CRESON, Director
County Engineering
ROBERT F. SHANKS, Director
District Engineering
PATRICK L. GROFF, Director
Public Works Administration

March 19, 1998

Mr. Kurt Ladensack
Water Supply Improvements Division
East Bay Municipal Utility District
P.O. Box 24055
Oakland, CA 94623

Mr. Cecil Lesley, Contract Specialist
U.S. Bureau of Reclamation
Central California Area Office
7794 Folsom Dam Road
Folsom, CA 95630

Subject: Comments on DEIS/DEIR for the EBMUD Supplemental Water Supply Project

Dear Messrs. Ladensack and Lesley:

The County of Sacramento and the Sacramento County Water Agency (collectively referred herein as the "County") appreciate the opportunity to comment on the Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR) for the East Bay Municipal Utility District (EBMUD) Supplemental Water Supply Project, dated October 1997. These comments in addition to the comments submitted, under separate cover, by the firm of DeCuir & Somach, special legal counsel to the County, detail the County's concerns with the adequacy of the DEIS/DEIR, particularly with respect to its potential use to support Alternative 2: Folsom South Canal Connection Project.

The County supports the pursuit of a water supply project which can jointly meet the needs of the Sacramento area and EBMUD and comments provided with respect to Alternative 3: Joint Water Supply Project are intended to improve the DEIS/DEIR and further support this alternative. Areas of particular concern are that:

- identification and evaluation of alternatives for the Joint Project with respect to the County (and City of Sacramento) are not presently included;
- operations assumptions do not presently represent the County's required needs from a Joint Project; and
- adequate discussion and evaluation of project-level impacts of the Joint Project be provided and appropriate mitigation included as project commitments.

Comments developed by staff of the County Water Resources Division follow.

Relationship to the Water Forum

While EBMUD has a working relationship with the Water Forum, they are not a part of the Water Forum Agreement. The DEIS/DEIR should clearly indicate that the Joint Project alternative is not a part of the Water Forum project. However, while the Joint Project is not a part of the Water Forum project, the Joint Project concept has been included in the Water Forum's cumulative analysis (i.e., PROSIM modeling both with and without the Water Forum). It is important to recognize that EBMUD's hydrologic modeling assumptions are substantially different from the Water Forum's modeling assumptions for the Joint Project. For example, the Water Forum document has assumed that deliveries to EBMUD would be subject to shortages while EBMUD's objective in their analysis is to take 112,000 acre-feet in all years. Preliminary results of the Water Forum modeling indicate that deliveries to EBMUD and other Central Valley Project (CVP) contractors could be substantially reduced to meet the environmental requirements of CVP operations. In some years, Water Forum modeling indicates that deliveries to EBMUD may be reduced to 28,000 acre-feet. L23-1

Additionally, because the Joint Project is not part of the Water Forum, the County does not understand how contributions to the Water Forum mitigation efforts can be proposed as EBMUD mitigation. Water Forum mitigation is mitigation for the Water Forum project, not for the Joint Project. While the County supports cooperative mitigation efforts, EBMUD must also provide additional mitigation commensurate with EBMUD diversion impacts and impacts of proposed facilities.

County's Need Out of a Joint Project

The Joint Project as described in the DEIS/DEIR beginning on page 2-15, does not meet the County's needs. Currently, many of the terms and conditions necessary for a Joint Project Tri-Party Agreement remain unresolved. These unresolved issues go to the very heart of the objective, purpose and need for the Joint Project and ultimately effect the validity of the entire document. Examples of major unresolved issues include: L23-2

- the County's proposed use of up to 40-mgd of EBMUD intake and pipeline capacity when EBMUD does not need it to meet their in-District needs;
- EBMUD diversions during dry years on the American River; and
- EBMUD sales of water to third parties.

Based upon the foregoing, the DEIS/DEIR should clarify throughout the document that negotiations regarding the project specifics for Alternative 3 are incomplete.

The operational scenario included in the DEIS/DEIR assumes that the County would use its 40-mgd capacity on a typical municipal and industrial seasonal use pattern, which would only total 27,700

acre-feet annually. However, as the County has pointed out on numerous occasions, this is not an accurate characterization of the County's use of the Joint Project. If there is to be a Joint Project, it must be operated in a manner that meets the County's needs.

In order to meet the County's needs the Joint Project would be operated on a conjunctive use basis with the County's groundwater production system. Joint Project facilities would be used to the extent possible to meet the County water needs given the constraints of water availability, in-lieu groundwater recharge demands, and facility capacity. In total, the County projects using as much as 40-mgd of Joint Project capacity in addition to the 40-mgd of dedicated County capacity. The additional up to 40-mgd capacity would be used only during those times when EBMUD would not need to use Joint Project facilities to meet their in-District dry year or planned outage needs.

Use of Joint Project facilities would increase over time as growth occurs within the County service area. Ultimately, the County projects that 49,100 acre-feet of water will need to be diverted annually by Joint Project facilities to meet 2030 demands. Diversion patterns, over the 70-year PROSIM modeling period, reflecting the County's projected use pattern were provided to EBMUD staff prior to the issuance of the DEIS/DEIR. These diversion patterns, which have not been analyzed in the DEIS/DEIR, represent the use of 45,000 acre-feet of CVP water (15,000 AF of PL 101-514 water, 15,000 AF of a first SMUD water assignment, and 15,000 AF of a second SMUD assignment) plus additional water rights appropriation water.

Because the assumptions made for the County's use of the Joint Project do not represent planned operations (both in diversion pattern and in total diversion quantity) the description of Joint Project operations should be revised to embrace such operations. Additionally, the DEIS/DEIR should include identification and evaluation of alternatives for the Joint Project with respect to the City and County.

Full-Use Scenario

The EBMUD document includes a "full-use scenario" which assumes that the County's 40-mgd capacity is used year round and makes provision for EBMUD to market "excess capacity". Full use of the County's 40-mgd capacity represents diversion of 45,000 acre-feet annually for use by the County. L23-3

The County had commented that the Administrative DEIS/DEIR did not include appropriate assumptions on how the County proposed to utilize the Joint Project. The County had hoped that EBMUD would analyze the County's proposed conjunctive use operations to accurately analyze anticipated diversions. The County had also hoped to avoid having to perform another detailed hydrologic and fisheries modeling analysis for the assignment of SMUD water. It was hoped that the analysis in the DEIS/DEIR and the Water Forum EIR would suffice.

Instead of including the County's proposed Joint Project operations, EBMUD has analyzed a "full-use scenario" for both the Joint Project and Folsom South Canal Connection Project (FSCC). For obvious reasons, specifically, the Hodge Decision restricting sale to third parties, the "full-use scenario" assumption for the FSCC Project is not reasonable. Furthermore, it is not reasonable to

assume that the remaining 100-mgd of intake and pumpback capacity in the Joint Project would be fully utilized by EBMUD on a year-round basis. The use of the remaining 100-mgd capacity is far too speculative to evaluate at this time. Basically, it is unclear as to what the purpose of the "full-use scenario" is and how this information would be used in relationship to the project.

Single-Pipe Proposal

The "Single-Pipe Proposal," as evaluated by Black & Veatch, should be described and analyzed as a part of the Joint Project's project description. The regulatory approvals needed to make the single pipe option at the Fairbairn WTP viable must also be part of the DEIS/DEIR. These include: L23-4

- State Water Resources Control Board approval of USBR diversions at Fairbairn WTP,
- USBR Contracting Officer approval of water deliveries to the County from Fairbairn, pursuant to the USBR/County water service contract article 5(a), and
- USBR Contracting Officer approval of water deliveries to Sacramento Municipal Utility District (SMUD) from Fairbairn, and the Contracting Officer's approval of SMUD's assignment of any of that water to the County.

Pumping Plants/Energy Dissipation Structure

Facility layouts for the Fairbairn Pumping Plant (PP) should be included in the DEIS/DEIR. Preliminary design drawings are available for a Fairbairn PP located offsite of the Fairbairn Water Treatment Plant (WTP) to a site along Ramona Avenue. The project description should include project-level information on the Fairbairn PP and the potential for environmental impact at this site should be discussed (e.g., hazardous materials, soils, vegetation, visual, noise). Likewise, facility diagrams for the Folsom South Canal (FSC) Energy Dissipation Structure should be provided. Information should be at a level necessary to evaluate impacts, particularly public safety, noise, vegetation, and hazardous materials. L23-5

The description of the American River Intake and Pumping Plant (ARIPP) should be modified to reflect that there would only be five pumps inside the facility.

Pipeline Alignment Alternatives

Two specific pipeline alignment segments which are of great concern to local constituents are the C Street segment through the City (from 14th Street to Elvas Avenue) and the Kiefer Boulevard segment from Florin-Perkins Road to Mayhew Road. Residents of the Rosemont community and business owners along Kiefer Boulevard have expressed serious concerns regarding the Kiefer Boulevard alignment. Residents and businesses continue to question why the pipeline can not be routed along Jackson Highway. L23-6

Potential pipeline alignments that would avoid these communities were identified in the preliminary engineering process. Several of these potential alignments could be considered as reasonable and feasible alternatives from a CEQA perspective. These alternatives could include as a minimum:

- a parkway alignment for Pipeline 1, running from the proposed intake structure to the Fairbairn WTP, and
- a Jackson Highway alignment for Pipeline 2, running from the Fairbairn PP to the FSC.

These alignment alternatives should be discussed and the rational for dismissing these alternatives should be presented. If facts do not substantiate dismissing these alignments, a proper evaluation of these alternative alignments should be performed.

If the pipeline alignment along Kiefer Boulevard is selected, residents would be seeking assured mitigation from EBMUD. These assurances include improvements to Kiefer Boulevard, customer access to businesses during construction, and/or compensation for lost business during construction.

Preliminary designs have been developed that eliminate the Mather "blip" as shown on Figure 2-6b. This alternative alignment should be represented in the DEIS/DEIR.

Construction Related Impact Analysis

Comments in this section reflect the level and type of mitigation typical for County projects of this size by the County. Where impacts result in other local jurisdictions (i.e., the City of Sacramento and San Joaquin County) the comments and/or requirements of that jurisdiction should supercede these comments. L23-7

Agricultural Activities. In order to minimize disruptions the project proponent shall identify all areas with livestock and active agricultural operations as part of the right-of-way surveys and final design work. The project proponent shall provide temporary fencing to secure livestock outside of the construction area. Provisions shall be made to ensure that livestock have access to water and feed. To the extent feasible, owners shall be notified of the construction schedule in advance to minimize disruption of agricultural operations such as planting and harvesting. Notice should be given far enough in advance of pipeline construction to prevent owners from planting in areas where disturbance would take place. Disturbance of commercial crops may require compensation for loss of crops. L23-8

Traffic. It is likely that along the Joint Project pipeline alignment, traffic will be closed along sections of C Street and Kiefer Boulevard (see Figure 2-11). Therefore, in those areas there is likely to be significant impacts related to homeowner access along C Street and access to businesses along Kiefer Boulevard (e.g., Brother's Plumbing). C Street also serves as a truck route, closing this street will necessitate routing trucks through areas not accustomed to heavy traffic. There will also be a general disruption to traffic flow all along the pipeline route to accommodate the movement of equipment and materials. For example, the DEIS/DEIR estimates that there would only be four truck trips per hour on the alignment between the intake structure and the Fairbairn WTP. This does not L23-9

seem possible, as all spoils would have to be removed by truck during excavation (due to a lack of available storage area adjacent to the trench) while pipe sections were being delivered at the same time. Significant short-term impacts on residential land use would occur with Joint Project construction.

Driveways providing access to rural and urban residents, farmhouses, and businesses would be blocked temporarily during construction. Although disruption of property access is temporary, the disruption to businesses and residents resulting from construction could be considered a significant impact.

To help minimize these concerns, EBMUD should continue their involvement with the community to develop mutually agreeable traffic control solutions tailored to meet the needs of the residents. A Traffic Control Plan shall be developed based on input from local residents, businesses, and the County's Transportation Division. The Traffic Control Plan shall be included as part of the Improvement Plans developed for the project.

Construction of the Joint Project could result in damage to the roadway surface from trench excavation and truck traffic. Maintenance of County of Sacramento truck routes includes periodic inspection to assess structural integrity and need for repairs, followed by implementation of needed repairs. If construction trucks travel on roadways that are not included under this maintenance program, roadway damage may occur without subsequent inspection and repair. This could be considered a significant impact because it could result in substantial deterioration of the roadway surface.

The DEIS/DEIR makes reference to a *"Project Roadway Surface Repair Plan"* in Chapter 12, Transportation and Circulation, to address roadway repairs related to construction activities. The *Project Roadway Surface Repair Plan* shall be developed in conjunction with the County's Transportation Division and shall be submitted as part of the Improvement Plans developed for the project. A complete description of the *Project Roadway Surface Repair Plan* shall be provided in Chapter 2 of the EIS/EIR under *Summary of Environmental Commitments*.

Figures 2-4 and 2-11 in the DEIS/DEIR depict typical pipeline construction cross sections for open-county and urban street applications, respectively. What will a construction cross section look like in rural Sacramento County when the pipeline alignment runs parallel to an existing roadway?

Increased Emergency Response Times. Construction of the Joint Project facilities could increase traffic delays near portions of the alignment corridor where construction would occur, and could require the temporary closure of vehicle travel routes. These lane closures could increase traffic and delay emergency vehicles traveling through the area. This impact could be considered significant. The project proponent shall notify local emergency response agencies of proposed construction routes and timing and limit the disruption of traffic flow before beginning construction. The project proponent should circulate a plan for alternative travel routes to law enforcement, fire protection, and other emergency service providers before beginning construction. The Traffic Control Plan should leave at least one or two lanes available at all time for the passage of emergency vehicles. L23-10

Noise. The DEIS/DEIR indicates that noise generated by construction activity would be temporary in nature and that construction crews would be required to comply with applicable noise ordinances, thus no mitigation is required. According to the Sacramento County Noise Ordinance, construction noise is exempted from the noise standard if the activity takes place between 6:00 a.m. and 8:00 p.m. on weekdays and between 7:00 a.m. and 8:00 p.m. on weekends. However, this does not ensure that noise impacts will not be significant nor that residents will not strongly object. The project proponent shall work with impacted residents to develop a mutually agreeable solution (i.e., hours of work, etc.) that is tailored to meet the needs of the residents. Upon agreement, hours of work for construction shall be indicated on the improvement plans and made a condition of the construction contract. L23-11

Visual. Construction of project facilities would involve a temporary reduction in visual resource values because this activity would involve establishing equipment and equipment storage areas; storing excavated materials and debris; installing temporary construction offices, fences, sanitary facilities, and possibly other appurtenant structures; constructing temporary access roads; and grading. Pipe sections 60- to 96-inches in diameter would be stored along the construction route temporarily. Irrigation systems for existing landscaping not directly affected by the construction could also be disrupted. These activities could result in increased dust and visible particulate matter in the air and increased light and glare from lighting for security and evening construction work. Although impacts of construction will be temporary and will terminate when construction is completed, equipment and materials are removed, and storage and construction areas are returned to their pre-construction condition, this impact could be considered significant because construction would nonetheless result in a short-term reduction of visual resources. L23-12

The project proponent shall locate staging, equipment storage, and construction material storage areas outside of visually sensitive areas, where feasible, or screen these areas from general view during construction. Screening may be accomplished using natural wood fencing or other fencing that is similar in color to surrounding facilities. Fencing shall be of a height and type (approximately 8 feet) that effectively screens the views of stored equipment and materials throughout construction. Fencing may be used in combination with other techniques that would effectively accomplish at least 50 percent screening, such as berms or planted vegetation. This measure shall be made a condition of the construction contract.

The project proponent shall minimize the area effected by construction and limit excavation, clearing, and grading activities by restricting these activities to construction areas and construction periods. Trees and other vegetation shall be protected and left undisturbed wherever possible. Excavated material and debris shall be removed from the site immediately following excavation or clearing activities.

The project proponent shall provide an interim irrigation plan before beginning construction if disruption of irrigation systems would cause damage to landscaping not directly effected by construction.

The project proponent shall limit sources of light and glare during construction by using a minimal amount of light fixtures and operating lighting for the minimal time necessary to complete construction activities safely and securely. In addition, the project proponent shall locate and direct light fixtures to reduce their visibility from sensitive viewing locations. Light fixtures shall be used

that direct light only into areas where it is needed and shield stray light from other areas offsite. This measure shall be made a condition of the construction contract.

Excavated Materials. It should be specified that when the contractor is disposing of excess materials along the pipeline right-of-way, spreading will be done in such a way that it does not alter local hydrology. L23-13

Ground Subsidence. The potential for the movement of soils and ground subsidence during trenching and dewatering operations needs to be discussed in greater detail. The DEIS/DEIR states that local soil subsidence would be minimized through standard engineering procedures based on geotechnical investigations. The draft preliminary geotechnical report states that the potential for significant subsidence is low. However, there is significant evidence that ground subsidence can be a problem in the downtown area. The DEIS/DEIR should provide a more thorough discussion of the impact associated with ground subsidence. In particular, the risk of foundation cracking to structures and utility severance along the pipe alignment should be discussed as well as the potential mitigation. L23-14

Pipeline Location within the Roadway. The DEIS/DEIR states that where the pipeline would be constructed within urban streets, the pipe is assumed to be installed in approximately the center of the roadway. The DEIS/DEIR should indicate that the location of the pipeline within the street right-of-way must be delineated and coordinated with the County's Transportation Division at the beginning of the design phase. L23-15

Utility Conflicts. The DEIS/DEIR does not provide any discussion relative to utility conflicts. Loss of water, sewer, gas, or electrical service would have a tremendous impact on local residents and businesses. Because of the size of this pipeline, there will be many instances when the utility conflict is a line that runs parallel to the project excavation. If this line were to be "in the trench" or in very close proximity, the interfering utility would have to be relocated prior to installation of the larger pipe. Depending on the service, the time associated with relocation could deprive local residents and businesses of vital services. Additionally, current practice dictates that parallel utility relocations be conducted up to one year in advance of the primary project. This could cause widespread disruption to residents *twice* during the course of the project. This issue needs to be fully addressed in the DEIS/DEIR. To help alleviate these concerns EBMUD should address this issue during their ongoing community outreach activities and work with community members to develop mutually agreeable solutions tailored to meet the needs of the residents. L23-16

No reference is made to the Bradshaw Interceptor Project in Chapter 10, Land Use, of the DEIS/DEIR. According to the *Sacramento Sewerage Expansion Master Plan and Bradshaw, Sunrise, and Folsom East Interceptor Projects* a portion of Bradshaw Interceptor is routed down Kiefer Boulevard between Happy Lane and Bradshaw Road. As the proposed Joint Project pipeline and the Bradshaw Interceptor are both large diameter pipe (96-inch), specific reference should be made to the Interceptor project in the EIS/EIR. L23-17

River/Stream Crossings. Currently the Cosumnes River is slated for crossing using open cut trenching methods. Because the Cosumnes River is designated as a "Wild and Scenic River," this crossing should be made by tunneling. In addition, the proposed pumping plant at the Grantline Road L23-18

turnout (Alternative 2) is in the vicinity of a proposed detention basin site for Laguna Creek at Eagles Nest Road. Potential impacts should be discussed and evaluated in the DEIS/DEIR.

The proposed pipeline alignment running from the Fairbairn PP to the FSC crosses Granite's proposed mining site. Design of the proposed pipeline should be coordinated with Granite Construction Company and the Drainage Section of the County's Water Resources Division. Provisions for adequate drainage flows, particularly in Morrison Creek, during pipeline construction shall be included in the improvement plans.

Additionally, the crossings of Morrison Creek and its tributaries are planned to be constructed by means of open trench. Significant riparian and wildlife resources have been attributed to these creeks and streams. The DEIS/DEIR should include a project-level resource inventory in the vicinity of each of the proposed crossings, identification of potential impacts, and recommendations on appropriate mitigation.

Water Quality. The DEIS/DEIR claims that the impact on water quality during the construction of the ARIPP is less than significant because "sheet pile driving and dewatering would be of limited duration and increases in turbidity would be temporary." This assumption is not correct as the intake for the Sacramento River WTP is downstream from the proposed intake site. Any dramatic increase in turbidity would result in an impact at the Sacramento River WTP's intake structure. Other impacts could occur during the placement of concrete with the use of curing compounds or other construction chemicals that eventually could end up in the river. L23-19

Dewatering activities in and around landfill areas where groundwater contamination has occurred should require testing of pumped water and a contingency plan for disposing of contaminated water. The potential for dewatering to result in consolidation of loosely compacted soils in around the landfill should also be addressed.

The DEIS/DEIR contains provisions for the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The provisions covering the SWPPP in the DEIS/DEIR shall be expanded to include the following:

- The SWPPP shall incorporate an erosion control and restoration plan that incorporates all requirements of the Sacramento County *Grading and Erosion Control Ordinance*. Best Management Practices (BMP) shall be in accordance with the Sacramento County *Erosion and Sediment Control Standards and Specifications* or as approved by the Chief of the Water Resources Division.

- The SWPPP shall include a water quality-monitoring plan if construction activities occur during the rainy season (October 1 – April 15) and/or if runoff would be discharged to drainage-ways

- The SWPPP shall also include post-construction BMPs, which may include channel stabilization and the use of energy dissipators or other structures. The SWPPP shall refer to long-term maintenance requirements of any post-construction stormwater drainage or pollution control measures constructed as part of this project.

- The SWPPP shall include a hazardous materials management plan to reduce the likelihood of spills of chemicals and other hazardous materials during construction. A specific protocol for the proper handling and disposal of materials used or produced on-site, such as petroleum products, concrete, and sanitary waste should be established and strictly enforced by the project proponent.

- The SWPPP shall be included in the construction bidding packages. This package shall also include provisions that require contractors to comply with the permit and implement the SWPPP. This measure shall be made a condition of the construction contract.

Land Fill Crossing. The DEIS/DEIR has identified as an alternative pipeline route the C Street Bypass Option. The proposed route skirts the western and southern boundaries of the City of Sacramento's landfill prior to crossing under the Capitol City Freeway (Business 80). Older portions of the landfill are unlined and provide little protection against the migration of pollutants. Some fill materials are inadequately characterized raising questions as to the actual content of some of the landfill "cells". No discussion has been provided in the DEIS/DEIR that describes how this crossing will be made, what the characteristics of the fill material are, what steps will be taken to avoid disturbing these materials, and what liability issues may be encountered by the project partners. L23-20

Vegetation. The DEIS/DEIR discusses the number of trees that may be injured due to root damage between the Fairbairn WTP and the FSC. However, there is no discussion regarding the number and location of trees that may sustain injury between the intake structure and the Fairbairn WTP (See page 7-18). L23-21

The DEIS/DEIR has addressed tree impacts based on root damage but makes no mention of impacts based on damage to the overhead canopy. According to the construction considerations listed on page 2-22 of the DEIS/DEIR, at least 35 feet of vertical clearance is required for construction related equipment. In some areas, this could involve substantial pruning to accommodate construction equipment. Once a large branch is lost from a tree, it is considered irreplaceable.

The project proponent shall avoid, where possible, disturbing trees protected by local ordinances by tunneling through such areas instead of using the open trench method of construction. This condition will be made a condition of the construction contract.

Potential Displacement of Existing Improvements. Removal or relocation of landscaping, mailboxes, fences and walls, driveways, and other structures located in the proposed alignment would be required during construction. The pipeline crosses areas used for livestock grazing and row-crop cultivation. Construction would require the removal of pasture fences and disrupt cultivation of fields. The removal or relocation of these existing improvements could be considered a significant impact because it could disrupt or divide the physical arrangement of an established community. L23-22

The project proponent shall, as part of the improvement plans, identify all mail boxes, walls, fences, driveways, and landscaping located in the alignment and prepare a relocation and replacement plan for each to address impacts resulting from potential displacement of existing improvements in the pipeline alignment. In addition, for uses such as commercial and industrial storage and agricultural buildings, the project applicant shall consider shifting the proposed alignment to avoid these

structures or preparing a relocation and compensation plan to encourage owners to move the uses outside of the alignment.

Long Term Facility Related Impacts

Noise. Many residents have expressed concerns regarding an overall increase in background noise resulting from the operation of the proposed Clay Station Pumping Plant (PP). Increases in noise levels have been addressed in the DEIS/DEIR by indicating that the pumps at this station would be enclosed in an "acoustically efficient enclosure". Requirements for the intake structure identified in the DEIS/DEIR specifically limit noise at the structure to 45 dBA or less. No such provision has been made for the Fairbairn PP or the Clay Station PP. The residents of southern Sacramento County, where the Clay Station PP is to be located, have indicated that they are very concerned about the amount of noise that could be produced by this pumping plant. Repeated references were made during community meetings to the SMUD pumping plant, which is apparently very noisy. EBMUD staff assured residents at these meetings that they would comply with a 45 dBA or less requirement at the structure; however, no assurance is made in the DEIS/DEIR indicating that this is the case. Noise restrictions for the Fairbairn PP should be stated. A noise limit of 45dBA shall be made a condition of the final design review and construction documents. L23-23

Visual. Numerous discussions were held with the residents of southern Sacramento County to discuss their concerns related to this project. One comment that was repeatedly emphasized was a concern regarding the appearance of the Clay Station PP. According to the DEIS/DEIR, the "facility would consist of a steel-framed building with metal siding" and "chlorine and lime storage facilities". The author of the DEIS/DEIR feels that because the design of the pumping plant would be subject to review and approval by the County that no mitigation is required. L23-24

A workshop was also held to address visual impacts associated with the proposed ARIPP. Most participants emphasized that they did not want to see another "Fairbairn intake." The DEIS/DEIR states that the facility would be designed in accordance with American River Parkway Plan Policy 5.7, and use colors and architectural materials compatible with the surrounding riverine environment. Even with these measures, the ARIPP structure could result in some visual impacts.

Residents and workshop participants were assured by EBMUD staff that outreach meetings would continue concerning the aesthetic design of both the Clay Station PP and the ARIPP. To help alleviate these concerns it is recommended that the community involvement continue so that a mutually agreeable aesthetic design for the ARIPP and the Clay Station PP can be developed.

Utility Conflicts. A large portion of the project pipeline (between the Fairbairn PP and the FSC) will be routed through areas that are currently undeveloped. While development in these areas will not start for some time, they are within the County's General Plan urban services boundary. As development begins in these areas it will be necessary to construct supporting utilities including water, storm drains, and sewer facilities. Storm drains and sewer facilities generally rely on gravity to maintain flow. Construction of the aforementioned pipeline will create a 9-foot barrier along its alignment which could impair the County's ability to provide cost effective storm drain and sewer facilities. The project proponent shall work with the County's Water Quality Division, Water L23-25

Resources Division, and Transportation Division to ensure that adequate provision is made for future utilities in the improvement plans.

Disruption of Present Patterns of Vehicular Circulation and Increased Traffic Delay during Operation. Operation of the project may occasionally require a lane closure for maintenance of pipe, manhole, or junction structures. This could be considered a significant impact because it could lead to traffic delays, temporary reductions in roadway levels of service, damage to property, or injury. L23-26

The project proponent shall design project facilities in such a way that frequently maintained facilities are located outside the travel lanes. The project proponent shall submit proposed facility locations to the appropriate local jurisdiction (i.e., City of Sacramento or County of Sacramento) for approval during the final project design phase. If facilities must be located within the travel lanes and lane closures are necessary for maintenance activities, the project proponent shall coordinate with the appropriate local jurisdiction before beginning maintenance activities to determine lane closure hours that would have the least impact on traffic flow. Whenever possible, lane closures shall occur during off-peak hours.

The DEIS/DEIR indicates that chemical conditioning may be required at the ARIPP location and that access to a chemical handling facility would be infrequent. This is not entirely correct, as maintenance personnel would be visiting the site on a daily basis. Additionally, if sodium hypochlorite were to be used at the facility, deliveries would have to be made on a regular basis as this chemical has a relatively short shelf life.

Potential Migration of Contaminated Groundwater. Trenches for the Joint Project pipeline are expected to encounter groundwater. Lateral migration of groundwater could occur within the trench backfill. If the groundwater is contaminated, this could result in the migration of contaminants carried by the water. In areas where lateral migration of contaminated groundwater is possible, the design engineer shall incorporate appropriate backfill and clay plugging measures when developing the trench backfill design. L23-27

Non-Stormwater Discharges. The section of the DEIS/DEIR that discusses environmental commitments related to the project does not address the issue of non-stormwater discharges. Operation of the pipeline will periodically require that it be drained for inspection and repair. In order to dispose of this water it would have to be discharged into local storm drainage systems, including the City's combined sewer system and natural streams. L23-28

The urbanized portions of the County and City of Sacramento are covered by an NPDES Stormwater Discharge Permit. In many instances non-stormwater discharges to the storm drain system and natural streams are prohibited by this permit. Discharge to the City's combined sewer system would likely cause impacts to the Regional Wastewater Treatment Plant.

Additionally, because the pipeline is being routed through older sections of the community many of the storm drain inlets are undersized and would not be able to accommodate large quantities of water over a short time period.

Conclusion

The County continues to support the Joint Project concept, and these comments are not intended in any way to detract from the County's continued cooperation in developing a viable Joint Project. L23-29

In addition to the comments provided above, separate comments from the County's Water Quality Division, Waste Management and Recycling Division, Transportation Division, and Regional Parks and Recreation Department are attached. If you have any questions regarding this letter, please feel to contact Darrell Eck at (916) 874-5039.

Sincerely,

Keith DeVore

Keith DeVore, Chief
Water Resources Division

Attachments

cc: Robert Thomas, County Executive
Robert Ryan, County Counsel
John Whisenhunt, Assistant County Counsel
Warren Harada, Pubic Works Administrator
Robert Shanks, District Engineering Director
Cheryl Creson, County Engineering Director
Patrick Groff, Public Works Administration Director
Gene Andal, Regional Parks and Recreation Director
Thomas Hutchings, Planning Director
Dennis Yeast, Environmental Coordinator
Bob Caikoski, Environmental Review and Assessment
Tom Engel, Airports Director
Butch Hodgkins, SAFCA Executive Director
Wendell Kido, Water Quality Division Chief
Stan Dean, Regional Wastewater Treatment Plant Manager
Richard Owings, Waste Management & Recycling Division Chief
Thomas Zlotkowski, Transportation Division Chief
Donna Dean, Water Resources
Darrell Eck, Water Resources
Pete Ghelfi, Water Resources
Andy Hitchings, DeCuir & Somach
Jim Sequeira, City of Sacramento – Department of Utilities Director
Jonas Minton, CCOMWP
Rosemont Community Association, President
Southeast CPAC, Chair
Cordova CPAC, Chair
Cosumnes CPAC, Chair
Frank Cirill, SARA
Clyde McDonald, Sierra Club
Ron Stork, Friends of the River
Jim Jones, SARA

Response to Comments of the County of Sacramento

L23-1, Keith DeVore, County of Sacramento
EBMUD has been working with the Sacramento Water Forum. The Water Forum environmental analysis and hydrologic modeling were requested but were not provided. It is recognized that the hydrologic modeling assumptions differ between the Supplemental Water Supply Project and the Water Forum. Although these modeling assumptions are somewhat different, similar potential cumulative impacts are identified. The modeling performed for Alternatives 2 and 3 is a reasonable approach for addressing cumulative impacts. EBMUD and Reclamation have negotiated a proposed amendment to the existing water service contract. The proposed contract specifies the shortage provisions to be applied to EBMUD's water supplies. See Appendix A to this document.

EBMUD recognizes that it would be appropriate to contribute to cumulative mitigation efforts at a level commensurate with the impacts caused by the implementation of a project alternative. Given the regional and cumulative nature of the impacts identified in the 1997 Draft EIR/EIS and the relatively minor nature of the project-level impacts of Alternatives 2 and 3 , mitigation on a project level would be ineffective in reducing cumulative effects that will occur regardless of whether the Supplemental Water Supply Project alternatives are implemented. The state *CEQA Guidelines* (Section 15130) state that an EIR shall explore "reasonable, feasible options for mitigation or avoiding the project's contribution to any significant cumulative effects" and recognize that for cumulative impacts, the only feasible mitigation may be a regulatory or regional solution, rather than imposition of project-specific mitigation.

L23-2, Keith DeVore, County of Sacramento
In response to these issues, the 1997 Draft EIR/EIS did, in fact, include the suggested water diversion information within the hydrologic modeling and environmental analysis of the joint project, and it is included in the 1997 Draft EIR/EIS (see page 2-21 and also Figure 3-3). As shown in the 1997 Draft EIR/EIS, the hydrologic modeling analysis and related impact analyses assume that the County fully utilizes its 62-cfs capacity at all times. This equates to an annual diversion of approximately 45,000 AF. Chapter 2 of this document recognizes that negotiations between the parties have not been completed.

L23-3, Keith DeVore, County of Sacramento
Water use patterns provided by the County changed over time during preparation of the 1997 Draft EIR/EIS. The 45,000 AF annual diversion by the County used in the modeling represents a reasonable estimate of potential water use and provides a reasonable basis for conducting impact analyses. Although there is no proposal to operate the joint project facilities in the manner described under the full-use scenario, EBMUD and Reclamation provided the information to respond to questions raised during the scoping process regarding potential environmental effects, should the intake facility be operated at maximum capacity at all times, and to provide a bridge between the project-level and cumulative impact analysis. Additional environmental documentation and other regulatory approvals may be required if the facilities or entitlements are used by others or transferred.

L23-4, Keith DeVore, County of Sacramento
This proposal was under consideration by the joint project partners. It is acknowledged that SWRCB approval may be needed for EBMUD to take delivery of water under its contract with Reclamation at the Fairbairn WTP intake facility for use during the planned outage scenario. It is not clear at this time whether a permanent change in Reclamation's water rights would

be required or whether Fairbairn WTP might be added as a temporary diversion point during a planned outage operation. The issues described in this comment regarding Reclamation approval of County water entitlements are outside the scope of the environmental analysis required for the Supplemental Water Supply Project.

L23-5, Keith DeVore, County of Sacramento
The Fairbairn WTP is described on page 2-19 of the 1997 Draft EIR/EIS. The environmental impacts associated with construction of the Fairbairn WTP expansion and pumping plant are described on pages 16-10 (visual), 15-5 (hazardous materials), 9-6 (soils), 14-5 (noise), and 7-18 (vegetation). The facility layout is shown on Figure 2-8, following page 2-18 of the 1997 Draft EIR/EIS. The effects of the offsite pumping plant are included in the discussion of the Folsom Boulevard bypass option discussions throughout the 1997 Draft EIR/EIS. The information provided in the 1997 Draft EIR/EIS is adequate to support the analyses, which accurately reflect the potential environmental impacts from all project-related facilities.

L23-6, Keith DeVore, County of Sacramento
Refer to the responses to "Construction-Related Environmental Commitments and Mitigation," "Kiefer Boulevard Pipeline Routing," and "C Street Pipeline Routing" major issues in Chapter 3 of this document. Project alternatives were evaluated with the City and County prior to preparation of the 1997 Draft EIR/EIS.

L23-7, Keith DeVore, County of Sacramento
Comments were received from the City of Sacramento and other local jurisdictions. Responses to those comments are included in this document.

L23-8, Keith DeVore, County of Sacramento
This comment reflects standard construction methods that would be integrated into the project design and bid specifications as appropriate. The agricultural and livestock operations affected by the project would be notified in advance about the construction schedule. The EBMUD right-of-way agent would make appropriate provisions for agricultural operations affected by the project construction.

L23-9, Keith DeVore, County of Sacramento
See the response to "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document. A traffic control plan would be prepared for the project and would include input from affected residents and businesses and the County's Transportation Division. EBMUD would continue to consult with the community, the City, and the County during detailed design and construction planning. Trip generation rates associated with increased truck traffic during construction were derived from the Institute of Transportation Engineers (ITE), as referenced on page 12-4 of the 1997 Draft EIR/EIS. The estimated number of truck trips per day for each stage of construction is not expected to exceed these thresholds (see Table 12-7 on page 12-8). The traffic control plan would address the truck trips per day in specific areas.

A discussion on road deterioration is included on page 12-7 of the 1997 Draft EIR/EIS. EBMUD would implement a roadway surface repair plan following construction activities to reduce the impact of road deterioration from truck traffic. The plan would include repairing truck routes and automobile detour routes where necessary.

The pipeline construction cross section for the pipeline alignment that runs parallel to an existing roadway would generally be the

same as the open country alignment shown in Figure 2-4 of the 1997 Draft EIR/EIS.

L23-10, Keith DeVore, County of Sacramento
Emergency service routes would be provided to accommodate emergency vehicles. This commitment would be included in the traffic control plan, as noted in Chapter 12 of the 1997 Draft EIR/EIS.

L23-11, Keith DeVore, County of Sacramento
EBMUD would coordinate with the affected community, the City, and the County to develop acceptable construction plans and to notify residents and businesses of the construction days and hours of construction in their areas. The hours of construction would also be included as conditions in the construction contract. Page 14-4 of the 1997 Draft EIR/EIS discusses impacts on sensitive noise receptors from construction-related noise. The project would comply with local noise ordinances to avoid significant increases in noise levels. The construction is anticipated to proceed at 100–150 feet per day, creating short-term noise increases to individual locations for only a few days.

L23-12, Keith DeVore, County of Sacramento
These comments regarding impacts on visual resources during construction are noted. The construction areas would be restored to be similar to their pre-construction condition, and construction staging areas would be screened from sensitive receptors to the extent possible. EBMUD would work with the City and the County to develop appropriate construction measures. Several project plans would include measures to protect or restore visual resources, including an erosion and sediment control plan, a dust suppression plan, a channel and levee restoration plan, an agricultural land restoration plan, a spoils disposal plan, and an access point/staging area plan. These plans would be prepared and included in the conditions of the construction contract. See response to "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document.

L23-13, Keith DeVore, County of Sacramento
The spoils disposal plan would require that placement of spoil materials be avoided in sensitive habitat areas or in areas where effects on local hydrology could occur. Spoil materials would be hauled to an appropriate offsite location or used to cover the pipeline right-of-way, where feasible. See also page 2-6 of the 1997 Draft EIR/EIS.

L23-14, Keith DeVore, County of Sacramento
Detailed geotechnical investigations would be conducted during final design after a project is adopted. Areas that have the potential for ground subsidence would be identified and conditions included in the construction contract, if necessary, to minimize the potential for ground subsidence following construction.

L23-15, Keith DeVore, County of Sacramento
The exact location of the pipeline within urban streets would be identified on the final design plans. Final approval of these plans would be coordinated with the County's Transportation Division. Preliminary engineering information developed to date is available to the County.

L23-16, Keith DeVore, County of Sacramento
Utility relocations and short-term impacts on utilities would be addressed during final design of the project once a project is adopted. Residents and businesses would be consulted during design and construction planning to develop appropriate provisions. The community would be notified of construction plans and associated utility relocations. EBMUD does not intend to cause a substantial loss of utility services during construction. Standard design measures and various local and state laws and

regulations govern construction and prevent such effects. See the response to major issue "Construction-Related Environmental Commitments and Mitigation" in Chapter 3 of this document.

L23-17, Keith DeVore, County of Sacramento
The location of the Bradshaw Interceptor Project relative to the joint project would be closely coordinated with the County if Alternative 3 were selected. No conflicts are expected.

L23-18, Keith DeVore, County of Sacramento
On page 2-12 of the 1997 Draft EIR/EIS, the Cosumnes River is described as a major river. The 1997 Draft EIR/EIS states (on page 2-13) that "where necessary, major rivers would be crossed by tunneling the pipeline beneath the water channel to avoid the disruption of water flows." The Cosumnes River would not be tunneled. The crossing would be planned during the dry season to minimize impacts. Tunneling would occur if unexpected conditions were found.

The final design of the proposed project would include information on the location of the proposed detention basin relative to the project, and EBMUD would coordinate with the County regarding potential impacts of this project. Design of the proposed pipeline would also be coordinated with Granite Construction Company and the Drainage Section of the County's Water Resources Division. The pipeline crossing at Morrison Creek would be conducted in accordance with permit requirements.

L23-19, Keith DeVore, County of Sacramento
The SWPPP would be prepared to address requirements of the Central Valley Regional Water Quality Control Board and would also address the County's regulatory requirements. The SWPPP would be addressed in the construction contract for this project.

L23-20, Keith DeVore, County of Sacramento
Issues related to the pipeline crossing of the City's landfill would be fully addressed through completion of the Phase I and Phase II Hazardous Materials Studies and adoption of recommendations, if Alternative 3 and the C Street bypass option were adopted. The exact alignment of the pipeline route would be developed to avoid impacts as much as possible. See response to "C Street Pipeline Routing" major issue in Chapter 3 of this document.

L23-21, Keith DeVore, County of Sacramento
Chapter 7 of the 1997 Draft EIR/EIS outlines potentially significant impacts on individually protected trees and heritage trees along the pipeline alignment corridors and identifies mitigation measures to reduce these impacts to less-than-significant levels. The mitigation measures include avoiding protected trees where possible and obtaining tree removal permits where avoidance is not possible (see Mitigation Measures 7-2a and 7-2b). In addition, the project is required to comply with the following local ordinances: City of Sacramento Heritage Tree Ordinance (Title 45: Trees), the County of Sacramento Tree Preservation Ordinance (Chapter 19.12), and the San Joaquin Development Title Code on protection of heritage oak, native oak, and historical trees (Title 9). The construction contract would include conditions specified in the City and County tree permits. See response to Comment L15-13.

L23-22, Keith DeVore, County of Sacramento
EBMUD would coordinate with Sacramento-area residents to implement a project that meets the needs of all parties and would consult with the City and County to implement appropriate measures to address temporary construction impacts. As a public agency, EBMUD is required to provide appropriate compensation for such effects. See the response to "Construction-Related Environmental Commitments and Mitigation" in Chapter 3 of this document.

L23-23, Keith DeVore, County of Sacramento
Noise impacts from the operation of the pumping plant for the Folsom South Canal connection are discussed in Chapter 14 of the 1997 Draft EIR/EIS. Noise ordinances for the City of Sacramento, Sacramento County, and San Joaquin County specify allowable noise levels to ensure that long-term noise generated by a specific source is compatible with adjacent land uses. The 1997 Draft EIR/EIS uses these ordinances to assign a maximum acceptable exterior noise level of 60 dBA Ldn (day-night average sound level) for noise-sensitive land use areas. Noise level studies referenced in the 1997 Draft EIR/EIS indicate an anticipated noise level of 45 dBA for the operations-related noise generated by the pumping plant when noise-reduction enclosures are employed. This level is below local ordinance standards. EBMUD would coordinate with all affected jurisdictions to ensure that the project design meets regulatory standards.

L23-24, Keith DeVore, County of Sacramento
The community will be encouraged to participate in the aesthetic design of project facilities, including the American River intake and the Clay Station pumping plant.

L23-25, Keith DeVore, County of Sacramento
Impacts on utility facilities associated with future development in the County would be coordinated with the County's Water Quality, Water Resources, and Transportation Divisions. See the response to "Construction-Related Environmental Commitments and Mitigation" major issue in Chapter 3 of this document.

L23-26, Keith DeVore, County of Sacramento
Commentor's concerns will be addressed in the traffic control plan. See response to Comment L17-9. The comment on visits to the chemical handling facility at the American River intake is noted.

L23-27, Keith DeVore, County of Sacramento
Issues related to the pipeline trenches potentially encountering contaminated groundwater would be identified and addressed in the Phase I and Phase II Hazardous Materials Studies as required by existing laws and regulations. The appropriate backfill and clay plugging measures to minimize lateral migration of contaminated groundwater would be identified in the reports and included in final design plans.

L23-28, Keith DeVore, County of Sacramento
When the pipeline is drained for inspection and repair, the water will be discharged in a manner that complies with local and state requirements.

L23-29, Keith DeVore, County of Sacramento
The County's continued support of the joint project concept, generally described as Alternative 3 in the 1997 Draft EIR/EIS, is noted.