DIABLO GRANDE
WATER RESOURCES PLAN

FINAL SUPPLEMENTAL EIR

Stanislaus County
June 12, 1998

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Diablo Grande Water Resources Plan

Final Supplemental EIR

Prepared for:

Stanislaus County Department of Planning
and Community Development
1100 H Street
Modesto, California 95354
(209) 525-6330
Contact: Kirk Ford

State Clearinghouse Number: 97032022
June 12, 1998

Prepared by:

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Introduction

CEQA Guidelines section 15200 indicates that the purposes of the public review process include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting counter proposals. The public review period began on January 28, 1998 and ended on March 18, 1998.

CEQA Guidelines section 15132(c) requires that the final environmental impact report contain a list of persons, organizations, and public agencies who have commented on the draft environmental impact report. A list of the correspondence received during the public review period is presented below. The actual comments, as well as responses to those comments follow in the *Responses to Comments* section .

CEQA Guidelines section 15132(b) and 15132(d) also requires that the final environmental impact report contain the comments and response to comments that raise significant environmental points in the review and consultation process. Each comment submitted is identified with a vertical line to the left of the comment. Each comment is identified by number adjacent to the line. The response to each comment is located immediately following the letter. Where required, revisions have been made to the text of the draft supplemental environmental impact report based on the responses to comments. Deletions to the text are shown with ~~strikethrough~~ type and additions to the text are shown with underlined type. The amendments to the text are included in the section titled *Modifications to the Draft SEIR.*

The following comment letters and oral comments were received. They are organized herein based on the following heirarchy: state agencies, regional agencies, local agencies and jurisdictions, and general public.

State Agencies

1. Governor's Office of Planning and Research
2. California Department of Fish and Game
3. California Department of Transportation
4. California Department of Health Services

Regional Agencies

5. San Joaquin Valley Unified Air Pollution Control District
6. Stanislaus Area Association of Governments

Local Agencies

7. Stanlislaus County Department of Environmental Resources (facsimile)
8. Stanlislaus County Department of Environmental Resources (memo)
9. City of Turlock
10. Turlock Irrigation District
11. Del Puerto Water District
12. South Delta Water District
13. City of Modesto
14. Stanislaus County Farm Bureau
15. City of Patterson
16. City and County of San Francisco Planning Department

General Public

17. Friends of the Tuolumne
18. Ecology Action Education Institute
19. California Urban Water Agencies
20. Community Alliance with Family Farmers - Merced/Stanislaus Chapter
21. March 5, 1998 public hearing comments from Ray Marchant, Al Mendez, Steve Burke, Mike Fuller, Margery Fletcher, Steve Neiman, Lorenne Alves, Dan Lamb
22. Richard and Ruth Bettencourt
23. Ken and Marilyn Niman
24. Virginia and Sharon Niman
25. The voters, property owners and/or residents of the Turlock Irrigation District (includes 64 signatures)
26. Marilyn Niman
27. Jake Breugem

Objectivity

This Final Supplemental EIR is a factual, objective public disclosure document that takes no position on the merits of the project, but instead provides information on which decisions about the project can be based. Thus, the findings of this EIR do not advocate a position "for" or "against" development. The EIR has been prepared according to the professional standards and practices of the EIR participant's individual disciplines and in conformance with the legal requirements and informational expectations of CEQA and its implementing guidelines. The preparers of this Supplemental EIR are independent professionals working under an agreement with the County of Stanislaus.

Response to Comments

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Letter 1

STATE OF CALIFORNIA PETE WILSON, *Governor*

Governor's Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

RECEIVED
MAR 23 '98
STANISLAUS CO. PLANNING & COMMUNITY DEVELOPMENT DEPT.

March 20, 1998

KIRK FORD
STANISLAUS COUNTY
1100 H STREET, 2ND FLOOR
MODESTO, CA 95354

Subject: DIABLO GRANDE SPECIFIC PLAN; WATER RESOURCES PLAN SCH #: 97032022

Dear KIRK FORD:

The State Clearinghouse submitted the above named environmental document to selected state agencies for review. The review period is closed and none of the state agencies have comments. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call Kristen Derscheid at (916) 445-0613 if you have any questions regarding the environmental review process. When contacting the Clearinghouse in this matter, please use the eight-digit State Clearinghouse number so that we may respond promptly.

Sincerely,

Antero A. Rivasplata

ANTERO A. RIVASPLATA
Chief, State Clearinghouse

Response to Letter 1

1. The Office of Planning and Research sent copies of the Draft SEIR to various state agencies. To date only two state agencies have submitted comments on the DRAFT SEIR and those comments where sent directly to Stanislaus County.

Letter 2, Page 1

STATE OF CALIFORNIA—THE RESOURCES AGENCY

PETE WILSON, Governor

DEPARTMENT OF FISH AND GAME
REGION 4
1234 East Shaw Avenue
Fresno, California 93710
(209) 243-4014

March 19, 1998

Mr. Kirk Ford
Stanislaus County Department of
Planning and Community Development
1100 H Street
Modesto, California 95354

Dear Mr. Ford:

Diablo Grande Water Resources Plan
Draft Supplemental Environmental Impact Report

We have reviewed the Draft Supplemental Environmental Impact Report (SEIR) referenced above. It discusses a menu of water supply options for the Diablo Grande development in western Stanislaus County. The Department of Fish and Game's (Department) main concerns center on potential impacts to aquatic and riparian resources, and assurances of appropriate environmental review for future actions.

1 Possible impacts to existing or recoverable riparian habitats along Salado Creek from Option 2-1 are potentially significant, even without the presence of special status plant or animal species there. The status of the alluvial aquifer and quality of the riparian habitat along the creek should be evaluated annually if this option is exercised. Adverse effects should be mitigated by providing adequate flows to restore pre-project conditions.

2 All diversions from the San Joaquin River should have suitable fish screens to prevent adverse impacts to salmon stocks.

3 At this time, Department fisheries biologists are still reviewing the proposed monitoring and mitigation for potential reductions in accretion flows to the San Joaquin River, and will contact you shortly with their findings. In any event, the Department should be closely involved in oversight of impact monitoring and mitigation.

The SEIR refers to subsequent environmental review for some of the potential actions

Letter 2, Page 2

Mr. Kirk Ford
March 19, 1998
Page Two

4 that could result as part of developing the water supply for the Diablo Grande Project. This SEIR should unequivocally require subsequent review by at least the County, as well as any other Lead Agencies.

Should you have any questions or require further information, please contact Dr. Jeffrey Single, Environmental Specialist III, or Mr. Dale Mitchell, Environmental Services Supervisor, at the address or phone number listed on the letterhead.

Sincerely,

for Dale Mitchell
George D. Nokes
Regional Manager

Response to Letter 2

1. The draft SEIR identifies the potential for impacts to riparian habitats along Salado Creek on pages 2-14 and 2-15. For the Squirrel well, these impacts are considered to be less than significant because of the relatively low extraction rate proposed for this well, and the absence of substantial wetland/riparian habitat in the immediate vicinity of this well. For the Frog Pond Replacement Well, impacts to riparian habitats within the zone of influence of the well could potentially be significant. Although detailed data is not available to fully quantify the radius of influence for this well, it is expected that potentially significant effects would be confined to the wetland/riparian zone immediately upstream of the Frog Pond. Downstream of the Frog Pond, some or all of the creek flow is currently diverted into a lower stock pond and away from the Salado Creek drainage; therefore, the area downstream of the pond is not expected to be substantially altered from existing conditions. To address potential impacts to the riparian habitat upstream of the pond, Mitigation Measure 2 (pages S-16 and 2-16) has been revised to include monitoring of this area in addition to the Frog Pond, and implementation of remedial measures, if necessary.

2. The CDFG requires that suitable fish screens be installed for all diversion projects to prevent adverse impacts to salmon stocks. The Western Hills Water District (WHWD) will be responsible for any diversion projects and will be responsible for implementing this CDFG requirement.

3. The County of Stanislaus and/or any special districts involved with this water supply project will coordinate with, and involve the CDFG in oversight of impact monitoring and mitigation.

4. This SEIR has been prepared to respond to the court order (for which the County of Stanislaus must be accountable) to evaluate the environmental effects of extraction from the various water sources, and provides the responsible water agencies, which may provide water to Diablo Grande, with adequate CEQA documentation for which to base their decisions on.

As indicated on page 1-1 of the Draft SEIR, this SEIR has been prepared as a program EIR. In accordance with section 15168(c)(5) of the CEQA Guidelines, every effort has been made to present sufficient detail as to each of the options to minimize the need for further environmental documentation in the future. Any future environmental review shall be in accordance with CEQA, including Section 15096, 15162-15164, and 15168 of the CEQA Guidelines.

Letter 3

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) 948-3929

March 9, 1998

10-STA-5-P.M. 0.013
Diablo Grande Specific Plan &
Phase I Preliminary Development
Plan: Water Resources Plan
Draft Supplemental Environmental
Impact Report
SCH # 97032022

Mr. Chris Belsky
State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

Dear Mr. Belsky:

Thank you for the opportunity to comment on the above referenced project located in southwestern Stanislaus County, seven miles west of Interstate 5.

Transportation Planning has circulated this document through our normal interdepartmental review process. We have no comment on the Water Resource Plan at this time. If you have any questions or wish to discuss this project further please contact me at the above noted telephone number.

Sincerely,

DEBBIE HOY
Associate Transportation Planner
Planning Branch "B"

cc: Mr. Kirk Ford, Stanislaus County Planning Department
11 H Street, 2nd Floor
Modesto, CA 95354

Response to Letter 3

1. The commenter does not have any comments on the water resources plan, therefore, no response is necessary.

Letter 4, Page 1

STATE OF CALIFORNIA—HEALTH AND WELFARE AGENCY
PETE WILSON Governor
DEPARTMENT OF HEALTH SERVICES
DRINKING WATER FIELD OPERATIONS BRANCH
31 EAST CHANNEL STREET, ROOM 270
STOCKTON, CA 95202

FEB 27 1998
DEPT.

February 26, 1998

Mr. Kirk Ford, Senior Planner
Stanislaus County Planning Department
1100 H Street, 2nd Floor
Modesto, CA 95354

DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT
DIABLO GRANDE WATER RESOURCES PLAN

Thank you for the opportunity to review the Supplemental Environmental Impact Report (SEIR) for the Diablo Grande Water Resource Plan. The SEIR lists hydrology, biotic resources, health hazards, agricultural resources, archeological resources, and air quality as the six areas of environmental concern that are addressed in the environmental assessment of the water supply and conveyance aspects of the Diablo Grande development. As the Department of Health Services, this department focused primarily on the "health hazards" aspects of the SEIR.

Section 2.0 of the SEIR, Environmental Setting, Impacts and Mitigation Measures was clearly the section in which the environmental impacts of the various alternatives were developed and discussed in great detail. In that section, environmental factors related to the Marshall Davis Well Site, the Project Area (On-Site) Groundwater, the Patterson Algal Turf Scrubber effluent (wastewater), the Shallow County Groundwater (TID), the Berenda Mesa Water District (State Water Project) water, and the Bravo Management Company banked groundwater were discussed. Section 3.0 had more cursory discussions of Ceres Algal Turf Scrubber wastewater effluent and Modesto Algal Turf Scrubber wastewater effluent. In over 120 pages of discussion, represented to address the hydrology, biotic resources, health hazards, agricultural resources, archeological resources, and air quality environmental impacts of the water resources plan, the discussion related to health hazards was limited to about 2/3 of a page of text, and that was specific to the on-site groundwater option only. Even that material was marginal, in that it mentioned 1498 parts per million (ppm) of sodium and 1434 ppm of bicarbonate in the 14th Tee Well (that is not being proposed for use) as problems and ignored concentrations of

1 cont'd total dissolved solids, specific conductance, and sulfate in excess of Maximum Contaminant Levels (MCLs) in wells that have been proposed for use. In addition, if the treatment of the on-site groundwater produces a purified stream that is suitable for domestic use and a "reject" stream that is being considered for irrigation use, the suitability of that reject water for landscape irrigation should be discussed, since information that has been provided to the Department suggests that the "reject" water may not be suitable for use as irrigation water.

2 The sections of the report related to the Berenda Mesa Water District water that would be delivered from the State Water Project (SWP) and the Bravo Management Company water, that would also be delivered as SWP water through an exchange agreement include no discussion of the quality of that water. Since the SWP water is surface water, the microbial contamination of the water and its mitigation through treatment should be discussed. There are health hazards associated with surface waters; therefore, those hazards should be discussed along with the treatment strategies that would be used to mitigate the health hazards. Since treatment process generally result in waste streams, the environmental impacts of those waste streams should be discussed.

3 The sections of the report related to the use of Shallow County Groundwater pumped by the Turlock Irrigation District includes water quality information. High TDS is acknowledged as a significant water quality problem. It is also stated that the pesticide dibromochloropropane (DBCP) and nitrates are contaminants present in the groundwater. Since monitoring data for some of the existing wells that are pumping shallow groundwater in the study area show that the wells are already contaminated with nitrates in excess of the drinking water maximum contaminant level, the report should acknowledge that the nitrate contamination poses more than simply a threat to the quality of the shallow groundwater. Since the health effects of high nitrate concentrations in drinking water are acute, rather than chronic, these effects should not be ignored.

4 While the SEIR does discuss the water quality problems associated with the Shallow County Groundwater available from TID, there is no discussion of the health hazards associated with these contaminants and the mitigation measures, such as treatment, that would be required to address the health hazards. As in the case of the on-site groundwater option, the treatment of Shallow County Groundwater is likely to result in "reject" streams from TDS treatment units and possible wastes associated

Letter 4, Pag

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4 Cont'd

with nitrate treatment systems and DBCP treatment systems that may be necessary. While blending this water with water from the SWP may eliminate some, or all, of these problems in wet years, this source appears to be the project's most reliable source of water in drought years when surface water availability is limited. Therefore, the health impacts and the environmental impacts anticipated in years of limited surface water availability must be evaluated and discussed.

5

The most significant deficiency related to health hazards is in the sections of the SEIR that focus on the Algal Turf Scrubber (ATS) waste water effluent options as sources of water supply. Pathogenic organisms are constituents of wastewater streams that are of intense concern to the Department due to the health hazards posed by these contaminants. These are impacts that cannot be ignored in the SEIR. In addition, the SEIR represents these as waters that will be withdrawn from the San Joaquin River. The San Joaquin River receives sewage discharges, either directly, or indirectly, from several communities in the Central Valley upstream of the Patterson intake sites proposed by Diablo Grande. These sewage discharges have generally received nothing more than secondary treatment; therefore, the removal of pathogens from the effluent has been minimal. Municipal wastewater treatment plant discharges in the San Joaquin River basin have an average flow of 55 million gallons per day. Municipal effluent may contain pathogenic microbial organisms such as bacteria, pathogenic cysts, and viruses. Conventional wastewater treatment reduces the density of pathogenic organisms, although protozoan cysts, helminth ova, and certain enteric viruses may not be effectively inactivated by current practices that target bacteria. Raw water containing high levels of microbial pollution increases the potential for incomplete disinfection when breakdowns in water treatment facilities occur.

Although no data are available for wastewater discharges into the San Joaquin River, a study of the occurrence of cryptosporidium in wastewater, wastewater effluent, and receiving waters conducted by the University of Arizona showed widespread occurrence. Cryptosporidium findings were positive in 77 of 107 samples tested. Mean concentrations ranged from 4.1 to 1732 oocysts per liter in <u>treated</u> wastewater and 0.04 to 18 oocysts per liter in <u>receiving waters</u>. Cryptosporidium is particularly insidious because it is extremely resistant to disinfection. As a result, there have been major outbreaks of cryptosporidiosis in various areas of the United States as well as European countries where sanitation exists. Therefore, it is

evident that there are serious health hazards associated with the use of water from the San Joaquin River.

Municipal wastewater treatment plants discharge appreciable concentrations of nutrients and organic carbon to the receiving waters. Nutrients can stimulate biological activity downstream of the discharge, leading to high concentrations of organic carbon at downstream water intakes. Organic carbon combines with disinfectants used at water treatment plants to produce trihalomethanes (THMs) and other disinfection by-products. Such byproducts are suspected of health hazards including carcinogenicity and spontaneous abortion.

5 Cont'd

In addition, industrial dischargers contribute an additional average flow of wastewater of 778 million gallons per day to the San Joaquin River. The main health hazards associated with these discharges are typically chemical in nature. However, it is also worth noting that municipal wastewater treatment plants discharge chemical pollutants into the San Joaquin River. These contaminants are generally metals and toxic organic constituents, including pesticides and various chlorinated organic compounds, that are typically discharged at low concentrations.

Urban runoff discharges into the San Joaquin River are also quite significant. The runoff discharges typically contain heavy metals, synthetic organic chemicals, including some pesticides, and oil and grease and polycyclic aromatic hydrocarbons, primarily from vehicle and road use. Urban runoff also typically carries total and fecal coliform bacteria.

The San Joaquin River also receives agricultural drainage. Considering the extent and intensity of agricultural activities in the San Joaquin Valley, the agricultural drainage is a significant source of pollution of the San Joaquin River. Rainfall related agricultural runoff occurs from about October to April. However, the more significant runoff is the excess irrigation water that is returned to the river during the summer and fall months when dilution flows are minimal. Irrigation return flows carry nitrogen (as nitrate) and phosphate fertilizers into the river. In addition, these return flows carry some pesticides into the San Joaquin River. The river also receives considerable subsurface drainage from systems installed to prevent the water table from rising into the root zones of crops grown in areas of the San Joaquin Valley. West side drains, including Mud and Salt Slough, are significant drains for both subsurface discharge and surface runoff into the

Letter 4, Page

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5 cont'd

San Joaquin River. The Central Valley Regional Water Quality Control Board has estimated that agricultural surface runoff, with its associated pollutants, may constitute up to 90 percent of the San Joaquin River flow at Vernalis during the primary irrigation season, which occurs from April to October. The high concentrations occur toward the latter part of the irrigation season when dilution flows are minimal. At that time, the agricultural drainage from the west side drains that include Mud and Salt Slough make up 10 to 15 percent of the flow at Vernalis. The Regional Water Quality Control Board has also found that the occurrence of pesticides in agricultural drains is erratic, and is more often associated with slugs of pesticides from recently treated fields and illegal dumping. Such occurrences within most of the San Joaquin Valley move through the San Joaquin River.

6

The SEIR cannot be considered to be complete and acceptable by the Department of Health Services until a watershed sanitary survey that evaluates the health hazards and general environmental health hazards of the San Joaquin River up to the point at which water will be taken from the San Joaquin River has been completed. Ignoring these impacts while considering water from the San Joaquin River for domestic use in Diablo Grande is unacceptable.

7

It is the policy of the Drinking Water Program that water for domestic use shall be taken from the best available supply or supplies. While on-site groundwater can be treated to meet public health standards, the supply that has been identified to date is extremely limited. Therefore, the Department is now considering this source for only a very limited portion of the Diablo Grande development. Information available to the Department indicates that both the Berenda Mesa Water District and the Bravo Management Company water, as waters from the SWP, would be acceptable sources of water to support any significant development at Diablo Grande. The watershed sanitary survey for the SWP has been completed. The survey has identified the sources of contamination that impact the SWP water and the magnitude of those impacts. Available information supports the SWP as a source of water that can be economically treated to provide a safe source of water for domestic use.

8

In addition, the information presented in the SEIR indicate that the Shallow County Groundwater from TID would be another source that could be treated to produce a safe supply of drinking water. The analysis indicates that the treatment needed for the Shallow County Groundwater would focus more on the removal of

8 cont'd chemical contaminants than microbiological contaminants. Considering the year to year variability in the quantity of supply from the SWP, it appears that a combination of water from the SWP and water from the Shallow County Groundwater would provide the greatest degree of long term reliability.

9 Algal Turf Scrubber effluent, as proposed in the SEIR is not an acceptable source of water for the Diablo Grande domestic water system. However, if the effluent can be allowed to flow into the Delta and, subsequently, wheeled to Diablo Grande's turnout on the California Aqueduct, the effluent would then have the characteristics of SWP water, thereby making it acceptable as an element of the domestic water source.

10 In addition, the Department does support the use of reclaimed water, such as the algal turf scrubber effluent, for specific purposes. If Diablo Grande chooses to convey that effluent (and similar effluent from Ceres and Modesto) to Diablo Grande without intermingling it with the source waters that are acceptable for domestic use, the effluent could be used for landscape irrigation and other uses that comply with the provisions of the Department's Water Reclamation Criteria.

11 The Department has the following additional comments with respect to the initial water system that will serve the first 39 houses at Diablo Grande using water form the on-site groundwater wells. Pursuant to the reauthorization of the Safe Drinking Water Act in 1996, the Environmental Protection Agency established requirements for the assessment and protection of sources of drinking water. This program was developed as a response to the numerous sources of drinking water throughout the nation that have become contaminated. The program requires the water provider to assess the potential for each water source to become contaminated by various contamination sources in reasonable proximity to the water source, such as gasoline service stations, industrial facilities, highways on which accidental spills may occur, and other potential sources of contamination of aquifers. Once the potential contamination sources have been defined, protection areas around the well must be established and protection strategies must be implemented within these protection areas to prevent future contamination of each source. A source water assessment and protection plan would also have to be developed for the Shallow County Groundwater.

Drinking Water Source Water Assessment and Protection is an important environmental issue which should be included in the

i1 cont'd

SEIR. It is a program designed to provide for the identification of contamination sources that are, or have the potential, to impact sources of drinking water. It also involves the establishment and implementation of protection strategies to prevent drinking water supplies from becoming contaminated as development occurs and anthropogenic activities expand in a community.

i2

While this may be a relatively uncomplicated task for Well No. YF-6, the Frog Pond Well is a particularly vulnerable source. Its location in the alluvial deposits along Salado Creek presents considerable potential for contamination as development occurs. It is an extremely shallow well in the bottom of a valley, in close proximity to the creek that carries runoff water from a large, upstream watershed. Since most of the watershed is upstream of the well, any spills or other releases that may occur in most of the watershed will have the potential to impact the Frog Pond Well. In addition, it is close to the main highway that will carry all traffic, including hazardous materials, in and out of Diablo Grande, further increasing the vulnerability of the well. A watershed sanitary survey of the watershed of Salado Creek would be necessary to identify the vulnerability of the creek to contamination. Beyond that, the impact of contaminated water from Salado Creek on the alluvial aquifer in the groundwater recharge process would have to be evaluated to determine the potential for contamination of the aquifer from which the Frog Pond Well pumps. With the establishment of a protection area and the implementation of drinking water source protection strategies, it should be possible to insure the long term quality of the water available from that important groundwater aquifer.

The SEIR should account for the potential contamination sources that will occur in the watershed of Salado Creek and in the vicinity of Well No. YF-6 and specify the potential of each source to contaminate each of the wells. The assessment should also establish protection areas in which certain activities and pollution sources will be prohibited. In addition, the assessment should establish protective and mitigation measures to assure that the wells do not become contaminated as development occurs in Diablo Grande. The assessments of future potential contamination should take into account the sources of contaminant discharges that will be exist in the groundwater basins at buildout of the Diablo Grande development.

-8-

Letter 4, Page 8

Thank you for the opportunity to comment on the Diablo Grande SEIR. If you have any questions, contact me at (209) 948-3816.

Joseph O. Spano

Joseph O. Spano, P.E.
District Engineer
Drinking Water Field Operations Branch
Stockton District

cc: Keith Schneider, Diablo Grande Properties
Brian Kumimoto, Stanislaus County DER

A:\SUP-EIR-COMNTS.298

Response to Letter 4

1. Regarding drinking water health hazards, all drinking water delivered to customers, for any of the alternatives, would be treated to meet drinking water standards. The exact treatment method will be selected based on the selected water supply alternative. Therefore, there will be no health hazards associated with the water delivered to customers for domestic use.

This comment states that a drinking water source assessment and protection plan would have to be developed for the initial on-site water system and the Shallow County Groundwater alternative.

It is recognized that a source water assessment and protection plan is a vital element in the protection of drinking water sources. The requirements of the source water assessment and protection plan are currently in the process of being developed by DHS. California must submit its proposed plan requirements to EPA in 1999. It is anticipated that existing California water utilities will have to submit their water assessments by 2002. This option would not be substantially impacted by preparing a source water assessment and protection plan at this time. The source water assessment and protection plan would be prepared when the California requirements become effective and during the permit process for this option. As noted on page 1-15 and 1-16 of the Draft SEIR, the wells would have to be tested to ensure that water quality meets DHS approval. Page 2-17 of the Draft SEIR presents a mitigation measure consisting of treatment of the well water as necessary to meet all applicable health standards.

As it pertains to the reject waste stream resulting from the treatment of San Joaquin River water (i.e., the treatment of total dissolved solids, nitrates and pesticides) for use as a potable water source, the waste stream would consist primarily of solids collected in the clarifier and waste backwash flow from the filters. San Joaquin River water would be handled on-site, as well. Residual dried materials would be disposed of at local landfills. These waste stream materials are typically transferred by truck. The Department of Health Services will review and approve the engineering plans.

The 1992 Diablo Grande EIR addresses a water treatment facility to accommodate river water. However, the potential impacts associated with a water treatment plant treating Turlock Irrigation District (TID) groundwater, which has a higher TDS percentage as compared to the CVP or the San Joaquin River water, was not considered in the 1992 EIR. Refer to TID water treatment discussion below in the section titled *Modifications to the Draft SEIR* (reference page 2-97) for additional information pertinent to this comment.

The use of "reject" water from a groundwater treatment system for landscape irrigation is not proposed at Diablo Grande.

2. This comment states that the health hazards associated with the use of water from the State Water Project (SWP) for the Berenda Mesa Water District and the Bravo Management Company options should be discussed.

Since the SWP is a source of water for a majority of California's population, its water quality and its water treatment requirements are well known. The numerous public water supply agencies that use SWP water all successfully treat this water to meet drinking water standards. As noted by State DHS comment number seven, SWP water can be economically treated to provide a safe source of drinking water. Page 1-44 of the Draft SEIR notes that approval of the water treatment plant by Department of Health Services would be required for the Berenda Mesa Water District option. This same approval would be necessary for the Bravo Management Company option.

The treatment process proposed for SWP water would be by conventional treatment process. The major treatment process elements would consist of primary disinfection, upflow adsorption clarification, mixed media filtration, and secondary disinfection. Provisions to add ozone treatment in the future to treatment facilities would be included with the design of the treatment plant to provide flexibility to address more stringent future disinfection regulations.

As it pertains to the "reject" waste stream, refer to the new discussion of water treatment below in the section titled *Modifications to the Draft SEIR* (reference page 2-97) for additional information pertinent to this comment.

3. This comment says that the report should acknowledge the threat of high nitrate levels, and should not ignore the associated health effects.

As stated on pages 2-29 through 2-31, the report does recognize that several constituents in the groundwater, including nitrate, exceed drinking water standards. As stated on page 1-36 of the Draft SEIR, the appropriate treatment would be installed to ensure that the supplied water meets all drinking water standards, thereby mitigating any health effects. Page 1-4 of the Draft SEIR notes that approval of the water treatment plant by the State Department of Health Services would be required.

4. This comment states that the health hazards associated with groundwater contaminants for the Shallow County Groundwater alternative and mitigation measures should be discussed. The commenter also requests discussion of reject streams from treatment units.

As stated on page 1-36 of the Draft SEIR, a treatment plant capable of addressing the groundwater contaminants associated with extraction of Shallow County Groundwater would be constructed as part of the water system. This treatment plant would provide domestic water that meets all drinking water requirements. Therefore, there would be no health hazards resulting from the use of the Shallow County Groundwater.

As it pertains to the "reject" waste stream as a result of water treatment, refer to the discussion of water treatment below in the section titled *Modifications to the Draft SEIR* (reference page 2-97) for additional information pertinent to this comment.

5. This comment raises the issue of the use of the San Joaquin River as a source of drinking water given that the river includes municipal wastewater discharges, industrial discharges, urban runoff, and agricultural spill.

It is recognized that the water quality of the San Joaquin River is not potable, and would require treatment to ensure that the delivered drinking water meets all drinking water standards. Microfiltration and ozone treatment could address the water treatment requirements and provide a high quality water.

The treatment facility would consist of either a complete conventional treatment plant followed by granulated activated carbon (GAC), or a membrane filtration plant. If this water supply alternative were selected, the best combination of treatment process components would be defined during the predesign phase. Department of Health Services would have to define the level of treatment required for this source of water and approve the treatment process. The project applicant proposes to develop a water treatment facility on the Diablo Grande site to handle all imported water.

6. It is recognized that a watershed sanitary survey is required by the Surface Water Treatment Rule as part of the permitting of water treatment plants. A watershed sanitary survey of the San Joaquin River would be done by the project applicant when the treatment plant permitting process is started, and prior to the design of the treatment plant. The watershed sanitary survey would then be used by DHS to help define the required level of treatment performance for a water treatment plant using the San Joaquin River as a water supply source. Refer to response to comment 5 above for information regarding treatment and the new water treatment discussion below in the section titled *Modifications to the Draft SEIR* (reference page 2-97) for additional information pertinent to this comment.

A previous watershed sanitary survey already done on the San Joaquin River watershed for the SWP (Brown and Caldwell 1990) makes it clear that the water quality of the San Joaquin River is not potable without treatment. No new information which would materially impact this project would result from preparing another watershed sanitary survey at this time.

7. This comment states that it is the policy of the Drinking Water Program that water for domestic use should be taken from the best available source, and that the Berenda Mesa Water District and Bravo Management Company water from the SWP would be acceptable sources.

It is understood that water diverted from the SWP would provide better raw water quality, and would probably have the most economical treatment method because of its cleaner characteristics.

8. This comment discusses the treatment of Shallow County Groundwater and the benefits of a combination of Shallow County Groundwater and SWP water. One or both of these alternatives are viable sources of drinking water supply. The comment is noted.

9. This comment states that Algal Turf Scrubber effluent would be acceptable as a drinking water source if it is allowed to flow into the Delta and, subsequently, wheeled to Diablo Grande's turnout on the California Aqueduct, because it would then have the characteristics of SWP water. If the Algal Turf Scrubber effluent were to be diverted from the SWP near Diablo Grande, it is recognized that the water treatment plant would be more economical in comparison to a diversion from the San Joaquin River, because of the lower TDS contained in SWP water. However, this option, as described in the Draft SEIR, is based on a diversion from the San Joaquin River approximately 1,000 feet downstream of the effluent discharge pipe, and would have the level of treatment necessary to make it safe for domestic consumption, per state requirements. Though this proposed diversion is more direct, treatment costs may be greater than if the water where "wheeled" via the Delta and then through the SWP.

10. This comment states support for the use of algal turf scrubber effluent for landscape irrigation and other non-drinking water uses only if not intermingled with river water. It is feasible to use this source of water, with adequate treatment and intermingling as a potable water source, as discussed in response to comment 9 above.

11. The commenter is referred to response to comment 1 above.

12. This comment states that potential contamination to the Frog Pond Well and Well No. YF-6 should be assessed and that a watershed sanitary survey of Salado Creek would be necessary. These assessments and the sanitary survey would be done during the initial predesign of this option. Page 2-17 of the Draft SEIR presents a mitigation measure consisting of treatment of the well water as necessary to meet all applicable health standards.

Letter 5, Page

San Joaquin Valley
Unified Air Pollution Control District

Fax Transmittal

4230 Kiernan Avenue, Suite 130
Modesto, California 95356
Phone (209) 545-7000 Fax (209) 545-8652

Date : March 18, 1998

To : Kirk Ford, Senior Planner **Fax Number :** (209) 525-5911

From : Tracy Roemer Bettencourt **Number of pages (including cover sheet):** 5

Description : Comments regarding Diablo Grande Specific Plan and Phase 1 Preliminary Development Plan: Water Resources Plan

- [ ] Per Your Request
- [ ] Per Our Conversation
- [ ] Take Appropriate Action
- [ ] Please Answer
- [x] For Your Information
- [ ] For Your Approval
- [ ] Review & Comment
- [ ] Review & Return

- [x] Original transmittal will follow via mail

Remarks / Response : Please feel free to contact me if you have any questions.

FAXTSMTL_XLS(rev. 2/1996) 3/18/98 3:56 PM

Letter 5, Page 2

San Joaquin Valley Unified Air Pollution Control District

March 18, 1998

Kirk Ford, Senior Planner
Stanislaus County
Department of Planning and
Community Development
1100 "H" Street
Modesto, CA 95354

SUBJECT: DIABLO GRANDE WATER RESOURCES PLAN – EXECUTIVE SUMMARY TO THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

Dear Mr. Ford:

The San Joaquin Valley Unified Air Pollution Control District has reviewed the proposed project and offers the following comments:

The San Joaquin Valley's air quality has been designated nonattainment by the EPA and by the Air Resources Board (ARB) for O_3 (ozone) and PM-10 (fine particulate matter, dust). The Federal Clean Air Act (CAA) and the California Clean Air Act require areas that are designated nonattainment to reduce emissions until standards are met.

Based on the information provided, it appears that several options for bringing water to the Diablo Grande development are being explored. These options include installation of a water conveyance system. As indicated on page 58 in the section "Water Conveyance Impact – Air Quality" there are three elements generally involved in the installation of the system: trenching, backfilling and materials delivery. These activities generate PM-10 and ozone precursor emissions. The final paragraph in this section indicates that these activities are insignificant and no mitigation is warranted. Please note, however, **this project is subject to District Regulation VIII** (Fugitive Dust Prohibitions). The purpose of Regulation VIII is to reduce the amount of fine particulate matter (PM-10) entrained into the ambient air from man-made sources. The attached Synopsis highlights many of the requirements contained within Regulation VIII. The Synopsis is not meant to be all inclusive, but it can be a useful compliance aid in the field and office alike.

David L. Crow
Executive Director/Air Pollution Control Officer
[illegible] Street, Suite 200 • Fresno, CA 93721 • (209) 497-1000 • FAX (209) 233-2057

Northern Region
4230 Kiernan Avenue, Suite 130 • Modesto, CA 95356
(209) 545-7000 • Fax (209) 545-8657

Central Region
1222 Fulton Street, Suite 200 • Fresno, CA 93721
(209) 497-1000 • Fax (209) 233-2057

Southern Region
2700 M Street, Suite 275 • Bakersfield, CA 93301
(805) 862-5200 • Fax (805) 862-5201

Letter 5, Page 2

Stanislaus County
Diablo Grande Water Resources Plan

March 18, 1998
Page 2

Thank you for the opportunity to comment. If you have any questions, please feel free to contact me at (209) 545-7000.

Sincerely,

Tracy R. Bettencourt

Tracy Roemer Bettencourt
Environmental Planner
Northern Region

APCD REF # 980054

c. Stanislaus County
Environmental Review Committee
1100 "H" Street
Modesto, CA 95354

Letter 5, Page 4

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT
Regulation VIII Fugitive Dust/PM_{10} Synopsis

Rule 8010 Administrative Requirements		
Section	**Applicability**	**Requirements/Implementation**
2.0	*Applicability:* This regulation applies to specified outdoor man-made sources of fugitive dust for the purpose of attaining health-based standards for fine particulate matter (PM_{10}). Effective Date of Regulation VIII Rules: December 10, 1993. (For the purpose of this regulation *visible dust emissions* is defined as: visible dust of such opacity as to obscure an observer's view to a degree equal to or greater than an opacity of 40% (40%), for a period or periods aggregating more than three minutes in any one hour, except as set fourth in Rule 8030, 5.1.)	
4.0	*Exemptions: (All Regulation VIII Rules)* Actions required by law to protect the environment; current District permitted activities with PM_{10} control measures greater than or equal to this regulation; public health & safety emergency operations lasting less than 30 days; vegetative reduction required by a Federal, State or local agency for fire prevention; and activities conducted above the elevation of 3000 feet, or during freezing conditions.	
5.1	Chemical Stabilizing Agents.	Must meet ARB/EPA acceptability and air/water quality standards.
5.4	Dust Palliative and Asphalt Paving.	Shall comply with other applicable District Rules (i.e. Rule 4641)
Rule 8020 Construction, Demolition, Excavation, Extraction		
2.0	*Applicability:* Any construction, demolition, excavation, extraction, water mining related disturbances of soil, and the initial construction of landfills prior to commencement of landfill operations.	
4.0	*Exemptions:* Land preparation for agriculture; activities approved prior to the effective date of this Rule; blasting activities; maintenance or remodeling activities of less than 10,000 square feet or 50% of building area; renovation of ground water recharge basins; and solar drying & harvesting of sedimentary calcium carbonate precipitates. Compliance with Section 5.1 of this rule is not required where soil moisture or natural crusting is sufficient to limit visible dust emissions.	
5.1	All disturbed areas of a construction site, including storage piles, not used for seven or more days.	Effective stabilization of visible dust emissions (40%) utilizing water, chemical stabilizer/suppressant, or vegetative ground cover.
5.2	On-site unpaved roads and off-site unpaved access roads.	Effective stabilization of visible dust emissions (40%) utilizing water, or a chemical stabilizer/suppressant.
5.3.	Land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities.	Effective control of fugitive dust emissions utilizing the application of water, or by presoaking.
	Operation of wrecking balls or wrecking equipment.	All exterior surfaces of a building up to six stories in height shall be wetted during demolition.
5.4	Public paved roads, shoulders, and access ways adjacent to the site.	Limit or promptly remove any accumulation of mud or dirt. Recommended use of paved aprons, gravel strips, or wheel washers. The use of blower devices for the removal of accumulations is prohibited. The use of dry rotary brushes is prohibited, except where preceded or accompanied by wetting to limit dust emissions.
Rule 8030 Storage, Handling and Transport of Bulk Materials		
2.0	*Applicability:* Outdoor handling/storage of bulk material emitting visible dust. Additional requirements may apply if compliance with this Rule requires the installation or modification of equipment under existing District permit.	
4.0	*Exemptions:* Conditions where moisture content of the material is sufficient to limit visible dust emissions; agricultural harvesting, open air drying, handling or storage of baled, cubed, pelletized, long-stemmed or pre-cleaned material; timber harvesting; dust free materials; materials less than 250 cubic yards; and materials subject to damage by wetting.	
5.1	Transport of bulk materials in an outside area for a distance of twelve feet or greater with the use of a chute or conveyor device.	Chute/conveyer must be fully enclosed, or spray equipment wets materials to limit visible dust emissions (20% opacity) as defined in District Rule 4101-Visible Emissions, or materials conveyed are washed, separated, or screened to remove PM_{10}.
5.2	Materials transported by vehicle, except on site.	Requirements of Rule 8020, 5.4 apply. Wet material to limit visible dust emissions (40%), or provide at least six inches of freeboard space from the top of the transport container, or cover the container.
5.3	Outdoor storage of materials greater than 250 cubic yards.	Effective stabilization of visible dust emissions (40%) utilizing water, or a chemical stabilizer/suppressant within seven days after the addition or removal of materials.

Letter 5, Page

2.0	*Applicability:* All operational landfill sites, landfill closure activities, and activities conducted at closed landfill sites which disturb surface soils covering an area of more than one acre.	
4.0	*Exemptions:* Landfills where active disposal and excavation areas disturb less than one acre of soil.	
5.1	Construction of a landfill site.	Requirements of District Rule 8020 and the California Code of Regulations (CCR) Sections 17659 and 17706 apply.
5.2	Adjacent public paved roads, shoulders & access.	Rule 8020, 5.4 applies.
5.2.1	Interior roads of the landfill site.	Landfill roads connected to off-site adjacent paved public roads must be paved for a sufficient distance to allow mud and dirt accumulation to drop off. Sufficient cleaning of interior roads to limit carry out onto the off-site public roads. The use of blower devices for removal of accumulations is prohibited. Use of dry rotary brushes is prohibited, except when preceded or accompanied by sufficient wetting.
5.4	Storage of construction vehicles, equipment, and materials.	Rule 8070 applies.
6.1	Operators of landfill disposal sites and operations required to submit reports to the California Integrated Waste Management Board (CIWMB) in compliance with CCR 17616.	Provide a copy of each report to the SJVUAPCD within 30 days from the date transmitted to the CIWMB.
Rule 8060	**Paved and Unpaved Roads**	
2.0	*Applicability:* Any paved, or unpaved public or private road, street, highway, freeway, alley, way, access drive, access easement, or driveway constructed or modified after the effective date of this Rule.	
4.0	*Exemptions:* Easements and roads providing access for not more than ten residences; paved roads less than three miles in length, and unpaved roads less than ¼ mile in length; agricultural access roads; roads which have been approved, or for which construction bids have been awarded, prior to the effective date of this Rule; gated roads owned by a public agency, special district, or public utility; road maintenance and resurfacing activities.	
5.1.1	New construction, modifications, or approvals of paved roads with projected average daily vehicle trips of 500 vehicles or more.	Comply with American Association of State Highway and Transportation Officials (AASHTO) guidelines for the width of shoulders and median shoulders. Additional requirements, exemptions or alternative compliance measures may apply.
5.2	Construction and use of new unpaved roads.	At least 50% of the length of the new road surface is controlled by application of chemical dust suppressant/stabilizer, or the entire surface is controlled by application of water at least one time per week as necessary, or at least 25% of the length of the new road is paved and maintained.
6.1	Government Agencies having jurisdiction over publicly maintained paved roads open to public access.	Require preparation and submittal of a written report to the SJVUAPCD documenting compliance with the provisions of this Rule. Initial report prepared for the year 1994 and biennially thereafter. Additional requirements apply.
Rule 8070	**Parking, Shipping, Receiving, Transfer, Fueling and Service Areas**	
1.0	*Applicability:* All unpaved vehicle and/or equipment parking areas, fueling and service areas; and shipping, receiving, and transfer areas which are of one acre or larger in size.	
3.0	*Exemptions:* Activities described above which are conducted on sites less than one acre in size; agricultural activities; timber harvesting activities; and exposed surfaces of lake and river beds.	
4.1	On days the area is used.	Application of either water at least once daily, a chemical dust suppressant/stabilizer in accordance with manufacturer's recommendations for road applications, or gravel to the entire surface.
4.2	Public paved roads, shoulders, and access ways adjacent to the site.	Rule 8020, 5.4 applies.

For additional information please contact the compliance division of your nearest District regional office:

Northern Region
4230 Kiernan Avenue, Suite 130 Modesto, CA 95356
(209) 545 7000

Central Region
1999 Tuolumne Street, Suite 200 Fresno, CA 93721
(209) 497-1100

Southern Region
2700 M Street, Suite 275 Bakersfield, CA 93301
(805) 861-3682

Response to Letter 5

1. The commenter inadvertently refers to page 58 in the Draft SEIR. The correct page reference should be 2-96. The text of the air quality section of the Draft SEIR has been amended to reflect the comment. Refer to the *Modifications to the Draft SEIR* section (reference page 2-96) for additional information pertinent to this comment. The commenter points out that SJVUAPCD Regulation VIII would be required to be implemented. The Diablo Grande proponent will incorporate as part of any construction documents pertinent to a new water supply option, a requirement to reduce the particulate emissions to the lowest level possible through dust control measures prescribed by the SJVUAPCD. Measures would include watering of construction areas with exposed soils, covering of haul trucks and covering inactive storage piles.

SAAG

Letter 6

Stanislaus Area
Association of Governments

1025 Fifteenth Street Modesto, CA 95354
Telephone (209) 558-7830 FAX (209) 558-7833

RECEIVED
FEB 20 1998
DEPT.

February 18, 1998

Kirk Ford, Senior Planner
Stanislaus County Planning and Community Development
1100 "H" Street
Modesto, CA 95354

RE: Draft SEIR, Diablo Grande Specific Plan and Phase 1 Preliminary Development Plan: Water Resources Plan

Dear Kirk:

Thank you for giving SAAG the opportunity to review the above referenced project. As you are aware, SAAG reviews referrals for conflicts with the Regional Transportation Plan (RTP), the Stanislaus County Regional Expressway System, the Regional Bicycle Transportation Master Plan, and the Congestion Management Plan. Our review of this project did not identify any conflicts or concerns with respect to these plans and programs.

Thank you for the opportunity to review this project.

Sincerely,

AUDREY C MILLS
Assistant Planner

c/f: land use (Stanislaus Co)
Refer S-32

JURISDICTIONS: City of Ceres, City of Hughson, City of Modesto, City of Newman, City of Oakdale, City of Patterson, City of Riverbank, City of Turlock

Response to Letter 6

1. The commenter's review of the water resources plan for Diablo Grande did not identify any conflicts or concerns with respect to plans or programs of the Regional Transportation Plan, Stanislaus County Regional Expressway System, the Regional Bicycle Transportation Plan, and the Congestion Management Plan. Therefore, no further response is necessary.

Letter 7

From: BRETT WYCKOFF <BWYCKOFF@envres.org>
To: "'fordk@mail.co.stanislaus.ca.us'" <fordk@mail.co....
Date: 2/20/98 10:06am
Subject: comments on Diablo Grande hydrologic model

Kirk:

I looked through the Hydrologic Consultants, Inc. January 19, 1998 hydrologic modeling report. It looks like a comprehensive effort that should address most of the aquifer impact questions of the shallow groundwater option. However, I did note the following items that should have been addressed and were omitted.

1) The report should have been signed and stamped by a California licensed geologist or engineer responsible for the work.

2) A report of any groundwater model should include the actual parameters used in the model. The report includes the three dimensional transport equation used in the model, but the actual parameter values are missing. An existing model was modified for this study, and I do not know whether that model has been accepted by outside parties and is accurate in describing the groundwater basin in question. Is there another report on the original model, containing the missing parameter information, available for public evaluation?

CC: BRYAN KUMIMOTO <BKUMIMOTO@envres.org>

Response to Letter 7

1. The commenter requests that the hydrologic report be signed and stamped by a California licensed geologist or engineer responsible for the report. The report can be signed. However, the lack of a signature or stamp does not change the content of the report or diminish its value as a document to be used as a basis of analysis.

2. There was a concern that the actual parameter values were not contained in this report. Those parameter values are now available from TID, the Stanislaus County Planning Department and the Stanislaus County of Environmental Resources.

Letter 8, Page 2

Diablo Grande SEIR
March 16, 1998
Page 2

1 cont'd

3. The waste water from water treatment can be blended with another water source to dilute waste water to a reusable quality for landscape irrigation

Algal Turf Scrubber (Option 3-1)

2

1. The negative declaration for this option did not review the impacts as a potential drinking water supply A watershed sanitary survey needs to be done to address health concerns with this water source

Listed below are possible mitigation measures for the above listed impacts

1. The exchange of water rights from the algal turf operation for an alternate water source

Shallow County Groundwater (Option 4)

1. The Well Monitoring Plan for the impact of reduced groundwater levels should include the monitoring of groundwater quality

3

2. The impact of aquifer degradation from the mixing of shallow aquifer with upper aquifers needs to be addressed

Listed below are possible mitigation measures for the above listed impacts

1. Include monitoring of water quality as part of the Well Monitoring Plan.

2. The impact of aquifer degradation from mixing of poor shallow aquifer with upper aquifer can be addressed through construction criteria for new wells and the proper destruction of abandoned water wells

Response prepared by

REG ENV HEALTH SPECIALIST Date March 18, 1998

BRYAN KUMIMOTO
Division of Environmental Health

sa
cc ERC

Letter 8, Page 1

Stanislaus County

Department of Environmental Resources

1716 Morgan Road
Modesto, California 95358-9494
FAX# (209) 525-4163
(209)
525-4154
DEH FAX 525-4198

TO STANISLAUS COUNTY PLANNING & COMMUNITY DEVELOPMENT
1100 "H" STREET
Modesto, CA 95354

FROM: DEPARTMENT OF ENVIRONMENTAL RESOURCES

RE: S.E.I.R. Review Comments

PROJECT TITLE DIABLO GRANDE

PROJECT LOCATION OAK FLAT ROAD, PATTERSON

PROJECT DESCRIPTION: DIABLO GRANDE WATER RESOURCES PLAN: DRAFT S.E.I.R

Based on this agency's particular field(s) of expertise, the following list of impacts need to be addressed by the S.E.I.R.

On-Site Groundwater Option (2-1)

1. The impact of the original frog pond well with the replacement frog pond well needs to be addressed in the following area

   A. The safe pumping yields from the alluvial formation for the frog pond replacement well did not take into account the pumping from the original frog pond well

2. The impacts of water treatment systems waste water need to be addressed

3. The lithologic logs for borings YF-8 and YF-9 appear to indicate the presence of petroleum hydrocarbons in sandstone and silty-sandstone units Water was present at the same interval in some instances, and Well YF-8 was screened across a sandstone unit (200-230 feet) containing oil These wells will serve as a conduit to contaminate other aquifers and should be properly destroyed

Listed below are possible mitigation measures for the above listed impacts

1 The destruction of original frog pond well

2. The implementation of a well monitoring program to monitor groundwater levels, pumping rates and water quality

Response to Letter 8

1. This comment addresses impacts from the frog pond well, the water treatment systems waste water, and the presence of hydrocarbons in borings YF-8 and YF-9, resulting in the need to destroy wells. As it pertains to the frog pond replacement well pumping, this issue is discussed on page 2-14 and 2-15 of the Draft SEIR. Furthermore, the Draft SEIR states (on page 1-15, second paragraph) "approval of any of these wells for use as domestic supply will first require the approval of an appropriate amount of capacity by the State of California Department of Health Services. As part of this state review process, DHS has required that the wells be pumped for a seven-day period in September, which is considered to be the driest period of any year". The original frog pond well will be destroyed to meet the state and county requirements.

As it pertains to the wastewater stream from water treatment systems, this issue has been addressed previously. Refer to response to comments 1 and 5 in Letter 4 (State Department of Health Services) and the wastewater discussion contained below in the section titled *Modifications to the Draft SEIR* (reference page 2-97) for additional information pertinent to this comment. As it pertains to contamination, the WHWD will destroy all wells indicated by the County of Stanislaus Department of Environmental Resources to be a potential source of contamination. Western Hills Water District will work with the state and Stanislaus County to address all water quality concerns.

As it pertains to a well monitoring program, mitigation 4 in the Draft SEIR provides such mitigation. Also, refer to the amended language in mitigation 4 in the section titled *Modifications to the Draft SEIR* (reference page 2-76) for additional information pertinent to this comment.

As it pertains to blending wastewater from water treatment, this approach will be used where necessary by the WHWD. Such blending will require approval of the California Department of Health Services and has been discussed previously in response to comments 5 and 9 in Letter 9 (State Department of Health Services) for additional information pertinent to this comment.

2. The algal turf scrubber option includes the use of appropriate water treatment technology to treat the San Joaquin River water supply to meet drinking water standards, as described in response to comment 5 in Letter 4 (California Department of Health Services). A watershed sanitary survey would be completed as part of the permitting process for the water treatment plant for this option, if it were selected. For additional discussion pertaining to a watershed sanitary survey, refer to response to comment 6 in Letter 4 (California Department of Health Services) for additional information pertinent to this comment.

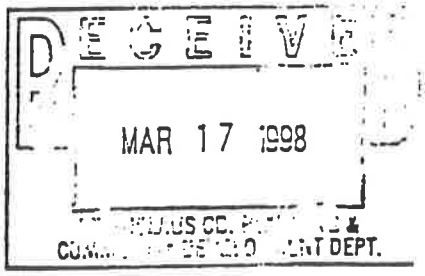
3. The concern regarding contamination of aquifers through mixing of the shallow and upper aquifers is addressed as a part of the Shallow County Groundwater option's monitoring of groundwater quality through implementation of mitigation 4. New wells would be constructed to specific standards to not allow

the mixing of shallow aquifer with upper aquifer waters. Refer to the amended mitigation 4 language in the section below titled *Modifications to the Draft SEIR* (reference page 2-76) for additional information pertinent to this comment. If required existing wells in the region would be abandoned in accordance with regulatory requirements to assure that contamination of the aquifers does not occur. Also, wells will not penetrate the Corcoran Clay layer.

Letter 9

City of Turlock
Municipal Services
P.O. Box 1526
Turlock, CA 95381

Dan Wilde
Support Services Manager
Phone No. (209) 668-5590
Fax(209) 668-5695
TDD No. 1-800-735-2929



March 13, 1998

Stanislaus County Planning Commission
Department of Planning and Community Development
1100 H Street
Modesto, CA 95354
Attn: Kirk Ford

Subject: Diablo Grande Water Resources Plan, Draft Supplemental Environmental Impact Report

Dear Mr. Ford:

The City of Turlock, TID and other agencies within the Turlock Groundwater Basin recently adopted an AB3030 Groundwater Management Plan. All of the agencies, including TID, adopted the same basic plan.

On page 11 of the plan (C. Water Balance/Safe Yield), it is noted that the groundwater basin is in overdraft. It further states: "For the Basin to be in balance, the outflows would have to be reduced by the amount of the overdraft; additional water would have to be imported into the Basin to compensate for the overdrafting; or a combination thereof." It would appear that the proposed export of groundwater on the west side of the groundwater basin will only serve to increase the existing overdraft within the basin. This needs to be addressed within the EIR.

Sincerely,

Dan Wilde

Dan Wilde
Support Services Manager

Response to Letter 9

1. The local agencies within the Turlock Groundwater Basin have been working together on groundwater management issues, and in the process developed the Turlock Groundwater Basin Groundwater Management Plan. The plan contains a great deal of information about the basin's geology, urban development, current and projected future water usage, etc.

The plan states that "It is not atypical in the San Joaquin Valley to have varying levels of water supply to different areas within a groundwater basin. This is the condition within the Turlock Groundwater Basin where the absence of surface supplies on the east side of the basin has resulted in concentrated pumping to support irrigated agriculture. Overdraft on the east side of the basin is the result. Simultaneously, groundwater surplus exists in the western portion of the basin, and pumping occurs for the maintenance of groundwater levels rather than for water supply purposes" (Turlock Groundwater Basin Groundwater Management Plan, page 11). Based on this groundwater management, the transfer of water is in conformance with the groundwater management plan.

The water considered as a potential source of supply for this project is located on the western side of the basin where there have been historically high groundwater levels. While the area of localized overdraft is located on the eastern side of the basin.

On the west side of the basin, the TID currently pumps drainage water to lower groundwater levels and uses it as much as possible for irrigation purposes. In order to use the water on the western side of the basin to help recharge the eastern area, a new pumping and piping system would need to be installed to transport the water to the east.

Letter 10, Page 1

TURLOCK IRRIGATION DISTRICT
333 EAST CANAL DRIVE
POST OFFICE BOX 949
TURLOCK, CALIFORNIA 95381
(209) 883-8300

March 18, 1998

Mr. Kirk Ford
Stanislaus County
Department of Planning and Community Development
1100 H Street, Second Floor
Modesto, CA 95354

RE: Comments on the Diablo Grande Water Resources Plan - Draft Supplemental Environmental Impact Report, dated January 27, 1998

Dear Kirk:

Thank you for the opportunity to review the Diablo Grande Water Resources Plan - Draft Supplemental Environmental Impact Report. The following pages contain the Turlock Irrigation District's comments on the draft report.

General Comments:

1. No analysis or discussion has been offered as to the impact, if any, the Shallow County Groundwater alternative may have on the contribution the current high water table may have as a subsurface irrigation source for existing crops. This issue should be examined.

2. The mitigation measures described in the Draft Supplemental Environmental Impact Report should include specific processes and procedures needed to mitigate the potential project impacts, including establishing responsibilities, and specific actions to be followed.

3. All the costs involved with studying and implementing the mitigation measures should be the responsibility of the developer or its successor.

4 **S-18 Water Supply Impact - Hydrology - Second line:** Groundwater levels as a result of the project are anticipated to drop approximately 18 to 20 feet, according to the graphs presented in the report. Therefore, it is suggested that the sentence be changed to read: "Groundwater levels,

Letter 10, Page 2

TID Comments on the Draft SEIR
March 18, 1998
Page 2

as a result of the project, are anticipated to drop approximately 18 - 20 feet at the center of the well field..."

5 **S-18 Mitigation Measure 4 - First Paragraph - Second Sentence:** The groundwater modeling shows that due to the project pumping, groundwater levels are anticipated to drop. It would be appropriate to assume that as a result of the drop in groundwater levels, there will be a reduced need for drainage pumping in the project area. However, the second sentence is too broad a statement, it is suggested that the sentence be changed to read: "Groundwater pumping by the Diablo Grande project would reduce the need for drainage pumping in the project area."

6 **S-18 Mitigation Measure 4 - Second Paragraph:** The mitigation program should be established to protect not only the existing wells, but also future wells installed within the project area prior to project completion. For example, if a future private well is installed within the project area and a project well is later installed near that well, and it is shown that the private well is impacted by the project pumping, the private well should be covered by the mitigation program.

7 **S-18 Mitigation Measure 4 - Paragraph "a":** The described well inventory needs to have a provision in it that ensures that any future wells drilled within 2 miles of the center of the well field will be incorporated into the well inventory and monitoring plan (described in paragraph "b").

8 **S-19 Mitigation Measure 4 - Paragraph "d" - 4th sentence:** The report states that "As an alternative, pumping could be reduced in some wells, while increasing pumping in another project well." This mitigation measure needs further review and discussion. The project installation schedule, and total number of wells anticipated for the project are based on the maximum monthly water supply needs for the development. There may not be the pumping capacity available to implement this option.

9 **S-18 and S-19 Mitigation Measure 4:** The mitigation measure establishes a well inventory and monitoring plan to "determine if an impact to a well or wells is occurring and determine if the impact is the result of the proposed groundwater pumping from the well field." It also specifies that if the "impacts are the result of the proposed project's groundwater pumping, then certain mitigation measures would be triggered to offset those impacts." In addition to the above mitigation measures, there needs to be some type of review procedure established so that if a property owner feels that the project pumping has impacted his well, even though the monitoring plan did not identify that well as being impacted by the project, there is a clear process to address the issue.

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10 **S-20 Mitigation Measure 5 - last two lines:** The example measure of "diverting agricultural drainage runoff from adjacent fields to the affected section of the drain" is not practical nor desirable from a water management standpoint. It is recommended that the last two lines be amended to read: "drain channel from Lateral 5 ½, or temporarily curtailing upstream tailwater recovery systems in the Prairie Flower Drain."

11 **S-21 Mitigation Measure 6a:** It is recommended that the first sentence be revised to read: "An adaptive management program shall be implemented to offset the project impacts to San Joaquin River flow, as predicted by the hydrological model, and verified by monitoring of appropriate measuring gages and of the project area, for a 30-day period between April 1 and May 15, and a 30-day period between October 1 and November 15." While the model represents the groundwater hydrology of the project area, it is only a model and the actual surface water and return flow conditions in the project area could differ during the periods in question. Gage and visual monitoring are recommended to verify actual conditions within the project area.

12 **S-22 Mitigation Measure 6 - Option 2 "Increase in Project Groundwater Pumping":** This option needs further review and discussion. The project well installation schedule, and total number of wells anticipated for the project are based on the maximum monthly water supply needs for the development. Therefore, the excess pumping capacity needed to implement this option may not be available. In addition, as the project reaches full build out, the projected potential impacts to the river increase, while the projected groundwater levels decrease. The potential impacts to the groundwater levels and the river flows, as a result of this option, should be examined.

13 **S-22 Mitigation Measure 6 - Option 3 "Reduction in Project Groundwater Pumping":** Although there is a correlation between groundwater pumping and the accretions to the river, the amount of time it takes for a reduction in pumping to result in increases in river accretions is unknown. This option should be examined to determine the reaction time, and the resulting impacts to river flows.

14 **S-22 Mitigation Measure 6 - Option 4 "Release of Groundwater from Other Areas of the TID":** This option should be examined to determine the impacts to the groundwater levels in the other areas, as well as to the District's operations.

15 **S-22 Mitigation Measure 6a - last paragraph - 9th line:** There may be other increases in flow requirements along the Merced River in addition to the projected VAMP agreement flows. Therefore, it is recommended that the words "scheduled Merced River pulse flow releases under the pending VAMP agreement" be deleted and that "projected increased Merced River flows resulting from VAMP and other processes" be substituted.

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16 **2-49 Impacts to Prairie Flower Drain - 2nd sentence - 4th line:** For clarity, it is recommend that the sentence be changed to read: "... for a location approximately one-third of a mile (upstream) of the crossing with the Lateral 5 ½ spill."

17 **2-50 Impacts on Groundwater Levels - 3rd paragraph - 2nd line:** According to the graphs presented in the report, the groundwater levels are anticipated to drop an additional 18 to 20 feet due to the project pumping. Therefore, it is recommended that the sentence be changed to read: "Groundwater levels, due to the project, are anticipated to drop an additional 18 to 20 feet at the center of the well field..."

18 **2-76 Mitigation Measure 4:** Same comments as listed above for Mitigation Measure 4 on pages S-18 and S-19.

19 **2-83 Project Analysis - 2nd paragraph - 4th line:** The groundwater modeling shows that due to the project pumping, groundwater levels are anticipated to drop. It would be appropriate to assume that as a result of the drop in groundwater levels, there will be a reduced need for drainage pumping in the project area. It is suggested that the sentence be changed to read: "Pumping of the project wells would also reduce the need for continued drainage pumping to lower groundwater levels in the project area."

20 **2-86 Mitigation Measure 5:** Same comments as listed above for Mitigation Measure 5 on page S-20.

21 **2-87 and 2-88 Mitigation Measure 6:** Same comments as listed above for Mitigation Measure 6 on pages S-21 and S-22.

Thank you again for the opportunity to comment. If you have any questions regarding our comments, please do not hesitate to contact me at 883-8428.

Sincerely,

TURLOCK IRRIGATION DISTRICT

Debra C. Liebersbach. P.E.
Water Resources Analyst

Response to Letter 10

1. The commenter would like an assessment of the impacts associated with lowered groundwater tables on the viability of farming.

Current high water tables reduce farmers need for irrigation water because of the proximity of groundwater to the root zones and capillary action, which brings water to the roots The high groundwater level is naturally occurring. In the context of there being no Diablo Grande groundwater pumping, and as urbanization and droughts occur, a lowering of groundwater tables in the region will occur (in the year 2028, the HCI report indicates that groundwater will drop approximately six feet at the center of the well field area and up to 12 feet at the perimeter of the well field area) and the space between the root zones of agricultural crops and the groundwater level will continue to increase. The reduced groundwater level will reduce the benefits of capillary action in providing moisture to crops. This may cause farmers to apply more water then they have historically applied to their crops. This would increase the cost of operating an agricultural business.

With pumping associated with Diablo Grande, the groundwater levels, as modeled, will drop an additional 19 feet lower than ambient conditions, which includes occasional drought conditions and increased water demand associated with urbanization.

As stated in the Draft SEIR (Table 8, page 2-73), the additional drop in groundwater elevation will be as much as 19 feet in the center of the well field and up to 2.1 feet two miles from the center of the well field. As the Draft SEIR explains, this drop in groundwater, by itself, is not considered to be a significant adverse environmental impact, and the Draft SEIR addresses (and provides mitigation measures for) the potential secondary environmental impacts of this drop (particularly, potential impacts to neighboring wells and loss of groundwater accretion).

As explained further in the following paragraphs, it is possible that, during dry years, the loss of capillary action to crops due to lowering groundwater levels will increase the amount of pumping farmers will need, and Diablo Grande pumping may incrementally contribute to this. This is considered to be an economic, rather than an environmental impact, and a comparatively small one. For example, pumping an additional 19 feet using a 1,000 gpm pump with an electric cost of $0.5 per kilowatt-hour, would result in $0.22 per hour cost. Diablo Grande pumping thus would not be expected to increase the cost of pumping so as to make existing agricultural uses uneconomic, and this potential economic impact thus would not be expected to result in secondary environmental consequences.

As it pertains to current water use in the TID, the typical crops grown within the proposed project area include corn, grains and sudan grass. The project area also contains extensive acreage in pasture land. According to the U.C. Cooperative Extension report entitled "Agricultural Water Management in a Dry Year" (April 1988), the estimated gross irrigation requirement for most of these crops range from 18 to 36 inches, with pasture requiring an estimated 68 inches.

The TID uses surface water and groundwater conjunctively. In wet years, more surface water is available and the need for pumping to irrigate crops is minimal. In dry years, groundwater is relied upon to supplement the available limited surface water supplies.

The TID has a two-tiered water pricing structure. Each year, depending on the water year and spring run-off, a water allotment for lands within the TID is established. Growers pay a water charge, based on their total acreage, for which they receive an allotment of water. Excess water, in addition to the established allotment, may be purchased on a per acre-foot basis.

Typically, the annual allotment is 48 inches per acre. In wet years, when more surface water is available, unlimited excess water is available for purchase. In dry years, when less surface water is available, the TID pumps groundwater to supplement the surface water supplies. As a result, the water allotment is typically less than 48 inches in dry years, with excess water available for purchase by local farmers to meet their crop's irrigation requirements. The increased cost between the normal allotment and the excess water helps cover the District's cost of pumping the additional water required to meet the total on-farm needs.

In most years, the TID has provided enough water in its standard allotment to meet the total crop water requirement for most crops grown within the proposed project area, with the exception of pasture, which typically uses more than the average 48 inch allotment. As a result, farmers growing pasture, regardless of their allotment, will need to purchase additional surface water.

With or without the project, the farmers within the proposed project area will receive the standard water allotment established for the entire TID with generally enough excess water available to meet their crop water requirements. The TID fully expects to continue to provide this level of water reliability to all growers within its boundaries.

2. The commenter addresses the need for greater level of detail pertaining to prescribed mitigations. The mitigation monitoring program addresses the comment. Please refer to Appendix A in this Final SEIR.

3. As indicated in the mitigation monitoring plan (Appendix A), the costs incurred associated with implementing mitigation measures will be the responsibility of Diablo Grande and its water purveyor.

4. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page S-18).

5. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page S-18).

6. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page S-18).

7. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page S-18).

8. Reducing pumping in some project wells, while increasing pumping in other project wells, is presented in the Draft SEIR as part of a mitigation measure (mitigation 4, page 2-76 of the Draft SEIR) to avoid impacting other non-project wells. The total number of wells currently planned for the project (i.e., ten) is based on the maximum month water supply needs, as described on page 1-23 of the Draft SEIR. Also, of the ten wells, one is a back-up well. Therefore, the option of shifting pumping from one well to another with only ten well available would not be possible during periods when all of the project wells are required to meet full build-out water demand.

The proposed well construction schedule presented in Table 2, page 1-24 of the Draft SEIR, indicates that wells would typically be constructed in phases so that total constructed pumping capacity would be ahead of the growth in demand, thus allowing pumping flexibility. Typically, the well field would have a total pumping capacity greater than the maximum month demand during most of the years in the planning period.

At buildout of the development, the number of wells, as presented in the Draft SEIR would be sized to have a pumping capacity equivalent to the maximum month demand. Therefore, during the month of maximum demand, from the year 2020 and afterwards, there would be no excess capacity available to be able to shift pumping from one well to another.

To provide ongoing flexibility to shift pumping between wells during the month of maximum demand (at project buildout and beyond), two additional wells would be provided in the year 2020. Therefore, a total of twelve wells would be constructed by the year 2020 within one of the well field areas selected by the TID and known as alignment A and B. These additional wells would be "redundant" wells to be used by the TID to provide flexibility in the system to address pumping related impacts to neighboring wells, thus allowing implementation of mitigation 4. This would not result in increased pumping, nor is it anticipated to change the loss of accretion to the San Joaquin River. These two wells would be installed within the well field project areas and would not create new impacts to the river.

9. In the event that a well owner is not satisfied with the conclusion that the proposed project well or wells are not impacting his or her well or wells, the well owners may seek redress through the TID Board. If this is not satisfactory to the well owner, then the well owner has the option to seek legal redress through the judicial system.

10. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page S-20).

11. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page S-21).

12. This option has been omitted from mitigation 6 because of potential impacts this option may have relative to the San Joaquin River, and because other sources of water discussed in the Draft SEIR are considered to have potentially less impacts and would be potentially more reliable for the short duration the water would be needed (i.e., 950 acre-feet for a 60-day period split between the spring and fall and then only during the dry or critical water years). Refer to the *Modifications to the Draft SEIR* section below for the amended language in mitigation 6 (Reference page S-22 and 2-87).

13. The request for a determination of the reaction time between a reduction in pumping TID groundwater and the resulting impacts to the river flows will be addressed through implementation of mitigation 6 (specifically, item "b"). Refer to the revised language in mitigation 6 in the *Modifications to the Draft SEIR* section (reference page 2-87).

14. One of the options contained in mitigation 6 presented on page 2-88 of the SEIR, is to discharge water to the San Joaquin River by releasing groundwater from other areas of the TID. As noted on page 2-88 of the Drat SEIR, this groundwater pumping would only be done in areas of the TID where groundwater remains substantially high. As stated on page 2-88, "if reduced project pumping, or increased project or drainage pumping is to be included as a component of this mitigation measure, a hydrological analysis would be required prior to implementation of this measure" Mitigation 6 has been amended to reflect that groundwater levels would be a consideration in the hydrological analysis.

15. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page S-22 and 2-87).

16. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page 2-49).

17. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page 2-50).

18. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page 2-76).

19. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page 2-83).

20. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page 2-86).

21. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page 2-87).

Letter 11

Del Puerto WATER District

RECEIVED MAR 20 1998 DEPT.

March 17, 1998

Kirk Ford, Senior Planner
Stanislaus County Planning Department
1100 "H" Street, 2nd Floor
Modesto, California 95354

Re: Diablo Grande Water Resources Plan - Draft Supplemental EIR Comments

Dear Mr. Ford:

These comments are submitted on behalf of Del Puerto Water District, a federal contractor of Central Valley Project water from the Delta-Mendota Canal ("District"). The District represents and provides water-related services to some 45,000 acres of highly productive agricultural land and over 200 landowners on the west side of Stanislaus. San Joaquin and Merced counties.

While it has never opposed the Diablo Grande project *per se* and would be willing to assist the County and Western Hills Water District in attempting to secure a viable water supply for the project, the District strongly opposes any use of the Marshall-Davis Well Site (Option 1) as a potential long-term water supply option for the development.

Groundwater on the west side of Stanislaus County has become an increasingly important resource as surface deliveries from the Delta-Mendota Canal have been reduced and are continuously in jeopardy as a result of fish and wildlife and water quality concerns in the Delta.

Through previous discussions with Diablo Grande proponents, an agreement was reached that groundwater pumping from the Marshall-Davis Well(s) would not be continued nor considered for this project after a five year period ending in 2001. The District and its landowners have acted in good faith to honor our part of this agreement. The District would oppose any attempt to increase the amount of pumping agreed to and/or extend the term through which such pumping can occur. Any such proposal would be seen as having a significant adverse impact on the local groundwater resource and would be subject to challenge.

Very truly yours,

William D. Harrison, General Manager
Del Puerto Water District

Response to Letter 11

1. As a condition of approval for the Diablo Grande project, the Marshall-Davis Wells were limited to providing no more than 1,200 acre-feet per year for a period not to exceed five years (ending 2001). Additional water after this date would not be considered according to the commenter. Furthermore, no residential use of the water is allowed. These constraints on this source of water were not related to any environmental impacts.

Separate from the contract issue, from an environmental perspective, it was determined by the project applicant that it is important to evaluate known viable water supply options that could supply water to Diablo Grande. Since this source is already being used, it was appropriate to include it as a part of the environmental review process, regardless of the current agreement's constraints.

Diablo Grande does not propose to use this source of water at this time beyond the current 5 year limit. The current agreement remains in effect. The Draft SEIR describes the environmental effects should the current agreement be modified in the future.

Letter 12, Page 1

SOUTH DELTA WATER AGENCY'S COMMENTS TO DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR THE DIABLO GRANDE WATER RESOURCES PLAN

SDWA submits the following Comments to the above-referenced project.

The Draft SEIR makes very little reference to the serious problems that exist on the San Joaquin River. Currently, the river experiences tremendous water quality and quantity problems. These problems when combined with the effects of the export pumps regularly threaten South Delta riparian diverters. Any change in historic flows will necessarily exacerbate these problems.

Operation of the CVP results in an average annual decrease of San Joaquin River flows of 555,000 acre-feet with 345,000 acre-feet of that decrease occurring between the months of April and September. In addition, the drainage from the CVP service area of the San Joaquin Valley contributes large amounts of poor quality water to the San Joaquin River (see the attached excerpts from the 1980 Report on the Effects of the CVP on the Southern Delta Water Supply attached hereto as Exhibit "A").

In light of this, the State Water Resources Control Board added certain conditions to the Bureau's New Melones permits. These conditions require it to release sufficient amounts of water from New Melones to maintain the water quality standard at Vernalis (see Exhibit "B"). The current standard is 0.7/1.0 EC (per WR95-6).

Historically, the Bureau budgeted only 70,000 acre-feet per year, an amount generally insufficient in below-normal, dry, and critical years. Last year, the Bureau

Letter 12, Page 2

adopted its Interim Operation Plan for New Melones (Exhibit "C"). This Plan budgets certain amounts of water for water quality purposes depending on year types. The budgeted amounts increase as the year types get wetter. This results in the largest amount being available in the years of least need. The surplus is not carried over for water quality purposes, rather it is carried over to allow for larger fishery releases in subsequent years.

1 Cont'd

The Bureau's own modeling (see Exhibit "D") estimates that under its current operations, it will fail to meet its permit requirements for water quality in 31 of 71 year types.

In some years and at some times, the San Joaquin River consists solely of return flows. That is to say, those flows consist of the drainage and/or runoff from other upstream users. In some years, the flow of the San Joaquin River is insufficient to satisfy its South Delta channel depletion requirements which include evaporation, riparian vegetation evapotransforation, and riparian diversions. Only with this as a background can one examine any particular project.

At this time, there are various ongoing processes which seek to improve flows in spring time and fall in order to benefit fishery populations. Since a finite amount of water enter the watershed each year, an increase in flows at one time will result in a decrease at some other time, excepting if there is a corresponding decrease in consumption or a recovery of water previously lost to beneficial uses.

Most project proponents to date conclude there is no effective resulting from their shifts in flows, but this is because they only examine short-term effects. Since 1997 and

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Letter 12, Page 3

1998 have been above-normal years, the project proponents conclude decreases are insignificant because sufficient water is flowing in the river.

However, the water being sold would have been stored not used in wet years. Absent a flood spill, that stored water would provide water for consumptive use in drier years and generate return flows. Those return flows provide important supplies to other downstream uses and users. With the sales, future dry year flows will be decreased. When this is combined with the Bureau's plan to budget insufficient amounts for water quality, severe impacts result.

1 Cont'd

Attached hereto as Exhibit "E" are modeling runs done by the South Delta Water Agency's engineer for sales on the Stanislaus River. As you can see, even relatively small sale amounts can adversely affect downstream quantity and quality in later years.

With this in mind, SDWA tries to closely monitor upstream projects but may change historic flow and use patterns. Unless otherwise specified, the references below correspond to the Sections of the DSEIR.

2 2.1 Does any of the applied water by Patterson Water District or West Stanislaus Irrigation District provide subsurface accretion to the San Joaquin River or any of its tributaries? If it does, could the additional groundwater pumping decrease that accretion even if the neighboring wells show no or little impact?

3 2.3 Do any of the analyzes done for the Patterson Agral Turf Scrubber indicate the effects on downstream water quality and quantity resulting from a decrease in 1,000 to 3,000 acre-feet? In below-normal, dry, and critical years, a decrease in flow of 3,000

acre-feet could be the difference between meeting the Vernalis water quality standard or not.

4 Doesn't the original Negative Declaration adopted by the City of Patterson need to re-examine these issues given the large number of other projects that now exist or are contemplated which will incrementally decrease flow and quality?

2.4 The shallow groundwater wells analysis raises similar questions. It is not clear how much the project will affect surface drainage from the Turlock Irrigation District system. The document tells us that historically pumps were used to lower the high ground water to facilitate irrigation. However, it is not clear what this amount is. Is

5 the 4,850 acre-feet referenced on page 2-48 (the maximum reduction in groundwater drainage pumping) also a decrease of that same amount to the river?

The document does state that the net gain to the San Joaquin River from subsurface accretions between the Merced and the Tuolumne is 27 CFS during summer months, but it merely mentions that "discharges from the TID drains add flow to the San Joaquin River."

It is difficult to compare Table 6 with Table 7. Table 6 tells us what the new flows are in particular year types and gives CFS flows. Table 7 gives specific years and does

6 not give CFS numbers. It is not clear whether the entire FERC flows in summer months are in addition to historic flows, or whether there were previous FERC flows in those months. Given a FERC flow of 50 CFS in summer months and an accretion to the river of 27 CFS, it would appear that any decrease becomes significant given those small

6 cont'd numbers. Figure 21 purports to show that the maximum impact to flows on the San Joaquin River is 5.74 percent. Since this is a quarterly average, we cannot tell the true effects in any particular year. Any average necessarily masks the highest and lowest by combining them. In order to determine what the effects on downstream quality might be, one must look at historical occurrences at relevant times.

7 If the Bureau budgets an insufficient amount of water for water quality purposes (as it currently intends to), any decrease in flow may be significant depending on when that occurs. For example, if in some year the Bureau's budgeting allows it to release only 10 CFS to maintain water quality in summer months, any decrease in upstream flows may result in a violation of the water quality standard. If the project may cause such an effect, it must mitigate that effect as a violation of a water quality standard is considered significant.

8 The drafters should look at historic needs for water quality flows and examine the effects of the project on those times of greatest need. Averaging results do not show the true picture; rather, they only hide the greatest effects.

9 In addition, the drafters should make it clear whether or not the lower surface drainage is in addition to the lower subsurface accretion to the river. That is to say, what is the total decrease to the San Joaquin River?

10 The document also states that the TDS of the upper aquifer might be elevated due to the project. Just because the change is small does not mean it is insignificant. Again, the question is what happens in times of greatest need under specific circumstances. An

10 Cont'd average increase of 29 TDS necessarily means there is a higher increase in certain instances. Will this higher TDS effect the water quality standard at Vernalis?

11 Page 2-74 notes the 11,000 acre-feet decrease as insignificant when compared to the annual pumping from the basin. That may be, but the question is whether or not that pumping significantly decreases someone else's supply (such as Delta riparians). In those years when there is insufficient water in the San Joaquin River to supply channel depletion requirements, how does the project affect those flows?

12 Proposed VAMP releases are only speculation as that project will only be implemented if the State Water Resources Control Board adopts it later this year. In addition, the VAMP releases are in no way anticipated to help San Joaquin River water quality. To the contrary, the VAMP proposal assumes the Bureau will operate under its Interim New Melones Plan for 11 more years. That plan anticipates Vernalis water quality violations in 31 of 71 year types.

13 If the "small" decreases in San Joaquin River flows necessitate mitigation measures for potential effects on fish populations, why don't they necessitate mitigation measures for potential effects on Vernalis water quality or channel depletion requirements?

14 3.3 Cumulative Effects. This section fails to analyze the cumulative effects of this and other projects on San Joaquin River water quality and quantity. Although the drafters have concluded the downstream effects are insignificant, the question is whether these effects when combined with other projects will result in significant ones.

Letter 12, Page 7

Currently, there are numerous other projects that affect San Joaquin River water. The Grasslands Bypass Project is supposed to manage discharges into the San Joaquin River. However, the project failed to comply with its load limit goals this past year. In addition, modeling shows it can adversely effect water quality (see Exhibit "F").

The Mendota Wildlife Area Project (Mendota Dam) will result in an increase in poor quality drainage to the San Joaquin River and then require additional downstream dilution.

The Bureau's 1998 Water Acquisition Project seeks to shift historic flows from summer to spring in October. A shift in flows necessarily decreases flows at some other times.

14 cont'd

The VAMP Program seeks similar shifts and flows for at least an 11-year time frame and assumes the Bureau will not meet its water quality objectives in 31 of 71 year types.

The SWRCB will implement its 1995 Water Quality Control Plan and require some parties to increase spring-time and October flows. Any increase in flows at one time of the year will decrease flows at another and thus affect water quality.

The DWR's Supplemental Water Acquisition proposal also seeks to buy large quantities of water on the San Joaquin River system. The program does not anticipate releasing those flows downstream in the manner consistent with historic patterns and so will also necessarily cause decreases at some times of the year.

CVPIA and CALFED both anticipate large scale purchases of water on the San

Joaquin River system in order to increase spring and October flows.

South San Joaquin Irrigation District and Oakdale Irrigation District currently are selling at least 50 TAF of water each year and intend to sell more in the future (see the South County Water Project and proposed sale to SEWD). All of these sales change the use of the water involved and some will actually preclude return flows to the San Joaquin River.

14 (cont'd)

The above projects involve the change of use and time of use of hundreds of thousands of acre-feet of water. The cumulative effects of those changes have yet to be analyzed. SDWA submits that those shifts in flows will necessarily decrease flows at some other time. When those decreases occur in times of shortage, the effects on water quality and quantity will be enormous. This Project's CEQA analysis is incomplete unless and until it analyzes this cumulative issue.

In conclusion, the SDWA believes the DSEIR is deficient for failing to examine the project's effects on downstream quality and quantity.

Dated: March 18, 1998

JOHN HERRICK

C:\SDWA\Comments\Diablo Grande

Response to Letter 12

(Note: the South Delta Water Agency submitted numerous pages of information which were included to their comment letter as an attachment. Refer to Appendix B of this Final SEIR for this information).

1. The commenter states that in the context of current San Joaquin River water flows being insufficient at times, the project would impact downstream water users by reducing flows. The Draft SEIR acknowledges that there will be a slight decrease in the San Joaquin river's flow. As stated on page 2-49 and 2-75 of the Draft SEIR, the model determined that the amount of the reduction to the river between the Merced and Tuolumne rivers, during the summer and fall months for a three month period, in a critical water year of the modeled multi-year drought, would be up to 5.74 percent of the flow. This was determined not to be significant as it relates to downriver water users. However, this size reduction in accretion could be considered significant as it relates to the Chinook salmon but only during the fall upstream migration period (October-November) or during the spring migration period (April-May) when the salmon are present in the project area.

During the other years when dry and critical water years do not occur (i.e., during most years), the impact to the San Joaquin River represents less than one percent of the total flow between the Merced and Tuolumne rivers and before Tuolumne and Stanislaus river flows enter the San Joaquin River. On occasion, as indicated in Figure 21 in the Draft SEIR, the loss of accretion would exceed one percent. Again, this is considered to not be a significant impact. Figure 21 in the Draft SEIR indicates what the projected loss of accretion to the San Joaquin River will be.

2. Applied water along the west side of the San Joaquin River by the Patterson Water District and the West Stanislaus Irrigation District does provide subsurface accretion, directly or indirectly, to the San Joaquin River (Paul Selsky, pers. com., June 2, 1998). As stated on page 3-12 of the Draft SEIR, and as indicated in figures 22 through 29 in the Draft SEIR, the impact of groundwater pumping remains on the east side of the San Joaquin River. It will not result in impacts to existing accretion or loss of accretion to the river from water sources on the west side of the river (Ibid.).

3. The commenter would like to know what impacts to water quality and quantity will occur as it relates to the Patterson ATS flows. A potential future water source includes treated effluent from the City of Patterson which is then discharged to the San Joaquin River. The city does not currently discharge any of its effluent to the San Joaquin River (EMC 1996). A permit from the SWRCB would allow this discharge of treated effluent. The quality of the water is relatively low in TDS because it is treated to a tertiary level. Diablo Grande could pull up to 3,000 acre-feet of this treated effluent. The impact to the downstream water would not be significant. Per Section 1485 of the California Water Code, the city or contractor to the city has an option to pull out an equal amount of water from the river that they put in as treated effluent. Therefore, there is no loss of flow to the river.

As it pertains to the quality of the San Joaquin River water, the water quality impacts associated with discharging treated effluent to the river were discussed in the Patterson Algal Turf Scrubber Water Reclamation Project Initial Study, which is incorporated in the Draft SEIR and in this Final SEIR by reference. As stated in Appendix D of the Draft SEIR (p.29), a Report for Waste Discharge was prepared which includes water quantity and quality data for the San Joaquin River (this document is available at the City of Patterson Planning Department office). As for the quality of the treated effluent discharged to the San Joaquin River, this is dictated by the SWRCB.

In summary, the Report for Waste Discharge states that the quality of water in the San Joaquin deteriorates as it flows through the San Joaquin Valley, due to agricultural return water, urban runoff, municipal wastewater treatment plants, and industrial dischargers. As flows decrease seasonally, concentrations of pollutants increase. The ATS water would be a contributor of relatively clean water to the San Joaquin River and it could be considered to enhance the rivers quality.

4. With respect to cumulative impacts, this issue is discussed in the Draft SEIR in Section 3, and amended as indicated in the section of this Final SEIR titled *Modifications to the Draft SEIR* (reference page 3-14).

5. The commenter requests clarification on surface drainage and historical drainage pumping. The maximum historical drainage pumping by the TID was determined to be 36,000 to 86,700 acre-feet per year. Historical drainage pumping to lower high groundwater and provide supplemental water supply to TID farmers is presented in Table 4 on page 2-25 of the Draft SEIR. As stated on page 2-48 of the Draft SEIR, with groundwater pumping associated with Diablo Grande (i.e., 11,000 acre-feet per year), the expected maximum annual reduction in groundwater drainage pumping by the TID to lower groundwater levels is projected to be 4,850 acre-feet. The 4,850 acre-feet refers to the maximum annual reduction in groundwater drainage pumping which would occur with the Shallow Groundwater option after full buildout of the project. This pumping does not result in an equal loss of accretion to the San Joaquin River because of regional geohydrologic characteristics and location of drainage pumping wells vis-a-vis the San Joaquin River. As stated on pages 2-48 and 2-49 in the Draft SEIR, the loss of accretion at full buildout would periodically reach 5.74 percent of the San Joaquin River's flow, between the Tuolumne and Merced rivers.

As it pertains to discharges to the San Joaquin River, the TID does not have information regarding the amount of drainage water that ultimately gets to the San Joaquin River.

6. The commenter requests clarification of Tables 6 and 7. Table 6 provides the minimum instream flows. Table 7 presents the additional water which would have been required during previous dry months if the FERC flows had been provided. The flows in Table 7 are in addition to historic flows.

Figure 21 presents the projected impacts from Diablo Grande pumping to flows in the San Joaquin River on a quarterly basis. The actual daily impacts over a three month period would vary above and below the quarterly values. In general, variations in flow vary dramatically during the period of January through June each year because of winter storm activity. From June through the end of December of each year, when the river flow is at its lowest, the variation in river flow is minimal as the flow decreases steadily through the summer and fall.

As it pertains to the model's use of quarterly average water flows in the San Joaquin River to determine potential long-term impacts, this approach to the analysis of impacts was determined by the modeler (HCI Inc.) to be appropriate for forecasting purposes. Though the quarterly average does not reflect the river's high and low flows (which are evident on an hourly, daily and/or weekly scale), the quarterly average approach nevertheless does provide a basic understanding of the potential impacts associated with the proposed Diablo Grande groundwater pumping (i.e., 11,000 acre-feet per year). Implementation of mitigation measure 6, which will require an annual assessment of project groundwater pumping impacts, will provide a mechanism to substantiate the conclusions of the 1998 model and will provide a mechanism for implementing mitigation specific to the impact as it actually occurs.

The Draft SEIR examines the effect of the project during various river flow and climate scenarios, including those that simulate severe droughts. The most critical periods to river water flow, which would potentially significantly impact the Chinook salmon, are during dry and critical water years. In the modeled climate scenario that simulates the 1987-92 drought (Scenario B), there is projected to be a reduction in groundwater accretion of 10.4 cubic feet per second (cfs). This represents a loss of accretion to the San Joaquin River of up to 6,500 AF per year or 5.7 percent of the San Joaquin River's flow between the Tuolumne and Merced rivers.

Figure 21 on page 2-51 of the Draft SEIR indicates that the modeled peak loss of accretion to the San Joaquin River, between the Tuolumne and the Merced, is the exception and that most often the loss of accretion to the San Joaquin River will be in the less than one percent range. However, there would be occasional peaks at two percent. If, on the other hand, the model had been run using a daily or weekly account of cfs flows in the San Joaquin River at the Newman gauging station, the model would have accommodated the highest flows and the lowest flows. This approach could have provided a slightly different conclusion.

Though using an hourly, daily, weekly, or monthly scale in the forecasting model instead of a quarterly average may provide a different conclusion, the current model remains a sufficient tool for forecasting the project's potential impacts. Furthermore, and ultimately more important than the model, is implementation of mitigation 6. This mitigation addresses both the modeled potential impact and the "real" impact that may occur to the Chinook salmon at any particular point in time. In other words, whatever shortcomings the model may have regarding a quantifiable

number pertaining to loss of accretion sometime in the future, implementation of mitigation 6 assures that the actual impact is fully mitigated forever.

7. The commenter indicates any decrease in water flow as a result of project implementation may result in a violation of water quality standards. The Draft SEIR defines a standard of significance pertinent to water flow (p. 2-74) (i.e., "Substantially degrade or deplete surface water resources"). The Draft SEIR concluded (p. 2-75) that the project's impact is too small a percentage of the total flow to conclude the impact to be significant (i.e., "substantial") (based on a quarterly average). The Draft SEIR does not provide any particular threshold where the impact would be deemed significant because it is subjective and speculative to do so. Though there is a body of opinion that states that any reduction in flow in the San Joaquin River is a significant impact, this is a subjective determination only, and is not endorsed in this environmental document. Furthermore, as it relates to downstream water users, there is no reference available that would indicate any particular percentage (on the low end) to be considered a threshold for determining the level of significance.

However, the Draft SEIR states (p. 2-75) that the reduction of accretion during the dry and critical water years is significant as it pertains to the Chinook salmon, thus necessitating implementation of mitigation (mitigation 6 on p. 2-87 of the Draft SEIR and amended herein in the section titled *Modifications to the Draft SEIR* (Reference page 2-87). Through this mitigation, the loss of water flow to the San Joaquin would be offset during the dry and critical water years. The amount of this offset is currently modeled to be approximately 950 acre-feet at full buildout for a period determined to be 30 days during the spring emigration period and 30 days during the fall upstream migration. Through implementation of mitigation 6, which requires monitoring of river flows, the precise quantity of water required to offset the impact will be determined. Refer to amended mitigation 6 in the *Modifications to the Draft SEIR* section at the end of this Final SEIR (reference page 2-87).

8. The commenter addresses an issue previously addressed. Refer to response to comment 6 above.

9. Based on the HCI report referenced herein, the impacts of the project to groundwater accretion flows to the San Joaquin River presented in the Draft SEIR reflect the combined impacts of groundwater pumping as well as the reduced drainage pumping.

10. As stated on page 2-73 of the Draft SEIR, the TDS in the groundwater pumped by the project wells may become slightly higher. This slight increase in groundwater TDS concentrations would occur in the vicinity of the proposed well field. The minor salinity increase has been determined to be insignificant. The salinity discussion contained in the Draft SEIR is reiterated here.

The sedimentary rocks below the TID contain saline groundwater that originates from the deposition of the sediments in a sea that once occupied the San Joaquin Valley. The saline groundwater seeps naturally upward into the groundwater

system (HCI 1998). Over geologic time, the seepage from the marine sedimentary rocks has produced a mound of saline groundwater that is centered beneath the San Joaquin River.

The seepage is produced by a difference in hydraulic head between the marine sedimentary rocks and the groundwater system. Heads are higher in the sedimentary rocks than in the overlying geologic units that form the groundwater system, and the saline groundwater seeps upward from the zone of higher heads to the zone of lower heads. The difference in heads may be about 70 feet (Ibid.).

As indicated on page 2-73 of the Draft SEIR (as well as the HCI report), the project pumping would result in a reduction in groundwater levels that may increase the salinity in the lower aquifer up to approximately three percent. However, there would be a smaller proportional impact in the upper aquifer owing to diffusive and other mixing effects. The proposed project wells are not planned to penetrate the Corcoran Clay layer that separates the lower aquifer from the upper aquifer.

Such a small increase in groundwater salinity of less than three percent in the upper aquifer was determined to be a less-than-significant impact in the Draft SEIR. This could mean that the salinity levels would increase from an average of 981 mg/l to 1,010 mg/l, in the context of the existing TDS levels which are currently in the 800 to 1,200 mg/l range, thus making a potential three percent increase in this context indiscernible (EMC 1998).

As for mitigation for groundwater quality, mitigation 4 adequately addresses this issue through well inventory, well monitoring, definition of thresholds, and groundwater modeling. Refer to the *Modifications of the Draft SEIR* section at the end of this document for amended text to this mitigation (reference page 2-76).

11. The commenter would like the SEIR to address the impacts associated with San Joaquin River supply channel depletion requirements. The statement on page 2-74 of the Draft SEIR regarding the 11,000 are-feet is only referring to groundwater resources, not San Joaquin River flows. Page 2-75 of the Draft SEIR describes the impacts associated with San Joaquin River flows.

As it pertains to the San Joaquin River supply channel depletion requirements, the small decreases to the amount of groundwater accretion to the San Joaquin River have not been evaluated for impact to Vernalis water quality and channel flows. Though it stands to reason that if the project's impact to the San Joaquin River upstream of the Vernalis station is up to 5.74 in a worst case scenario, then the impact at the Vernalis station would be less because of the confluence of the Tuolumne and the Stanislaus with the San Joaquin River upstream of the Vernalis station, whereby there is greater water flow. However, the proposed mitigation 6, which addresses the impact to the Chinook salmon, would serve to reduce the loss of accretion to the San Joaquin River during the critical water year. Also, refer to response to comment 8 above.

12. The VAMP analysis contained in the Draft SEIR is appropriate as a basis to determine the level of impact. It is likely that the VAMP agreement will be approved within the next 12 months, and ahead of the project's buildout (the year 2022), which is the time the model forecasts the lowest water flows in the San Joaquin River.

VAMP applies to a 31-day period during April and May of each year (second quarter in the modeled scenarios used in the Draft SEIR), normally April 15 to May 16. VAMP expires in the year 2010. The VAMP flows are measured at Vernalis with the lowest VAMP flow target being 2,000 cubic feet per second.

The modeled reduction in accretions to the San Joaquin River are within the project area (i.e., below the confluence of the San Joaquin and Merced rivers and above the confluence of the San Joaquin and Tuolumne rivers). The maximum modeled reduction for the second quarter through 2010 for this limited reach and before flows from the Tuolumne and Stanislaus rivers are added is less than one percent (more specifically 0.88 percent for scenario A and 0.30 percent for scenario B). These reductions are so small that they would not be measurable at the Vernalis gauging station.

13. The commenter addresses an issue previously addressed. Refer to response to comment 11 above.

14. The commenter states that the cumulative analysis in the Draft SEIR does not address the myriad of pending and proposed projects that may impact the San Joaquin River's quality and quantity. Refer to the revised cumulative discussion contained in the section below titled *Modifications to the Draft SEIR* (reference page 3-14).

As it pertains to cumulative impacts to the San Joaquin River water quality, the existing condition of the San Joaquin River reflects the existing discharges from municipal wastewater treatment plants, industrial dischargers, urban runoff, and agricultural drainage. These discharges are currently regulated by state and federal agencies and typically are of a lesser quality than the quality of water required for potable use. Continued urban development with its associated increases in wastewater flows, industrial discharges, urban runoff, and continued application of chemicals to agricultural land, without changes in quality of discharges from these activities, will, incrementally, continue to pollute the San Joaquin River. This is an important issue relative to protecting potable water and the environment and will occur regardless of implementation of the proposed project. Therefore, the condition of the San Joaquin River is a statewide issue that must be addressed at the state level (e.g., CALFED Program).

In addition, the Draft SEIR addresses cumulative impacts in section 3 of the Draft SEIR in the context of the other water options and in the context of other reasonably anticipated future projects. The Draft SEIR concludes that it is too speculative to attempt to analyze all the reasonably foreseeable development projects in the state which could either attempt to acquire one of the water options, or may be

considering other supplies of unknown origin, and then attempt to determine whether they are inter-related and somehow the cause of significant cumulative impacts. As such, there cannot be further cumulative impact analysis with respect to other development projects and other water sources which are currently not specifically defined or otherwise unknown to the preparer of this EIR. With revisions proposed and the discussion contained herein this Final SEIR, the SEIR is sufficient in its examination of the project's effects on downstream quality and quality.

Letter 13

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CITY of MODESTO
Public Works & Transportation Department:
Utilities Division (209) 577-5470
P. O. Box 642, Modesto, CA 95353
[TDD (209) 526-9211 Hearing and Speech Impaired only]

Kirk Ford, Senior Planner
Stanislaus County Planning Department
100 H Street, 2nd Floor
Modesto, California 95354

March 17, 1998

Subject: Diablo Grande Water Resources Plan EIR

The City of Modesto would like to take this opportunity to comment on the Diablo Grande Water Resources Plan Draft Supplemental Environmental Impact Report.

The City has attempted to do research into the ability of the Algal Turf Scrubber (ATS) system to meet the requirements of river discharge. There is sufficient information to support the ability of the ATS system to achieve significant improvements to the water quality in controlled test systems, however, the studies done so far appear to be very limited compared to a full scale, year around project. 1

The City has not been presented with enough data to indicate that this is a proven technology. There is concern that, with the expected California Toxics Rule coming, this system will not be able to meet the requirements for river discharge.

The City is concerned that a full scale system may not be able to achieve the results which would be needed for a successful project.

If you have any questions regarding this response please contact me at (209) 577-6233.

Sincerely,

Donald R. Milam

Donald R. Milam, PE
Assistant Civil Engineer

City Pride — Citywide

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Response to Letter 13

1. All discharges to rivers in the state are required to abide by state standards, algal turf scrubbers (ATS) are no exception. ATS technology would be required to implement the requirements of Title 22 and the California Toxics Rules in order to be allowed to discharge to a river. For more information on the ATC, refer to response to comment 3 in Letter 12 (California Department of Health Services).

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Stanislaus County Farm Bureau

1201 L Street • P.O. Box 3070 • Modesto, California 95353 • 209/522-7278

March 18, 1998

RON MACEDO
President

JAN ENNENGA
Executive Manager

Stanislaus County Department of
of Planning & Community Development
Kirk Ford, Environmental Coordinator
1100 H Street
Modesto, CA 95354

RE: Diablo Grande Water Resources Plan, Draft Supplement Environmental Environmental Impact Report

Dear Kirk:

Enclosed are our comments, jointly prepared with the California Farm Bureau Federation, concerning the Draft Supplemental Environmental Impact Report for a permanent source of water for Diablo Grande.

As you know, the water supply issue has far reaching and precedent setting implications. We have serious concerns with the long-term water supplies for Diablo Grande. However, as we have stated on previous occasions, we will assist the developers with attaining a water supply as long as any adverse impacts on the water supplies that are critical to California's farmers and ranchers can be fully mitigated.

We look forward to continuing to work with you and Diablo Grande project proponents in this process.

Sincerely,

Ron Macedo

RON MACEDO
PRESIDENT

cc: David Guy, CFBF Counsel

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"WE'RE FARM BUREAU . . . WE'RE FAMILY!"

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COMMENTS OF THE STANISLAUS COUNTY FARM BUREAU AND THE CALIFORNIA FARM BUREAU FEDERATION REGARDING DIABLO GRANDE WATER RESOURCES PLAN, JANUARY 27, 1998 DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

I. SHORT-TERM WATER SUPPLY IMPACTS

The January 27, 1998 Draft Supplemental EIR ("DSEIR") for the Diablo Grande Water Resources Plan expressly focuses upon a long-term water supply for the proposed project. (DSEIR at 1-1.) This is consistent with the "Stipulated Amended Judgment on Remand" that was approved by the Stanislaus County Superior Court on February 14, 1997. The court order also set aside County approvals made in reliance on the Diablo Grande Environmental Impact Report ("EIR"), including "the Diablo Grande rezoning, the Phase 1 Preliminary Development Plan, the General Plan amendments and adoption of the Diablo Grande Specific Plan." (p.3.) These approvals that have been set aside contained several conditions that were very important to Farm Bureau--many of which address short-term water supply impacts that are not addressed in the DSEIR. As the County will recall, there was significant discussion during the original EIR for the project on this issue, which resulted in several conditions being placed on the short-term use of the Marshall-Davis wells. These requirements included:

- Pumping at the Marshall-Davis wells is limited to 1,200 acre-feet per year in any event;
- Pumping is limited to five years from the original date of pumping, except in very limited emergency situations;[1] and
- No residential use of the groundwater shall be allowed.

The Specific Plan, the original EIR and its Mitigation and Monitoring Plan are the foundation upon which the DSEIR is built. We therefore assume that these original conditions will continue to be enforced by the County. To assure that these conditions are recognized by the County and the project proponents, the limitations on the Marshall-Davis wells must be fully acknowledged in the DSEIR. This is important for two reasons. First, to simply incorporate by reference the short-term water supply for the project. Second, it is very important to recognize

[1]The pumping at the Marshall-Davis wells must cease on April 30, 2001. We recommend that a specific date be used in the DSEIR to avoid further confusion. "For purposes of this Specific Plan and the above mentioned [Development] plan, shut downs related to physical failures of water conveyance facilities shall constitute an emergency, but in no event shall an emergency include the lack of available water for any other reason." (Diablo Grande Specific Plan, Supplemental Condition of Approval/Development Standard, No. 8.)

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Page 2

1 Cont'd

with respect to the Marshall-Davis wells, only "shut downs related to physical failures of water conveyance facilities shall constitute an emergency, but in no event shall an emergency include lack of available water for any other reason." (Specific Plan Supplemental Condition of Approval/Development Standard, No. 8.) This means that if water is not available from one of the long-term water options mentioned in the DSEIR, reliance cannot be made on the short-term Marshall-Davis well water as backup water. These requirements were part of the original planning requirements and the County must reiterate this in its DSEIR.

You can be sure that Farm Bureau is committed to protect farmers' and ranchers' water rights near the Marshall-Davis wells and we are therefore prepared to take any appropriate legal actions if these conditions are not strictly followed. Most notably, this includes the restriction that the pumping cease on April 30, 2001.

II. LONG-TERM WATER SUPPLY IMPACTS

2

The Appellate Court opinion in *Stanislaus National Heritage Project v. County of Stanislaus, et al.*, (1996) 48 Cal.App.4th 182, stated the following:

- "An EIR for this project must address the impact of supplying water for the project." (p.205.)
- The EIR "does require recognition that water must be supplied, that it will come from a specific source or one of several possible sources, of what the impact will be if supplied from a particular source or possible sources, and if that impact is adverse, how it will be addressed." (p.206.)
- The "County must attempt in good faith to fulfill its obligation under CEQA to provide sufficient meaningful information regarding the types of activity and environmental effects that are reasonably foreseeable from that supplying of water." (p.206.)
- The County must "inform the public and responsible officials of the environmental consequences of their decisions before they are made." (p.195.)

Additionally, the Stanislaus County General Plan requires the following:

- The County shall "protect groundwater aquifers and recharge areas." (3-4).
- New development that does not derive domestic water from pre-existing domestic and public water supply systems shall be required to have a documented water supply that

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Comments of the Stanislaus County Farm Bureau
March 16, 1998
Page 3

does not adversely impact Stanislaus County water resources." (3-5.)

Most importantly, the County shall "review all development requests to ensure that sufficient evidence has been provided to document the existence of a water supply sufficient to meet the needs of the project without adversely impacting the quality and quantity of existing local water resources." (3-6.) This determination will be largely based on the project's environmental review and it must be included in the County's findings under both the General and Specific Plans and the California Environmental Quality Act (CEQA).

2 In light of these requirements, we believe that several issues need to be addressed to protect farmers' and ranchers' water uses. We are a little unsure at this time why the County has failed to name a preferred alternative in the DSEIR. Once a preferred alternative is selected, we anticipate that further environmental analysis will be forthcoming and specific mitigation and monitoring requirements will be necessary to address these specific issues.

Additionally, before the project can be approved, the County and the project proponent must show, with supporting documentation, that a water supply will be available for the project during all year types, including critically dry years. Farmers and ranchers know from experience that if dry year water is not guaranteed for a project like this up front, then they will be forced to cut back during these critically dry periods. Both law and good public policy therefore require that the water supplies mentioned in the DSEIR will be available in all year types.

A. Option One - Marshall-Davis Wells

This option is a non-starter for Farm Bureau. A deal is a deal. As previously mentioned in the discussions on short-term impacts, the Marshall-Davis wells were only considered a short-term water supply for the project. The Diablo Grande Specific Plan expressly requires that "approval by the County will be conditioned upon issuance of a "can serve" letter by the [Western Hills Water] District and verification to the satisfaction of the County Department of Environmental Resources that the Western Hills Water District's "can serve" letter is supported by a long-term water supply, other than the Marshall-Davis wells or other Stanislaus County groundwater, for the area included in the Final Development Plan." (p.53, emphasis added.) We are therefore confident that the County will continue to enforce this provision and that this option is only mentioned to fulfill its legal obligation to mention as many alternatives as possible. Rather than dignify the analysis of this option, we incorporate by reference the earlier discussion and our comments on the Diablo Grande EIR which reflect our concerns with the Marshall-Davis wells.

3 *

B. Option Two - Project Area Groundwater

4 We support the full utilization of project area groundwater and would encourage the project

4 cont'd proponents (the Western Hills Water District) to creatively manage this resource in a way that maximizes the water supply for the project and thus relies less on other options.

C. Option Three - The Patterson Algal Scrubber

5 We support the continued development of this technology and would encourage full utilization of this resource as long as it does not in any way jeopardize downstream water reliability and quality.

D. Option Four - Shallow County Groundwater

1. Surface/Groundwater Distinction

6 The project description for the shallow county groundwater option is inadequate. The DSEIR provides that "this pumped groundwater is known as drainage water." (1-20.) We are not aware that there is a category of water in California formally known as "drainage water." In other words, it is not clear from the project description whether the water proposed for Diablo Grande will either be percolating groundwater or a "subterranean stream flowing through known and definite channels" as defined in Water Code §1200. This is not an academic distinction. There is simply no way to fully analyze the environmental effects of the current proposal until this determination is made and the County and the project proponents fully state and document exactly what type of water is proposed for transfer or export. This distinction is particularly important since the Specific Plan expressly provides that a long-term water supply for this project cannot include Stanislaus County groundwater, which only leaves surface water as an available option within Stanislaus County. (p.53.)

There is an important distinction in California law between surface and groundwater that will largely determine the environmental effects of this project. Surface water and subterranean water within Water Code §1200 are regulated under the Water Code and a license or permit is required for this water. Any change in place of use as contemplated by this proposal requires a finding that no injury will occur to the environment or to other water users. (*See*, e.g., Water Code §§1702, 1706.) In the present case, if the so-called "drainage water" is surface water, then the transfer of this water to Diablo Grande would remove this water from the San Joaquin River system, which could adversely affect downstream water users, particularly when considered cumulatively with all of the other transfer proposals on the San Joaquin River.[2]

[2]If this water is determined to be surface water, then a complete cumulative impacts and growth inducing impacts analysis must be undertaken for the numerous proposals to transfer water from the San Joaquin system, including changes in the timing of releases.

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6 cont'd

On the other hand, if this water is percolating groundwater, its use is prohibited as the long-term water supply for this project, as previously mentioned. (*See* Diablo Grande Specific Plan, p. 53.) Additionally, rights to groundwater are held by individual landowners as part and parcel of their property. Any transfer could adversely affect these landowners' rights to this groundwater. As a general rule, groundwater can be exported for the proposed project only as long as it is surplus to the overlying landowners, but once there is not a surplus situation, the landowners, by law, can enjoin the exporter (e.g. Western Hills Water District or Diablo Grande) from pumping this groundwater. CEQA requires that the County show that there will be surplus groundwater available during all year types, including critically dry years. Otherwise, during a protracted drought, water may not be legally available from the shallow County groundwater for the project and it would need to rely on other water sources, which can have a negative effect on farmers and ranchers.

7

By failing to specify what water is proposed for transfer, the County has not adequately defined "project" for purposes of CEQA. (*See* State CEQA Guidelines §§15124, 15125.) "An accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR." (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193; also see *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 738.) As a practical matter, "an accurate project description ... is necessary for an intelligent evaluation of the potential environmental effects of a proposed activity." (*McQueen v. Board of Directors of the Mid-Peninsula Open Space Dist.* (1988) 202 Cal.App.3d 1136, 1143.) "A curtailed or distorted project description may stultify the objectives of the reporting process. 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, assess the advantage of terminating the proposal and weigh other alternatives in the balance." (*County of Inyo, supra*, 71 Cal.App.3d at 192-193.)

An accurate and concise description of the project is important in this case so that other water users can determine whether their water rights will be adversely affected by the project. California water law requires that before a water transfer proposal can be approved or groundwater can be exported, it must be shown that the transfer or export will not injure any other legal user of water during all year types. One of the important ways in which another water user can determine whether his or her water right will be affected is through the environmental review process. With the proposed project, it is impossible for other water users or interested parties, including farmers and ranchers, to make this determination.

We therefore believe that <u>before</u> the County can approve this DSEIR and the project, there must be a determination (i.e. from the State Water Resources Control Board) as to whether this water that is being transferred or exported is under the jurisdiction of Water Code §1200 *et seq.* or if it is percolating groundwater.

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2. Environmental Effects

There is no question that this option will have a significant effect on the environment. The only question is whether the impacts can be mitigated to a point that there will not be significant effects and, if under the mitigation measures, the water will then be available to Diablo Grande in all year types, including critically dry years. The following discussion outlines the environmental effects that are particularly important to farmers and ranchers, including groundwater levels, downstream surface water uses, and water quality. For all of these issues, there must be meaningful measures that protect farmers, ranchers, and other landowners before the project is approved.

a. Groundwater Levels

8 The DSEIR recognizes that "the increased drawdown caused by the proposed drainage pumping may adversely impact some domestic, industrial and private irrigation wells." (2-74.) "A declining groundwater level may result in reductions to groundwater pumping in existing area wells." (2-75.) Certain improvement district wells and private irrigation wells "are potentially impacted by the project." (2-32.)

The proposed mitigation measure for groundwater (*see* 2-76) is not a mitigation measure at all. A well-inventory, well-monitoring plan, and groundwater modeling may be a good starting point to understand the hydrology and impacts to water users in the area, but there are currently no requirements for the project proponents to protect water users and landowners in this area. Granted, reducing groundwater levels may help landowners during certain years, but mitigation measures during dry years will be critical to assure that landowners can continue to pump water for use on their property when surface supplies are not available. This is particularly a concern since the project proposes to pump up to 11,000 acre-feet per year, primarily from May to September, when farmers and other landowners may also rely on this water. Mitigation measures cannot be deferred for another time--they must be in place prior to project approval. (CEQA §21081.6; *Sundstrom v. Mendocino County* (1988) 202 Cal.App.3d 296, 309.) We believe that contracts with landowners would be the most effective way to protect landowners, but in any event, there must also be specific mitigation and monitoring measures in the DSEIR to address these issues.

b. Downstream Surface Water

9 The DSEIR recognizes that "drainage water pumped during the irrigation season is discharged into the [Turlock Irrigation District] canal system where it becomes available for irrigation. Unused water is ultimately discharged into the San Joaquin River via the TID system of canals and drains." (2-31.) This means that TID either captures the drainage water for use within its irrigation service area or the water is conveyed to the San Joaquin River for use by

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9 Cont'd downstream water users, including irrigators. (2-39.) Pumping for the proposed project will therefore decrease the water available to other farmers, whether within or without TID. During the summer months that pumping will occur, all water, even if relatively small compared to the total water use on the system, is critical to farmers and other water users. In other words, during the summer months, every drop of water on the San Joaquin system matters and assurances and mitigation measures must be adopted to protect other surface water users. (*Also see* Water Code §§1702, 1706.)

c. Water Quality

10 The DSEIR recognizes that "the reduction in groundwater levels would result in an increase of approximately three percent of the dissolved solids load to the lower aquifer." (2-73.) The DSEIR then suggests that there would be no significant impact to salinity levels within the shallow and upper aquifer from which it proposes to take water. (2-73.) This conclusion is not supportable. First, any increase in salinity levels over time will adversely affect the environment, including agricultural production. Additionally, the DSEIR fails to account for the quality problems with the lower aquifer, which it expressly acknowledges will be degraded by the project's proposed walls. In the present DSEIR, there are no mitigation measures to address water quality concerns. These must be included in the DSEIR.

E. Options Five and Eight - Berrenda Mesa/Bravo Transfers

11 With respect to water transfers for this project, such as options five and eight, the County can not approve or certify the DSEIR or the requisite planning documents until it can be shown that any transfer of water will be both physically and legally available for the project and that there will be no net loss of water to farmers and ranchers. This means that all necessary approvals have been given to both transfer and convey this water and these approvals must be part of the record before the County. This includes, but is not limited to, approvals required under Water Code §§1702, 1706, 1810 *et seq.*, the California Environmental Quality Act and any other law or administrative procedure.

Otherwise, if the County gives its land use approval to the project without final approval of the water being available, the project may be forced to rely on other sources of water to satisfy the demands for the portions of the project that have already been approved. This could create a significant effect that has not been fully analyzed. For this reason, if these options will supply any water to the project, any transfer or conveyance approvals must be part of the record before the County prior to its approval.

G:\WP60\DOCUMENT\1998\DIABLO

Response to Letter 14

1. The commenter addresses the limitations associated with the use of Marshall-Davis wells. A response to this concern is provided in response to comment 1 in Letter 11 (Del Puerto Water District). Stanislaus County will be reauthorizing the project including all of the original conditions, plans, mitigations, etc., with some minor modification and updates. There will be no change to conditions relating to the Marshall-Davis well.

2. The commenter would like the county to select a water option and states that after selection additional environmental analysis would be required. As it pertains to selecting a preferred alternative, it is the intent of the Western Hills Water District and the County to select a long-term water supply or supplies after certification of the SEIR. As it pertains to additional environmental review, please refer to response to comment 4 in Letter 2 (CDFG).

3. The commenter references the constraints associated with the Marshall-Davis wells. Refer to response to comment 1 in Letter 11 (Del Puerto Water District) and response to comment 1 above for additional information pertinent to this comment.

4. The Western Hills Water District, the project proponent and the county agree with this approach and will use on-site water resources to the greatest extent possible, but within the context of the environmental constraints and state water quality standards.

5. The Western Hills Water District, the project proponent and the county agree with this approach and should consider the algal turf scrubber option as a viable and long-term water supply.

6. As described in Section 2.4 of the Draft SEIR and Section 1.2 of the Hydrologic Consultants, Inc. (HCI) report incorporated herein by reference, the groundwater that would provide water under option 4 in mitigation 6 is percolating groundwater. As it pertains to ownership of TID water or other sources, this environmental document does not address the legal framework associated with water procurement, but instead considers potentially viable sources of water and their potential environmental impacts. If it is the case that the TID does not have the legal authority to sell groundwater, then the impacts discussed in this environmental document would not occur. In such a scenario, the WHWD would require water from another source. Until such time the water sources discussed herein are determined to be available to the WHWD, the county may not approve further development of the Diablo Grande project.

The TID's right to recapture the groundwater in the project area is based upon the following law: The right to recapture imported water, whether or not the importer had an intent to recapture the imported water before importation began, has the highest groundwater use priority. It can be said that the surface water importer is using the groundwater basin as an underground reservoir which the importer may tap at a later time. The California Supreme Court in the leading conjunctive use case

of *Los Angeles v. San Fernando*, 14 Cal.3rd 199, 123 Cal.Rprt. 1, 46 (1975), declared: "The purpose of giving the right to recapture returns from delivered imported water priority over overlying rights and rights based on appropriations of the native ground supply is to credit the importer with the fruits of his expenditures and endeavors in bringing into the basin water that would not otherwise be there".

In San Fernando, the California Supreme Court also held that an importer has the right to prevent others from pumping the imported water that reaches the groundwater basin. An importer can have pumping by overlying owners and appropriators enjoined when their pumping plus the importer's extraction of imported water overdrafts the basin (123 Cal. Rprt. at 68).

7. The commenter states that the project description contained in the Draft SEIR is inadequate because it does not provide information to water users who need to base their determination that the proposed project will or will not affect their water rights. This is the opinion of the commenter. The level of information in this environmental document is considered to be adequate for such a determination.

As it pertains to a determination by the SWRCB as to whether the TID water that would be transferred or exported is under the jurisdiction of Water Code statute 1200 et seq. or if it is percolating groundwater, the TID water proposed to be pumped by the WHWD is percolating groundwater. Therefore, no referral of the issue of the State Water Resources Control Board is necessary for that determination.

8. The commenter states that there are currently no requirements for the project proponents to protect water users and landowners in the well area. This is correct, there currently is no requirement. However, the SEIR addresses the potential impact the project may have on area wells by prescribing mitigation 4, whereby long-term protection of wells occurs.

As it pertains to mitigation 4 being developed in the future, the nature of the project is based upon potential impacts to other groundwater users in the TID. In this context, the only way to measure potential impacts prior to activating project wells is through modeling, which has been conducted and is the basis for discussion of the impacts associated with the TID. Actual impacts cannot be determined until after project wells are in operation. In the case there are impacts, mitigation 4, as amended (refer to the *Modifications to the Draft SEIR* section below for amended language to mitigation 4), provides adequate mitigation.

As it pertains to monitoring, as the commenter states, monitoring is by itself not an adequate mitigation, because the identified significant impacts cannot be reduced by monitoring only. However, in the context of the other elements of mitigation 4 (i.e., well inventory, definition of thresholds, and groundwater modeling), monitoring as presented in mitigation 4 is appropriate, because the combination of the well monitoring and the other elements of mitigation 4 will establish the necessary framework for protecting existing and future wells.

As it pertains to thresholds, it cannot be determined at each well site what is "significant" without first conducting a well inventory. Through the well inventory process, a particular well's characteristics can be determined and a significance threshold for that particular well will be determined and documented in the Well Inventory. An appropriate response to impacts on a particular well will be incorporated in the Well Monitoring Plan using the thresholds provided in mitigation 4, paragraph c.

The performance standard pertinent to each well (i.e., the level of "significance") is defined to be where the groundwater level drops such that the capacity of the existing well's pump is significantly reduced, where groundwater is no longer being pumped at the pump bowl, or where air is being pumped at the pump bowl instead of groundwater, and/or the groundwater changes to such an extent that it can no longer be used for the existing use without first being treated or intermingled with other sources of water, and the cause of this is the proposed project's groundwater pumping, and not natural conditions.

After certification of the SEIR and approval of a long-term water source from the TID (assuming this is the water source selected), mitigation 4 will adequately implement the requirements of CEQA Guidelines Section 15126.c (*Mitigation Measures Proposed to Minimize the Significant Effects*). Furthermore, the mitigation establishes clear and realistic performance standards as a basis for concluding that the significant impacts will be mitigated to a less than significant level (Sacramento Old City Association v. City Council of Sacramento (3d Dist. 1991) 229 Cal.App.3d 1011, 1028 [280 Cal.Rptr. 478]). However, mitigation 4 has been amended to include more specific parameters of what an impact to a well is. Refer to the *Modifications to the Draft SEIR* section (reference page 2-76) for additional information pertinent to this comment.

9. The commenter states that any reduction in water available to farmers and other water users is critical and, therefore, assurances and mitigations must be adopted.

Drainage pumping during the irrigation season is used as much as possible for irrigating crops. An assumption used in the development of the simulations is that Tuolumne River surface water stored in Don Pedro Reservoir would replace that portion of the drainage pumping water used for irrigation which would be curtailed. As a result, there are no anticipated significant reductions in spills to the San Joaquin River.

Drainage pumping during the non-irrigation season is spilled to the San Joaquin River. However, accurate records documenting historical spills during the non-irrigation season are not available, therefore the model includes very little non-irrigation season spill data (Debbie Liebersbach, pers. com., May 8, 1998). Since the model, for all intents and purposes, does not include spills to the river during the non-irrigation season, any reduction in drainage will not have an adverse impact on modeled river flows. In fact, any drainage pumping during the non-irrigation season that is spilled to the river, would serve to increase the modeled river flows.

As stated in the Draft SEIR (page 2-75), the proposed project would result in a reduction of flow in the San Joaquin River between the Merced and Tuolumne rivers, amounting up to 5.74 percent of the river's flow during the summer and fall months for a three month period of time, during the summer and fall months for a three month period in one year. This loss of accretion was modeled in climate scenario B (1987-1992 drought superimposed near the end of the 1997 to 2028 study period), during the dry or critical water year after project buildout. For climate scenario A (1976 and 1977 drought superimposed near the end of the 1997 to 2028 study period), the loss of accretion could be as much as 4.18 percent of the river's flow. Based on this information, the Draft SEIR concludes that the reduction of surface water flows to the San Joaquin River is not considered significant. Therefore, providing mitigation measures is not warranted. For additional discussion pertaining to this issue, refer to response to comment 7 in Letter 12 (South Delta Water Agency).

10. The commenter addresses an issue previously discussed. Refer to response to comment 3 in Letter 8 (Stanislaus County Department of Environmental Resources). As for the commenter's assertion that the less than significant conclusion in the Draft SEIR pertaining to salinity is not supported, there is no evidence that an increase in salinity of up to three percent in the lower aquifer, which is separated from the upper and shallow aquifers by the Corcoran Clay layer, would have a significant impact on the agricultural products grown in the TID. Figure 16 indicates the relative location of the Corcoran Clay layer relative to the aquifers. For additional information pertaining to salinity, refer to response to comment 10 in Letter 12 (South Delta Water Agency). As reported in the Draft SEIR, proposed wells will not penetrate the Corcoran Clay layer (Draft SEIR, page 2-29, para. 3)

11. The commenter states that any water transfer or conveyance approvals must be part of the record before the county prior to approval. The county may consider and act on the Draft SEIR, which evaluates the environmental effects of various water options, without knowing whether the transfer of water is both physically and legally available for the project. However, the county will require a "will serve letter" prior to adopting a preferred option or options to serve the Diablo Grande project. Furthermore, the county will require full assurance of both physical and legal availability of water prior to approval of a tentative map for further development at Diablo Grande beyond that already allowed.

Based on Public Resources Code Section 21166, if additional options for water supply that are not analyzed within this SEIR are needed to supply water to Diablo Grande, then additional environmental review will be required. In this regard, refer to response to comment 4 in Letter 2 (CDFG).

It is the county's position that a "will serve letter" will be required from the various water agencies that may provide water. Furthermore, the county will not approve the tentative map without an assured water supply.

Letter 15

City of Patterson

33 South Del Puerto Avenue
P.O. Box 667
Patterson, California 95363
(209) 892-2041 FAX (209) 892-6119

March 9, 1998

Mr. Kurt Ford, Senior Planner
Stanislaus County Planning Department
1100 H Street, 2nd Floor
Modesto, CA 95354

Dear Mr. Ford:

Subject: Comments regarding Draft Supplemental Environmental Impact Report/Diablo Grande Water Resources Plan

The Draft Supplemental Environmental Impact Report dated January 27, 1998, describes the proposed algal turf scrubber at the Patterson wastewater treatment plant as one of the alternatives being considered to provide a water supply to Diablo Grande. References to the algal turf scrubber are contained in sections 1.3, 2.3, 3.2 and appendix D. This is to let you know that the City of Patterson on December 17, 1997 notified Aquatic Bioenhancement Systems, Inc. that the agreement to install the algal turf scrubber at the Patterson wastewater treatment plant has been terminated. Since this notice, the City of Patterson has been discussing a new option for providing a water supply from the City's wastewater treatment system which does not involve utilization of the ABS "Turf Scrubber" treatment system. Our proposal to ABS generally provides for the discharge of the City's treated wastewater after disinfection to the San Joaquin River at the City's existing outfall. If the City and Aquatic Bioehancement Systems, Inc. negotiate an agreement to discharge the City's wastewater to the San Joaquin River, the terms and conditions of this discharge will be incorporated in a new agreement between the parties.

Please contact me if you have any questions or concerns relating to this matter.

Sincerely,

George T. Lambert
City Manager

cc: George Logan
Russell Newman

Response to Letter 15

1. The commenter states that the agreement between the city of Patterson and the algal turf scrubber operator has been terminated. The algal turf scrubber, or any new option at Patterson as a potential source of long term water for the project, will require implementation of agreements for operation with the city. Although the contractual issues are acknowledged, agreements needed between ABS and the city do not constitute an environmental issue. Should another water option be made available, additional environmental review may be required before Diablo Grande could use that source.

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PLANNING DEPARTMENT
City and County of San Francisco 1660 Mission Street San Francisco, CA 94103-2414
(415) 558-6378 PLANNING COMMISSION FAX: 558-6409 ADMINISTRATION FAX: 558-6426 CURRENT PLANNING/ZONING FAX: 558-6409 LONG RANGE PLANNING FAX: 558-6426

March 18, 1998

FAX TRANSMITTAL

TO: Kirk Ford, Senior Planner (209) 525-5911
Stanislaus County Planning Department

FROM: Hillary Gitelman #6
Environmental Review Officer

RE: Diablo Grande Water Resources Plan

Thank you for affording the City and County of San Francisco the opportunity to comment on your Draft Supplemental Environmental Impact Report for the Diablo Grande Water Resources Plan.

The City's Public Utilities Commission has a number of comments and concerns, primarily related to "Option 4." These comments and concerns are explained fully in the enclosed letter and attachment.

Please don't hesitate to call me or PUC staff if we can answer any questions. I can be reached at (415) 558-6381.

11 Pages Total -- Original to Follow By Mail

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CITY AND COUNTY OF SAN FRANCISCO

LOUISE H. RENNE
City Attorney

OFFICE OF THE CITY ATTORNEY

DONN W. FURMAN
Deputy City Attorney
DIRECT DIAL: (415) 554-3961

MARCH 17, 1998

VIA TELECOPIER (209-525-5911) AND ORIGINAL VIA U.S. MAIL

Kirk Ford, Senior Planner
Stanislaus County Planning Department
1100 "H" Street. 2nd Floor
Modesto, California 95354

Re: ***Draft Supplemental Environmental Impact Report***
Diablo Grande Water Resources Plan

Dear Mr. Ford:

The Public Utilities Commission for the City and County of San Francisco ("SFPUC" or "City") submits the following comments on the Draft Supplemental Environmental Impact Report ("DSEIR") for the Diablo Grande Water Resources Plan. The attached document, which is incorporated by reference, contains the comments of City engineering consultant Joe Scalmanini.

The SFPUC supplies drinking water to 2.3 million people in the Bay Area. On average, 85% of the SFPUC's water supply comes from the Hetch Hetchy Water and Power Project ("Hetch Hetchy") on the Tuolumne River. During the recent 1987-1992 drought, the Tuolumne River provided 94% of the drinking water supply for SFPUC customers. The City diverts from the Tuolumne River under rights governed by California water law, the federal Raker Act, and contracts with Modesto Irrigation District and Turlock Irrigation District. Consequently, the City is intensely interested in any project which may impact the availability of Tuolumne River water.

The City is particularly interested in DSEIR Option 4, which is the proposal to have Diablo Grande purchase up to 11,000 acre-feet of drainage water from Turlock Irrigation District ("TID"). Option 4, which is designated as the "environmentally superior project alternative," also identifies surface water purchases from New Don Pedro Project as one potential mitigation (implied) measure for reductions in San Joaquin River instream flows resulting from consumptive use of TID drainage water.

As noted above, the City has long-standing legal and contractual relationships with the TID, particularly in regard to the New Don Pedro Project. Under a side agreement to the 1995 Settlement Agreement for the Federal Energy Regulatory Commission proceedings for the New Don Pedro Project ("FERC Settlement Agreement"), TID has agreed that:

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Letter to Kirk Ford, Senior Planner
Re: Diablo Grande Water Resources Plan DSEIR
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"prior to offering water for sale to any out-of-basin entity, to make a good faith offer to the City to sell the water on reasonable, mutually agreeable terms and conditions whenever TID determines that water is available for sale."

1 cont'd

This agreement extends for the term of the FERC license for the New Don Pedro Project.

Furthermore, under the FERC Settlement Agreement, TID has agreed to provide an option to the United States Fish and Wildlife Service and the Department of Fish and Game to purchase an amount of water cumulatively of up to 20% of any water to be sold by the District for diversion above New Don Pedro reservoir for municipal water supply. The term of the FERC Settlement Agreement also corresponds to the FERC license.

If exercised, these options could more than double the total quantity of water "triggered" by Diablo Grande's purchases of groundwater and potential purchases of surface water under Option 4. For example, implementation of Option 4 could result in cumulative groundwater and surface water purchases by Diablo Grande, the City and the fishery resource agencies in a quantity in excess of 24,200 acre-feet. The DSEIR must acknowledge these contractual obligations and the corresponding cumulative impacts must be analyzed for Option 4.

2

The DSEIR does not clearly describe the impacts of Option 4 on San Joaquin River instream flows. Beginning on page 2-48, the DSEIR describes impacts of Option 4 in terms of a range of anticipated reduced flows (e.g., 6.2 to 10.4 cfs for Alignment A, Drought Scenario B) and in terms of a percentage reduction of instream flow as compared to the flow occurring in the San Joaquin River (e.g., 0.09 to 5.74 percent for Alignment A, Drought Scenario B). These results are described as an effect of the reduced "groundwater accretion" caused by the alternative well field alignments under different drought scenarios. Elsewhere, the DSEIR states that the Option 4 will lead to, and depends upon, reduced drainage pumping by the TID. This reduction in drainage pumping is anticipated to range up to 4,850 acre-feet per year (Page 2-48). At Page 2-84, the DSEIR states that "at maximum build-out during a prolonged drought [pumping of the projects wells] would reduce net groundwater accretion to the San Joaquin River by up to 6,500 AF per year for Alignment A, or 5,300 AF per year for Alignment B."

Do the results described for anticipated reductions in San Joaquin River flows include both: 1) the anticipated reduction in surface flows which would have previously occurred as a result of the TID drainage pumping, and 2) the anticipated reduction in accretion from subsurface flows due to a reduced groundwater level in the area? Significantly, TID currently uses "water pumped for drainage purposes, either from a drainage well or subsurface drain, is typically discharged into the District's canal system where it is utilized, as much as possible, for irrigation purposes." (*Turlock Groundwater Basin Groundwater Management Plan*, August 1997, page 13.) Given the proposed location of Option 4 well fields in relation to TID's canal system, it is

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likely that most of the drainage water to be supplied under Option 4 is currently channeled into the San Joaquin River.

3 Under equilibrium conditions in the future, won't the long-term average reduction in flow volume in the San Joaquin River equal the ultimate depletion by the project (i.e., 11,000 acre-feet)? Is this result addressed in the document?

Mitigation Measure 6 (Page 2-87) attempts to address the potential impact of Option 4 on San Joaquin River flows during the spring and fall migratory seasons for Chinook salmon. The measure proposes to provide additional flows to the river during these sensitive seasons to replace the water that is depleted under Option 4. Measure 6 would be "triggered" during "Dry" and "Critical" years as defined for the San Joaquin River basin.

4 If such a mitigation measure is adopted, there should be no year-type qualifier as to the type of years during which the mitigation is required or "triggered." In the context of the pending Vernalis Adaptive Management Program (VAMP), supplemental of out-migration flows throughout the San Joaquin River may be required during any type of year. Indeed, during the critical VAMP period, any reduction in existing baseline flows at Vernalis on the San Joaquin River caused by the project will result in increased flows from the signatories to the VAMP agreement. Therefore, the project must mitigate instream flow impacts beyond just Dry and Critical years.

5 Further, the DSEIR states on Page 2-88 that timing of the mitigation should be coordinated with Merced River pulse flow releases. It would be more appropriate to require that the mitigation be coordinated with all releases (from the entire San Joaquin River basin) being scheduled for the VAMP. While the mitigation measure appears to have been designed to improve flow conditions in the "affected reach of the river," the VAMP's primary focus (during the spring period) is the measurement of migratory fish survival under varying flow conditions through the Delta.

6 Under Option 4, mitigation measure 6, the DSEIR assumes that reduced flows for the VAMP may be supplied by increased pumping of groundwater. In 1988, TID rented pumps from individual farmers and increased groundwater withdrawals over previous amounts in an effort to reduce the impact of reduced surface water deliveries. The lowered groundwater table resulted in a lawsuit against TID, which was eventually settled out of court. Assuming that surface water and groundwater are not available to provide baseline VAMP flows, how does the project propose to supply water for project purposes if its own groundwater pumping is curtailed?

CITY AND COUNTY OF SAN FRANCISCO

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OFFICE OF THE CITY ATTORNEY

Letter to Kirk Ford, Senior Planner
Re: Diablo Grande Water Resources Plan DSEIR
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Thank you for the opportunity to comment. Please contact me if you have any questions.

Sincerely,

Louise H. Renne
City Attorney

Donn W. Furman
Deputy City Attorney

plus: enclosure

cc: Andy Moran
Larry Klein
Tom Berliner
Dan Steiner
Joe Scalmanini
Anne Schneider

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LUHDORFF & SCALMANINI
CONSULTING ENGINEERS

RECEIVED
MAR 12 1998
BY:

March 10, 1998
File No. 98-1-022

Mr. Donn W. Furman
Deputy City Attorney
City and County of San Francisco
1390 Market Street, Suite 250
San Francisco, CA 94102-5408

SUBJECT: REVIEW OF DRAFT SUPPLEMENTAL EIR DIABLO GRANDE WATER RESOURCES PLAN

Dear Mr. Furman:

In response to your request, we have reviewed the subject Draft Supplemental Environmental Impact Report dated January 27, 1998. As requested, most of our focus has been on the water supply alternative identified as Option 4 - Shallow County Ground Water, which potentially interrelates with and/or impacts San Francisco's water supply on the Tuolumne River. Based on our review, we have prepared the following comments, which are organized into five categories: General, Impacts, Water Quality, Mitigation - Ground-Water Levels, and Mitigation - Streamflow.

General

As a general preface on the concept of utilizing shallow ground water in the western part of the Turlock Irrigation District (TID) for water supply, it potentially represents a beneficial use of that water which has been historically pumped to artificially lower ground-water levels to sufficient depths to facilitate farming of permanent crops which would, in the absence of such drainage pumping, not be possible.

7 In the description of historical drainage pumping by TID, the Draft EIR indicates that drainage pumping is partially used for irrigation although, as indicated in Figure 7, the project area is located adjacent to the extreme southwestern boundary of the TID irrigation service area. It is questionable how much of the drainage pumping can be truly used for irrigation in that area of the TID area when one considers the surface flow in the TID canal system from the east - northeast into the project area. The amount of drainage pumping that is used for irrigation needs to be quantified in the context of nearly 55,000 acre-feet per year average drainage pumping (range of 36,000 to 86,700 AFY) over the period 1989-1996. Ultimately, the issue of how much

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drainage pumping is discharged as spill to the San Joaquin River is critical to the environmental review of the proposed project. As discussed below, the streamflow impact of the proposed "interception" of that discharge by the project is ignored in the Draft Supplemental EIR. Rather, only the impact of decreased ground-water discharge into the River is addressed.

7 cont'd

In the **Growth Inducing Impacts** discussion (pg. 2-100), the discussion appears to inappropriately give the project "credit" for conditions (artificially lowered ground-water levels) that are already created by TID's historical drainage pumping. Since drainage pumping has historically been successful, as demonstrated by agricultural production in the area, it is inappropriate for this proposed project to conclude that its pumping will "likely increase the productivity of agricultural practices in the immediate vicinity of the drainage wells through reductions in groundwater elevations, thereby fostering economic growth to some extent." There is nothing in the Draft EIR to support the statement; such a claim would require some analysis and documentation that the project will create a condition that corrects a problem which constrains agricultural production today. Rather, the Draft EIR is clear that the proposed project will merely allow TID's drainage pumping to be reduced since it (the project) will effectively be replacing some of the drainage pumping, in this case for export. Drainage pumping already "increases the productivity of agricultural practices"; it is questionable and unsupported that the incremental impacts of the project will further increase that productivity.

Impacts

The primary tool used for evaluation of impacts is a numerical ground-water flow model, which was used to evaluate the impacts of two alternative well alignments on ground-water levels, ground-water salinity, and ground-water accretion to the San Joaquin River. The hydrological impacts with the project were compared to a simulation of future ground-water levels and river flows without the project; we assume that the future simulation without the project included ongoing drainage pumping by TID.

8

It is not an overly significant point, but it is not clear which reference is responsible for the ground-water evaluation work. Contours of estimated changes in ground-water levels (Figs. 22-29) are attributed to a Brown and Caldwell report (**Evaluation of Shallow Groundwater Alternative, Draft**. January, 1998); the immediately following hydrographs of projected water levels in the center of the wellfield (Figs. 30-31) are attributed to Hydrologic Consultants, Inc. (**Diablo Grande Project Groundwater and Streamflow Impacts for Well Alignments A and B**. January, 1998); and the tabular summary, Table 8, of ground-water level impacts is attributed to Brown and Caldwell. The changing citations of what would appear to be model output raise question about preparation and calibration of the model, use of the model for analysis of scenarios, generation of model output, and interpretation of results.

LUHDORFF & SCALMANINI CONSULTING ENGINEERS

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9 The discussion of impacts of the project fails to identify and quantify the direct pumping impacts which will result from the operation of the selected wells. The model results show the regional impact of extracting water from the aquifer system. The analysis needs to be expanded to show the shorter-term impacts of operating the proposed water supply wells in proximity to existing wells. Operation of the proposed wells at the planned capacities of 1,350 gpm per well, for variable pumping cycles to meet the distribution of water demand as illustrated in Fig. 10, will result in pumping cones of depression around the wells which are not mentioned in the Draft EIR. This impact needs to be identified and analyzed (particularly in light of the widespread claim made against TID by shallow domestic well owners who were impacted when TID pumped ground water at its highest historical rate in 1988).

10 The simulation of project impacts includes buildup of project water demand through the year 2022, followed by six years that include a repeat of either the 1976-77 drought (Scenario A) or the 1987-92 drought (Scenario B). In the two scenarios, the end of the simulated drought was assumed to be in the year 2025; drought recovery is assumed to then occur through 2028. What remains is a question of the assumed hydrology prior to, and after, the assumed drought conditions. Further, since the majority of the simulation period includes increasing water demand by the project, it is unclear what the long-term impacts are projected to be when the project is at buildout demand. The continuously declining hydrographs in Figures 30 and 31 raise questions regarding whether the apparent "stabilization" after 2025 is due to drought recovery or some new equilibrium in the ground-water basin. The predicted long-term impacts of the build-out project should be presented.

11 The discussion of impacts of the project on streamflow focuses on reduced ground-water accretion but fails to identify and assess the impact of reduced discharges from the TID drainage wells which now spill into the San Joaquin River and thus contribute to streamflow, notably during the irrigation season. That component of streamflow needs to be quantified, and the impact of its reduction by the project needs to be evaluated.

12 The simulated impacts of the project on ground-water levels, as illustrated in Figs. 22-27, probably warrant a little more explanation since no impacts (i.e. less than 4 feet, which is the smallest contour interval of impact illustrated on the figures) are shown in eastern portions of both wellfield alternatives. For example, Well Alignment B extends about 1-1/2 miles to the east of the area shown to be impacted. The lack of any impact (or the prediction of small, i.e. less than 4 feet, impact) in parts of the proposed wellfield alternatives needs to be discussed and explained.

Water Quality

Based on experience with other projects, it is difficult to envision the State Department of Health Services approving the shallow ground-water supply option without extensive treatment. Ground-

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March 10, 1998
Page 4

13 water quality in the wellfield area is shown to be quite poor, with numerous TID wells showing failure to meet numerous primary and secondary drinking water standards (Table 5). The simple dismissal of water quality by noting the need for treatment (and reference to a "filter plant") is inadequate. The discussion needs to note that treatment will require notably more than filtering. At a minimum, based on the limited list of constituents in Table 5, the water will require treatment for reduction of nitrate concentration (primary drinking water standard) and for reduction of dissolved minerals and chloride (secondary drinking water standards) in order for the proposed supply to be used for domestic purposes. The environmental impacts of such treatment, and the associated disposal of the removed salts, need to be discussed and mitigated as necessary. Also, the feasibility and environmental impact of using such water for irrigation, with such high sodium and total dissolved solids concentrations, need to be addressed, particularly for sensitive "crops" such as golf course turf.

14 We recognize the possibility that water treatment was adequately discussed, with appropriate mitigation as required, in the original Draft EIR, since there is specific mention of that subject in this Draft Supplemental EIR. However, our preceding comments arise primarily from the simple reference to filtration as a treatment mechanism; again, for the concentrations of identified constituents in the DSEIR, treatment can be expected to exceed basic filtration. Consequently, unless the original Draft EIR addresses the extensive treatment likely to be required for this water supply option, its impacts and mitigation need to be included in the Supplemental EIR.

Mitigation - Ground-Water Levels

15 The mitigation of water level impacts is notably lacking. First, as noted above, the Draft EIR fails to identify direct pumping impacts as a potential impact of the project. The mitigation measures discussion (beginning on pg. 2-75) lists four elements of a mitigation program to be established. In simple summary, the program is inadequate for at least four reasons. First, the mitigation program is to be developed in the future, voiding any opportunity to judge its adequacy as part of this EIR process. Second, monitoring (element 2) is not mitigation; monitoring might be used to assess the effectiveness of mitigation, but monitoring of itself is not mitigation. Third, thresholds (element 3) are inadequately defined; for example, the meaning of a "significant" reduction of a pump's capacity needs to be defined. Fourth, ground-water modeling (element 4) is not mitigation; modeling might be used to predict impacts, and possibly to assign responsibility for them, but it does nothing to mitigate them. Since the Shallow County Groundwater option is the first listed environmentally superior water supply alternative for the project (pg. S-37), mitigation cannot be a promised program; it needs to be identified with specifics that quantify significance and list real mitigation that will result if significant impacts occur. Again, at the risk of redundancy, this would appear to warrant more complete discussion, even if only because of the actual pumping impacts that occurred in the subject area in 1988.

LUHDORFF & SCALMANINI

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Impacts - Streamflow

16 As noted above, the impacts discussion fails to account for the reduction in San Joaquin River streamflow that will result from the reduction of drainage pumping by TID that now spills to the River; rather, streamflow impacts are limited to reduced ground-water inflow resulting from lowering of ground-water levels near the River. The mitigation measures discussion (beginning on pg. 2-87) specifies an adaptive management measure, for forecast Dry or Critical water year conditions, that requires release of an appropriate amount of water into the River to offset model-predicted project impacts. Four options are listed to implement the discharge of required water. The first option is release of surface water, possibly purchased from TID, into the affected reach of the San Joaquin River. This option, at least as far as the possible purchase from TID is concerned, needs to recognize the agreement among San Francisco and the Modesto and Turlock Irrigation Districts, which was part of the mediated settlement on the Tuolumne River (discussed at pgs. 2-43, 44). That agreement provides San Francisco with a first option to purchase any surplus water offered for sale or transfer by MID or TID. Since that option by San Francisco might affect the availability of water for this mitigation measure, it should at least be identified.

The second option for release of mitigation water into the San Joaquin River is to increase project pumping. It is noted that this option "generally would be implemented when groundwater levels in the area of the well field remain high." In order that this option includes "real" water, some discussion is needed to address the feasibility and reality of ground-water levels remaining high in light of the predicted impacts of this project (e.g., Figs. 30 and 31, Figs. 22 through 29), particularly when this mitigation measure is required only in dry and critically dry years.

Finally, the fourth option for release of mitigation water into the San Joaquin River is to pump ground-water from other drainage wells in TID. First of all, if TID is discharging drainage water from other wells, it is already contributing to flows in the San Joaquin and that discharge cannot be counted as mitigation for reduction of other drainage pumping. Second, as with the second option above, this option is somewhat convoluted in that the availability of ground water in other drainage areas is predicated on shallow ground water remaining high in those areas (again, in dry and critically dry years) when ground-water levels are low in the project wellfield area. Presumably, even if ground-water levels are high despite dry conditions, TID will be continuing its historical drainage pumping practice; and, as noted above, the project cannot take "credit" for that discharge as mitigation for its impacts elsewhere. Further, there is no mention of the impacts of such increased drainage pumping in other areas on reduced ground-water discharge to the River as a result of that pumping. In summary, there is serious question about the viability of any of the supplemental water options listed to mitigate reduced streamflow in dry and critically dry years; and this question only increases when the Draft EIR properly accounts for the reduced streamflow that will result from the project's use of drainage pumping that would otherwise discharge to the San Joaquin River.

LUHDORFF & SCALMANINI CONSULTING ENGINEERS

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We appreciate the opportunity to review and comment on the Draft Supplemental Environmental Impact Report for the Diablo Grande Project. We trust that our comments will be useful in

completing the environmental assessment of the proposed project's water supply. If we can provide further details or respond to questions, we would be pleased to do so.

Sincerely,

LUHDORFF AND SCALMANINI
CONSULTING ENGINEERS

Joseph C. Scalmanini

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LUHDORFF & SCALMANINI

Response to Letter 16

1. The commenter references a contractual relationship with the TID. The agreement among the TID, Modesto Irrigation District and the City and County of San Francisco relates to the Tuolumne River water. Option 4 referenced by the commenter (now referenced as option 3 as a result of revising the mitigation) is an element of mitigation 6. There is no reference to Don Pedro reservoir water as stated by the commenter. The FERC Settlement Agreement with the TID does not contain any obligation to offer the sale of groundwater to San Francisco (Debbie Liebersbach, pers. com., May 8, 1998).

As it pertains to a TID agreement under the FERC Settlement Agreement relating to an option to the USFWS and the CDFG to purchase water cumulatively of up to 20 percent of any water to be sold by the TID, for diversion above Don Pedro Reservoir, this applies to surface water only. The proposed transfer of 11,000 acre-feet of groundwater does not include the sale of surface water and the water is not for diversion above Don Pedro Reservoir (Debbie Liebersbach, pers. com., May 15, 1998).

2. The commenter addresses an issue previously discussed. Refer to response to comment 9 in Letter 14 (Stanislaus County Farm Bureau).

3. The commenter would like to know whether, under equilibrium conditions in the future, the long-term average reduction in flow volume in the San Joaquin River equals the ultimate depletion by the project (i.e., 11,000 AFY).

As stated in the Draft SEIR, the maximum loss of accretion to the San Joaquin River during a critical water year would be 5,300 to 6,500 AFY, not 11,000 AFY.

The SEIR provides a reasonable approach to determine the project's potential impacts pertaining to groundwater and the San Joaquin River. The impact analysis is based on a model using the best available science, which includes input elements discussed in the Draft SEIR (page 2-47).

The groundwater model study area includes an area larger than the immediate vicinity of the project wells in order to include all of the likely hydrological impacts. The geographic boundaries of the study area--extending to the Tuolumne River on the north, the San Joaquin River on the west, the Merced River on the south, and the Sierra Nevada foothills on the east--include the entire local groundwater system, as well as the hydraulic interactions between the groundwater system.

The model accounts for pumping by all significant groundwater users, groundwater recharge based on the agricultural uses of surface water and agricultural uses of groundwater, the consumption of irrigation water and precipitation, the hydraulic characteristics of the aquifers and aquitards, and the current knowledge of the hydraulic characteristics of the boundaries of the groundwater system. The proposed groundwater pumping for the Diablo Grande project is based on the gradual increase of annual pumping starting in 1998, with the full 11,000 acre-feet

per year being reached in 2022. The model also includes assumptions for TID canal deliveries and Tuolumne, Merced, and San Joaquin river flows.

As stated in the Draft SEIR (page 2-44, last paragraph), the model projects groundwater levels and river flows for each year of the project, from initial phase-in in 1998 until six years past the anticipated project buildout (the year 2028). Furthermore, the modeling scenarios incorporate drought years into the hydrology following project buildout to determine any additional drought associated impacts.

Two climate scenarios (Scenario A and Scenario B) for the 1997 to 2028 period were modeled for each of the two well field alignments. The two climate scenarios simulate the two most recent droughts experienced in California: the 1976-77 and 1987-92 droughts. The 1976-77 drought represents the drought of record with the largest single-year water supply deficit. The 1987-92 drought is the drought of record for the Tuolumne River basin with the largest multi-year cumulative water supply deficit. These droughts were simulated by using the historical rainfall data represented by these droughts, as well as the data corresponding to the preceding and subsequent years. In the model, the year 2025 corresponds with the last year of the two assumed drought scenarios. The year 2028 corresponds to drought recovery. For example, in Scenario A, rainfall data for 1977 are used for 2025, and rainfall data for 1980 (a year of above average rainfall) are used for 2028. The droughts are assumed to occur after full buildout, in order to identify the potential worst case impacts. Additionally, the two scenarios also include minor droughts in the middle of the study period (Figure 21 in the Draft SEIR indicates the model inputs and the projected impacts to the loss of accretion to the river).

The two scenarios were designed to determine what would happen if history repeated itself for those two scenarios. The reason that the droughts were established near the end of the scenarios was because the proposed project would be at full buildout and would be using maximum water supplies. Therefore, the scenarios evaluated the worst case scenario.

The groundwater model was calibrated to historical groundwater levels for the 1952 to 1996 period. For this study, the groundwater model is used to predict relative project impacts. Each well field alignment and climate scenario is compared to the baseline condition with no project.

As it pertains to the groundwater levels, the Draft SEIR states (page 2-50, third paragraph) that the anticipated drop in groundwater will be an additional 18 to 20 feet at the center of the well field, and by up to two feet two miles from the center of the well field, than otherwise would have occurred without the project. The Draft SEIR also states (page 2-87, second paragraph) that, at project buildout, the maximum loss of accretion would be up to 5,300 to 6,500 AFY during a prolonged drought period, depending on the well alignment. Therefore, because droughts equal the severity of those modeled and their frequency, during most years the lowering of groundwater levels as a result of the pumping by Diablo Grande will be significantly less than what the worst case scenario indicates.

As it pertains to the loss of accretion to the river, the model estimates that during a prolonged drought, the average summer flows in the San Joaquin River would be reduced by up to 4.18 percent or 5.74 percent, depending on well alignment and weather scenario. Again, because droughts equal the severity of those modeled and their frequency, during most years the loss of accretion to the river will be significantly less than what the worst case scenario indicates. Based on the model, the amount taken out of the TID by the WHWD will not cause an equal amount in the loss of accretion.

Modeling the project's impacts beyond the year 2028 to determine what the project's impacts may be would not provide reliable information of project impacts, because the input elements needed for such a model would require speculative analysis of future land uses within the TID, whereby the model's credibility would further degrade because of the excessive margin of error.

Pertinent to the model issue is CEQA Guidelines Section 15145, which addresses speculation. This section stipulates that the lead agency should terminate discussion of a particular effect if it is based on speculation. Inherently, models speculate about the future. However, the farther out a model speculates about the future, the greater the margin of error and the greater the unreliability of the conclusions. For this reason, modeling beyond the year 2028 was determined to be too speculative and is not provided as part of this SEIR.

4. The commenter states that there should be no year-type qualifier as to the type of year during which mitigation is required or "triggered" because any reduction in existing baseline flows at Vernalis on the San Joaquin River caused by the project will result in increased flows from the signatories to the VAMP agreement.

VAMP applies to a 31-day period during April and May of each year (second quarter in the modeled scenarios used in the Draft SEIR), normally April 15 to May 16. VAMP expires in the year 2010. The VAMP flows are measured at Vernalis with the lowest VAMP flow target being 2,000 cubic feet per second. The maximum modeled reduction for the second quarter through 2010 for this limited reach and before flows from the Tuolumne and Stanislaus rivers are added is less than one percent (more specifically 0.88 percent for scenario A and 0.30 percent for scenario B). These reductions are so small that they would not be measurable at the Vernalis gauging station.

The evaluation of potential effects of the project on the Chinook salmon (page 2-87), the determination of significance of this impact, and accompanying mitigation measure 6(a), are based on an analysis of the projected reductions in San Joaquin River flow relative to total river flow in the project area for different water year types, and an assessment of the potential for these reductions to substantially affect the population of Chinook salmon that migrate through the affected section of the river (i.e., below the confluence of the San Joaquin and Merced rivers and above the confluence of the San Joaquin and Tuolumne rivers). As discussed on page 2-87, the projected reduction in flow at full project build-out would amount to less that 0.5

percent of the mean annual flow in the San Joaquin River in this section of the river during years with near average or higher than average flow. Because this section of the river serves as a migration corridor and does not provide spawning grounds for the Chinook salmon, the Draft SEIR concludes that this relatively small reduction in flow is unlikely to affect the salmon significantly in years with near-average or above-average flow (i.e., Below Normal, Above Normal or Wet water years as defined by the DWR).

5. The commenter states that the mitigation for Chinook salmon should be coordinated with all VAMP releases. The specific time periods for implementation of mitigation measure 6(a), as described on pages 2-87 and 2-88, are established only for the population of Chinook salmon that the Draft SEIR concludes could be significantly affected by the project, i.e., the Merced River run that migrates through the affected reach of the river (i.e., upstream of the confluence of the Tuolumne River with the San Joaquin River). Therefore, the mitigation measure coordinates the required water releases only with projected increased Merced River flows resulting from the VAMP and other programs (see revised language of mitigation measure 6(a) in the *Modifications to the Draft SEIR* section at the end of this Final SEIR. Reference page 2-87). While the projected reductions in San Joaquin River flow would have some impact on the overall water balance of the San Joaquin River and Delta downstream of the project area, these flow reductions are expected to be negligible relative to the total flow in the system. The mean flow for the 1912 to 1996 period of record for the Newman gauging station is 2,202 cfs or 1.46 million acre-feet per year (Draft SEIR, page 2-40). Consequently, these reductions are not expected to adversely affect salmon spawning in the Tuolumne or Stanislaus Rivers, or salmon migrating below the confluence of the San Joaquin River with the Tuolumne River.

6. It is not clear how the references to VAMP relate to the proposed Option 4. The lawsuit related to TID's 1988 groundwater program which involved groundwater pumping generally in an area to the south and east of the City of Turlock; an area which is approximately 10 miles east of the project area. Under Option 4, TID is not guaranteeing that Diablo Grande will be furnished water under all circumstances. Therefore, the Western Hills Water District, during the critical water year, will need to provide for adequate backup water supplies. Water to be obtained by WHWD under these conditions could be obtained from the various options discussed in the Draft SEIR, not just the TID.

7. The commenter makes the point that the statement in the Draft SEIR that groundwater pumping by Diablo Grande will increase productivity of agricultural practices, is not supportable. The estimated average of 496,000 acre-feet per year of groundwater pumping from the Turlock groundwater basin between 1997 and 2028 reduces groundwater levels and provides a benefit to farmers. The EIR consultant agrees with the commenter regarding text on page 2-100 of the Draft SEIR which states "... would likely increase the productivity of agricultural practices ..." should not be used. It should read "... may increase ...". Refer to response to comment 5 in Letter 12 (South Delta Water Agency) for additional information pertinent to this comment.

As stated in the Draft SEIR, high groundwater levels occur in the western portion of the area served by TID including the project area. The groundwater levels rose shortly after the turn of the century when farmed acreage and applied irrigation increased dramatically. Only shallow rooted crops, as opposed to deep rooted crops such as orchards can be economically grown in the study area due to the historically high water table.

Surface application of irrigation water over much of the San Joaquin Valley, both on the east and west sides of the San Joaquin River, has contributed to raising the groundwater table to within as high as one foot below ground surface (bgs) in certain areas. The high water table adversely affects the farmability of these areas.

Drainage wells were installed by the TID as early as 1925 to manage the groundwater table. Strategically located drainage wells are systematically pumped when measured water levels reach approximately six feet bgs or higher. Drainage pumping is carried out by the TID in an effort to lower the high water table. Without drainage pumping, the area would be unsuitable for most agricultural uses. Drainage water pumped during the irrigation season is discharged into TID's canal system where it becomes available for irrigation. Unused water is ultimately discharged to the San Joaquin River via the TID system of canals and drains.

The TID monitors groundwater levels seasonally using a network of shallow monitoring wells located at section corners. As an example of groundwater levels, Figures 17 and 18 contained in the Draft SEIR depict the groundwater levels in the vicinity of the project area. As depicted on the figures, groundwater in the project area was five to 11 feet bgs during December 1994 and four to six feet bgs in July 1995. Historical groundwater data for the 1980 to 1995 period shows that groundwater levels have varied from zero to 14 feet bgs in the project area. Groundwater tends to be closer to the surface during the summer months, and deeper during the winter months. December and July generally represent the level of groundwater at its minimum and maximum elevations, respectively. Likewise, groundwater levels generally tend to be higher during "wet" years and lower during "dry" years. Even with these seasonal and annual variations, drainage pumping is normally needed to reduce the potential for adverse impacts to crops due to high groundwater levels.

The shallowest groundwater occurs in the area around the intersection of Bradbury and Morgan roads. Groundwater in this area is typically three to four feet bgs during the summer (July) and five to six feet bgs during the winter months (December). The deeper groundwater is on the western side of the well fields near the intersection of Harding and Carpenter roads. In this area groundwater typically varies from eight to 14 feet bgs.

Therefore, based on the above discussion, by dropping the groundwater levels permanently through supplying the Diablo Grande project with 11,000 afy (11,000 afy plus the 496,000 afy per estimated average annual groundwater pumped within the Turlock Basin), it is correct to conclude that there would be a positive economic gain associated with transferring this groundwater to Diablo Grande. As stated

previously, only shallow rooted crops, as opposed to deep rooted crops such as orchards, can be economically grown in the study area due to the historically high water table. Therefore, by lowering the groundwater more options are available to the agricultural community to cultivate different crops with deeper roots.

8. The commenter inquires about the ongoing drainage pumping by TID in the groundwater model without the project. The model does assume continuing groundwater pumping by the TID if there is no groundwater transfer to Diablo Grande. This is discussed on pages 2-48 and 2-74 of the Draft SEIR. Also, refer to response to comment 7 above.

The commenter also addresses the figure and table references referencing both Brown and Caldwell and Hydrologic Consultants. Hydrologic Consultants prepared the model, whereas Brown and Caldwell assisted in the environmental review process by providing additional information derived from the model, which would help to explain the project impacts.

9. The applicant requests that the impacts on each existing well in proximity to proposed wells be evaluated. This level of analysis was not conducted as part of the Draft SEIR because specific well locations have not been determined at this time. The approach taken in the Draft SEIR was to provide an areawide impact analysis. However, the level of analysis requested by the commenter will be provided as an element of mitigation 4.

10. The commenter addresses an issue previously addressed. Refer to response to comment 3 above.

11. The commenter addresses an issue previously addressed. Refer to response to comment 2 and 3 above and the additional discussion on water treatment impacts contained in the section below titled *Modifications to the Draft SEIR* (reference page 2-97).

12. The commenter points out an error in the graphics. The figures contained in the Draft SEIR contained incorrect information relating to the extent of the contour lines. Attached to this document in the section titled *Modifications to the Draft SEIR* are the revised figures 22-29. These figures show the area of impact to extend further east. A comparison of these figures contained in the Draft SEIR and those contained herein will clearly indicate the difference in the information. Note, however, that only the figures were erroneous, not the text regarding the area of impact where groundwater levels would drop.

13. As it pertains to the quality of TID water, the level of analysis contained in the Draft SEIR is adequate by stating that treatment of the TID water will be required to meet federal and state water quality standards for potable use. As it pertains to the waste flow from the treatment process, this issue was previously discussed in response to comments 1, 4 and 5 in Letter 4 (California Department of Health Services).

14. The commenter addresses an issue previously addressed. Refer to response to comments 1, 4 and 5 in Letter 4 (California Department of Health Services).

15. The commenter contends that the impact to area wells is not adequately discussed and mitigation 4 is not adequate per the requirements of CEQA.

As it pertains to groundwater pumping impacts, the SEIR does not address each existing private well's potential characteristics during various drought scenarios, instead the SEIR considers a larger impact area. A determination of each private well's characteristics within two miles of the center of the well field will occur as mitigation 4 is implemented. As stated in mitigation 4, the characteristics will be inventoried prior to operation of any project wells.

As it pertains to the adequacy of mitigation 4, this issue has been discussed previously in our responses. Refer to response to comment 8 in Letter 14 (Stanislaus County Farm Bureau) for additional information pertinent to this comment.

16. The commenter is concerned about the viability of the options in mitigation 6. In response to this concern, mitigation 6 has been amended. Refer to the *Modifications to the Draft SEIR* section for the amended text (reference page 2-87).

As it pertains to option 1, refer to response to comment 1 above. As it pertains to option 2, this option has been omitted from mitigation 6. Refer to the *Modifications to the Draft SEIR* section for the amended mitigation (reference page 2-87).

As it pertains to option 3 (renumbered "option 2" as a result of revising mitigation 6), this option also requires modeling to determine when reduced groundwater pumping should occur. Designating this mitigation option to a secondary mitigation status (relative to option 1) allows this option to be used at some future date after modeling has been conducted which will determine at what time reduced pumping should occur. It is important to note that due to hydrological characteristics of the soils, reduced pumping by the WHWD would have to occur at some point prior to when the increased flows in the San Joaquin River would have to occur. Modeling would be required to determine when reduced pumping would occur.

As it pertains to option 6 (renumbered "option 3" as a result of revising mitigation 6), this option would also require future modeling to verify potential secondary impacts to the San Joaquin River. However, this option emphasizes pumping in areas of the TID not in proximity to the San Joaquin, thus eliminating or reducing any potential secondary impacts to the San Joaquin River.

The issue of "taking credit" is important, however, there is no intention to use the existing flows as a credit for an impact associated with Diablo Grande. The model indicated that the loss of accretion to the San Joaquin River could be as high as 5,300 to 6,500 acre-feet per year, depending on well location and weather scenario. Whatever the actual loss of accretion to the San Joaquin River is, as determined through regular monitoring and modeling (as required in mitigation 6), will be the

amount Diablo Grande will be responsible for returning to the San Joaquin River during dry and critical water years. Also, refer to response to comment 6 in Letter 12 (South Delta Water Agency) for additional information pertinent to this comment.

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Friends of the Tuolumne

2412 Hilo Lane
Ceres, California 95307

Working for the Benefit of the Tuolumne River

March 17, 1998

Stanislaus County Department of Planning
and Community Development
1100 H Street
Modesto. CA 95354

Gentlemen:

Diablo Grande Water Resources Plan
Draft Supplemental Environmental Impact Report

1 We could not find the list of persons contacted as listed in the Table of Contents at 4.2. Was the National Marine Fisheries Service contacted regarding the steelhead of these waters. The steelhead have received threatened species protection in our waters. The Tuolumne expects to have steelhead in the near future now that the FERC water flows have begun. The Stanislaus River does have steelhead which migrate through San Joaquin waters. The steelhead of the Stanislaus would be significantly impacted if water below the confluence is reduced.

2 If the flows in the San Joaquin River between Merced and Tuolumne rivers are reduced. the flows below the Tuolumne will also be reduced. These reductions and their impact on steelhead must be addressed. both in the Tuolumne (expected to return due to natural straying of spawners) and in the Stanislaus. Steelhead do not migrate during the same period as Chinook Salmon and must have good. clean. and plentiful water for their migrations.

3 The proposed project would result in some reduction of flow in the San Joaquin River according to "Deplete Surface Water Resources", page 2-75. What would the reduction be for each month of the year for each year type? The analysis in not complete if it does not report the expected impacts for each of the affected rivers. including the Stanislaus. and all the species. including the steelhead. for each month under each water year type. It must also analyze the impacts of consecutive years and years where a below normal year is followed three years later with below normal water. Such timing could reduce spawning effectiveness of a low population year to a critical point.

4 The FERC water was negotiated for fish. and not to water golf courses. It is not reasonable to view the increased FERC water flows as enabling the diversion of other waters. We expect the impacts of the proposal to be analyzed without the FERC water flows. either of Don Pedro or Vernalis Adaptive Management Plan. These waters were negotiated with great difficulty and do not address both fish needs and development needs. The FERC waters are needed to flow the entire length of the San Joaquin into the Delta in order to provide a healthy corridor for fish migrations. At no time did the FERC negotiations for Don Pedro anticipate diversions for Diablo Grande. We object to the use of these waters to reduce the negative impacts that may be caused by Diablo Grande use of water that was expected to continue down the San Joaquin.

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5 In addition, the FERC waters are not adequate in all water year types for Chinook salmon. In years with below normal water, not just dry and critical years, any and all water is critical for their survival. Therefore, mitigating for only critical and dry years will not insure the health of the fall run Chinook salmon. The salmon will suffer substantially in low water years and the diversions for Diablo Grande will decrease their spawning success even further.

6 The Don Pedro Settlement Agreement, 1995, provides that "The Districts will agree to make water transfers on mutually agreeable terms subject to the Districts' ability to free water from other committed uses." We contend that the ground water they propose to sell must, instead, be offered as a water transfer to the fishery agencies. The above quote does not specifically restrict itself to the Tuolumne River, but includes the San Joaquin River as well. The Settlement Agreement also provides that "the participants agree to work cooperatively in an effort to obtain additional flows in the Tuolumne River." We contend that unless TID has fully negotiated selling water to Diablo Grande that will first flow down through the Tuolumne River, it has not complied with its requirement to "work cooperatively in an effort to obtain additional flows in the Tuolumne River."

7 Your report describes the Chinook Salmon as emigrating downstream to the ocean from March through May. You neglect to discuss that a percentage of the smolts remain in the rivers until the following fall and spring. Many smolt emigrate as late as June, based on the most current research. We request that you update your information regarding salmon life cycle variations. These late fish represent genetic variation that must be protected.

8 Page 2-84 states "However, in assessing the potential effects on migrating salmon of reduced groundwater accretion, water quality variables such as temperature, turbidity, and dissolved solid load must also be considered." Of course that is true. What is also true is that all these problems will be worse with less water, if the Diablo Grande diversions are allowed. What is the exact quality of the water that is currently draining into the San Joaquin due to the ground water pumping by TID? How does it compare to the quality of the river? It is possible that accretion water actually improves San Joaquin water quality.

9 Page 2-87 "Impact" states that adult Chinook salmon would be affected during upstream migration (October-December). We would like to see an analysis that demonstrates that no salmon are migrating in September. The paragraph also states that juveniles would be affected during emigration (March-May). We would like to see an analysis that demonstrates that no salmon are emigrating in June in any year. We expect to see an analysis regarding the percentage of juveniles that remain in the rivers for several additional months and when they migrate out.

10 "Mitigation Measure" assumes that mitigation is necessary only during dry and critical years. Mitigation measures must be offered for all years with below normal water since the impacts will be significant in all years below normal. When we negotiated the FERC Settlement Agreement for Don Pedro, it was with the understanding that only for normal and above years did we have healthy salmon water flows. It is imperative that mitigation be for the full migration periods, not just the short pulse flow periods. Not all salmon migrate during the pulse flows, therefore river flows should not be diminished at any time during the migration period. Not all fishery biologists or fish agencies believe in the usefulness of pulse flows. In order to allow the full genetic diversity to manifest itself, late and early spawners must also be protected.

11 Mitigation Measure 6.a. does not specify who would perform the "hydrological analysis" to determine the necessary water. Who will pay for all these monitoring duties and analyses? We contend that Diablo Gande must pay for all the costs incurred by the fishery agencies such as California Fish and Game and U.S. Fish and Wildlife Service.

12 The proposed mitigation of reduction in project groundwater pumping states that it would be implemented when ground water levels in the area of the well field are low. This should be a proposed mitigation when the river needs more water, too. Where is the proposal that Diablo Grande will reduce its use of water

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during years with below normal water? Diablo Grande must share in the pain and make significant efforts to assist in fish survival.

13 Of greatest concern to us is the idea proposed in Mitigation Measure 6.b., page 2-89. What support do you have that non-water mitigation would be effective in replacing water used by Diablo Grande? Fish need water first and foremost. This paragraph allows the water users to "throw money" at the problem rather than mitigate the impacts. No program for riparian or instream habitat restoration can mitigate for loss of water. Fish swim in the water, they don't climb trees. "Instream habitat" by definition is water. Only adequate fishery water can make an instream habitat healthy. The idea of funding management of chinook salmon populations in the San Joaquin River basin must be modified to be "naturally spawning/native chinook salmon and steelhead populations in the entire San Joaquin River basin" as is consistent with California and federal guidelines.

As signatories to the Don Pedro Settlement Agreement, 1995, we consider protection of the fishery to be of top priority. We will continue to work for its health in all possible ways.

Sincerely,

David M. Boucher

David M. Boucher
President

Response to Letter 17

1. A list of persons contacted is provided on page 4-5 of the draft EIR, and includes Randy Baxter, a CDFG fisheries biologist, and Carl Mesick, an independent biological consultant with expertise on Central Valley fisheries issues. The NMFS was not contacted. Based on conversations with these individuals and reference to other sources (e.g., USFWS 1995), there is no evidence that steelhead presently occur in the San Joaquin River in the project area, as indicated on page 2-85. The determination of significance of impacts of the project is based on existing conditions, not on expected (or desired) future conditions. Therefore, the expectation that steelhead may occur in the project vicinity at some time in the future is not sufficient basis for concluding that the project would significantly affect steelhead. The suggestion that steelhead "would be significantly impacted if water below the confluence is reduced" fails to identify an objective threshold for such an impact, and it is misleading to imply that any reduction in flow would significantly affect the steelhead population far downstream from the project area.

2. While the projected reductions in San Joaquin River flow would also reduce flow in the San Joaquin River below its confluence with the Tuolumne River, these flow reductions are expected to be negligible relative to the total flow in the system, in part because of the large water inputs from the Tuolumne River and other downstream sources. Consequently, these reductions are not expected to significantly affect salmon or steelhead migrating below the confluence of the San Joaquin River with the Tuolumne River, particularly in years with near-average or above-average flow. Furthermore, implementation of mitigation measure 6(a) as provided for Chinook salmon in the project area could also be expected to benefit salmon and steelhead populations downstream of the project area.

3. The hydrological analysis of the project, summarized on pages 2-48 to 2-74 and Figures 21 to 31, identifies the approximate area of effect and magnitude of potential impacts of the project. The results of this analysis indicate that reductions in groundwater accretion would reduce flows in the San Joaquin River in the project area and downstream of the project, but do not indicate that the Tuolumne River or Stanislaus River would be affected. Therefore, the suggestion that the analysis be expanded to include these rivers is not justified. Furthermore, expanding the analysis to include "each month under each water year type" would be unnecessarily tedious, and implies that potential impacts to salmon or steelhead could be accurately predicted from such an analysis, which is unrealistic. As summarized on pages 2-47 and 2-48, the hydrological model uses a conservative worst-case scenario, i.e., a six-year record drought at maximal project build out, to assess potential maximal impacts of the project. Moreover, the model incorporates historical rainfall data, which includes the full range of water year types, over a 25-year project build out period, and quantifies projected impacts on a quarterly (seasonal) basis. Therefore, the hydrological analysis conducted for the SEIR is sufficiently thorough to provide a reasonable basis for evaluating project impacts.

Appendix C in this Final SEIR contains four figure. Each figure portrays, in graph form, the model's conclusions regarding the project's impacts to the San Joaquin River, but on a smaller scale than that shown in Figure 21 in the Draft SEIR. As can be seen from the figures in Appendix C, the project's impacts relative to a scenario where Diablo Grande does not pump TID groundwater (labeled as "No Project" in the figures), the impact associated with groundwater pumping are indiscernible even at the small scale used in the figures.

4. The commenter does not want the project to consider FERC flows in its determination that the proposed project's loss of accretion impacts to the San Joaquin River would be less-than-significant.

The WHWD groundwater source within the TID and the area of the TID where option 4 (of mitigation 6) groundwater would be taken from are both upstream of the confluence of the Tuolumne and San Joaquin rivers. No water released into the Tuolumne River pursuant to the FERC order would be diverted for Diablo Grande under option 4. The projected reduction in groundwater accretions to the San Joaquin River from this option probably could not be detected at Vernalis during normal years, because the projected maximum reduction is within the error factor for the USGS stream gage at Vernalis (Robert Meyers, pers. com. may 13, 1998).

FERC water flows are discussed in the Draft SEIR as a component of the regional water resources setting in the project impact analyses on pages 2-78. The SEIR does not propose that FERC flows be used to "reduce the negative impacts that may be caused by Diablo Grande". However, in assessing the potential significance of impacts to biological resources in the San Joaquin River, it is relevant to include FERC flows for the Tuolumne River as a component of the existing conditions in the project area.

5. The Draft SEIR analyzes project impacts based on the standard of significance defined on page 2-85, i.e., the likelihood that the project would substantially affect the population or habitat of Chinook salmon that migrate through the affected section of the river. As discussed on page 2-87, the projected reduction in flow at full project build-out would amount to less than 0.5 percent of the mean annual flow in the San Joaquin River in this section of the river. This relatively small reduction in flow is unlikely to affect the salmon significantly in years with near-average or above-average flow (i.e., Below Normal, Above Normal or Wet water years as defined by the DWR), and there is no scientific basis for the claim by the commenter that "any and all water is essential for their survival" in a below-normal water year.

6. The commenter refers to the Don Pedro Settlement Agreement. The FERC flow Settlement Agreement only applies to Tuolumne River surface water. The proposed sale of up to 11,000 acre-feet of groundwater under option 4 in mitigation 6 does not include any Tuolumne River surface water. Also, refer to response to comment 1 in Letter 16 (City and County of San Francisco) for additional information pertinent to this comment.

7. The commenter requests that the SEIR include revised information regarding salmon life cycle variations. The discussion of potential impacts to Chinook salmon provided in the Draft SEIR applies only to the population that could potentially be affected significantly by the project (i.e., the Merced River run), not to all salmon that migrate through the Sacramento/San Joaquin Delta system. The statement that smolts may remain "in the rivers" until the following fall or spring does not apply to the Merced River population in the project area. Based on available information, salmon are not present in the project area during summer because of high water temperatures in the San Joaquin River in this area. Similarly, the statement that "many smolt emigrate as late as June" probably does not apply to the Merced River population, particularly in drier years when project impacts could potentially be significant, because of high water temperatures during late spring in the affected section of the San Joaquin River (CALFED 1997).

8. The exact quality of irrigation return flows and accretion flows are not specifically evaluated in the SEIR, nor is there information available that would indicate the amount of return flow from surface canal drainage. Based on the known conditions of these irrigation return flows as they flow through agricultural drainages, these flows are probably of poor quality. The irrigation return flows have higher concentrations of agricultural related pollutants toward the latter part of the irrigation season when dilution flows are minimal. As noted on page II-53 of the Draft Technical Appendix entitled Surface Water Supplies and Facilities Operations, September 1997, of the Draft Programmatic Environmental Impact Statement, Central Valley Project Improvement Act, mineral concentrations in the reach of the San Joaquin River between the Merced and Tuolumne Rivers, tend to increase due to municipal wastewater discharges, industrial discharges, urban runoff, and agricultural spill. It has not been determined if the accretion water improves the San Joaquin River water.

9. The analysis of potential impacts to Chinook salmon is based on review of available information referenced in the Draft SEIR document, specifically for the Merced River population that could potentially be affected by the project. To our knowledge, there is no evidence that individuals from this population migrate through the affected reach of the river during September (Dan Clemens, Zander Associates. Memo to Matthew Sundt, subject: Diablo Grande. April 14, 1998). Conditions in this section of the river during September are generally not suitable for salmon migration, except possibly in very wet years. Migration of this population typically begins in October, and adequate flows for upstream attraction of adults and spawning do not normally begin until November 1 with the increased water releases through the Merced River under the Davis-Grunsky contract (CALFED 1997). The suggestion that the Draft SEIR provide "an analysis that demonstrates that no salmon are migrating in September" and that "no salmon are emigrating in June" is unreasonable, as it would require proving a negative, and no evidence has been provided to the contrary to justify such an analysis.

10. Mitigation measures are required only for impacts that are determined to be significant or potentially significant. As discussed above, the projected reductions in flow are unlikely to affect the salmon significantly in years with near-average or

above-average flow (i.e., Below Normal, Above Normal or Wet water years). The statement that "the impacts will be significant in all years below normal" is not based on an objective analysis of project impacts against a rigorous standard of significance, nor is it supported by direct evidence (Dan Clemens, Zander Associates. Memo to Matthew Sundt, subject: Diablo Grande. April 14, 1998).

11. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page 2-87).

12. The commenter would like the Draft SEIR to address increased water flow in the San Joaquin River. The Draft SEIR concludes that a reduction in river flow, in itself, is not a significant impact. However, as it relates to Chinook salmon, loss of accretion to the river was determined to be potentially significant and will require mitigation as presented in the Draft SEIR and amended herein this Final SEIR.

As it pertains to water conservation, it is important to reiterate the project description contained in the 1992 EIR for the Diablo Grande project. An important element of the Diablo Grande project is the use of treated effluent from three on-site sewage treatment plants that will provide tertiary treated irrigation water for use on the six proposed golf courses and irrigation of landscaped areas throughout the project. Furthermore, the Diablo Grande project is required to be equipped with water conserving devices such as low-flow faucets, shower heads and toilets (Mitigation Measure 8. Diablo Grande Mitigation Monitoring and Reporting Program. October 26, 1993). In addition, drought tolerant vegetation should be used in all landscaping to minimize irrigation requirements (Mitigation Measure 9. Diablo Grande Mitigation Monitoring and Reporting Program. October 26, 1993),

13. Text is amended to reflect the comment. Refer to *Modifications to the Draft SEIR* section (reference page 2-87). Also, mitigation Measure 6(b) is included in the SEIR to enable the development of alternative mitigation measures in the event that the primary measure (release of supplemental water in the affected area of the San Joaquin River) is determined to be infeasible or ineffective, or if future information indicates that other measures could provide greater benefits to Chinook salmon in the project area. These determinations, and the development of alternative or supplemental measures, would not be made solely by Diablo Grande and WHWD, but would be carried out in consultation with the CDFG, USFWS and/or regional water resource agencies, as set forth in the mitigation measure (note revision to text). The SEIR establishes release of supplemental water to the river during defined critical periods as the primary mitigation measure. However, other factors, such as water quality and conditions of riparian and instream habitat, could also contribute significantly to the success of Chinook salmon in the project area. Which factors are most important for a particular population in a given area will depend on specific local conditions and a number of biological and environmental variables, not all of which are presently known. Mitigation Measure 6(b) provides flexibility to modify or supplement the primary mitigation measure if necessary, as more information becomes available on the status and biology of salmonid populations in the project area.

Ecology
Action
Educational
Institute

P. O. Box 134
Modesto, California 95353

Letter 18, Page 1

March 18, 1998

Kirk Ford
Stanislaus County Planning Commission
1100 H Street
Modesto, CA 95354

Dear Mr. Ford:

Enclosed are further and amended comments on the Diablo Grande Supplemental Environmental Impact Report.

Should you have questions, you can call me at 526-4256, or 527-3850 Ext 314.

Please address any notification of further meetings and deadlines to me at the above address.

Would you please do the same for Jerry Jackman, president, The Yokuts Group of the Sierra Club, PO Box 855, Modesto, CA 95353.

Thank you.

Sincerely,

Margery Fletcher
Vice-President

Letter 18, Page
Page 1

Comments on the Diablo Grande Supplemental Environmental Impact Report
CEQA 15084 (D)(3) Submitted 3/18/98 by Ecology Action Educational Institute

Section 2.1 Option 1 - Marshall Davis Well Site

1 This source of water is restricted to non-residential uses for a period of only five years, and can not be counted as a permanent water source. Although this restriction can be lifted via an agreement between the West Hills Water District and the County, the LAFCO allowed the establishment of Western Hills Water District based on Diablo Grande testimony that the water was to be used for agricultural purposes. We question the legality of the Western Hills Water District being used to provide water for the non-agricultural purpose of residences and golf courses when the stated intent to obtain approval was for agricultural use.

Section 2.2 Option 2-1 - On-Site Groundwater

2 On-Site groundwater is not a reliable or bankable source of water due to the many geological and hydrological abnormalities underneath Diablo Grande's proposed development and it shouldn't be listed as an option.

Drawdown of the alluvial aquifer needs further study for its negative impact on neighboring farming operations. Liability for economic losses to farmers, as well as impact of any loss of irrigated cropland on our County's agricultural economic base should be considered. Continued monitoring of habitats is proposed to mitigate for significant impact on local habitats, but without designating how this and required mitigations will be supervised or funded.

Option 3-1- Patterson Algal Turf Scrubber

3 This is not a new source of water. Rather, it is a reclamation method, dependent on wastewater as a source. This option presupposes that water has already become available, and it has not. Diablo Grande is suggesting they be allowed to divert fresh water from the river and replace it with treated wastewater and they have a permit to do this. While they have a permit to release the treated water, swapping it for fresh water is not a permitted option at this time, and it is doubtful down stream users and the Department of Health Services (DHS) would allow this.

Downstream users, farmers, and homeowners whose property floods every few years would have a very sustainable objection to allowing Diablo Grande's wastewater into the river. The impact of this option, which would increase wasterwater concentration in the river, on fish populations in the San Joaquin River also needs comment.

Section 2.4 Option -4 Shallow County Ground Water

4 At the beginning of the 20th century, before any farmers were using the lands next to the San Joaquin River for farming the ground around the San Joaquin river was saturated due to an abundance of water along the flood plain. A high ground water level has always been a characteristic of this area, and saturation of the soil is not due to later irrigation by farmers, but water from a "shallow, unconfined aquifer." (pg. 2.77-8).. The water being pumped out to dry out the topsoil to make it farmable is not irrigation water, but water from this aquifer, which meets the muddy river bottom, and is a source of groundwater inflow for the river. The massive CAL/FED process, where every state and federal agency involved with water rights is involved, has already calculated the river's flow and quality for what they are, which is what they have historically always been. The TID may have the right to lower the ground water table to insure year-round farming, but they do not have the right to divert that water from the river and all the fish and wildlife which depend on it for life.

Additionally CALFED has already quantified flows in the San Joaquin River and alteration of these flows before their studies for a water plan are complete is a violation of the CALFED agreements.

(Section 2.4, continued)

4 Cont'd Reasons justifying this reduction include increased fish flows in the Tuolumne River through a recent FERC agreement and a potential increase in flows in the lower Merced River. Neither of these increases were designed as justification for lowering of San Joaquin flows by the Diablo Grande project, but as means to improve conditions for salmon, and do not mitigate the impacts of shallow ground water use by Diablo Grande project.

Section 2.5 Option 5 Berrenda Mesa Water District.

5 Supply of water from this District is based on a forecast of the removal of 41,640 acres of crop land from production, and the conversion of an unspecified number of acres of irrigated cropland into non-irrigated cropland. We question the reality of this projection, as well as the influence the sale of this water to Diablo Grande would have on assuring and hastening this loss of this farmland.

Section 2.6 Option 6 Bravo Management Company

6 While Kern County has excess water for sale it has had no takers because of the salt content and poor quality of its water. We question whether the replacement of the good quality water taken out of the canal here, with the poor quality Kern County water further south has been appproved by the Department of Water Resources and other agencies having jurisdiction over this water supply.

7 **Summary:** In addition to the specific listed issues, we have further objection to approval of options until there is full approval by those government agencies, water sellers, current water users and the receivers of waste water involved. We believe impacts of the drawdown of water on local farming operations, water supplies, and wildlife habitats have still not been adequately addressed by this SEIR.

Response to Letter 18

1. The commenter addresses the use of the Marshall-Davis Wells, which has previously been addressed in this response to comments. Refer to response to comment 1 in Letter 11 (Del Puerto Water District). Also, based on LAFCO records, the water is applicable to agricultural and domestic uses. Refer to *Formation of WHWD and Call and Notice of Election*. Stanislaus County Board of Supervisors. March 10, 1992.

2. The on-site water source is a viable long-term water supply, but with restrictions relating to the geological characteristics and hydrological abnormalities which exist underneath Diablo Grande. This water supply is discussed in the Draft SEIR. As it pertains to on-site groundwater use and potential impacts to neighboring farming operations, the Draft SEIR states (second paragraph, page 2-7) that the maximum radius of influence of the wells is 1.5 miles. Furthermore, the Draft SEIR states (second paragraph, page 2-10) that the impact to off-site water users will not occur.

As it pertains to monitoring of habitats, the Draft SEIR states (mitigation 2, page 2-16) that the WHWD, in conjunction with the Stanislaus County Environmental Coordinator, will be responsible for monitoring. Funding will also be provided by the WHWD. Furthermore, Mitigation Measure 2 has been revised to include monitoring of the riparian habitat upstream of the Frog Pond, and specifies appropriate remedial measures to be implemented in the event of adverse effects to this habitat. Refer to revised text of Mitigation Measure 2 in the section below titled *Modifications to the Draft SEIR* , and response to comment 1 in Letter 2 (CDFG) for additional information pertinent to this comment.

3. This comment has been addressed previously. Refer to response to comment 3 in Letter 12 (South Delta Water Agency).

4. CALFED has not calculated the San Joaquin River's water flow and quality. CALFED is merely compiling historical data measured by the U.S. Geologic Survey and others. That data shows that the historical data has greatly varied depending upon the annual hydrology of the San Joaquin River Basin, especially the years following 1975, which include the driest and wettest water years of record. The CALFED process focuses on flows at Vernalis which is located in the South Delta on the San Joaquin River.

FERC water flows are discussed as a component of the regional surface water resource setting, but are not used to "justify" the flow reductions that would result from the project. However, in assessing the potential significance of impacts to biological resources in the San Joaquin River, it is relevant to include FERC flows as a component of the existing conditions in the project area. Impacts to wildlife during dry and critical water years are mitigated in mitigation 6.

The commenter's reference to alteration of river flows before CALFED studies are complete as being a violation of CALFED, is, based on review of the CALFED documents, unsupported.

Furthermore, as it pertains to the commenter's reference to the Tuolumne River, the hydrological analysis of the project, summarized on pages 2-48 to 2-74 and Figures 21 to 31, does not indicate any direct affect of the project on the Tuolumne River, only on the San Joaquin River in the project area.

5. The loss of 41,640 afy in the context of the Berrenda Mesa Water District is a moot point, because its impacts have been discussed in the Monterey Agreement EIR prepared for that water district, which discusses the loss of this agricultural land as part of the transfer of 130,000 afy from agricultural production to urban uses. The Diablo Grande project has an opportunity to obtain some of this water. For more information on the loss of 41,640 afy the reader is referred to the Monterey Agreement EIR, which is incorporated into the Draft SEIR by reference.

6. The Bravo Management Company and the Buena Vista Water District jointly own the Kern County water the commenter references. The banked water is used with other water and used for irrigation in Kern County. No approval by the DWR is required for the water trade. However, the WHWD will have to get DWR approval for taking the water out of the SWP via a new turnout, which are done routinely and in accordance with state specifications (Herb Greydanus, pers. com., May 12, 1998).

7. It is the understanding of the project proponents that water will not be available without the approval of those agencies or individuals responsible for the water source. As it pertains to the adequacy of the discussion in the Draft SEIR on farming operations, water supplies and wildlife habitat, the lead agency's position is that the information contained in the Draft SEIR and this Final SEIR adequately meets the requirements of CEQA.

Letter 19, Page

CALIFORNIA **URBAN WATER** AGENCIES

March 17, 1998

Mr. Kirk Ford
County of Stanislaus
Department of Planning and
Community Development
1100 H Street
Modesto, CA 95354

RECEIVED
MAR 19 1998
DEPT.

Via U.S. Mail and Facsimile

Dear Mr. Ford:

Diablo Grande Water Resources Plan
Draft Supplemental Environmental Impact Report

The California Urban Water Agencies ("CUWA") is an organization representing the state's twelve largest municipal water providers serving over 22 million water consumers in the San Francisco Bay region and Southern California. Our member agencies use about 90% of the urban water supplies taken from the Sacramento-San Joaquin Delta and its tributaries. The following comments are in response to the Diablo Grande Water Resources Plan Draft Supplemental Environmental Impact Report ("SEIR").

The SEIR states that no additional environmental analysis is required for the Patterson Algal Turf Scrubber (Option 3-1) because the environmental effects of this option were evaluated at a project-specific level in the Patterson Algal Turf Scrubber Water Reclamation Project Expanded Initial Study. However, this premise is flawed for two reasons. First, the Patterson Initial Study evaluated a 1,000 acre-foot per year ("afy") discharge to the San Joaquin River.[1] Option 3-1 contemplates a discharge of up to 3,000 afy from the City of Patterson.[2] Second, conditions have changed since the Patterson Initial Study was conducted. The 1996 amendments to the federal Safe Drinking Water Act resulted in major changes in the regulation of drinking water quality that was not considered in the Patterson Initial Study and should be evaluated in the SEIR.[3] In light of the higher discharge contemplated and more stringent regulatory requirements being place on downstream beneficial uses, the SEIR should include an independent analysis as to whether Option 3-1 would result in an adverse impact to downstream beneficial uses.

[1] Patterson Algal Turf Scrubber Water Reclamation Project Expanded Initial Study, City of Patterson, pages 3, 12 (June 1996).
[2] Diablo Grande Water Resources Plan Draft SEIR, County of Stanislaus, pages 1-19, 1-20, 2-19 (January 1998).
[3] 40 CFR Parts 141 and 142, Environmental Protection Agency National Primary Drinking Water Regulations: Disinfectants and Disinfection Byproducts: Notice of Data Availability: Proposed Rule, Environmental, Federal Register (Monday, November 3, 1997).

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Furthermore, Options 3-2 and 3-3 contemplate the construction of Algal Turf Scrubber alternatives at the City of Ceres or City of Modesto wastewater treatment plants. The proposed discharge to the San Joaquin River for these options is 2,000 afy and 12,000 afy, respectively. Neither option has undergone prior environmental review nor does the SEIR consider whether the proposal would result in an alteration of surface water quality. Consequently, the SEIR falls short of the level of disclosure required under the California Environmental Quality Act ("CEQA") to make a determination that the discharge into surface waters would result in a less than significant impact. 2

Because Options 3-1, 3-2 and 3-3 could result in a new discharge of secondary effluent to the San Joaquin River and facilitate increased urbanization in the County of Stanislaus, the County should analyze the impacts due to increased pollutant loading to the San Joaquin River from both point and nonpoint sources and identify project alternatives or mitigation measures to lessen any impacts that are found to be individually or cumulatively significant. The SEIR should be expanded to discuss the following:

3

1. **Total Dissolved Solids.** Impacts on the Central Valley Project ("CVP"), State Water Project ("SWP") operations and municipal, industrial and agricultural users due to increased total dissolved solids ("TDS") loading. Specifically, the loss of water supply to the CVP and SWP resulting from the need for additional dilution flows necessary to compensate for the impact the discharge could have on the ability of the CVP and SWP to comply with water quality objectives in the State Water Resources Control Board's May 1995 Water Quality Control Plan and impacts on municipal, industrial and agricultural water users due to increased TDS loading.

4

2. **Total Organic Carbon and Disinfection By-Products.** The impact of increased total organic carbon ("TOC") and disinfection by-product loading ("DBP") on the ability of drinking water utilities dependent upon the Delta to achieve current and projected drinking water quality standards for these contaminants. Specifically, the impact to human health due to increased DBP formation in drinking water supplies and the cost to remove TOC from the influent of drinking water treatment facilities to meet proposed drinking water regulations for disinfectants and disinfection by-products.[4]

5

3. **Pathogens.** Impacts on human health and water treatment costs due to increased pathogen loading (*Cryptosporidium, Giardia* and others).

6

4. **Alternatives.** A review of reasonable alternatives to the proposed project that could feasibly attain the project's basic objectives while lessening impacts to drinking water quality (e.g., piping the water to Western Hills Water District's point of diversion).

7

5. **Cumulative Impacts.** An evaluation of the cumulative effects of project implementation including the ultimate fate of project water. In assessing the cumulative impacts of the project, the SEIR should evaluate all reasonably foreseeable sources of water pollution, including emission of pollutants from the wastewater treatment plants ("WWTP") and storm drains serving the Diablo Grande site. These impacts should be considered in conjunction

[4] *Id.*

Letter 19, Page 3

7 Cont'd with other projects placing similar pressures on the quality of drinking water diverted from the Sacramento-San Joaquin watershed (e.g., City of Tracy WWTP expansion: Sacramento Regional CSD WWTP expansion: City of Vacaville WWTP expansion: Sutter Power Plant: City of Patterson WWTP expansion: Delta Wetlands Project).

8 6. **Mitigation.** The SEIR should evaluate a full range of measures aimed at substantially lessening, avoiding, or offsetting water quality impacts, including source control measures, treatment, pollutant trading, and control of discharges from feedlots, dairies, and pasture.

9 7. **Significance Criteria.** The County should not assume that simply because the discharges of treated wastewater contemplated in Optons 3-1, 3-2 and 3-3 and associated cumulative impacts are assumed to be in compliance with applicable water quality requirement requirements, policies and NPDES permit conditions, that the overall project would not cause a significant impact to downstream beneficial uses. These water quality objectives, policies and permits do not, as yet, take into consideration the need for water utilities to be able to consistently comply with the requirements of the Safe Drinking Water Act of 1996.

CUWA appreciates the opportunity to comment on the SEIR for the Diablo Grande Water Resources Plan. We look forward to working with the County in the development of an environmental review process that will ensure the success of the project. Please add CUWA's Water Quality Consultant, Peter MacLaggan, to the project mailing list (address below). If you have any questions, please feel free to contact Mr. MacLaggan at (619) 523-4661.

Sincerely,

Byron M. Buck
Executive Director

cc: Gary Carlton, Executive Officer, CVRWQCB
David Spath, Director Office of Drinking Water, DHS
Peter MacLaggan, CUWA Water Quality Consultant
4021 Liggett Drive, San Diego CA 92106

Response to Letter 19

1. The commenter states the environmental conditions pertaining to the algal turf scrubber (ATS) in the City of Patterson have changed, thus the SEIR must address the changed conditions. Furthermore, the commenter addresses the discrepancy between the requirements of the federal Safe Drinking Water Act applicable to water purveyors and the discharged effluent requirements of the RWQCB, which reflect the Clean Water Act.

Discharges of treated effluent to the river by the various jurisdictions is of a quality that does not meet current Safe Drinking Water Act standards and it is not intended to. The result is that the end user using San Joaquin River water for potable use must treat this water to the current federal standard. Effluent discharged must meet the current RWQCB standards, which reflect the Clean Water Act.

The discrepancy between the standard of quality between what is discharged (point and non-point) and diverted by water purveyors for potable use is the result of current federal and state laws and, as such, is an issue that must be addressed at the federal and state level, not at a project level. Refer to response to comment 3 in Letter 12 (South Delta Water Agency) for additional discussion on the ATS.

As it pertains to point and non-point discharges, the NPDES Permitting program under the Clean Water Act is designed to address cumulative water quality impacts. NPDES Permits are required to ensure that state water quality objectives are achieved and that individual projects do not contribute to cumulatively significant water quality impacts. If water quality standards are not met, the state is required to revise individual discharge permits to attain such standards. Furthermore, the ATS project's water quality impact on the river at purveyor's diversions during below normal, above normal or wet water years, as defined by the DWR, would be unmeasurable (Paul Selsky, pers. com., June 10, 1998). During the dry and critical water years, as defined by the DWR, the San Joaquin River's water quality is known to decrease because the parts per million of pollutants increases. The source of pollutants during any type of water year includes municipal wastewater discharges, industrial discharges, urban runoff, and agricultural spill. Under dry and critical water year conditions, it is expected that discharge of ATS treated effluent would actually improve the river's water quality(Ibid.).

Also, the impact of treated wastewater discharges by the City of Patterson is relatively insignificant in comparison to the total quantity of treated wastewater discharged into all of the upstream tributaries of the Delta. According to pages II-3 and 4 of the Draft Technical Appendix entitled Delta as a Source of Drinking Water, September 1997, of the Draft Programmatic Environmental Impact Statement, Central Valley Project Improvement Act, in 1988, the Delta watershed had 94 municipal and 120 industrial wastewater dischargers, which discharged an average of 368 million gallons per day. This flow rate is equivalent to 412,000 acre-feet per year. The City of Patterson's discharges are expected to be a maximum of 3,000 acre-

feet per year. As a matter of policy, the county has determined that existing water quality standards are suitable for use as criteria for measuring the significance of water quality impacts.

A Waste Discharge Requirements Order (No. 96-202) for the City of Patterson ATS, which serves as the NPDES permit (No. CA0083984), finds that the permitted discharge is consistent with the antidegredation provisions of CFR 131.12 and SWRCB Resolution No. 68-16 and finds that the impact on existing water quality will be insignificant. Therefore, in the context of the facts included in the above discussion, the use of ATS water would not result in a cumulative significant impact related to the water quality of the San Joaquin River.

As it pertains to 1,000 to 3,000 acre-feet per year of treated effluent from the Patterson algal turf scrubber, the initial study prepared for that project addressed this issue (refer to Appendix D in the Draft SEIR which is incorporated herein by reference).

2. The algal turf scrubber alternatives referenced by the commenter would be subject to the same standards as those discussed in response to comment 3 in Letter 12 (South Delta Water Agency). These are identified possible future options only and were not analyzed to the same level as the selected options. Furthermore, CEQA review is required should these sources be constructed at a future date.

3-5. The impacts of increased total dissolved solids (TDS), total organic carbon and disinfection by-products, pathogens loading from algal turf scrubber operations on the ability of the Central Valley Project and the SWP to comply with water quality objectives are addressed through the state's NPDES Permitting program. As stated on pages 1-16 through 1-20 of the Draft SEIR, the City of Patterson has a National Pollutant Discharge Elimination System (NPDES) permit to discharge its effluent to the San Joaquin River consistent with the requirements of the Waste Discharge Permit. As such, any proposed discharge would meet the water quality standards applicable at that time. Any ATS would be required to conform to current water quality discharge requirements. Also, refer to response to comment 3 in Letter 12 (South Delta Water Agency). Also, refer to the response to comment 1 above.

6. The commenter would like a discussion of alternatives to discharging treated effluent to the San Joaquin River. The WHWD retains the option to study and implement the recommended alternative described by the commenter.

7. The commenter addresses Diablo Grande impacts associated with storm drains and pollutants from wastewater treatment plants. Both of these issues were addressed in the Diablo Grande Specific Plan EIR (LSA 1992).

8. The commenter is requesting that the impacts associated with ATS be mitigated directly or through offsetting. Any future discharges from an ATS will be required to discharge effluent at a level of quality dictated by the NPDES. Therefore, additional mitigation is not warranted.

9. This comment states that the County should be aware that the project may cause a significant impact to downstream water utilities even though the discharges of treated wastewater meet NPDES waste discharge permit conditions. Refer to response to comment 1 above.

Letter 20, Page 1

Merced/Stanislaus Chapter
Community Alliance with Family Farmers

16 March 1998

Kirk Ford, Senior Planner
Stanislaus County Planning Department
1100 "H" Street, 2nd Floor
Modesto, CA 95354

Re: CAFF Comments on the Draft Supplemental EIR - Diablo Grande Water Resources Plan

Gentlemen:

The Merced/Stanislaus Chapter of the Community Alliance with Family Farmers submits the following comment. on the Draft SEIR on this proposed project. As the attached comments show, we have serious concerns with the potential impact of the proposed transfer on both groundwater and surface water supplies that are critical to viable farming and ranching in Merced and Stanislaus Counties, and throughout the Central Valley.

Very truly yours,

GLENN ANDERSON, Chapter Co-Chair

MIKE FULLER, Chapter Co-Chair

cc: Judith Redmond, Executive Director,
Community Alliance with Family Farmers

Merced/Stanislaus Chapter
Community Alliance with Family Farmers

CAFF CHAPTER COMMENT ON THE DRAFT SUPPLEMENTAL EIR - DIABLO GRANDE WATER RESOURCES PLAN

THE PROPOSED WATER TRANSFER PROJECT MAY CAUSE A SIGNIFICANT CUMULATIVE IMPACT TO THE FLOW OF THE SAN JOAQUIN RIVER

Cumulative Impacts

Cumulative impacts are defined as "two or more individual effects, which when considered together, are considerable or which compound or increase other environmental impacts" (State CEQA Guidelines 15355: also see CEQA 21083(b).) "[I]ndividual effects may be changed resulting from a single project or a number of separate projects." (State CEQA Guidelines 15355(a).) "The cumulative impacts from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.." (State CEQA Guidelines 15355(b).) A legally adequate cumulative impact analysis is an analysis of a particular project viewed over time and in conjunction with other related past, present, and reasonably foreseeable future projects whose impact might compound or interrelated with those of the other project at hand. Such an analysis "assesses cumulative damage as a whole greater than the sum of its parts." *(Environmental Protection Info. Ctr. v. Johnson* (1985) 170 Cal.App.3d604, 625.) Such an analysis is necessary because "the full environmental impact of a proposed action cannot be gauged in a vacuum." *(Whitman v. Board of Supervisors* (1979) 88 Cal.App.3d 397, 408.)

The DSEIR has analyzed the potential for cumulative impacts by selecting the Shallow County Groundwater Option (Option 4) and the Patterson ATS Option (Option 3-1) as the worst case scenario for cumulative impacts between the water supply options proposed for this project. The DSEIR has concluded there would be no potential significant cumulative impacts should these two options in combination be implemented.

The DSEIR has also discussed whether there may be significant cumulative environmental effects in relation to other closely related past, present and reasonably foreseeable probable future projects. The DSEIR has effectively concluded that there are:

- No foreseeable additional cumulative environmental effects of the following water transfer options: Marshall-Davis well site, Diablo Grande onsite groundwater, Patterson ATS, and Bravo Management Company; and

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- That its too speculative to evaluate the cumulative environmental effects of the Shallow County Groundwater Option in association with other water transfer projects; and

- The cumulative impacts of the Berenda Mesa Water District have already been evaluated in the Monterey Principals EIR.

The DSEIR dismisses the need for a "good faith effort" to expand its cumulative impact analysis to include any of the proposed project water transfer options in combination with other known water transfer projects.

We wish to point out that the San Joaquin River system is a fully appropriated stream and any change in its water use can significantly affect downstream water users and the satisfaction of water quality standards at Vernalis, which would be a significant effect on the environment. In other words, a water transfer project can have a significant effect on the environment by changing the timing and place of water use in the San Joaquin River system. Therefore, the following other transfer projects must be analyzed cumulatively in this context in the SEIR:

1. The SSJID transfer to the cities of Manteca, Escalon, Lathrop and Tracy in the amount of 30,000 a.f. of water.

2. The OID and SSJID transfer to the Bureau of Reclamation of 50,000 a.f. of water during 1997 and 1998.

3. The SSJID transfer to Central San Joaquin Irrigation District of 15,000 a.f. described in paragraph 35 of the transfer agreement.

4. The Merced Irrigation District transfers to the Bureau of Reclamation which were 16,161 in October 1996. 45,372 a.f. during April and May 1997 and 7,500 a.f. in the fall of 1997.

5. The Exchange Contractors transfer to the Bureau of Reclamation of 50,000 a.f.

6. The Vernalis Adaptive Management Plan (VAMP) that will likely be considered by the SWRCB as part of its water rights process, which appears to transfer more than 100,000 a.f. per year.

7. The San Joaquin River Group Authority transfer to the Bureau of Reclamation.

8. Any other proposed transfer or water reallocation on the San Joaquin River system.

In addition, the expanded cumulative analysis would need to include the cumulative impacts of proposed project mitigation measures in conjunction with the above water transfer projects that may affect the flows in the San Joaquin River.

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Given that these transfer proposals are all well known and documented and must be part of the record in this case, we find that the DSEIR is grossly inadequate in its cumulative impacts analysis.

(Additional comments may be added here. They would need to be handed out at the 3/16 meeting)

Response to Letter 20

1. The commenter states that the "San Joaquin River is a fully appropriated stream". The commenter also provides a list of projects that would use San Joaquin River water. The commenter requests that the cumulative impacts associated with these projects be discussed and the project's mitigations, combined with the list of projects provided, be evaluated to determine how they would affect the flows to the San Joaquin River. Refer to the revised cumulative discussion in the section below titled *Modifications to the Draft SEIR* (reference page 3-14), which contains a qualitative discussion of the potential future impacts to the San Joaquin River based on the DWR *California Water Plan Update. Bulletin 160-98.*

Stanislaus Co. Planning Commission Meeting March 5th

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COMMENTS ON THE DIABLO GRANDE WATER RESOURCES PLAN DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT ON MARCH 5, 1998 AT THE STANISLAUS COUNTY PLANNING COMMISSION MEETING

Speakers:

Ray Marchant, 5000 Ruble

1 Turlock Irrigation District is not in the business of selling water and the farmers are upset about pumping surface water to Diablo Grande. He is very concerned with the drought and having enough water to irrigate.

Al Mendez, 1100 Ruble Road

2 Three impacts that were not covered in the Draft Supplemental EIR.
First Impact: San Joaquin River. The pumping project will reduce inflows of groundwater to the San Joaquin River as much as 6,500 acre feet per year. The loss of water would need to supplemented with additional discharges during a dry or prolonged period of drought. There is well defined mitigation in the Environmental Impact Report establishing programs to review and assess offsetting project impacts requiring consultations with California Department of Fish and Game, the United States Fish and Wildlife Services along with regional water resource agencies would take place to assess damages in determining how much water to supplement into the San Joaquin River and if contributions for riparian and instream habitat restorations would be needed. On the list of mitigation options used to offset the projects impact, the most mentioned and likely to be used are the Turlock Irrigation drainage pumps. Let me remind everyone that mitigation measures will only be implemented during dry years, not El Nino years. At some point and time in between these extreme weather patterns, a transformation takes place where Turlock Irrigation District drainage wells become irrigation wells. In reading the EIR, I believe there is a very serious error made in the reports analysis. The report is presuming Turlock Irrigation District's drainage pumps are continuously pumping excess water throughout prolonged periods of drought. What makes this error so serious concerning mitigation measures is that these pumps are being used for water discharges into the San Joaquin River to offset the pumping project's impact. Although those drainage pumps were all running in the last drought, the fact is that they were pumping needed irrigation water and not excess table water.

3 Second Impact: The Prairie Flower Drain. The EIR reports the Prairie Flower Drain could potentially dry out during summer months of drought as a result of the project. Mitigation measures would be implemented to restore sufficient water to support existing hydrophonic (sic) vegetation and wildlife, but there is no mention of impact done to my neighbor. I am personally aware of land adjacent to the drain that is not now nor ever was part of the Turlock Irrigation District. Land having no water rights to surface water. Whereas, the owner or renter pumps tailwaters out of the drain to

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3 cont'd irrigate his land. In the event the drain would not supply enough water for his land he may then be forced to drill a well in the middle of Diablo Grande's well field. I wonder what the chances of that happening are.

4 Third Impact: Concerning Existing Wells in the Project Area. The groundwater level is expected to drop 16 to 20 feet in the project's immediate area and drop 2 feet in a two mile radius. Now, the increased water level drawdown caused by the pumping project may adversely impact some domestic, industrial, and private irrigation wells in a 2 mile radius. Mitigation measures shall be established to protect only existing wells awarding damages if the declining watertables said drop is do to the proposed project's pumping, but not from natural conditions as a drought, or my neighbor, remember, possibly needing to drill a well. Thus, shifting the responsibility of drawdown damages away from the project. A growth inducing study was also done for Diablo Grande development concerning the pumping project stating it would likely increase the productivity of agricultural practices in the immediate area by lowering the watertable, therefore, fostering economic growth and there was a groundwater model done graphing project's impact to the water table from 1996 to 2028. Also superimposing the line representing the areas groundwater level without the project until 2028. Alarmingly, the line representing the groundwater level without the project is trending down 10 feet which tells me if we just wait a little longer without the project we would still be able to foster that same economic growth. In August 1996, Turlock Irrigation District implemented a new agreement providing substantially higher minimum water flows down the Tuolumne River to protect salmon. Depending on the drought severity at the time, the new low flows will vary from 94,000 to 300,000 acre feet per year. Minimum flows two and half times greater than ever before must continuously be maintained and will only be maintained during periods of prolonged drought. We have not yet experienced the impact these flows will have on us. Will they not make us more reliant on groundwater more than we already are. Today groundwater supplies 50% of the total irrigation water applied within our basin. In deciding this issue, we need to first examine the facts and it is critical that the facts are correct and as accurate as possible especially when it is referring to our water supply during prolonged period of drought that is when water is in such short supply. It is during these dry periods we must especially be on guard and protecting our water. We can not afford the risk of selling water to a residential development needing a continuous long-term supply. I respectively ask the Commission not to approve the Diablo Grande Development in using this water source. Thank you.

Steve Burke, 3105 Yorkshire, Modesto

5 I just want to make, if I may, a comment on the process here tonight. As someone who has been part of this CEQA thing a number of times, I just wanted to highlight for the folks here in attendance that as I think has been stated here tonight but I would like emphasize it that this is the opportunity, not so much as to address the Commission,

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5 Cont'd

though that is of course what is going on here, but in fact any comments or questions that anybody in the audience has tonight the consultants who wrote this are required to answer them. So, in my experience it has been a very helpful and powerful part of the process for the public and I just wanted to say that on the outset and encourage anyone who feels like they have something to say to just go ahead and say it and even if you haven't studied this volume. I would like to reserve, if I may, a space at the end to make some comments further. Thank you.

Mike Fuller, 210 Las Flores, Modesto

6

For the public record, I have some questions about the adequacy of the EIR in regards to the economic, as well as, the environmental impacts. First of all, it is not clear to how the price of the water was established and I am concerned that the price could price farmers out of the market in the long term which could have both economic and environmental impacts. I am also concerned about impacts on the water tables in the surrounding area, water rights, and the long-term impact on water allocation. There may also be some questions of public ownership since the water that has been pumped has been released into the San Joaquin River which may bring it into the realm of the Public Trust Doctrine. Also, in regards to adverse environmental impacts, currently the groundwater flows into the river naturally as well as being pumped. On Page 299, it states"the primary cumulative effects relate to the hydrology of the San Joaquin River. The project would result in reductions in flows to the San Joaquin River by a relatively small amount even during the prescribed drought scenarios," but I am not sure the 11,000 acre feet is a small amount particularly late in the summer when there is really not a lot of volume in the river to begin with and I would suggest that would make less water available to satisfy environmental needs. I am also concerned about the downstream users that have come to rely on that water over time. Also on page 299 it says "that the project implementation will result in lower groundwater levels and therefore reduce the need for drainage pumping to lower groundwater levels." If my understanding is correct, they still would be pumping the water to get it to Diablo Grande so I don't see how it removes the need to pump the water as stated. Also I am concerned that there is not accommodations for reduction of allocations in dry years. I am also concerned about water conservation mitigation being implemented by Diablo Grande. I am also concerned about growth inducing impacts, not of only the Diablo Grande project itself, but in the service area in that area. I am also concerned that the proposed water transfer in conjunction with other proposed transfers in the area will have an impact on the overall supply of the region and though transfers of water from agricultural to urban uses is common I am not at all familiar with transfers from urban uses back to agriculture. Looking on down the road, I am really concerned about the cumulative impacts of this water transfer, and I think over time the County is really going to need to get a handle on an sustainable supply and demand either through addressing the water transfers via regional water resources management plan that looks 50 years ahead and which accommodates population growth within the region, allocating a finite water supply to urban, agricultural and environmental uses

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6 cont'd negotiating sustainable amounts or another alternative could be a county wide water commission with representative from all interested groups in the community represented, perhaps issuing permits so in times of drought the permittes could share the short fall equally and also could establish a consistency with long range groundwater management plans if the water transfer is consistent with that plan it could be ok'd , if not, would not be ok'd. Again, the really the point is to proportion what is a very finite water supply. Thank you.

Margery Fletcher - Representing Ecology Action, 229 Hackberry Avenue, Modesto

My name is Margery Fletcher and I am here speaking for Ecology Action. We have a number of questions regarding the proposed water sources in this supplemental EIR, and I am going to address them by water source.

7 Option 1 - Marshall Davis Site
This is due to expire, and this is why a permanent water resource has to be found.

8 Option 2 - On Site Groundwater.
It shows that per year acre field yield of the proposed wells is greater than the recharge amount and the drawdown of the alluvial aquifer we believe needs further study as well as the significant impact on local habitats. There was a proposal for continued monitoring of the habitats, but without designating how this will be supervised and funded and how the mitigations will be handled.

9 Option 3 - Patterson Algal Turf Scrubber
We would like more information on whether the reclaimed water is sufficient to meet the requirement for a permanent original water source.

10 Option 4 - The Shallow County Groundwater.
Since this option has been identified as having the effect of reduction of groundwater accretion in the San Joaquin River, we have some questions about there suggested mitigation. They justify this reduction partly by saying increased fish flows in the Tuolumne River through a recent FERC agreement and a potential increase in flows in the lower Merced River might make up for this decrease in water going to the Tuolumne, but neither of these were designed as justifications for lowering San Joaquin flows by the Diablo Grande project but as means to improve conditions for salmon so we feel they do not mitigate the impacts of the shallow groundwater used by the Diablo Grande project. Additionally, CALFED has already quantified the flows of water in the San Joaquin River and alteration of these flows before their studies and water plan are complete may be a violation of CALFED agreements.

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11 Option 5 - The Berenda Mesa Water District.
The supply of water from this district is based on forecast of the removal of 41,640 acres of crop land from production and the conversion of an unspecified number of acres of irrigated crop land into non-irrigated crop land. We question the reality of this projection as well as the influence of the sale of this water to Diablo Grande would have on assuring and hastening the loss of this farmland.

12 Option 6 - The Bravo Management Company
While Kern County has excess water for sale, it has no takers because of the salt content and poor quality of its water. We question whether the replacement of the good quality water taken out of the canal here for Diablo Grande with the poor quality Kern County water further south has been approved by the Department of Water Resources and other agencies having jurisdiction over this water supply and we would like that matter clarified.

It is our belief that all these issues must be further clarified. We believe impacts of these options of farmland, water supplies, and wildlife habitats have not been adequately addressed by the EIR. Thank you.

Steve Neiman, 12001 Ehrlich Road, Crows Landing.

13 He irrigates from the T.I.D. and according to the EIR on both sides of his place they have a pump as with a half mile apart. Ok, I estimate the watertable will drop 20 feet especially on a dry year and my experience when we have a drought especially after the second or third year when the water table is lower, I have to use more irrigation water and irrigate more often and the water table couldn't drop more than about 2 to maybe 3 feet at the most. If the watertable drops 20 feet, I figure I will have to irrigate every 10 days instead of 14. My 48 inch water allotmont, which I use on a normal year will be gone early August instead of in October. When I have to use more than the 48 inches, I get less than that on a dry year sometimes we only get 36. It cost to irrigate $13.50 an hour to run the water . On a normal year, I feel this will cost me probably at least $2,000 more a year to irrigate because the watertable is down the water won't stay in the ground and it will drop and I personally feel that if this happens to go through I feel I should be added an extra 24 inches of water a year to be fair. Otherwise, another concern I have on this because with a well on both sides what is going to happen to my drinking water. I have drinking water there and I have two wells a rental house and our home place and I am concerned about the water quality going down because what the surface water is going to pull down is going to make our water so it is undrinkable that is the way I understand it. We don't really want a pipeline across none of our place, and I don't think that is right and we really don't want pumps on each side of the place, so I am concerned about that too. What legal actions can we take to keep this from happening? We are concerned about that. Thank you.

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Lorenne Alves - 18318 Highway 33

14 I live in Patterson and I am just a farmer's wife and lived on this ranch all my life and we have a pump that goes Diablo below us on Marshall Road which starting at the end of August first of September as high as the watertable is right now (with rainwater and everything) August and September last year we used a lot more water. We had to buy excess water to water our almond trees. Every weekend we had to water them because it pulled out the water and they will sit there and say no it's not doing it, but it is. We are going to have more homes in Patterson, the airbase they are looking at that to put more stuff in there. Where are they going to get all this water? I was born and raised in the valley, but I am saying where are they going to get the food? They are going to take everything away. Sure why don't they go out into the Nevada desert and put a place like this not there up in the foothills where they have to take all the water from our valley. The best valley in the whole United States. Thank you.

Dan Lamb, 1121 Whispering Pines Drive, Turlock (Farmer in Mountain View area -- just north of several of the proposed shallow groundwater pumping areas)

I have several concerns that I would like to state specifically with regard to that proposal. I apologize I have never been involved in an EIR comment, so my written notes here are more general than specific to the paragraphs, but if you would bear with me. I am concerned as a farmer because water is key to my living and I am concerned because the amount of water requested by this development is large for a development this size 5,000 units. I understand it is over twice the amount that would generally serve a community of 5,000 using the rule of thumb of one acre foot per household. My concerns are several and some of them branch maybe a little beyond the EIR but let me just go on.

15 My first concern is whose water is it. The T.I.D. claims it but the well depth that are in question here, these drainage wells, are the depth of those wells are similar to those that private domestic wells in this area.

16 No. 2. How will the affects of this additional pumping on existing wells be handled? The affect on shallow wells is addressed in the EIR somewhat, but it is not well specified how they are going to divide the effects of natural causes versus the effects of this pumping.

17 There is another issue that is not addressed in the EIR and that is on deeper wells, say those in the 150 foot and deeper area that may go salty. I am told by local well drillers who drill a lot of wells in that area that are fresh water is sandwiched between two layers of salty water. The top layer is the one that is being proposed for pumping but that there is also a salt layer deeper than that. In 1996, I had a well drilled on West Main Street, just in this vicinity, and they went to approximately 140 feet and did not go deeper because, in fact, they were concerned about hitting salty water. It was

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explained to me at that time that water encroaches upon the fresh water layer between those two when the upper layers are pumped out and so that is a concern in this area that I don't think is well addressed.

18 No. 3. The mitigation mentioned by the EIR in several areas of concern and I don't have notes about which ones and specifically, but I do recall mentioned on the Prairie Flower Drain but it was mentioned in others suggest that T.I.D. water be used to replenish any short falls in the groundwater and the effects of this proposal. My question is will this be on top of the 11,000 acre feet that is being considered as a contractual obligation on the part of the T.I.D. to supply Diablo? Would this reduce the affects of mitigation by increasing the amount of T.I.D. water that has to be taken from the area? In addition, I would suggest that it would be in the County's best interest that Diablo Canyon's development proceed that it use all available and perhaps maybe even specially development water conservation measures to accomplish much better than average water conservation for that development rather than much worse than average water consumption as is now documented at 11,000 acre feet. In addition, I think some of you point at Stanislaus County Groundwater Management that is should be stipulated that any water used by Diablo Canyon that it all be used by Diablo Canyon and none of it be sold and shipped outside of our groundwater basin. The motivation for this sale on the part of the T.I.D. seems to me to be the creation of income to pay for water system operating costs. Along this line, I suggest that the water price based on based on some mutually agreed market price for water not simply a negotiated price without any market basis as was done in the preliminary contract last year. A water price adjustment should be indexed to the price of water, not to the Consumer Price Index as was proposed in the contract last summer. The price of water in California doesn't generally move in as the same as the National rate of inflation, so I think a water based index of cost would be more appropriate. Let me get to the point how that relates to the environmental question here.

19 It's in Stanislaus County's best interest that this plan have no negative impact on the water supply to agriculture. In that light, I think that it is important to protect that supply of ag. water and in dry times and that this be contractually spelled out so that Diablo Canyon's higher use is not allowed to take water from agriculture in the future. Here is the environmental part of this, it should be stipulated that the money received by T.I.D. be used to implement new systems that will save more than 11,000 acre feet of water that is going to be released to this project.

20 In conclusion, I think this plan must protect existing homeowners and farmers both in the quality and quantity of their water supply, that it must directly promote conservation of water at Diablo Canyon and at the T.I.D., and it must use the free market to set the prices for water so that there is adequate funds to implement those water conservation measures. Thank you very much.

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Steve Neiman, 12001 Ehrlich Road, Crows Landing

21 I have one more concern. I irrigate through the T.I.D. and I have been concerned about, I use a lot of commercial fertilizers (i.e. liquid fertilizer to put in the water when I irrigates my corn and I spreads a ammonia sulfate and different fertilizers on his alfalfa because I don't have manure) and I am concerned about if the water table drops this water will go down quicker and if this shows up at the Diablo are they going to possibly say I can't use fertilizer anymore? I am concerned about that. The Prairie Flower Drain, which runs right along the side of my place (I used to use a spray called Furinan and I can't use that anymore because of the drain ditch) and I was wondering if they are going to say I can't use fertilizer anymore because that water is being taken out and being treated for drinking water. I thank you.

Steve Burke, 3105 Yorkshire, Modesto

22 I heard that question of public ownership come up and I think that what that is addressed to is the fact that Public Trust says the public owns the water that goes in navigaible rivers and the water that was going to the river, if it is being pumped at Diablo Grande, does T.I.D. really own that? I have a question as to Western Hills position in this situation to? I think they would have been the lead agency and environmental review for the sale from T.I.D. to Diablo Grande earlier, now this County is still the lead so where is Western Hills and what sort of environmental review would they have to undertake.

23 The basic question of what is the water inventory in Stanislaus County and how is it used now and how would this affect it in the overall sense. I am kind of reminded when thinking about this situation of a lot of land use decisions that have happened and that there incremental without having a big picture and without having a master plan. Of course, there are problems and so forth with coming up with that, but in fact, one of the basic charges of CEQA is to provide decision makers with the information to make an informed decision, and if and we don't know now in any aggregate sense how much water is here, who uses it, and therefore how this would affect that. How is there any basis for deciding to give water to anybody that is not normally given it to right now? In a sense then, this is all short on that information. One of the gentlemen, Mr. Neiman, mentioned about what happens when he has to pump deeper or pump more to make up for a drawdown in certain years that this 11,000 acre feet supply would affect which would be something that this EIR should address is that in that circumstance the affect on the farmers that would be left to pump water, energy increase in their pumping needs, and about potential treatment of different quality theoretically a poorer quality of water that would be pumped by them with a drawdown to Diablo Grande. That's all. Thank you.

(I:\Carole\Diablo.min)

March 5, 1998 Public Hearing Comments

1. (Ray Marchant) The commenter is concerned about adequate water resources. There is no information available nor indications in the Draft and Final SEIR which indicates that the project would result in farmers not having an adequate water supply as a result of project implementation.

2. (Al Mendez) It is recognized that some of the water pumped by TID drainage wells are used for irrigation in normal, dry and critical dry years, as stated in the last paragraph of page 2-31 of the Draft SEIR. The description of the mitigation measure 6 (pages 2-87 and 2-88 of the Draft SEIR) states that the use of TID drainage pumps to release water to the San Joaquin River during dry or critical water year conditions would be limited to areas where groundwater remains substantially high.

3. (Al Mendez) The commenter states that a neighbor not within the TID pumps tailwater out of a drain to irrigate and if this drain dries up the neighbor may have to drill a well. The property owner referenced by the commenter has the option to drill a well or buy water in the event water in surface drainages are not available.

4. (Al Mendez) The potential impacts the WHWD wells may have on existing wells is also applicable to future private wells. Refer to the *Modifications to the Draft SEIR* (page 2-76). As it pertains to increased surface water flows down the Tuolumne River, the TID surface water allocation remains the same. The model prepared for this analysis reflects this fact.

5. (Steve Burke) The commenter does not address the Draft SEIR. No response is necessary. The decision makers may consider this comment in their decision on the project.

6. (Mike Fuller) The commenter lists numerous concerns. As it pertains to the price of water pushing farmers out of the market, for there to be a significant impact to the environment farmers would have to permanently be driven off the land, the land let fallow and subsequently converted to urban uses. It is unlikely this scenario would occur as the result of the project's incremental lowering of groundwater levels during the dry and critically dry years, which is the period when farmers must increase their irrigation and perhaps pay a higher price for water delivery. Also, refer to response to comment 1 in Letter 10 (TID) for additional information pertinent to this comment.

As it pertains to the public trust doctrine, the diversion by Western Hills Water District would be generally made pursuant to Section 1485 of the California Water Code. This section of the code allows public agencies discharging treated wastewater into the San Joaquin River to apply for a permit to appropriate an equal amount of water (less losses between the point of discharge and point of diversion).

As it pertains to the lesser amount of water flowing into the San Joaquin River, this has been addressed in the Draft SEIR and has been determined to be a less than significant impact (see Project Analysis, pages 2-44 to 2-75 in the Draft SEIR). The

commenter states that the reduction of flows to the San Joaquin River would be 11,000 acre feet. This is incorrect. Based on the modeling, the amount of the loss of accretion to the San Joaquin River, between the Merced and Tuolumne rivers, would be reduced by up to 6,500 afy. During the dry and critical water years the model indicated that the maximum impact to the San Joaquin in the area of the TID would represent 5.74 percent of total flow.

As stated in the Draft SEIR (page 2-49), the maximum impact on accretion to the San Joaquin River flows relative to both well alignments and both climate scenarios would be in the 4.8 to 10.4 cfs range, with distinct variations seasonally and annually. The greatest impacts in terms of percent of river flow would be during the summer and fall months for a three month period of time, during one year. As indicated in Figure 21 of the Draft SEIR, the extended drought (Alignment A, climate Scenario B) would result in the greatest flow impact in terms of percent of San Joaquin River flow (up to 5.74 percent). Well Alignment A would have greater proportional flow impact than well Alignment B. This is likely because well Alignment B would have several wells located a farther distance from the San Joaquin River. However, the Draft SEIR concludes that this loss of accretion alone is not considered to be significant.

As it pertains to reducing the need for drainage pumping by the TID, groundwater pumping to accommodate Diablo Grande will lower groundwater levels in an area of the TID, thus precluding the extent of historical drainage pumping by the TID. As it pertains to water conservation measures refer to response to comment 12 in Letter 17 (Friends of the Tuolumne). As it pertains to a long term sustainable water supply addressed via a regional water resources management plan, this is an important issue for the lead agency decision makers to consider.

7. (Margery Fletcher) The Marshall-Davis wells contract is due to expire in 2001. Based on the current agreement, this water source would no longer be available to the WHWD. Refer to response to comment 1 in Letter 11 (Del Puerto Water District) for additional information pertinent to this comment.

8. (Margery Fletcher) The commenter is concerned about the impacts associated with on-site water. This issue was addressed previously. Refer to response to comment 2 in Letter 18 (Ecology Action) for additional information pertinent to this comment.

9. (Margery Fletcher) The commenter addresses an issue pertaining to the Patterson algal turf scrubber, which has been addressed previously. Refer to response to comment 3 in Letter 12 (South Delta Water Agency) for additional information pertinent to this comment.

10. (Margery Fletcher) The commenter addresses an issue pertaining to the FERC flows and CALFED. This issue has been addressed previously. Refer to response to comment 4 in Letter 18 (Ecology Action) for additional information pertinent to this comment.

11. (Margery Fletcher) The commenter addresses an issue pertaining to the loss of 41,640 afy in the context of the Berrenda Mesa Water District. This issue has been addressed previously. Refer to response to comment 5 in Letter 18 (Ecology Action) for additional information pertinent to this comment.

12. (Margery Fletcher) The commenter addresses an issue pertaining to the saline water of Kern County. This issue has been addressed previously. Refer to response to comment 6 in Letter 18 (Ecology Action) for additional information pertinent to this comment.

13. (Steve Neiman) The commenter is concerned about the reduction in groundwater and the potential costs associated with it, as well as having to use more water because the water table is lower. As it pertains to lower groundwater levels and water costs, refer to response to comment 1 in Letter 10 (TID). As it pertains to water quality, refer to response to comment 3 in Letter 8 (Stanislaus County Department of Environmental Resources) and response to comment 10 in Letter 12 (South Delta Water Agency). As it pertains to legal actions, the proposed wells, pumps and conveyance facilities within the TID boundaries would be owned and operated by the TID. If the shallow county groundwater option (option 4 in the Draft SEIR) is approved by the county, an agreement for the sale of the groundwater would be negotiated and signed by both the TID and the WHWD. After which the final facility design would be completed. As a part of the final design process, the TID would work with local property owners to determine the actual location for the proposed facilities. Easements and rights-of-way for the installation and maintenance of the facilities would also be obtained. These easements and rights-of-way would be negotiated between the TID and the individual property owner at that time.

14. (Lorenne Alves) The commenter is concerned about the impact the Marshall-Davis wells will have on area wells and specifically her ability to irrigate on her farm.

The Diablo Grande Specific Plan EIR (LSA 1992) recommended mitigation measures to ensure that groundwater pumping from the Marshall-Davis Well Site does not result in significant adverse impacts to nearby agricultural lands. Monitoring of potential effects on nearby wells (Diablo Grande EIR Mitigation IV-2) is required and, in the event that groundwater levels on nearby wells are found to decline by 10 percent or greater as a result of the pumping, the Western Hills Water District (WHWD) is required to offset the increased pumping by allocating portions of their Salado Creek Water District water allocations to the affected neighboring owners (Diablo Grande EIR mitigation IV-3).

The required monitoring plan has been established and has been in operation since pumping of the Marshall-Davis well by Diablo Grande began in June 1996 (EMC 1998, page 2-4). The data obtained to date is included in Appendix F of the Draft SEIR. Monthly data generated by the monitoring program has found that none of the five existing neighboring wells have reported declines of ten percent or greater (ibid.).

15. (Dan Lamb) The commenter addresses an issue previously discussed. Refer to response to comment 6 in Letter 14 (Stanislaus County Farm Bureau) for additional information pertinent to this comment.

16. (Dan Lamb) The SEIR has addressed how impacts to neighboring wells will be managed. Refer to mitigation 4. The specifics of how to differentiate between lowered groundwater in private wells as a result of natural causes versus the effects of the project's groundwater pumping have not yet been developed. However, it is expected that it would be based on modeling. Regardless, the mitigation measure as amended (refer to the *Modifications to the Draft SEIR* section, reference page 2-76), prescribes a course of action that is premised on realistic performance standards, whereby impacts resulting from the project are mitigated.

17. (Dan Lamb) This comment has been previously addressed. Refer to response to comment 1 in Letter 10 (TID) and response to comment 10 in Letter 12 (South Delta Water Agency) for additional information pertinent to this comment.

18. (Dan Lamb) As it pertains to mitigating the effects of the WHWD pumping groundwater from the TID and this mitigation resulting in the need for additional water supply, the WHWD would need to mitigate in the context of salmon during the dry and critical water years an amount above and beyond what Diablo Grande needs. The model incorporated in the SEIR states that this amount would be 950 acre-feet distributed over a 60 day period.

As stated in the Draft SEIR on page 2-87, according to the hydrological model, groundwater inflow to the river during a prolonged drought at full project build-out would be reduced by up to 5,300 to 6,500 AF per year, depending on well alignment and weather scenario. These reductions of flow would amount to less than 0.5 percent of the mean annual San Joaquin River flow in this section of the river. Therefore, potential impacts to fall-run Chinook salmon in years with near average or higher than average flow (i.e., Below Normal, Above Normal or Wet water years) are not expected to be significant. However, during a prolonged drought, average summer flow in the river could be reduced by up to 4.2 percent or 5.7 percent, depending on the well alignment. Reductions in San Joaquin River flow in low flow years (i.e., dry or critical water years) could affect adult salmon during the fall upstream migration (October-December) or juveniles during the spring emigration period (March-May). The impact on river flow resulting from the project is expected to be relatively minor during late fall and early spring because of lower pumping rates and higher stream flows during those periods. However, during early fall (October-November) and mid-spring (April-May), any reduction in San Joaquin River flow resulting from the project in dry or critical water years could potentially have an adverse effect on the fall-run Chinook salmon.

As it pertains to water conservation measures at Diablo Grande, this has been addressed previously. Refer to response to comment 12 in Letter 17 (Friends of the Tuolumne). As it pertains to the price of water, this is not an environmental issue, it is a contractual issue to be dealt with by the TID and the WHWD.

19. (Dan Lamb) The commenter would like the income collected by TID from the WHWD to be used to implement conservation programs that will save the TID more than 11,000 afy. This is an issue for the TID to consider when it hears the application for approval of the water sale and transfer to the WHWD.

20. (Dan Lamb) The commenter states that the sale of water to WHWD must simultaneously promote water conservation at Diablo Grande and within the TID, and the free market must be used to set the price of water. For additional discussion as it pertains to water conservation, refer to response to comment 12 in Letter 17 (Friends of the Tuolumne).

21. (Steve Neiman) The use of fertilizers by farmers in the TID is expected to impact groundwater. This would occur with or without Diablo Grande pumping groundwater. There is no requirement nor is there expectation that farmers will cease the use of fertilizers. It will be the responsibility of the WHWD to treat its potable water supply derived from the TID per the requirements of federal Safe Drinking Water Act and state drinking water standards applicable at the time. The TID will work with the WHWD in monitoring water quality at the well sites to assist them in achieving health standards compliance.

22. (Steve Burke) The commenter addresses the issue pertaining to ownership of the groundwater. This has been addressed previously. Refer to response to comment 6 in Letter 14 (Stanislaus County Farm Bureau). The commenter is also referred to response to comment 6 in Letter 14 (Stanislaus County Farm Bureau) for a discussion of surface and groundwater distinctions. As it pertains to environmental review by the WHWD, no additional review of the long-term water supply is projected.

23. (Steve Burke) The commenter addresses the long-term and cumulative impact of providing Diablo Grande the water they request in the context of the entire San Joaquin River watershed. This issue was previously addressed. Refer to response to comment 7 in Letter 19 (California Urban Water Agencies) for additional information pertinent to this comment

March 12, 1998

Letter 21, Page 1

Kirk Ford, Senior Planner
Department of Planning and Community Development
1100 "H" Street, 2nd Floor
Modesto, CA 95354

RE: Diablo Grande Water Resources Plan
Draft Supplemental Environmental Impact Report (DSEIR)

Dear Mr. Ford:

I have been farming in Crows Landing since 1977. My wife and I have some concerns about the above noted matter.

Wells:

Surface/shallow water you would think is the first 20 feet. Diablo Grande will perforate the ground and remove water from 150 feet which is considered deep wells. Upon pumping of this water, wells within the range of 20 feet to 150 feet will go dry.

1 Who will pay for new wells to be re-drilled and there will be the cost of the attorneys to prove farmers worst fears, that the pumping of our precious water for Diablo Grande made these wells go dry? Who will pay for these cost? Who will assess the damages?

Also, in the DSERI report; from now until the year 2028 our water table will drop 55 feet. Farmers will have to irrigate more often due to the water table drop:

- Who will reimburse farmers for the increase in water costs due to increased water usage for irrigating?
- Will there be an offset in cost by T.I.D. to the farmers for this short-fall? Will farmers be allocated more water in "Drought Year(s)?"

Water:

In a "Drought Year(s)" what if we cannot supply the 11,000 acre feet of water as stated in our contract with Rancho Diablo Grande?

2
- Will we still have to supply the water?
- If we have to supply the 11,000 acre feet of water to Ranch Diablo Grande during "Drought Year(s)" and do not have the water, do we have to purchase the water out-right from another water supplier; are there any provision in contract to cover the difference in cost from farmers/T.I.D. and Rancho Diablo Grande, i.e., splitting the costs or I feel additional cost should be incurred by Rancho Diablo Grande?

Kirk Ford, Senior Planner
Department of Planning and Community Development

Letter 21, Page 2

RE: Diablo Grande Water Resources Plan
Draft Supplemental Environmental Impact Report (DSEIR)

March 12, 1998

Page #2

Water: - Continued

Rancho Diablo Grande said they would clean up the water no matter what kind of contaminants are in the water:

- What about fertilizers and pesticides?
- Will we be told we cannot fertilize and spray or use pesticides anymore?
- What about salts and minerals, manure, etc. A lot of these are not suppose to be in the water, but if it does happen, farmers and T.I.D. should not be responsible.
- What if the water is undrinkable after the water is reconditioned, will farmers and T.I.D. be further responsible?

3

- Are water Quality Controls in place for "poor water quality" as our water is and will get worse as time goes along.

- Who will monitor the 11,000 acre feet of water?

- At the end of the contract, there is no provision to transfer from "Urban back to Ag".

Water Ownership:

Who owns the water at the 150 foot level; **is it Public Ownership or Private Landowners**? This questions needs to be cleared up before we sell our water to any one. I questions if T.I.D. has the right to sell underground water. Are we sure it is not the landowners water!

4

Kirk Ford, Senior Planner
Department of Planning and Community Development

Letter 21, Page 3

RE: Diablo Grande Water Resources Plan
Draft Supplemental Environmental Impact Report (DSEIR)

March 12, 1998

Page #3

5 ***Williamson Act***–The selling of farmers' water violates the state's farmland preservation law. Most of the farms in the area are in the Williamson Act.

6 ***Violation of Cal Fed Agreement***? has this area been review for violations.

Cost of the Water:

7 Cost of the water may be like "Gold" in "Drought Year(s)". Currently, our water will be sold for $152.50 an acre foot. What if we have to in fact purchase the water from another source for Rancho Diablo and the cost becomes $600.00 an acre foot, can we re-negotiate the water cost in the contract. A provision should be in place to make this contract "nil and void" if something unforeseen happens and we cannot supply the water to Rancho Diablo Grande, i.e., drought year(s)..

Pumps:

8
- The land that these pumps are proposed to be put on, who will grant Ranch Diablo Grande the "Right of Way" for these pumps.
- I am concerned that not all farmers have been notified, if they are the landlords on the proposed pump sites and live out of the area.
- **Four pumps are proposed to be set up in a small area between Bradbury and Harding** Roads, this is too close a proximity to each other. Water will be pulled from the ground and bring down the water table, and create problems for farmers' domestic and farm wells.

Kirk Ford, Senior Planner
Department of Planning and Community Development

Letter 21, Page 4

RE: Diablo Grande Water Resources Plan
Draft Supplemental Environmental Impact Report (DSEIR)

March 12, 1998

Page #4

More homes being built in a closer proximity, who will supply that water need:

9 With more homes being built in Patterson, the air base, and the surrounding areas, who will supply these water needs? More than likely, the farmers in the areas will also have to give up more of their water, so we will not be able to irrigate our crops and be forced off the farm. We won't even be able to sell our ground if we do not have the water for it.

Tile the Drains:- Has this area been addressed.

Please be careful of a "Long Term Water Supply Commitment".

10
- The effect of the proposed transfer on the price of water for other waters users who depend on the water resources of the buyer or seller
- The adverse economic or environmental consequences related to the proposed transfer.
- Statewide water conditions.

Thank you for any consideration of our "precious water".

Richard Bettencourt
12501 Crows Landing Road
Crows Landing, CA 95313

Ruth Bettencourt
12501 Crows Landing Road
Crows Landing, CA 95313

Response to Letter 21

1. The commenter is concerned about impacts to wells. Mitigation 4 provides adequate protection to well owners, whereby impacts caused by groundwater pumping are mitigated to a less than significant level. Also, refer to response to comment 1 in Letter 10 (TID). Whether wells within 20 to 150 feet will go dry is speculative at this time because no modeling of each well has been conducted. Mitigation 4 addresses the approach that will be taken to determine the status and characteristics of existing wells within a two mile radius of the center of the well field. As indicated in the attached mitigation monitoring program (refer to Appendix A), and indicated in mitigation 4, the cost to replace wells or modify them will be borne by the WHWD.

Refer to response to comment 13 in Public Hearing Comments, for additional information regarding lower groundwater levels and the TID.

2. The model indicates that after full buildout, combined with a drought scenario (discussed commencing on page 2-44), water remains available. There is no indication that the 11,000 afy cannot be supplied. There is no physical impact to the environment that would result from the Diablo Grande project that would justify paying farmers the increased cost of pumping groundwater. There is no physical impact to the environment that would justify this.

3. The quality of the water being delivered to Diablo Grande for potable water use is like any water supply to any jurisdiction in the state, that is it must meet the applicable standards for safe drinking water. The WHWD will be responsible to provide potable water to the Diablo Grande project. As it pertains to the continued use of fertilizers and pesticides, refer to March 5, 1998 Public Hearing comment 21 in Public Hearing Comments.

4. The commenter addresses the issue pertaining to ownership of the groundwater. This has been addressed previously. Refer to response to comment 15 in Public Hearing Comments. The commenter is also referred to response to comment 6 in Letter 14 (Stanislaus County Farm Bureau) for a discussion of surface and groundwater distinctions.

5. There is no correlation between the use of 11,000 afy being delivered to the Diablo Grande project and properties currently under contract to the Williamson Act. Therefore, it is not expected that Williamson Act properties or non-Williamson act properties will be pulled out of agricultural production.

6. The TID is not a signatory to any CALFED Agreement (Debbie Liebersbach, pers. com., May 8, 1998).

7. Based on the modeling, there is adequate water available for the project and existing water users in the TID. As it pertains to the cost of water, this will ultimately be decided through negotiations between the TID and the WHWD.

Furthermore, nullifying the contract between the WHWD and TID is for the TID to consider when negotiating with WHWD. Under any contract with WHWD, the TID would not be required to provide makeup or supplemental water from a water source other than the proposed option 4 project wells.

8. As it pertains to right-of-way access, the commenter addresses an issue previously discussed. Refer to response to comment 13 in Public Hearing Comments. As it pertains to notification of farmers, the Stanislaus County Planning Department's project manager for the Diablo Grande project sent out approximately 400 notifications for the SEIR, to include the following:

- All land owners within two miles of the center of the TID wells: 220
- All land owners adjacent to the pipeline construction: 32
- All land owners adjacent to Diablo Grande and those who responded to the 1992 EIR: 70
- Stanislaus County Government: 17 agencies
- Office of Planning and Research/State Clearinghouse: 10
- Other state agencies: 11
- U.S. Government Agencies: 4
- Water and other miscellaneous districts: 16
- Other city and county government agencies: 11
- Libraries: 5
- Newspapers: 3

As it pertains to impacts to existing wells, specific information on each well has not been collected and impacts have not been determined. However, this SEIR does provide an analysis of the impacts to the TID groundwater in an areawide context. Determination of potential impacts to existing wells will be modeled as part of implementation of mitigation 4. If drawdown because excessive and wells are impacted, the TID will alternate wells used.

As it pertains to "statewide water conditions" it is not known what the commenter refers to. However, the commenter is referred to the revised cumulative impacts discussion below in the *Modifications to the Draft SEIR*.

9. Based on the modeling conducted to determine the potential impacts to the TID, there is no empirical evidence to indicate that farmers will be precluded from irrigating their crops and be forced off their farms. Also, refer to the cumulative impacts discussion in the section below titled *Modifications to the Draft SEIR*.

10. As it pertains to the cost of water, this has been addressed previously. Refer to response to comment 1 in Letter 10 (TID) for additional information pertinent to this comment.

As it pertains to adverse economic conditions, this comment is construed to mean that the pumping of 11,000 afy would reduce farmers ability to farm. This issue has been addressed previously in response to comments 13 in Public Hearing Comments, and the response to comment 1 in Letter 10 (TID).

As it pertains to statewide water conditions, this SEIR does not address statewide water conditions because it is out of the context of the proposed project. However, the cumulative impacts discussion commencing on page 3-10 evaluates cumulative impacts in respect to each of the long-term water options. Also, refer to the new cumulative impact discussion in the section below titled *Modifications to the Draft SEIR* (reference page 3-14) for additional information pertinent to this comment.

Letter 22, Page 1

March 6, 1998

Kirk Ford, Senior Planner
1100 H Street, 2nd Floor
Modesto, California 95354

Dear Mr. Ford,

We are very concerned about the proposed sale of water by the Turlock Irrigation District to Diablo Grande.

On the enclosed map we circled our ranch in red. The proposed pipeline goes right through our property. We have an irrigation pipeline that runs parallel to the proposed pipeline. Some day in the future my son would like to extend our pipeline and under these circumstances that would be impossible. Also we do not want any wells on or near our property, as this will affect our domestic well.

We also belong to the Williamson Land Act. If this proposed pipeline is on our property , which this pipeline is for NON-AGRICULTURAL use, our taxes will probably be raised.

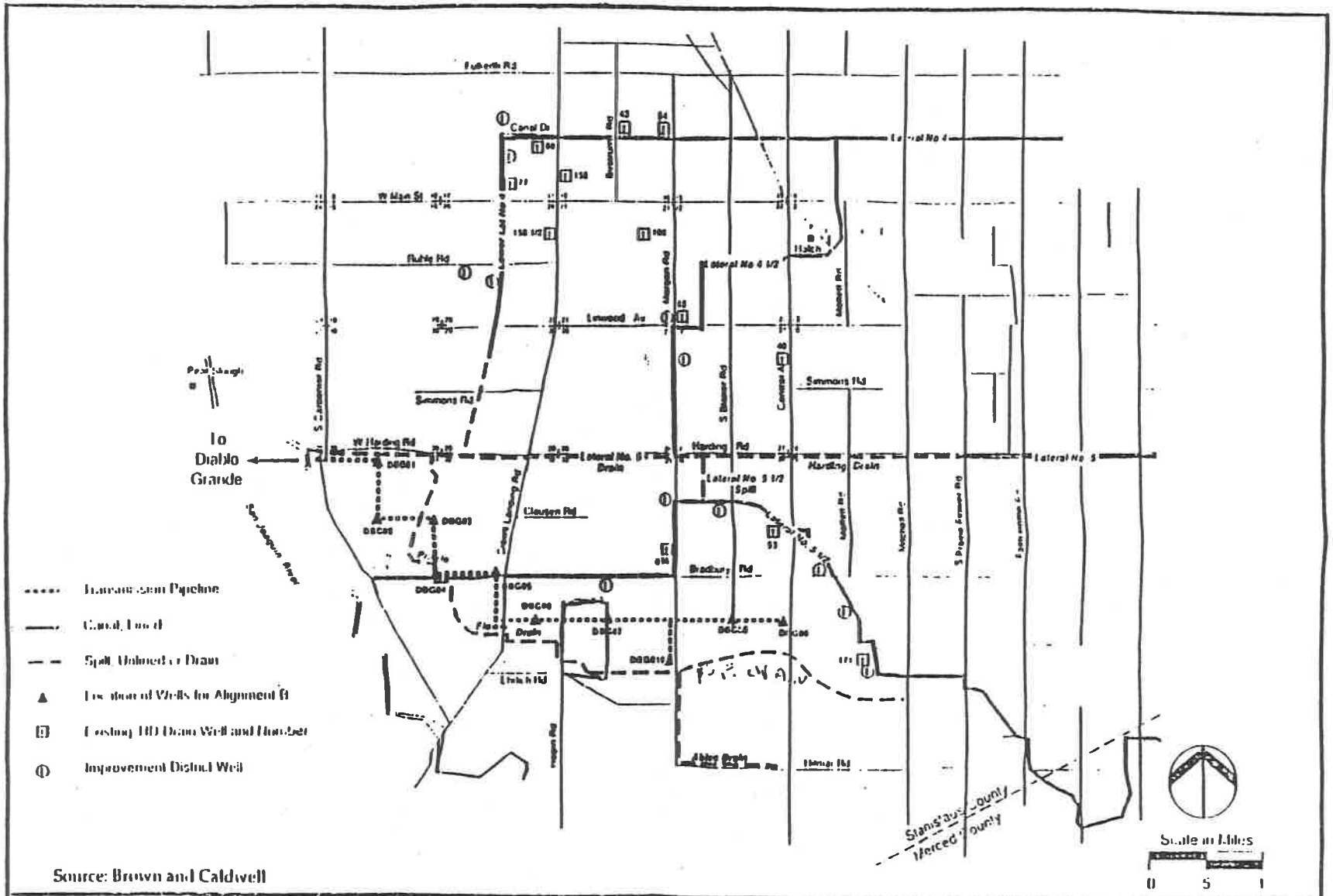
If this proposal goes through, which we are very much against, then the Diablo Grande promoters should pay to go around property. One meeting we went to the TID said these people have lots of money!

This proposed pipeline going through our ranch, which is small, would disrupt our farming opertions and we cannot afford to have this happen.

Sincerely yours,

Marilyn Niman
Marilyn Niman

Ken Niman
Ken Niman



Source: Brown and Caldwell

EMC Planning Group Inc.
A Land Use Planning and Design Firm

Diablo Grande Water Plan SEIR

Location of Wells and Transmission Pipeline for Alignment B

Figure 6

Response to Letter 22

1. The commenter states that their land is in Williamson Act and the proposed project water line would traverse their property, thus increasing their property taxes. Accommodating a pipeline on private property will not increase property taxes. As it pertains to wells on their property, any wells would require an agreement with a property owner or owners. As it pertains to disruption of farming operations, the impact that a well or pipeline may have would be short term only and would be associated with construction activities. Periodic maintenance associated with a well pipeline would not disturb farming activities. The commenter is also referred to response to comment 1 in Letter 10 (TID) and response to comment 10 in Letter 12 (South Delta Water Agency) for additional information pertinent to this comment.

Letter 23 - Virginia Niman

Letter 23

Virginia Niman
12001 Ehrlich Rd.
Crows Landing, Ca. 95313
March 3, 1998

RECEIVED
MAR 5 1998
CO. ... DEPT.

Kirk Ford, Senior Planner
Stanislaus County Planning Dept.
1100 H Street 2nd floor
Modesto, Ca. 95354

Dear Mr. Ford:

1 My ranch is located at Morgan & Ehrlich. If they pump water out from under our ranch it will lower the water table and cause us to have to use more water for irrigation. We pay for our irrigation water allotment through our T.I.D. taxes plus we pay for any excess water we must use. Will they give us an extra water allotment for irrigation to pay for what they are taking away?

2 On the map they have a well at each end of our ranch on our property. This will definitely impact our two domestic wells which are 90 feet. We now have drinkable water. In our area the wells that go much deeper bring up salty water. That is unacceptable.

3 Are we in danger of not being able to use commercial fertilizer on our crops because of them pumping surface water to Diablo Grande?

4 This is a rich agricultural area. There is so much talk about preserving farm lands. How can they be preserved if water is taken away. Isn't this just the beginning of "farm water rights" being relinquished to cities and other developments? Will this not eventually undermine the "priority apportionment that farmers, landowners and many others rely upon to maintain their livelihood and way of life?" (E.G. Mojave Case) This is an unusual year. We have lived through many dry years when the water allotment was barely enough to bring crops to harvest.

5 I already have a drain ditch along one side of my ranch where a right of way was granted. Recently our own access road was destroyed because of this right of way. The map shows a pipeline going right through the middle of my ranch. There is no way that I will grant an easement or right of way. It will interfere with our farming operations and the irrigation system that we would like to update via our own pipeline. I am a widow and I do not want strangers having access to where I live and work. I do not want my property devalued because of another easement.

The T.I.D. used to be for the farmers. It is obvious it no longer is. Are you?

Sincerely,

Virginia Niman

home phone: 634-5972

Response to Letter 23

1. The commenter addresses an issue previously discussed. Refer to response to comment 1 in Letter 10 (TID).

2. Mitigation 4 is provided to address issues such as this. Therefore, the impact to any particular well that can be attributed to the groundwater pumping by the WHWD will be fully mitigated.

3. The commenter addresses the continued use of fertilizer on their crops. There is no requirement nor is there the expectation that farmers in the TID cease the use of fertilizers. This issue has been addressed previously. Refer to response to comment 21 in Public Hearing Comments.

4. The commenter is concerned about future water availability. Growers within the TID will continue to receive the same water allotments if this project is completed, as they would have received if the project is not completed. As it pertains to preserving water for agricultural lands, the commenter addresses an issue previously discussed. Refer to response to comment 1 in Letter 10 (TID) and response to comment 9 in Letter 14 (Stanislaus County Farm Bureau) for additional information pertinent to this comment.

5. As a part of the final design process, the TID would work with local property owners to determine the actual location for the proposed facilities. Easements and rights-of-way for the installation and maintenance of the facilities would also be obtained. These easements and rights-of-way would be negotiated between the TID and the individual property owner at that time. The commenter addresses an issue previously discussed. Refer to response to comment 13 in Public Hearing Comments for additional information pertinent to this comment.

Petition, Page 1

From the Voters, Property Owners and/or Residents
of the Turlock Irrigation District

Rep: Al Mendes
1100 Ruble Rd.
Crows Landing, CA 95313
(209) 632-0350

Re: Supplemental Environmental Impact Report (complete volume)
Shallow County Groundwater Option 4
Subject: Project...

The following comments are not those of one individual, but instead are a "collective" compilation of comments by the following petitioner's.

Our report is divided in five subjects with a total of 24 comments. Each comment is followed by quotations taken directly out of the EIR. The EIR claims to be consistent with the TID Groundwater Management Plan (EIR Pg. 2-99) therefore, we believe we would be able to also include it's figure references..

Thank you,

Al Mendes

1

Petition, Page 2

We disagree with the EIR growth inducing analysis.

Growth Inducing Impacts

This option would directly facilitate development of Diablo Grande: the stated project objective. The option will not free up any additional water supplies or provide infrastructure that could be used for other development. ***The option would likely increase the productivity of agricultural practices in the immediate vicinity of the new drainage wells through reductions in the groundwater elevations, thereby fostering economic growth to some extent.*** (Pg. 2-100)

Where as it is the EIR's (est.30) repeated declarations of our areas likely increased productivity of agricultural practices in the immediate vicinity of the drainage wells through reductions in GW elevations there by fostering economic growth to some extent we so **strongly disagree with**, well before any mitigation. It is so vitally important the Planning Commission remembers that **wrongful** analogy, for it is the foundation that the EIR justifies all mitigation's upon.

Standard of Significance:

(Pg. 2-74)

Substantially degrade water quality whereby water quality would not meet state standard;

1. Where as there are three aquifers of water in the project area. The first is called the shallow aquifer located 50 ft bgs, which causes root damage to crops when it is above 4 ft bgs. The second is called the upper aquifer located 50-150 ft bgs, which currently produces only fair quality water, used by local residencies. And the third is called the lower aquifer producing dangerously poor quality water. In which up-drafts to the upper aquifer whenever over-drafting occurs from above, as it is projected to do. Because instead of setting the projects wells within the shallow aquifer that would control GW levels and benefit the area, as the EIR claims, the wells will be set within the upper aquifer drawing GW levels down to dangerous levels.

Petition, Page 3

Impacts to Groundwater Quality: *The impact of the groundwater pumping on the quality of the lower aquifer would be primarily reflected in salinity levels. The marine sedimentary rocks generate an upward migration of saline water into the aquifer.* ***The reduction in groundwater levels would result in an increase of approximately three percent to the dissolved solids load to the lower aquifer.*** *(Pg. 2-73 &2-29)*

In summary, ***for use as a drinking water supply****, the quality of the shallow and upper aquifer has several constituents of concern Nitrate and likely, DBCP levels may exceed the primary drinking water standards. TDS would exceed the secondary drinking water standard. (Pg. 2-31).*

Nitrate levels *in half of the wells exceed the primary drinking water standard, which is not unusual in Save for* ***agricultural areas.*** *(Pg. 2-31)*

The impact the proposed project would have on other constituents found in the groundwater is ***not precisely known.*** (Pg. 2-73) *also refer to (Figure 19)*

Substantially degrade or deplete groundwater resources;

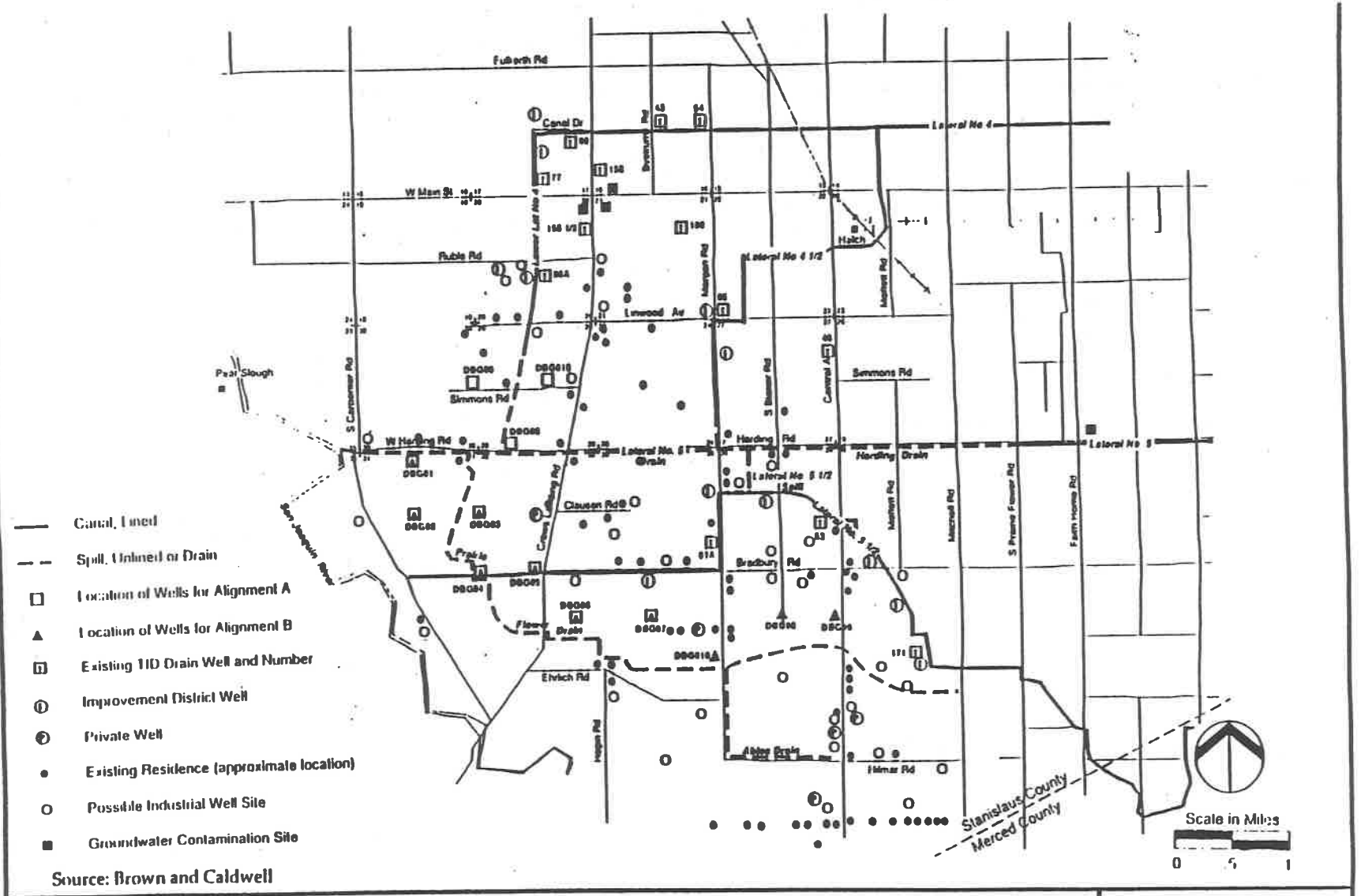
2. Where as the project impacts private, domestic and industrial wells pumping capacity during Dry or Critical dry periods without fair compensation. This will only further impact property owners and farmers economically.

Surface water supplies an average of fifty-three percent of the total irrigation water applied within the basin, the majority of which originated from the Tuolumne River (Pg. 2-26)

The ***area of impact*** *with groundwater levels greater than four feet range from* ***4,600 acres to 7,000 acres.*** *The impact would be gradual overtime as the project reaches build out.* (Pg. 2-50).

approximately 16 to 20 feet *at the center of the well field, and by up to* ***2 feet two miles*** *from the center of the well field.* *(pg. S-18)*

3

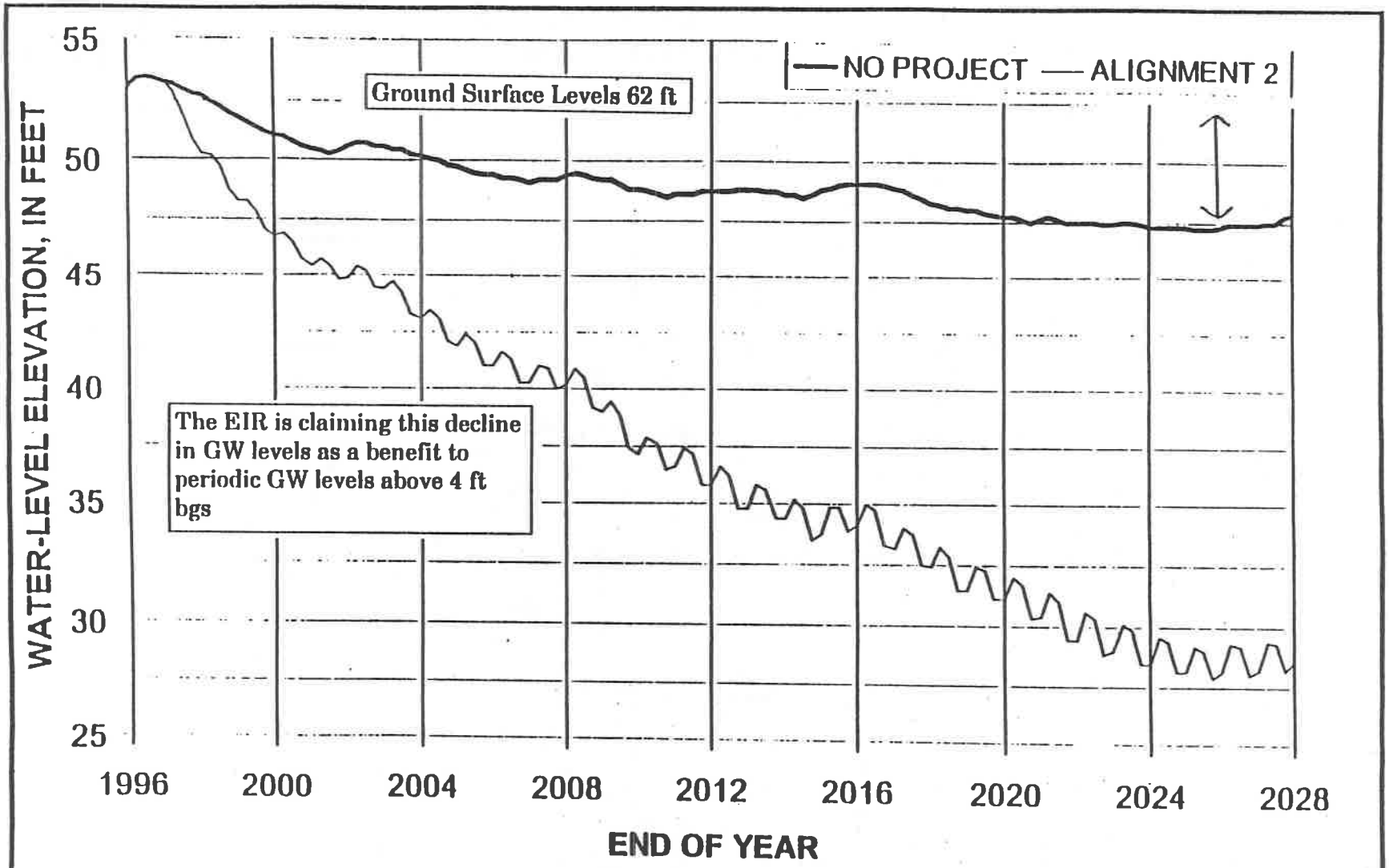


Source: Brown and Caldwell

EMC Planning Group Inc.
A Land Use Planning and Design Firm

Diablo Grande Water Plan SEIR
Existing and Proposed Wells

Figure
19

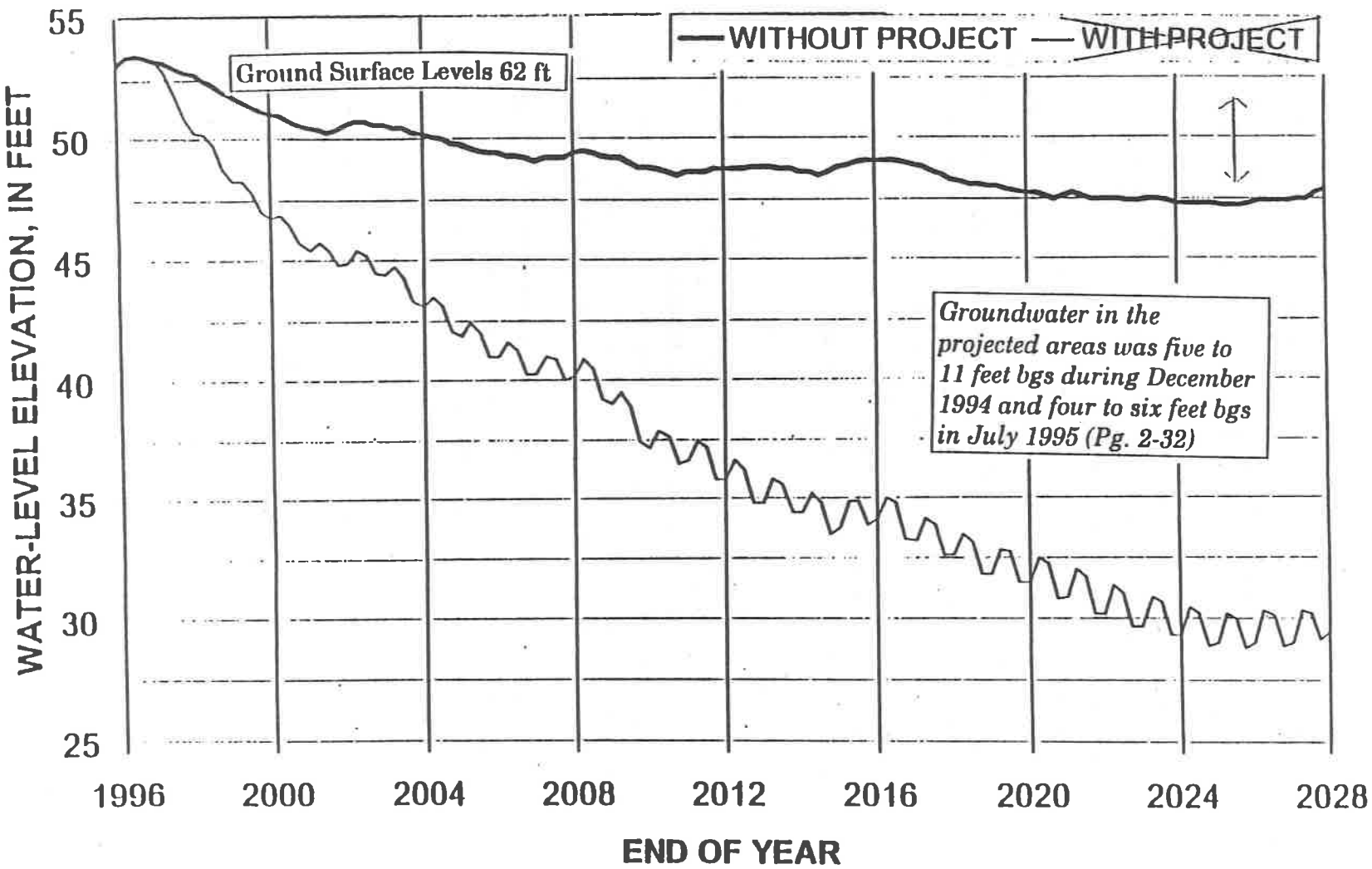


Source: Hydrologic Consultants, Inc.

EMC Planning Group Inc.
A Land Use Planning and Design Firm

Diablo Grande Water Plan SEIR
Water Level at Center of Well Field
Alignment A, Scenario B

Figure
30



Source: Hydrologic Consultants, Inc.

EMC Planning Group Inc.
A Land Use Planning and Design Firm

Diablo Grande Water Plan SEIR
Water Level at Center of Well Field
Alignment B, Scenario B

Figure
31

Petition, Page 7

The proposed project would reduce groundwater levels in the vicinity of well field. Groundwater levels are anticipated to drop an ***additional 18 to 19 feet*** *at the center of the well field, and by up to approximately 2 feet miles from the center of the well field* ***during and following*** *an extended drought.* *(Pg. 2-50) also refer to (Table 2)* (Total of 39 ft bgs combined)

Over time, the ***proposed project*** *and* ***other urban*** *projects would incrementally* ***reduce the groundwater table.*** (Pg. S-28) also Re: (Figure 30)

Interfere substantially with groundwater recharge;

3. Where as the cycle of recharge will be broken when 11,000 acre-ft of water is exported. Over-drafting will occur to our GW basin during Dry or Critical dry periods, such as 1977 and 1987-1992, and will be compounded by the projects impact draw during peak summer water demands, without fair compensation. This will only further impact the property owners and farmers economically. see next Pg. (Figure 5 & 10)

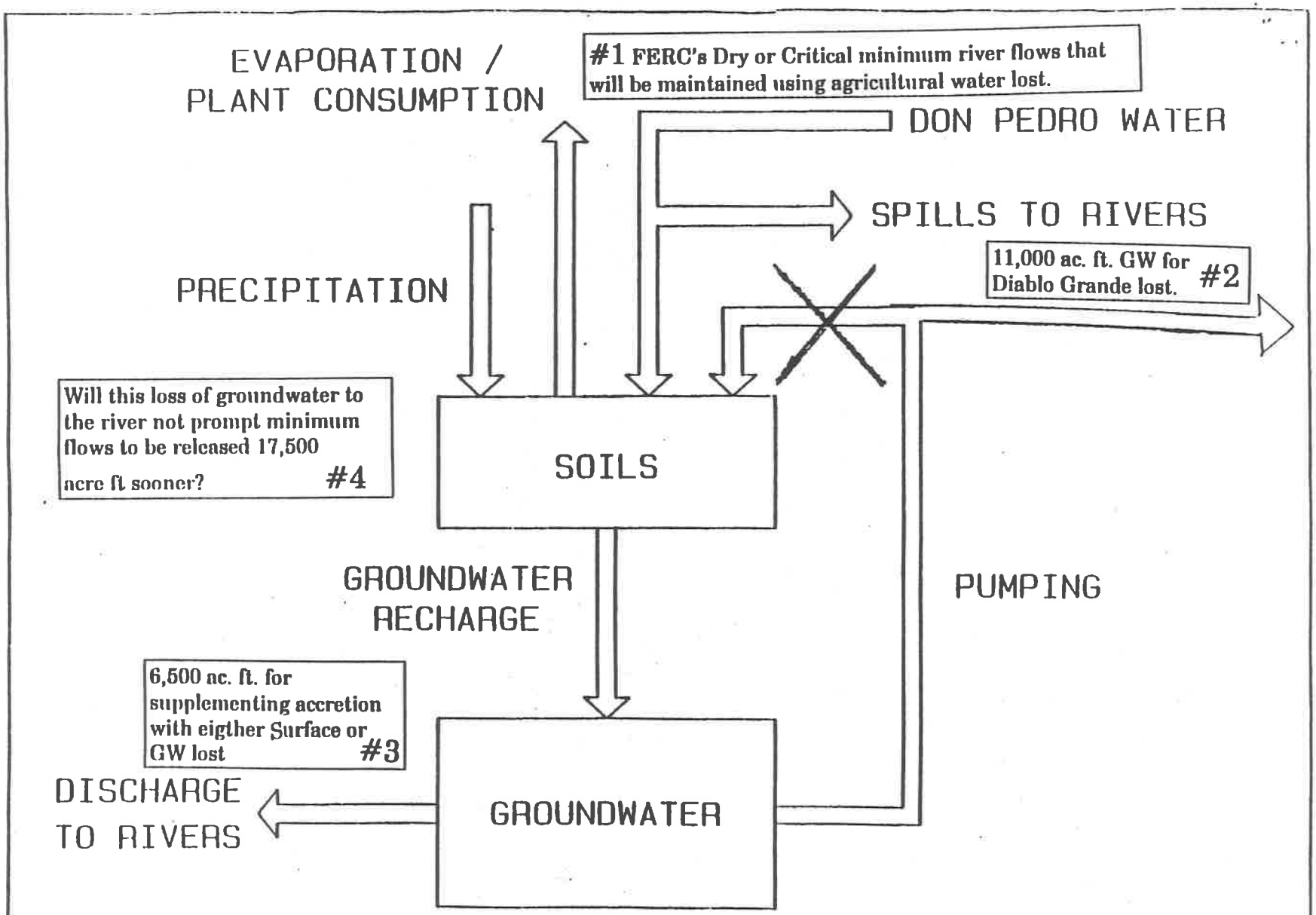
Project Analysis: *The Diablo Grande project has a four-phase development plan to be implemented over approximately 25 years. At full build-out approximately 11,000 acre-feet of water per year (AF per year) would be delivered from the project wells to Diablo Grande.* ***The Majority of the annual pumping would occur during the months of May through September.*** *(Pg. 2-83) also refer to (Figure 10)*

A significant part *off applied irrigation water percolates past the root zone to become groundwater recharge. Therefore, a majority of water in the basin groundwater system originated from the Tuolumne River. (Pg. 2-26)*

The general accretions to and depletion's from the groundwater basin have resulted in a ***localized overdraft of between 70,000 to 85,000 acre-feet per year.*** *The localized overdraft is occurring mainly in the eastern areas of the basin which lack a surface water supply. (Pg. 2-26)*

The expected reductions in current drainage pumping would ***partially offset*** *the impacts of the project on groundwater levels and accretion. (Pg. 2-83)*

4



HYDROLOGIC SYSTEM

FIGURE 5

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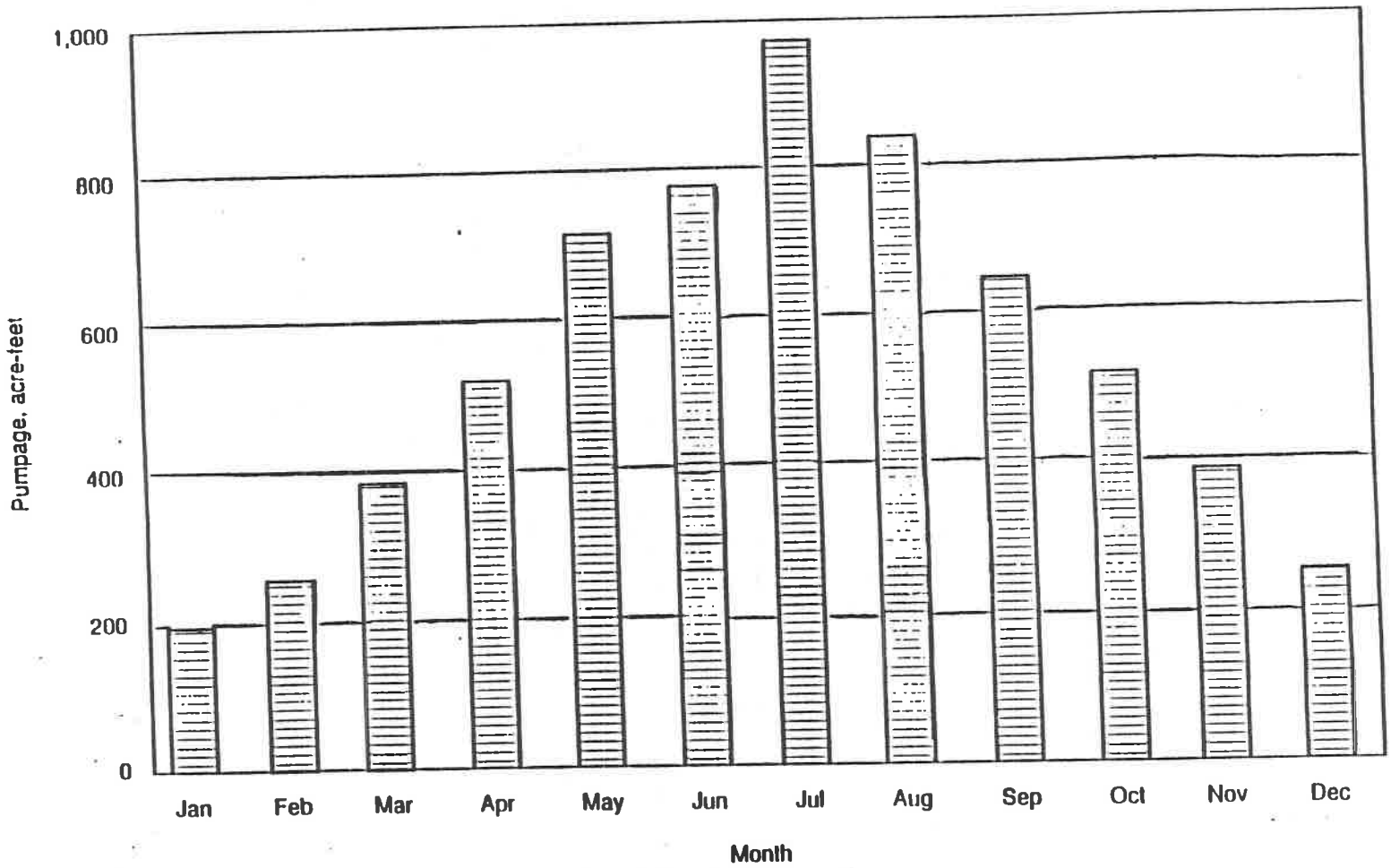

Source: Hydrologic Consultants, Inc.

EMC Planning Group Inc.
A Land Use Planning and Design Firm

Diablo Grande Water Plan SEIR

Monthly Distribution of Pumpage from Project Wells

Figure 10

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Convert prime agriculture land to non-agriculture use to impair the agriculture productivity of prime agriculture land ; or

4. Where as the local zone of influence is primarily dairy country fueling the economies of Modesto, Turlock and Hilmar. Dairies need these crops currently being grown to survive, not necessarily orchards. Without dairies there will be no milk to supply milk processing plants.

   The area in the vicinity of the project wells consists predominantly of large-parcel agricultural fields and dairy farms. These fields ***currently support*** *production of shallow root crops, including alfalfa, corn, and sod. (Pg. 2-77)*

5. Where as adjacent property to the Prairie Flower ditch currently **receives its tailwaters** for irrigation. A in land with riparian rights to the ditch and by loosing that water source would require constructing irrigation wells near the center of the projects well field. Thus shifting the responsibility of draw-down damages away from the project. During Dry or Critical dry periods, without fair compensation. This will only further impact the property owners and farmers economically.

   Conversely, if the water table is below the water level in the drain, water seeps out of the drain to provide groundwater recharges. Lastly, there are ***several private and TID owned lift pumps that return portions of the water in the drain back to the lands to be used for irrigation.*** *(Pg. 2-40)*

   For well Alignment B with climate Scenario A, the modeling shows that the drain would have no flow attribute to groundwater for the last ***seven years*** *of the study period. (Pg. 2-49)*

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Substantially degrade or deplete surface water resources.

6. Where as the projects take of surface water during Dry or Critical dry periods, without fair compensation, will only further impact property owners and farmers economically.

With the new Tuolumne River fish flows implemented through the FERC agreement, ***any reduction in groundwater accretion to the San Joaquin River in the project area*** *will not be experienced below the confluence of the Tuolumne River. Similarity,* ***if increases*** *to the lower Merced River are implemented under VAMP for October and April-May, this* ***could offset potentially adverse effect of the project on fall-run*** *Chinook salmon in the reach of the San Joaquin River below the confluence of the Merced River. (Pg. 2-84)*
See (Pgs. 7,8,9) (Miti. 5&6) (Option 1-5)

6

TABLE 6

FERC Flow Schedule

Schedule Occurance	Days	Critical below 6.4%	Median Critical 8.0%	Intermed-iate C-D 6.2%	Median Dry 10.8%	Intermed-iate D-BN 9.1%	Median Below Normal 10.3%	Intermed-iate BN-AN 15.5%	Median Above Normal 5.1%	Intermed-iate AN-W 15.4%	Median Wet/Max-imum 13.3%
October 1-October 15	1-15	100 cfs 2,975 ac-ft	100 cfs 2,975 ac-ft	150 cfs 4,463 ac-ft	150 cfs 4,463 ac-ft	180 cfs 5,355 ac-ft	200 cfs 5,950 ac-ft	300 cfs 8,926 ac-ft	300 cfs 8,926 ac-ft	300 cfs 8,926 ac-ft	300 cfs 8,926 ac-ft
Attraction Pulse Flow		none	none	none	none	1,676 ac-ft	1,736 ac-ft	5,950 ac-ft	5,950 ac-ft	5,950 ac-ft	5,950 ac-ft
October 16-May 31	228	150 cfs 67,835 ac-ft	150 cfs 67,835 ac-ft	150 cfs 67, 835 ac-ft	150 cfs 67,835 ac-ft	180 cfs 81,402 ac-ft	175 cfs 79,140 ac-ft	300 cfs 135,669 ac-ft	300 cfs 135,669 ac-ft	300 cfs 135,669 ac-ft	300 cfs 135, 669 ac-ft
Outmigration Pulse Flow		11,091 ac-ft	20,091 ac-ft	32,619 ac-ft	37,060 ac-ft	35, 920 ac-ft	60,027 ac-ft	89,882 ac-ft	89, 885 ac-ft	89,882 ac-ft	89,882 ac-ft
June 1-Sept. 30	1-22	50 cfs 12,099 ac-ft	50 cfs 12,099 ac-ft	50 cfs 12,099 ac-ft	75 cfs 18,149 ac-ft	75 cfs 18, 149 ac-ft	75 cfs 18,149 ac-ft	250 cfs 60, 496 ac-ft	250 cfs 60,496 ac-ft	250 cfs 60, 496 ac-ft	250 cfs 60,496 ac-ft
Volume (ac-ft)	365	94,000	103,000	117,016	127,507	142,502	165,002	300,923	300, 923	300, 923	300,923

C = Critical; D = Dry; BN = Below Normal; AN = Above Normal; W = Wet
Source: Turlock Irrigation District

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We disagree with the Environmental Impact Reports method of evaluating analysis.

(Bylaw) ***Where an EIR identifies a significant adverse impact, the lead agency may not approve the projects unless it finds that changes to the project or mitigation measures have been required of the project to reduce the impact's significance or that changes are infeasible for specified social, economic, and/or other reasons.*** *(Pg. 1-8)*

7. Where as the writer's of this report merely display the impact in question, as being a percent or small part of the total problem, in ascertaining their desired results.

> ***Project Consistency.*** *The extraction of 11,000 acre-feet per year of drainage water from the Turlock Groundwater Basin is not considered to be* ***significant in comparison to the 496,999 acre-feet per year of groundwater currently pumped*** *from the Turlock Groundwater Basin (Brown and Caldwell, 1997). Furthermore, the groundwater model results indicate that the dissolved solids load to the aquifer would increase by approximately three percent. Assuming that this would* ***eventually result in a three percent increase in TDS*** *levels in the upper aquifer, TDS levels might increase an acreage of 981 mg/1 to 1,010 mg/1.* ***This increase would not be significant.*** *Therefore, the use of TID groundwater is not considered to be inconsistent with the goals of the Turlock Groundwater Basin Groundwater Management Plan.* (Pg. 2-99)

8. Where as we feel in making an impact **look** insignificant, does not make the impact any **less** significant. see next Pg. (Table 1)

TABLE 1

Comparison of Options

Option	Hydrology[2]	Biotic Resources	Agricultural Resources	Air Quality
Marshall-Davis[1]	less than significant	less than significant	less than significant	less than significant
On-Site Groundwater[1]	less than significant	less than significant	less than significant	less than significant
Patterson ATS	less than significant	less than significant	less than significant	less than significant
Shallow County Groundwater	less than significant	less than significant	less than significant	less than significant
Berrenda Mesa	less than significant	less than significant	less than significant	less than significant
Bravo Management Company	less than significant	less than significant	less than significant	less than significant
Ceres ATS	less than significant	cannot determine[3]	less than significant	less than significant
Modesto ATS	less than significant	cannot determine[3]	less than significant	less than significant

1 This option's impacts were discussed in the 1992 EIR prepared for the Diablo Grande project. Therefore, impacts relative to this discussion relate to those impacts associated with extension of the contract between Diablo Grande and Marshall-Davis Farms, whereby Diablo Grande continues to use approximately 1,200 acre-feet of groundwater per year beyond the year 2000.

2 "Less than significant" designation indicates the impact would be reduced to a less than significant level after implementation of recommended mitigation measures.

3 Though the impacts associated with these two alternatives have been discussed in section 3 of the SEIR, the level of environmental analysis is not at a level of detail to allow a determination that specific impacts relating to biotic resources would be significant or insignificant. As stated in the SEIR (para. 2, page 3-5), any future pipeline routes shall be required to be surveyed as part of project specific environmental review. The lack of specific biological analysis associated with these alternative's respective conveyance pipelines should not be construed to mean that any potential future impacts associated with these two alternative options would not be mitigated to a level of insignificance. Any potential impacts to plant or animal species shall be identified as part of any future pipeline construction final environmental evaluation, and will be fully mitigated. Conveyance pipelines will, in large part, be installed in agricultural lands and existing roadways, thereby avoiding potentially significant impacts. In light of this information, all options could be construed to be equally environmentally superior.

Note: The water conveyance impacts associated with each long-term water option is included in the biotic resources, agricultural resources and air quality columns in the above table.

Source: EMC Planning Group Inc.

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9. Where as after every mitigation measure there remains less of the whole remaining, and what is missing is our water and its existing quality, or lack of. refer to paragraph above, Project Consistency; concerning water quality

Mitigation Measure 4 will only be implemented during Dry or Critical dry periods, history has shown us severe over-drafting of our GW basin during this period. Mitigation 4 will only further impact property owners and farmers economically.

> ***Mitigation Measure 4:*** *Historical groundwater pumping has been ongoing on the TID for many years in order to lower the groundwater level in some areas to allow agricultural operations. Groundwater pumping by the Diablo Grande project would reduce and potential eliminate the need for this historical groundwater pumping to the TID. The proposed project would have a positive impact to agricultural operations in this context.* ***However, there is a potential secondary impact associated with the project's proposed groundwater pumping relative to existing wells. A declining groundwater level may result in reductions to groundwater pumping in existing wells.*** *(Pg. S-18)*

Mitigation Measure 5 will only be implemented during Dry or Critical dry periods, history has shown us an inadequate supply of both GW and surface water during this period. Mitigation 5 will only further impact property owners and farmers economically.

> ***Mitigation Measure 5:*** *Following the onset of pumping of the project wells, a quarterly monitoring program for the Prairie Flower Drain between Crows Landing Road and Lateral 5 1/2 shall be implemented. The presence of water or saturated soils in this section of the drain shall be assessed visually and the water level estimated and recorded. If the channel is found to be very dry (i.e., no water or saturated soils present in the channel) in two or more consecutive quarterly monitoring surveys, measures shall be implemented to restore sufficient water to this section of the channel to re-establish saturated soil conditions and support hydrophytic vegetation. Such measures could include* ***allowing supplemental backflow into the drain channel from Lateral 5 1/2,*** *or diverting agricultural drainage runoff from adjacent fields to the affected section of the drain. (Pg. S-20)*

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Mitigation Measure 6 will only be implemented during Dry or Critical dry periods, history has shown us an inadequate supply of both GW and surface water during this period. Mitigation 6 will only further impact property owners and farmers economically.

> ***Mitigation Measure 6: Mitigation measures shall be implemented during water years classified as Dry or Critical*** *by the DWR for the San Joaquin River basin, as indicated in DWR Bulletin 120. Bulletin 120-3 (April) shall be referred to annually,* ***starting on the first year of pumping of the project wells. If Dry or Critical Conditions are forecast for that water year, the following measures shall be implemented:***
>
> *a. An. adaptive management program shall be implemented to offset the project impacts to San Joaquin River flow, as predicted by the hydrological model, for a 30-day period between April 1 and May 15, and a 30-day period between October 1 and November 15. The primary component of this management program will consist of release of an appropriate amount of water into the San Joaquin River on continuous basis during the mitigation period in the hydrological model. Options available to implement this discharge of water to the San Joaquin River could include:*

Option 1 will only be implemented during Dry or Critical dry periods, history has shown us an inadequate supply of surface water during this period. This option will only further impact property owners and farmers economically.

> *1)* ***Release of surface water****. If during the mitigation period, TID or some other water district in the project vicinity has water available which could be released into the river, this water may be purchased and released in the affected area of the river to supplement the river and meet the mitigation requirement.*

Option 2 will only be implemented during Dry or Critical dry periods, history has shown us severe over-drafting of our GW basin during this period. This option will only further impact property owners and farmers economically.

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2) ***Increase in project groundwater pumping.*** *This option would provide additional water to be discharged to the river in the required amount, plus an amount o to offset the additional loss of accretion to the river that could result from this measure. This option generally would be implemented when groundwater levels in the area of the well field remain high.*

Option 3 will only be implemented during Dry or Critical dry periods, history has shown us an inadequate supply of both GW and surface water during this period. A reduction of GW pumping to a residential development, such as Diablo Grande, will only be supplemented with surface water. This option will only further impact property owners and farmers economically.

3) ***Reduction in project groundwater pumping.*** *Under this option, the groundwater pumping would be reduced in an amount to* ***permit increased accretion*** *based on the required discharge amounts. This option generally would be implemented when groundwater levels in the area of the well field are low.*

Option 4 will only be implemented during Dry or Critical dry periods, history has shown us severe over-drafting of our GW basin during this period. This option will only further impact property owners and farmers economically.

4) ***Release of groundwater from other areas*** *of the TID. The TID had groundwater drainage wells in many other areas of the District.* ***If,*** *during the required mitigation period, the groundwater level in the well field area is low, but the groundwater remains substantially high on other areas of the TID, then TID could increase pumping in those areas to supply the appropriate amount of discharge to the river.*

Option 5 will only be implemented during Dry or Critical years, history has shown us an inadequate supply of both GW and surface water during this period. A reduction of GW pumping to a residential development, such as Diablo Grande, will only be supplemented with surface water. This option will only further impact property owners and farmers economically.

5) *These options may be used individually or in combination to ensure that the river is supplemented as set forth in this mitigation measure. (Pg. S-21-S-22)*

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We disagree with the EIR as owners of domestic, private and industrial wells located in the vicinity of the project.

(bylaw) **Policy 7:** ***New development that does not derive domestic water from pre-existing domestic and public water supply*** *systems shall be required to have a documented water supply that does not adversely impact Stanislaus County water resources.* *(Pg. 2-98)*

10. Where as mitigation measures in offsetting the projects impact to domestic, private and industrial wells, would leave owners **unprotected** to damages concurred by the project, without fair compensation, during Dry or Critical dry periods. This will only further impact the property owners and farmers economically.

This decline in groundwater levels ***could*** *reduce the capacity of existing domestic, individual and irrigation wells.* *(Pg. 2-50)*

Water Supply Impact - Hydrology. *The proposed project would reduce groundwater levels in the vicinity of the well fields. Groundwater levels are anticipated to drop* ***approximately 16 to 20 feet at the center of the well field, and by up to 2 feet two miles from the center of the well field.*** *This would result in a positive impact in the shallow aquifer where root zones need to be above the groundwater level. however, a negative secondary impact is projected due to* ***reduced capacity of existing domestic and irrigation wells. This is considered to be a potential significant impact.*** *(Pg. S-18)*

However, the increased draw-down caused by the proposed drainage pumping ***may adversely*** *impact some domestic, industrial and private irrigation wells.*
(Pg. 2-74) also refer to (Figure 31-31)

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11. Where as the draw-down projected to occur was **not** based on the total number of **existing wells in-use,** making the projection inaccurate, thus shifting the responsibility of draw-down damages away from the project during Dry or Critical dry periods. This will only further impact the property owners and farmers economically. See (figure 19)

> *The locations and characteristics of each private domestic well are **not known.** (Pg. 2-32)*

> ***Well inventory**. **Prior** to operation of project wells, a well inventory of all wells within two miles of the center of the well field shall be conducted to develop baseline data on the **pre-projected status** of the groundwater levels, as well as the condition and characteristics of individual wells. The county shall cooperate by providing any revenant groundwater data and well information it has to the TID.* (Pg. S-18)

12. Where as mitigation projections does not factor into the equation any future domestic, private or industrial wells to be constructed, which would then increase the GW draw-down further than originally projected, thus shifting the responsibility of draw-down away from the project. during Dry or Critical dry periods. This will only further impact property owners and farmers economically.

> *A mitigation program shall be established to protect **existing wells within a two mile radius** of the center of the well field. (Pg. S-18)*

> *A field survey conducted by the TID identified the **approximate location** of private residences within the area which likely are supplied by individual private wells. (Pg. 2-39)*

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13. Where as an inaccurate projection of GW level draw-down could allow for further draw-down of GW levels, then extending the 2 mile radius and impacting a greater number of wells than originally projected, thus shifting the responsibility of draw-down away from the project during Dry or Critical dry periods. This will only further impact property owners and farmers economically.

> *The proposed project would reduce groundwater levels in the vicinity of well field. Groundwater levels are anticipated to drop an* ***additional 18 to 19*** *feet at the center of the well field, and by up to approximately 2 feet miles from the center of the well field during and following an extended drought. (Pg. 2-50)* (Total of 4 ft bgs in a 2 mile radius) (est. 2 ft 4 miles from center)
>
> *The impact the proposed project would have on other constituents found in the groundwater is* ***not precisely known.*** (Pg. 2-73)

14. Where as mitigation projections does not factor into the equation a hydrologic drought brought-on by **natural conditions,** concerning the loss of capacity or thresh-hold damages, thus shifting the responsibility of draw-down damages away from the project during Dry or Critical dry periods. This will only further impact the property owners and farmers economically.

> *1. The groundwater level drops below an existing operational well's bowl level and said drop is due to the proposed project's groundwater pumping,* ***not natural conditions.***
>
> *2. The groundwater level drops such that the capacity of the existing well's pump is* ***significantly*** *reduced and said is to due to the proposed project's groundwater pumping, and* ***not natural conditions.*** (Pg. S-19)

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We disagree with the EIR using drainage pumps as a permanent water source.

> ***Project Consistency.*** *Based on the analysis contained in the SEIR, there are* ***long-term water resources*** *available that would meet the needs of the project without adversely impacting the quality of existing local water resources.* *(Pg. 2-99)*

15. Where as the EIR, referring to long-term water **resources,** (with an "s":) leads one to believe, the report is implying using **agricultural surface water** as a secondary back-up to GW, assuring Diablo Grande a permanent irrevocable source in the event GW could not be used. For example, excessive draw-down of GW levels or if GW does not meet the **quality standards** for a residential development. This will only further impact the property owners and farmers economically.

> ***The District supplements its surface water supply with groundwater to satisfy crop water requirements,*** *the extent of which varies from year to year depending on the availability of surface water.* (Pg. 2-39)

16. Where as drainage pumps **could not** provide a long term water source that a residential development, as Diablo Grande would need to have. Drainage pumps have become full time irrigation pumps during Dry or Critical dry periods and part time irrigation pumps in wet years used in emergency situations, for frost or dust storm protection when surface water is not available. This will only further impact the property owners and farmers economically without fair compensation.

> *Strategically located drainage wells are* ***systematically*** *pumped when measured water levels reach approximately six feet bgs or higher.* *(Pg. 2-31)*

17. Where as when water pumped by drainage pumps, used **for irrigation** during Dry or Critical dry periods, such as 1987-1992, was **incorrectly** recorded and calculated by the EIR, as solely being excess drainage instead of irrigation water. This will only further impact the property owners and farmers without fair compensation. See (Table 2)

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TABLE 2

TURLOCK IRRIGATION DISTRICT
WATER DEMAND AND SUPPLY INVENTORY

	TID Gross Irrigated Acres	Water Supply (acre-feet)				Groundwater Pumping By Others (acre-feet)		Total Groundwater Pumping	Total Water Supply	Tuolumne River	
			Pumps								
		Surface	Drainage	Rented	Total	Cities	Private			Runoff (af)	% of Normal
Column	A	B	C	D	E	G	H	I	J	K	L
Formula	#	#	#	#	(C+D)	#	#	(G+H+E)	(B+I)	#	#
Notes		(1)	(2)	(3)		(4)	(5)				
1972	172,090	507,492	144,113	41,773	185,886	13,819	64,821	264,526	772,018	1,206,612	64%
1973	170,635	517,454	116,968	0	116,968	14,343	51,187	182,498	699,952	2,030,696	108%
1974	170,343	582,848	132,664	0	132,664	15,973	67,278	215,915	798,763	2,238,898	119%
1975	169,648	597,333	127,655	0	127,655	17,058	77,455	222,168	819,501	2,032,673	108%
1976	168,330	619,207	138,475	0	138,475	18,130	108,047	264,652	883,859	670,599	36%
1977	169,153	148,636	120,685	190,049	310,734	17,983	207,129	535,846	684,482	382,661	20%
1978	164,062	483,100	77,646	0	77,646	18,622	100,777	197,045	680,145	2,902,999	154%
1979	165,784	547,925	93,764	0	93,764	21,675	162,661	278,100	826,025	1,913,644	102%
1980	165,878	560,201	109,639	0	109,639	23,964	169,965	303,568	863,769	3,045,133	162%
1981	164,876	523,989	92,475	0	92,475	26,011	134,960	253,446	777,435	1,055,516	56%
1982	164,774	543,299	93,470	0	93,470	23,453	91,889	208,812	752,111	3,805,777	202%
1983	163,133	496,684	104,666	0	104,666	23,373	88,821	216,860	713,544	4,631,399	246%
1984	163,006	612,855	113,401	0	113,401	26,859	106,474	246,734	859,589	2,470,768	131%
1985	162,354	566,824	109,864	0	109,864	25,200	110,795	245,859	812,683	1,228,613	65%
1986	161,805	534,267	91,449	12,923	104,372	27,252	98,609	230,233	764,500	2,970,895	158%
1987	160,160	418,978	71,416	105,113	176,529	29,785	147,727	354,041	803,019	655,589	35%
1988	145,174	224,732	59,897	225,539	285,436	31,557	166,405	483,398	708,130	820,849	44%
1989	149,017	415,366	35,724	70,846	106,570	31,293	177,195	315,058	730,424	1,311,906	70%
1990	149,712	458,217	34,678	66,596	101,274	32,475	164,422	298,171	756,388	842,590	45%
1991	149,777	399,470	33,853	83,457	117,310	30,904	157,782	305,996	705,466	1,103,350	59%
1992	148,887	435,907	36,726	61,759	98,485	33,881	130,486	262,852	698,759	832,526	44%
Totals:		10,224,784	1,939,228	858,055	2,797,283	503,610	2,584,886	5,885,779	16,110,563	38,153,693	
Average:	161,838	486,894	92,344	40,860	133,204	23,981	123,090	280,275	767,170	1,816,843	97%

NOTES:

(1) Gravity releases from Turlock Lake Reservior

(2) Pumping from TID Drainage pumps for drainage purposes and to supplement irrigation deliveries.

(3) Pump Water purchases through rental agreements from Improvement District and Private Pump owners to supplement irrigation deliveries.

(4) The following cities are included: Turlock, Ceres, Modesto, Keyes, Delhi, Hughson, Denair, Hilmar and Del Este (Modesto, Turlock, and Hickman).

(5) Private pumping is converted to acre feet by using a conversion factor multiplied by the total kilowatt hours used
Based upon field survey performed during Winter 1991, 45% are sprinkler pumps and 55% are other pumps,
Conversion Factors: Sprinkler Pumps: .00329, Other Pumps Drought Years: .00555, Other Pumps Non-Drought Years: 00647
Private pumping supplies water to Non-TID irrigated acres and supplements water to TID irrigated acres (% breakdown not known)

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18. Where as continuous GW pumping that would need to occur in supplying a permanent source of water to a residential development such as Diablo Grande, is not considered to be drainage pumping, in as the GW level would drop below the optimum level of 4 ft bgs for agriculture in which the pumps would continue running during Dry or Critical dry periods without fair compensation. This will only further impact the property owners and farmer economically.

    *The **maximum annual reduction** in drainage pumping ranges up to 4,850 acre-feet per year. (Pg. 2-48)*

    *The **shallowest** groundwater occurs in the area around the intersection of Bradbury and Morgan roads. Groundwater in this area is typically three to four feet bgs during the summer (July) and five to six feet bgs during the winter months (December). The deeper groundwater is on the western side of the well fields near the intersection of Harding and Carpenter roads. In this area groundwater typically varies from eight to 14 feet bgs. (Pg. 2-32)*

    *likewise, groundwater levels generally tend to be higher during **"wet"** years and lower during **"dry"** years. (Pg. 2-32)*

19. Where as when GW levels drop beyond 6 feet bgs, lower levels become detrimental, as in a crop of corn that requires irrigation every fourteen days would then require irrigation every eight days. Needing more surface water to grow a crop during Dry or Critical dry periods, without fair compensation will only further impact the property owners and farmers economically.

    *Groundwater in the **projected areas** was five to 11 feet bgs during December 1994 and four to six feet bgs in July 1995. (Pg. 2-32) also refer to (Table 2)*

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We disagree with the projects impact to the Prairie Flower Drain ditch

(bylaw) ***Implementation Measure 1:*** *All development proposals that require discretionary action shall be carefully reviewed to ensure that approval will not adversely affect an existing agricultural area.* *(Pg. 2-98)*

20. Where as the project impacts the Prairie Flower drain ditch converting prime agricultural land to non-agricultural use or impairing the agricultural productivity of prime agricultural land; without fair compensation, this will only further impact property owners and farmers economically.

> *The area in the vicinity of the project wells consist* ***predominantly of large-parcel agriculture fields and dairy farms.*** *These fields currently support production of shallow root crops, including alfalfa, corn, and sod. The project area is transacted by several lined canals and unlimited irrigation drainage channels, including TID's Lower Lateral 4, Lateral 5 1/2 Lateral 5 Drain (also known as Harding Drain) and the Prairie Flower Drain. These channels receive water from Tuolunme River diversions, TID drainage wells and other sources,* ***including groundwater accretion into the unlined drainage channels.*** *The banks of the unlined drainage channels support hydophytic (moisture-tolerant) plants such as willow, cattail and water hyacinth.* *(Pg. 2-77)*
>
> *If the channel is found to be dry (i.e. no water or saturated soils present in the channel) in two or more consecutive quarterly monitoring surveys, measures shall be implemented to* ***restore*** *sufficient water to this section of the channel to re-establish soil conditions.* *(Pg. S-20)*

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This decline would result in a reduction or ***elimination*** *of groundwater accretion to unlined drainage channels in the vicinity of the well fields, including the Prairie Flower Drain. Accretion of groundwater, in combination with surface water inflows,* ***contributes*** *to the maintenance of hydric conditions in the naturalized sections of the Prairie Flower Drain between Crows Landing Road and Lateral 5 1/2. Depending on the quantify and timing of surface water inflows (****e.g. local*** *tailwater from irrigated and inflow from adjoining channels), the* ***reduction*** *of groundwater accretion during a prolonged drought could either have no substantial effect, or could result in intermittent or seasonal desiccation, in this section of the Prairie Flower Drain. (Pg. 2-83)*

17

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We disagree with the EIR using surface water to mitigate impact.

21. Where as valuable agricultural water may not be taken from farmers and used for development. Farmers are increasingly being required to forgo or release their water, to satisfy river quality standards. Forced in supplementing diversion voids created by water losses such as the **6,500 acre ft** of accretion to the Merced River and San Joaquin River resulting from the projects impact. This will only further impact property owners and farmer economically.

    The impacts to flow below the confluence of the San Joaquin River with the Tuolumne River (downstream of the TID) ***would be much smaller given the higher river flows in*** *the San Joaquin River below the Tuolumne River, and given that* ***flows will now be increased (especially in the drier water years) because of the higher minimum FERC flows on the Tuolumne River****, and the resulting* ***smaller proportional impact****. Furthermore, increased releases of water to the lower* ***Merced River are currently being negotiated*** *with the MID under the Vernailis Adaptive Management Plan (VAMP) to* ***improve conditions for fall-run Chinook salmon. This water release would further increase water flow within the San Joaquin River*** *below the Merced River. Down river water users would not have to reduce their diversions as a result of the project.* (Pg. 2-75)

22. Where as the insinuation of mitigating 6,500 Acre Ft of accretion lost to the river due to the project with agricultural water, using newly established low-flows implemented to protect salmon is unjustifiable. This will only further impact property owners and farmers economically.

    With the new Tuolumne River fish flows implemented through the FERC agreement, ***any reduction in groundwater accretion to the San Joaquin River in the project area*** *will not be experienced below the confluence of the Tuolumne River. Similarity,* ***if increases*** *to the lower Merced River are implemented under VAMP for October and April-May, this* ***could offset potentially adverse effect of the project on fall-run*** *Chinook salmon in the reach of the San Joaquin River below the confluence of the Merced River.* (Pg. 2-84)

Petition, Page 27

Table 7 shows the additional water which would have been provided under the settlement agreement had the settlement agreement been in effect for the years shown. (Pg. 2-44)

23. Where as temptation in using surface water as a means to secure a "permanent" water source for Diablo Grande development must be great. This will only further impact the property owners and farmers economically.

Tuolumne River. *Flow in the Tuolumne River is regulated by the Don Pedro Project, located upstream of the town of La Grange. The project is owned 68.46 percent by TID and 31.54 percent by the Modesto Irrigation District (**Roger Masuda**, General Counsel, TID. Memo to **Robert Nees**, TID, November 10, 1997.) The Don Pedro Project was licensed by the Federal Power Commission, predecessor to the Federal Energy Regulatory Commission (FERC). In December 1992, the FERC reopened the license for the limited purposed of reassessing the required minimum instream flows for maintenance of the fall-run Chinook salmon fishery of the Tuolumne River. As a result of the meditation process initiated by the FERC, a settlement was reached that provided for **substantially higher minimum flows to protect salmon** in the lower Tuolumne River. The higher negotiated minimum flow requirements were approves through an order issued by the FERC on July 31, 1996, and were **implemented beginning August 1, 1996**. The new FERC flows will **vary from 94,000 AF per year to 300,923 AF per year**, depending on the water year classification determined by the California Department of Water Resources (DWR). These new minimum flows represent approximately a 2.3 to 2.4-fold increase over the previous minimum required instream flows. **These increased flows can be anticipated to be experienced all the way to the mouth of the Tuolumne River**, because the lower Tuolumne River is gaining river due to surface water returns and groundwater accretions (HCI 1998). (Pg. 2-78)*

24. **Where as this type of a contingency can not be tolerated since the potential impacts to the environment including agricultural water user's is extremely short sided.**

TABLE 7

Difference Between New Tuolumne River Minimum Flow Requirements and Modeled Actual Flows

Year	Months June - Sept.					602020 Index	Classification
	June	July	August	September	Total		
1977	2,827	2,921	2,921	2,827	11,497	838,770	Critical Water Year and Below
1988	2,821	2,915	2,915	2,821	11,473	1,476,178	Critical Water Year and Below
1990	2,831	2,924	2,924	2,831	11,511	1,514,587	Median Critical Water Year
1992	2,964	3,059	3,059	2,964	12,046	1,557,439	Median Critical Water Year
1976	2,956	3,050	3,050	2,956	12,012	1,588,133	Median Critical Water Year
1987	3,641	3,734	3,734	3,641	14,752	1,861,362	Median Critical Water Year
1991	3,894	3,988	3,988	3,694	15,765	1,955,459	Median Critical Water Year
1989	3,910	4,004	4,004	3,910	15,830	1,963,675	Median Critical Water Year
1994	3,031	3,124	3,124	3,031	12,312	2,035,560	Intermediate C-D Water Year
1972	3,492	3,585	3,585	3,492	14,154	2,158,968	Intermediate C-D Water Year
1985	4,305	4,446	4,446	4,305	17,505	2,403,226	Intermediate D-BN
1981	4,548	4,691	4,691	4,548	18,479	2,442,155	Intermediate D-BN
1971	9,547	9,690	9,690	9,547	38,473	2,885,824	Median Below Normal

Note: The reason the table is not listed in chronological order is because it is based on dry to wet years as measured in acre-feet per year.

Source: EMC Planning Group Inc.

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After our study of the EIR.

The under signed voters, property owners and/or residents of the Turlock Irrigation District oppose the County Option 4 or combination thereof; to sell water to Diablo Grande Development Project.

25

The counties option harms the water rights of land owners and does not provide them with fair compensation for damages.

Where as the water supply suggested for the Diablo Grande development is not long term as suggested in the EIR, but instead will be a permanent water supply, and we collectively feel this option should not be approved.

20

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The under signed voters, property owners and/or residents of the Turlock Irrigation District oppose the County Option 4 to sell water to Diablo Grande Development Project.

Name	Occupation	Phone Nmber
Jerry Sanders	Farmer	538-0659
Justin [illegible]	Dairyfarmer	667-0432
[illegible] Giovetti	Dairy Farmer	6676024
Robert [illegible]	" "	"
Manuel Alvernaz	Dairy-Farmer	667-0985
Norman [illegible]	Dairyman	634-5725
[illegible]	"	667-5840
[illegible]		632-3733
[illegible]	Dairy	632-0350
[illegible]	General Mang. Valley Tractor	538-3831
Ruby McNutt	76 Years old lived here 57½ years.	
Oliver M. Natt		632-0986
George Alvernaz		6675139
Wendel [illegible]		537-9883

Petition, Page 31

The under signed voters, property owners and/or residents of the Turlock Irrigation District oppose the County Option 4 to sell water to Diablo Grande Development Project.

Name	Occupation	Phone Nmber
Henry Gomes	Dairyman	209-668-1103
Rick Al[illegible]	"	209-667-9558
Mike Alvernaz	"	209-632-1890
Yasi Khanobali	Dairyman / Farmer	209 668-0621
Mike Rloa	Dairyman	209 668-7657
Steve Alvernaz	" "	209 632-2163
Joe Morais	(since 1956) 77 yrs old	6684217
Jon Fletcher	Farmer	667 9370
Louie Chaves	73 years old	634-2823
Paul Claret	Dairyman	537-2062
Ron Dioletti	Dairy farmer	63-45901
Don Vieira	Seed Co. Rep.	541-7098
James Dick	Dairy	669-6923
Dale Matoney	Dairyman	632-0610

Petition, Page 32

The under signed voters, property owners and/or residents of the Turlock Irrigation District oppose the County Option 4 to sell water to Diablo Grande Development Project.

Name	Occupation	Phone Nmber
David Starbey	Farmer	209 632-0671
John Borba	73 yrs Old	209 632 1469
Carl Louis	73 yrs Old Dairyman	209-668-3775
Danny L. McLett	Contractor pump-man	209-634-8374
Marge Souza	Dairy producer	209-667-5209
Harold Rasmussen	Dairyman	209-668 0667
Miriam Rable	80 yrs 400 ft Retired	209-632-0340
Jack Rable	82 yrs old Parts Salesman	209-632-0340
Harry W. Souza	age 87 - Born 1911-4-12	
Rosemary Wagner	Home maker	632-0824
[illegible]	Farmer	632-0824
Charlene Eddings	School Busdriver	667-7884
John Costa	Mechanic	669-1086
Evelyn Elston	teacher	632-4935

Petition, Page 33

The under signed voters, property owners and/or residents of the Turlock Irrigation District oppose the County Option 4 to sell water to Diablo Grande Development Project.

Name	Occupation	Phone Nmber
Joe Elston	Salesman-RC.	632-4935
Merlin Jones	FARMER / MFG	667-6019
Miriam Jones	FARM + MFG.	667-6019
[illegible]	Superintendent Ehatom U.S.D.	664-8505
[illegible]	Ag. Bu[illegible]	669-8556
Paul McNutt	FARMER	538-3823
Walt L Soares	"	634-2856
Mark Vieira		667 1202
John Joste	"	632 1921
Michael G. Lucas	Dairyman	667-5749
Philip G. Wagner	Salesman "Feed"	656-9537
Lorie Wagner	Speech therapist	656-9537
Lillian Jerome	age 77	632-4[illegible]
Lewis Jerome	Retired dairyman	6[illegible]

Petition, Page 34

The under signed voters, property owners and/or residents of the Turlock Irrigation District oppose the County Option 4 to sell water to Diablo Grande Development Project.

Name	Occupation	Phone Nmber
Alice Mendes	Dairy owner 71 yrs old	6320209
Mario Mattos	EX Dairyman 71	6672085
Jose Terra-Baa	Farmer Chickens	
Emma Giolette	132 N. Blake Rd Turlock 81 yrs old	Dairy Farmer Lady
Bill Bettencourt	12501 Crowslanding Rd. Crowslanding CA 95313	209-632-9262
Richard Bettencourt	Same as above.	
Patty Mendes	Dairyowner Homemaker	6320350
Joseph M Fagundes	Dairy Broker	209-6682444

A am For This Project.

Response to Petition

1. The commenter states that the groundwater levels will be down to dangerous levels. Based on the modeling prepared for the proposed project, there is no empirical evidence that the pumping proposed will result in dangerous levels. However, the Draft SEIR does state (page 2-73) that total dissolved solids would increase by three percent in the lower aquifer. The SEIR concluded that this would not be a significant impact.

As it pertains to existing well's water quality characteristics, the SEIR provides information that indicates groundwater quality in some wells exceed safe drinking water standards. The WHWD will be responsible for treating any groundwater for potable use to the applicable federal and state standards at the time.

2. As it pertains to compensation to well owners within the area of impact, mitigation 4 addresses the manner in which the WHWD and the TID will mitigate impacts to existing and future wells.

As it pertains to economic impacts, this has been addressed previously in response to comment 13 in Public Hearing Comments.

As it pertains to the area of impact being 4,600 acres to 7,000 acres, the depth of groundwater would be two feet, not four feet. The paragraph referred to by the commenter on page 2-50 inadvertently referenced four feet. The correct depth two miles from the center of the well field should be two feet. Refer to the *Modifications to the Draft SEIR* section for amended language (reference page 2-50).

The commenter refers to groundwater depth. The 16 to 20 feet referenced on page S-18 of the Draft SEIR has been amended. Instead, it should read 18 to 20 feet. Refer to the *Modifications to the Draft SEIR* section for amended language (reference page S-18 and 2-50.

3. As it pertains to compensation to well owners within the area of impact, mitigation 4 addresses the manner in which the WHWD will mitigate impacts to existing and future wells.

As it pertains to economic impacts, this has been addressed previously in response to comment 13 in Public Hearing Comments.

4. The commenter implies that the proposed project may hinder the economic viability of the local dairy farms by reducing the production of shallow root crops. Based on the modeling, there is no empirical evidence that would indicate that the proposed pumping would preclude farming activities in the TID.

5. The commenter addresses economic issues. This issue was previously addressed. Refer to response to comment 1 in Letter 10 (TID).

6. The commenter reiterates language contained in the Draft SEIR. No response is warranted.

7. The commenter states that the Draft SEIR displays impacts as being a percent or a small part in ascertaining "their desired results". The consultant did not have a "desired" result. Instead, a model was prepared that would determine impacts. This model concluded that the loss of groundwater accretion to the San Joaquin River during the years 2023 to 2028 (the years represented by full-buildout combined with the worst case scenario drought) would result in 5.74 percent reduction in accretion for one three month period (July to September 2025) in the segment of the San Joaquin River between the Merced and Tuolumne rivers.

The impacts to flows below the confluence of the San Joaquin River with the Tuolumne River (downstream of the TID) are projected to be smaller proportionally, because of greater river flows in this stretch of the San Joaquin River and because river flows will now be increased (especially in the drier water years) due to the higher minimum FERC flows on the Tuolumne River. Furthermore, increased releases of water to the lower Merced River are currently being negotiated with the Merced Irrigation District under the Vernalis Adaptive Management Plan (VAMP) to improve conditions for fall-run Chinook salmon. This water release would further increase water flow within the San Joaquin River below the Merced River. Down river water users would not have to reduce their diversions as a result of the project (Brown and Caldwell 1998). The impact of the proposed project on San Joaquin River flows is not considered significant. However, the impact is considered to be significant as it relates to Chinook salmon. This is discussed in the SEIR commencing on page 2-77.

Furthermore, to reduce the groundwater quantity by 11,000 acre-feet per year is not considered significant in comparison to the estimated average of 496,000 acre-feet per year of groundwater pumping from the Turlock groundwater basin between 1997 and 2028 (SEIR, page 2-74). However, the increased drawdown caused by the proposed drainage pumping may adversely impact some domestic, industrial and private irrigation wells. This impact has been mitigated through implementation of mitigation 4.

8. The commenter reiterates comment 7. Refer to response to comment 7 of this letter.

9. The commenter reiterates the mitigation measures 4, 5 and 6 included in the SEIR to make the point that there will be an impact to property owners and farmers economically. The commenter does not concur with the SEIR conclusions. The mitigations proposed are for impacts identified to be potentially significant only.

10. The commenter states that the well owners would not be compensated for impacts prescribed to the pumping of TID water for use at Diablo Grande during dry and critical water years. Contrary to this comment is mitigation 4, which addresses the potential impacts to current and future well owners by mitigating

impacts that are caused by the TID pumping groundwater on behalf of Diablo Grande.

11. The commenter states that because the groundwater model was not based on the total number of existing wells in-use, the lowering of the groundwater level projection is inaccurate.

As stated in the SEIR (page 2-47), the groundwater model study area includes an area larger than the immediate vicinity of the project wells in order to include all of the likely hydrological impacts. The geographic boundaries of the study area--extending to the Tuolumne River on the north, the San Joaquin River on the west, the Merced River on the south, and the Sierra Nevada foothills on the east--include the entire local groundwater system, as well as the hydraulic interactions between the groundwater system.

The model accounts for pumping by all significant groundwater users, groundwater recharge based on the agricultural uses of surface water and agricultural uses of groundwater, the consumption of irrigation water and precipitation, the hydraulic characteristics of the aquifers and aquitards, and the current knowledge of the hydraulic characteristics of the boundaries of the groundwater system. The model also includes agricultural wells within the area, but does not include small domestic wells. The model uses known well locations to project groundwater pumping which, in turn, illustrates the projected overall impacts to the area shown in the Draft SEIR on groundwater level contour maps (Figures 22-29). The actual impact at a particular well location will vary from the overall projected groundwater level contours. The mitigation measure 4 was established to mitigate for the potential impacts to wells within the project area.

The proposed groundwater pumping for the Diablo Grande project is based on the gradual increase of annual pumping starting in 1998, with the full 11,000 acre-feet per year being reached in 2022. The model also includes assumptions for TID canal deliveries and Tuolumne, Merced, and San Joaquin river flows.

12. Revised mitigations include reference to future wells. Refer to the *Modifications to the Draft SEIR* section (reference page 2-76).

13. The commenter's contention is that modeling is inaccurate. This has previously been addressed. Refer to response to comment 11 in this comment letter.

14. The commenter states that mitigation 4 does not factor in a drought. Mitigation 4 is written such that mitigation to a well is applicable only when the impact can be prescribed to the Diablo Grande project, not natural conditions.

15. The commenter implies that the Diablo Grande project will use TID surface water. The SEIR states that the WHWD could potential obtain 11,000 afy from the TID's groundwater resources.

16. The commenter states that drainage pumps are used for a variety of purposes. The commenter does not address the contents of the SEIR. No response is warranted.

17. The commenter states that the SEIR does not refer to water correctly. The Draft SEIR does correctly reference water. In Table 4, the Draft SEIR identifies the various types of groundwater. Some of these groundwater sources end up in the San Joaquin River as spill water from the drainage ditches.

18. The commenter states an opinion about the project. No response is warranted.

19. This issue was addressed previously. Refer to response to comment 13 in Public Hearing Comments.

20. The commenter states that the proposed groundwater pumping will reduce the water in the Prairie Flower Drain, which will impact property owners and farmers.

The SEIR states on pages 2-85 and 2-86 that there is the potential for the groundwater to drop below a certain level, which would impact the habitat associated with the drain. Mitigation 5 addresses this potential impact. Farming operations were not determined to be significantly impacted as a result of the draw down because the lowering of the groundwater table is not considered to be a significant impact.

21. The commenter states that the 6,500 afy accretion loss to the San Joaquin River and increasing requirements to satisfy river quality standards will further reduce the availability of water to farmers. The SEIR identifies this loss of accretion in the SEIR as not being a significant impact in and of itself and it is not anticipated to impact the water available to local farmers. However, as it pertains to biotic resources, there are potentially significant impacts, which are discussed commencing on page 2-77.

22. The commenter states that he is opposed to mitigating the loss of accretion to the San Joaquin River. The commenter states an opinion about the SEIR being unjustifiable. No response is warranted.

23. The commenter addresses an issue previously discussed. Refer to response to comment 15 in this comment letter.

24. This comment does not appear specific to an environmental issue. No response is warranted.

25. 119 signatures of those expressing opposition to the proposed purchase of TID groundwater and its transfer to Diablo Grande, and one signature of a resident expressing support of the project.

Letter 24

Stanislaus County
Department of Planning and Community Development

DIABLO GRANDE WATER RESOURCES PLAN
SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT REPORT
March 5, 1998

If you wish to make a statement, please print your name and address below, and give this card to the Planning Commission's Secretary.

Marilyn Niman
Name

12731 Ehrlich Rd.
Street

Crows Landing, CA 95313
City State Zip

Please limit your comments to discussion of the adequacy of the EIR. A future hearing will be scheduled during which the Planning Commission and the Public can provide discussion on the merits of the project." If you wish to mail in written comments, please mail them to:

Kirk Ford, Senior Planner
Department of Planning and Community Development
1100 H Street, 2nd Floor
Modesto, CA 95354
(209)525-6330 fax:(209)525-6911

If you wish to leave written comment as well, please use the space below, and give this card to the Planning Commission's Secretary.

Comments:

1 If our domestic and irrigation wells go dry will there be compensation.

2 Will this project result in the future, our ability to use fertilizers

Response to Letter 24

1 and 2. The commenter addresses issues previously discussed. Refer to response to comments 4, 6, 11, 13 and 21 in Public Hearing Comments for additional information pertinent to this comment.

Save for Letter 25 - Jake Breugem

Letter 25

From: Sheri Lehfeldt
To: FORDK
Date: 3/31/98 8:32am
Caller: JAKE BREUGEM
Phone: 892-6865

[*] Telephoned
[ ] Will call again
[ ] Wants to see you
[ ] Urgent

[*] Please call
[ ] Returned your call
[ ] Came to see you

8:33 A.M.
RE: Diablo Grande

PROPERTY ON POMEGRANITE -

WANTED TO KNOW IF PIPELINE WAS GOING THROUGH HIS PROPERTY.

Response to Letter 25

1. The exact location of future pipelines has not been determined at this time. However, any future pipeline easement will be required to be negotiated with the property owners.

Modifications to the Draft SEIR

Modifications to the Draft SEIR as a result of comments received during the public review period are provided below. In the following Modifications to the Draft SEIR, new language is underlined and omitted language contains a ~~strike-through~~.

Summary

Page S-18. Amend the second sentence in the paragraph titled Water Supply Impact - Hydrology to read as follows:

> ... approximately ~~16~~ 18 to 20 feet ...

S-18. Amend second sentence in the paragraph titled Mitigation Measure 4 to read as follows:

> Groundwater pumping by the Diablo Grande project would reduce and potentially reduce ~~eliminate~~ the need for this ....

Page S-18. Amend the first indented paragraph to read as follows:

> A mitigation program shall be established to protect existing and future wells within a ...

Page S-18. Add the following sentence prior to the last sentence in paragraph "a" to read as follows:

> Future wells to be installed within a two mile radius of the center of the well field shall also be inventoried.

Page S-18. Amend the last sentence in paragraph "b" to read as follows:

> ... defined below in the Well Monitoring Plan.

Page S-19. Amend item #2 under paragraph C to read as follows:

> 2. The groundwater level drops such that the capacity of the existing well's pump is reduced, whereby groundwater is no longer being pumped at the pump bowl, or soil is being pumped at the pump bowl, and ~~significantly~~ said drop is due to the proposed project's groundwater pumping, and not natural conditions.

Page S-19. Amend the third and fourth sentence in paragraph "d" to read as follows:

> If impacts are the result of the proposed project's groundwater pumping, then ~~certain~~ mitigation measures would be triggered to offset those impacts, ~~for example~~ to include:
>
> - the Well Monitoring Plan will include who shall pay for the cost to lower the pump bowls, or
> - replace the well as necessary on existing wells projected by the model to be significantly adversely impacted by project pumping, or
> - as an alternative, pumping could be reduced in some wells, while increasing pumping in another project well. Modeling would allow the TID to determine where and when pumping in another project well could occur.
> - Modeling would be done per the requirements of the Well Monitoring Plan.

Page S-20. Amend the last sentences in Mitigation 5 to read as follows:

> Such measures could include allowing supplemental backflow into the drain channel from Lateral 51/2, or ~~diverting agricultural drainage runoff from adjacent fields to the affected section of the drain~~ temporarily curtailing upstream tailwater recovery systems in the Prairie Flower Drain.

Page S-21. Amend the first paragraph to read as follows:

> a. An adaptive management program shall be implemented to offset the project impacts to San Joaquin River flow, as predicted by the hydrological model and verified by monitoring of appropriate measuring gauges, for a 30-day period between April 1 and May 15, and a 30-day period between October 1 and November 15.

Page S-22. Delete the following option:

> ~~2) Increase in project groundwater pumping. This option would provide additional water to be discharged to the river in the required amount, plus an amount to offset the additional loss of accretion to the river that could result from this measure. This option generally would be implemented when groundwater levels in the area of the well field remain high.~~

Introduction

Page 1-45. Add the following to the list of bulleted items

- Approval of water treatment plant by Department of Health Services

Environmental Setting, Impacts and Mitigation Measures

Page 2-16. Amend mitigation measure 2 to read as follows:

2. Prior to the proposed increase in ~~water extraction~~ pumping from the FPR well, a regular monitoring program for the Frog Pond and the riparian zone immediately upstream of the pond shall be established by the WHWD in conjunction with the Stanislaus County Environmental Coordinator. A depth gauge will be placed at a representative location in the pond to be determined in collaboration with the environmental coordinator. Water levels in the pond, and the condition of the wetland/riparian habitat adjacent to the pond, shall be monitored by a qualified technician monthly from November 1 to April 30, and biweekly from May 1 to October 31. The data shall be evaluated by the environmental coordinator to insure compliance with reasonable standards for pond depth and rate of drawdown, given seasonal variations in water availability and requirements for the pond turtle.

The following standards shall be adopted for maintenance of the Frog Pond:

a. The water level in the Frog Pond shall be maintained at the existing high level, established by the elevation of the outflow culverts, during the period from November 1 to July 31.

b. The Frog Pond shall not be dry (i.e., without standing water) for more than one month per year. A dry period of up to one month shall be allowed only between August 1 and October 31.

In the event that water levels in the pond fall below the prescribed level during the period from November 1 to July 31, or water levels decline at an excessive rate (> 6 inches per month) during any one month period, the Diablo Grande environmental monitor in conjunction with the environmental coordinator will conduct a directed review to assess the reasons for such decline and develop remedial measures as necessary to insure continued viability of habitat for pond turtles. In the event that the Frog Pond is dry for a period of more than one month during the period from August 1 to October 31, or the adjacent riparian habitat is determined to be adversely affected because of insufficient water inflow, WHWD ~~in collaboration with the environmental coordinator~~ shall implement compensatory measures to restore water to the Frog Pond and/or the adjacent riparian area. These

measures could include reducing extraction from the FPR well and/or ~~diverting~~ introducing water to the Frog Pond from other suitable sources, via the adjacent riparian area if necessary. Additionally, in order to maintain water quality in the Frog Pond, untreated surface runoff from roads or developed areas shall not be introduced into the Frog Pond.

Page 2-49. Amend the second sentence of the first paragraph under Impacts to Prairie Flower Drain to read as follows:

The depth in the Prairie Flower Drain was computed for a location approximately one-third of a mile south (upstream) of the crossing with ~~the crossing~~ Lateral 5 1/2 spill.

Page 2-50. Amend the second sentence in the third full paragraph to read as follows:

Groundwater levels are anticipated to drop an additional 18 to ~~19~~ 20 feet at the center ...

Page 2-50. Amend the third sentence in the third full paragraph to read as follows:

... with groundwater levels greater than two four feet range from 4,600 acres to 7,000 acres.

Page 2-76. Mitigation 4. Amend mitigation 4 to read as follows:

A mitigation program shall be established to protect existing and future wells within a two mile radius of the center of the well field. Historical and current well water quality shall also be determined. The elements of this mitigation program are as follows:

a. Well Inventory. Prior to operation of project wells, a well inventory of all wells within two miles of the center of the well field shall be conducted to develop baseline data on the pre-project status of the groundwater levels, as well as the condition and characteristics of individual wells, and water quality. The county shall cooperate by providing any relevant groundwater data and well information it has to the TID. Future wells to be installed within a two mile radius of the center of the well field shall also be inventoried. General threshold criteria are defined below in section "c".

b. Well Monitoring Plan. Prior to operation of project wells, a groundwater monitoring plan shall be developed. Existing wells, the new project wells, and any new monitoring wells that are deemed necessary, within two miles of the center of the well field, shall be monitored as set forth in the monitoring plan. The Well Monitoring Plan reports shall be evaluated to determine impacts based upon thresholds defined below in the Well Monitoring Plan.

c. Define Thresholds. Thresholds of significance are as follows:

1. The groundwater level drops below an existing operational well's bowl level and said drop is due to the proposed project's groundwater pumping, not natural conditions.

2. The groundwater level drops such that the capacity of the existing well's pump is significantly reduced, whereby groundwater is no longer being pumped at the pump bowl, or air is being pumped at the pump bowl, and ~~significantly~~ said drop is due to the proposed project's groundwater pumping, and not natural conditions.

3. The groundwater quality changes to such an extent that it can no longer be used for agricultural use without first being treated or intermingled with other sources of water.

d. Groundwater Modeling. An element of the Well Monitoring Plan is groundwater modeling, calculations, or other scientific method that will determine if an impact to a well or wells is occurring and determine if the impact is the result of the proposed groundwater pumping from the well field.

If impacts are the result of the proposed project's groundwater pumping, then ~~certain~~ mitigation measures would be triggered to offset those impacts, ~~for example~~ to include:

- the Well Monitoring Plan will include who shall pay for the cost to lower the pump bowls, or

- replace the well as necessary on existing wells projected by the model to be significantly adversely impacted by project pumping, or

- as an alternative, pumping could be reduced in some wells, while increasing pumping in another project well or wells. Modeling would allow the TID to determine where and when pumping in another project well could occur.

- modeling would be done per the requirements of the Well Monitoring Plan.

- farmers increased well pumping costs attributable to Diablo Grande groundwater pumping will be offset by the WHWD.

~~If impacts are the result of the proposed project's groundwater pumping, then certain mitigation measures would be triggered to offset those impacts. For example, the plan will include who shall pay for the cost to lower the pump bowls, or replace the well as necessary on existing wells projected by the model to be significantly adversely impacted by project pumping. As an~~

~~alternative, pumping could be reduced in some wells, while increasing pumping in another project well. Modeling would be done per the requirements of the Well Monitoring Plan~~.

Page 2-83. Amend the third sentence in the second paragraph under Project Analysis to read as follows:

> Pumping of the project wells would also reduce the need for continued drainage pumping to lower groundwater levels in the project area ~~by TID~~.

Page 2-86. Amend mitigation measure 5 to read as follows:

> Following the onset of pumping of the project wells, a quarterly monitoring program for the Prairie Flower Drain between Crows Landing Road and Lateral 5 1/2 shall be implemented. The presence of water or saturated soils in this section of the drain shall be assessed visually and the water level estimated and recorded. If the channel is found to be dry (i.e., no water or saturated soils present in the channel) in two or more consecutive quarterly monitoring surveys, and hydrophytic vegetation in the drain is found to be adversely affected by dry conditions in the channel, measures shall be implemented to restore sufficient water to this section of the channel to re-establish saturated soil conditions and support hydrophytic vegetation. Such measures could include allowing supplemental backflow into the drain channel from Lateral 51/2, or ~~diverting agricultural drainage runoff from adjacent fields to the affected section of the drain~~ temporarily curtailing upstream tailwater recovery systems in the Prairie Flower Drain.

Page 2-87. Amend mitigation measure 6 to read as follows:

> 6. Mitigation measures shall be implemented during water years classified as Dry or Critical by the DWR for the San Joaquin River basin, as indicated in DWR Bulletin 120. Bulletin 120-2 (March 1) and 120-3 (April 1) shall be referred to annually, starting on the first year of pumping of the project wells. If Dry or Critical conditions are forecast for that water year, the following measures shall be implemented:
>
> a. An adaptive management program shall be implemented to offset the project impacts to San Joaquin River flow, as predicted by the hydrological model and verified by monitoring of appropriate measuring gauges, for a 30-day period between April 1 and May 15, and a 30-day period between October 1 and November 15. A qualified hydrologist shall be retained by the WHWD to monitor hydrologic conditions in the project area and implementation of the management program. The primary component of this management program will consist of release of ~~an appropriate amount of~~ water into the San Joaquin River on a continuous basis during the mitigation period in the affected reach of the river, in an amount sufficient to offset project impacts as projected by the hydrological model or determined by

direct monitoring of San Joaquin River flow in the project area. ~~Options available~~ The primary option to implement this discharge of water to the San Joaquin River ~~could include~~ will consist of:

1) Release of surface water. If during the mitigation period, TID or some other water district in the project vicinity has water available which could be released into the river, this water may be purchased and released in the affected area of the river to supplement the river and meet the mitigation requirement. Options could include the following:

a. The WHWD will obtain the amount of water necessary (based on modeling using a monthly average) to mitigate the impact and "bank" the water, and/or

In addition to option (1) above, the following secondary options may be implemented individually or in combination to insure that the river is supplemented as set forth in this mitigation measure:

~~2) Increase in project groundwater pumping. This option would provide additional water to be discharged to the river in the required amount, plus an amount to offset the additional loss of accretion to the river that could result from this measure. This option generally would be implemented when groundwater levels in the area of the well field remain high.~~

~~3~~ 2) Reduction in project groundwater pumping. Under this option, the groundwater pumping would be reduced in an amount to permit increased accretion based on the required discharge amounts. This option generally would be implemented when groundwater levels in the area of the well field are low. This option implies that Diablo Grande would reduce water use across the board for all land uses to fully or partially offset the impact.

~~4~~ 3) Release of groundwater from other areas of the TID. The TID has groundwater drainage wells in many other areas of the District. If, during the required mitigation period, the groundwater level in the well field area is low, but the groundwater remains substantially high in other areas of the TID, then TID could increase pumping in those areas to supply the appropriate amount of discharge to the river.

~~5) These options may be used individually or in combination to ensure that the river is supplemented as set forth in this mitigation measure~~.

If reduced project pumping, or increased project or drainage pumping is to be included as a component of this mitigation measure, a hydrological analysis, would be required prior to implementation of this measure to assess how much the proposed reduction or increase would affect project impacts to the river during the mitigation period; the quantity of supplemental water purchased and discharged to the river would then be adjusted accordingly. This hydrological analysis would also address the potential impacts to the groundwater levels throughout the TID. The timing of this mitigation shall be coordinated with ~~scheduled~~ projected increased Merced River ~~pulse flow releases under the pending~~ flows resulting from the VAMP ~~agreement~~ and other programs, to support migration of salmon through the affected reach of the river. Mitigation requirements shall be phased to match the phased increases in project pumping and offset resultant impacts to the river. For example, at 25 percent project build-out, the estimated loss in accretion would average approximately 2 cfs during a drought year, and the mitigation requirement would total approximately 240 AF for the 60-day mitigation period. At full project build-out, the estimated loss in accretion would average approximately 8 cfs during a drought year, and the mitigation requirement would total approximately 950 AF for the 60-day period. If scheduled Merced River pulse flow releases are implemented for a period of less than 30 days in either spring or fall, the mitigation period and quantity shall be reduced accordingly.

b. This mitigation program shall be reviewed each year that it is implemented to assess its feasibility and success of implementation, which will be determined by a qualified hydrologist as provided in measure 6(a) above. Pursuant to this review, specific alternatives may be recommended, in consultation with the CDFG, USFWS and/or regional water resource agencies, which may be implemented in lieu of or in addition to measure 6(a) above, to mitigate potential cumulative impacts of the project on fisheries resources of the San Joaquin River. Such alternatives could include contributing funds to local or regionally-based programs for restoration of riparian and instream habitat, ~~restoration and~~ management of naturally spawning/native Chinook salmon populations, or improvement of water quality in the San Joaquin River basin.

Page 2-96. Add the following sentences after the second sentence in the last paragraph:

The air basin is non-attainment for PM10 and construction activities within the basin are required to implement the SJVUAPCD Regulation VIII (Fugitive Dust Prohibitions). The purpose of this regulation is to reduce the amount of fine particulate matter entrained into the ambient air from man-made sources.

Page 2-96. Amend the third sentence to read as follows:

> However, consultant recommends dust minimization measures to be used during project construction, as required by the SJVUAPCD, ~~such as~~ including watering of construction areas, ...

Page 2-97. Add the following section.

Water Treatment

A water treatment plant sized to meet potable demands of Diablo Grande would have a capacity of 8 million gallons per day (mgd), with an annual flow of approximately 5,000 acre-feet per year. A reverse osmosis (RO) treatment plant would be used. Since only TDS and nitrate currently exceed the drinking water standards and the concentration of these two constituents are not very high, partial treatment by RO and blending RO treated water to meet state standards is the proposed approach.

For the ultimate plant capacity, 5 mgd of raw water would be pumped to the RO system and 4 mgd would be blended with the RO treated water. Reject water from the RO treatment process would be at flow rates of up to 20 percent of the incoming raw water flow rate. For the 8 mgd plant, the reject water would be up to 0.5 mgd on an average annual basis and 1 mgd on the maximum day. These are conservatively high estimates. The reject water from the RO treatment process would be concentrated by using a vapor compression evaporator. It is estimated that 40,000 tons of waste material per year would be generated. Disposal of the concentrated reject water would be by trucking the dried waste material offsite to a landfill. The estimated waste flow stream of solids would result in 266 truck trips per year, or slightly less than one truck load per day. If the waste flow stream were in a partial liquid state, the truck trips would be doubled.

The Standard of Significance pertinent to water treatment would include the following:

- Water treatment waste stream would significantly reduce capacity of the regional landfills;
- Water treatment waste stream would significantly increase vehicle trips on area roadways;
- Water treatment facility would result in loss of agricultural land;

Based on the above standards, the impact associated with this water treatment process is considered less-than-significant. The 40,000 tons per year of solids would not significantly impact existing landfills because the amount represents a small percentage of total regional (San Joaquin Valley) landfill capacity. The waste stream would not significantly increase vehicle trips. Agricultural land would not be affected because the currently proposed water treatment plant would be used, which

has been evaluated as part of the 1992 EIR prepared for the Diablo Grande Specific Plan (LSA 1992). Other than the impacts discussed herein regarding TID water being treated at the water treatment plant and the associated waste flow, the impacts of the treatment plant have been discussed in the 1992 EIR.

Page 2-100. Amend the third sentence in the paragraph titled Growth Inducing Impacts to read as follows:

> The option may ~~would likely~~ increase the productivity ...

Related Environmental Issues

Page 3-14. Add the following section:

Shallow County Groundwater Cumulative Impacts to the San Joaquin River

Cumulative impacts to the San Joaquin River can be qualitatively assessed by considering the proposed project in conjunction with potential for development within all the communities located in the San Joaquin River Valley. To address cumulative impacts CEQA sets forth two approaches (CEQA Guidelines Section 15130.b). One approach is to evaluate the cumulative impacts associated with a list of past, present and reasonably anticipated future projects. The other approach allows the use of a summary of projections contained in an adopted general plan or related planning document which is designed to evaluate regional or areawide conditions.

Within the San Joaquin River watershed are dozens of cities and 9 counties. Combined, it is probable that there are hundreds of projects approved each year which will directly or indirectly impact the quality and quantity of water in the San Joaquin River. To determine the total number of past, present and reasonably anticipated future projects in the watershed would not be a practical method to determine the potential long-term impacts to the San Joaquin River. The most appropriate method of evaluating impacts of this magnitute is to use a region-wide planning document.

The DWR document titled *The California Water Plan Update. Bulletin 160-98* (January 1998) was used. This document, which assesses the state's agricultural, environmental and urban water needs and evaluates water supplies, in order to quantify the gap between existing and forecasted future water demands and the corresponding water supplies, is currently in draft form and is undergoing public review. As a way to provide context to the cumulative discussion, the following information from the SEIR is provided as a summary.

San Joaquin River Valley communities reduce water flow to the river throughout the year, as well as degrade its quality through industrial discharges, municipal wastewater treatment plant dischargers, urban runoff, and agricultural runoff. To some extent, there is return flow to the river after urban and agricultural use through the above mentioned discharges.

The total flow in the San Joaquin River varies from year to year depending on snow melt and precipitation. At the Newman gauging station, upstream of the project area (Draft SEIR, p. 2-40), the mean flow for the 1912 to 1996 period of record was 2,020 cfs or 1.46 million acre-feet per year. In 1977 (the drought of record used in the model's scenario A), the lowest daily mean was measured to be 20 cfs at the Newman station (Robert Meyers, pers. com. may 13, 1998). Also, the proposed project would result in a loss of accretion to the San Joaquin which was determined to be 6,500 acre-feet per year. This is immeasurable during most years. However, during the dry and critical water years it was estimated that the 6,500 acre-feet per year loss would represent from 4.2 to 5.74 percent of the total river flow between the Merced and the Tuolumne rivers (the equivalent of 7.9 cfs to 10.4 cfs of the flow).

Based on the model, this impact was determined to be insignificant with respect to the total flow, even in dry and critical water years, but that there would be a potential significant impact as it pertains to the Chinook salmon. The SEIR recommends a mitigation for this potential impact (mitigation #6) by offsetting the loss of accretion to the river during the critical dry years. This mitigation is considered to be beneficial in the context of river flows, but is not considered to be a "mitigation" to the reduced flows because the Draft SIER did not identify reduced flows out side the context of Chinook salmon to be a significant impact (the model identifies the need for 950 acre-feet to be added to the river during dry and critical water years. However, the actual quantity of water needed will not be determined until implementation of mitigation 6 occurs).

Put in context with the operation of the Central Valley Project (CVP), the CVP results in an average annual decrease of San Joaquin River flows of 555,000 acre-feet with 345,000 acre-feet of that decrease occurring between the months of April and September (South Delta Water Agency, comment letter on Diablo Grande Water Resources Plan Draft SEIR to Stanislaus County Planning Department, March 18, 1998).

Cumulative projects in the San Joaquin River watershed are addressed in the California Water Plan Update , which segregates the state into Planning Regions. The region applicable to this cumulative discussion is the San Joaquin River Planning Region. The Water Plan indicates that the average water use in this region in 1995 was 574,000 acre-feet, and 584,000 acre-feet curing the drough year of 1995. In general, during droughts, water use goes up because exterior urban water use, such as landscape watering, increases.

The Water Plan also indicates that for the year 2020, the average water use will be 954,000 acre-feet (970,000 acre-feet during droughts).

The population in the San Joaquin River Planning Region in 1995 was 1.6 million. In the year 2020, the water plan forecasts the population to be 3 million. The increased water use in the year 2020 can be ascribed to urban expansion and the concurrent decrease in agricultural production.

The 2020 projection of the 954,000 acre-feet of water used in the San Joaquin River Planning Region will come from both surface and groundwater sources. However, it is not known what percentage will be derived from surface water sources, nor is it known what percentage of the groundwater used will be in proximity to rivers, whereby loss of accretion to rivers would occur.

Assuming that, of the total water used in the region in the year 2020, approximately 80 percent (763,000 acre-feet) will be taken directly or indirectly (through loss of accretion) from the San Joaquin River, a rough approximation of the potential impact can be determined.

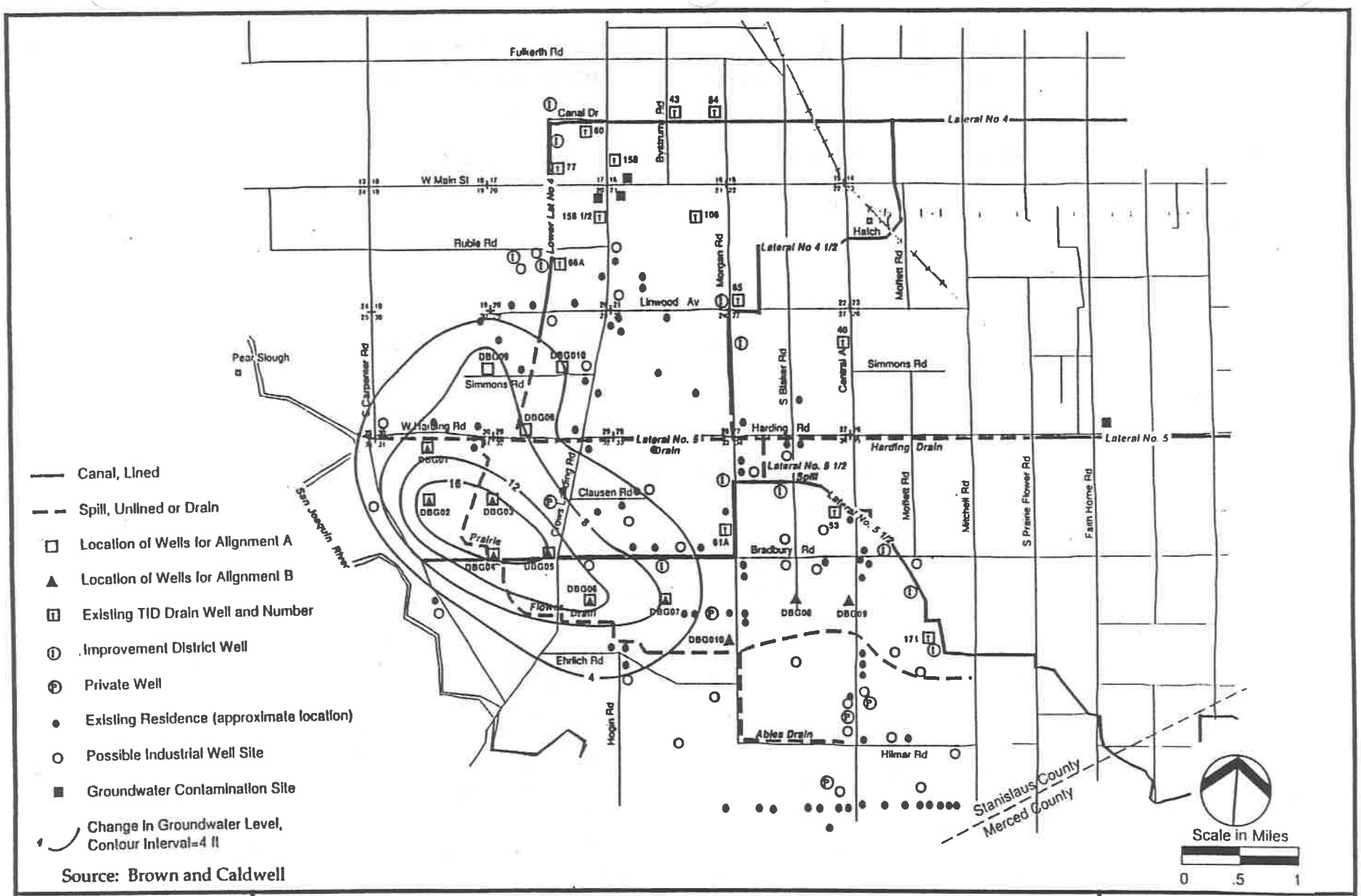
This assumption is based on the fact that groundwater currently supplies about 30 percent of California's urban and agricultural applied water use (DWR 1998). With this, half of the groundwater is projected to result in some amount of loss of accretion to the rivers in the San Joaquin River Planning Region.

The mean flow for the 1912 to 1996 period of record for the Newman gauging station is 2,020 cfs or 1.46 million acre-feet per year (EMC 1998, page 2-40). With 763,000 acre-feet per year eliminated from the San Joaquin River (slightly more during droughts) in the year 2020, this could result in a potentially significant cumulative impact during low water flow years. However, it is important to consider that urban water is treated as effluent (industrial, commercial and residential) and returned to rivers or the groundwater, which would then provide some amount of accretion back to the rivers. During wetter years the impact to the San Joaquin River would be less.

As a result of the magnitude of the impact in terms of the size of the geographic area, to adequately address cumulative impacts to the San Joaquin River in dry and critical water years will require federal and state-wide participation. To this end, the CALFED program is partially addressing this issue.

Given the uncertainty over how much future water demand in the San Joaquin River Planning Region will actually impact San Joaquin River, as well as the uncertainty over how much of the used waters will nonetheless return to the river following use (whether through discharge after wastewater treatment or groundwater accretion following land application), the county

finds that the cumulative impacts to future San Joaquin River flows to be too speculative for further evaluation, per section 15144 of the CEQA Guidelines.



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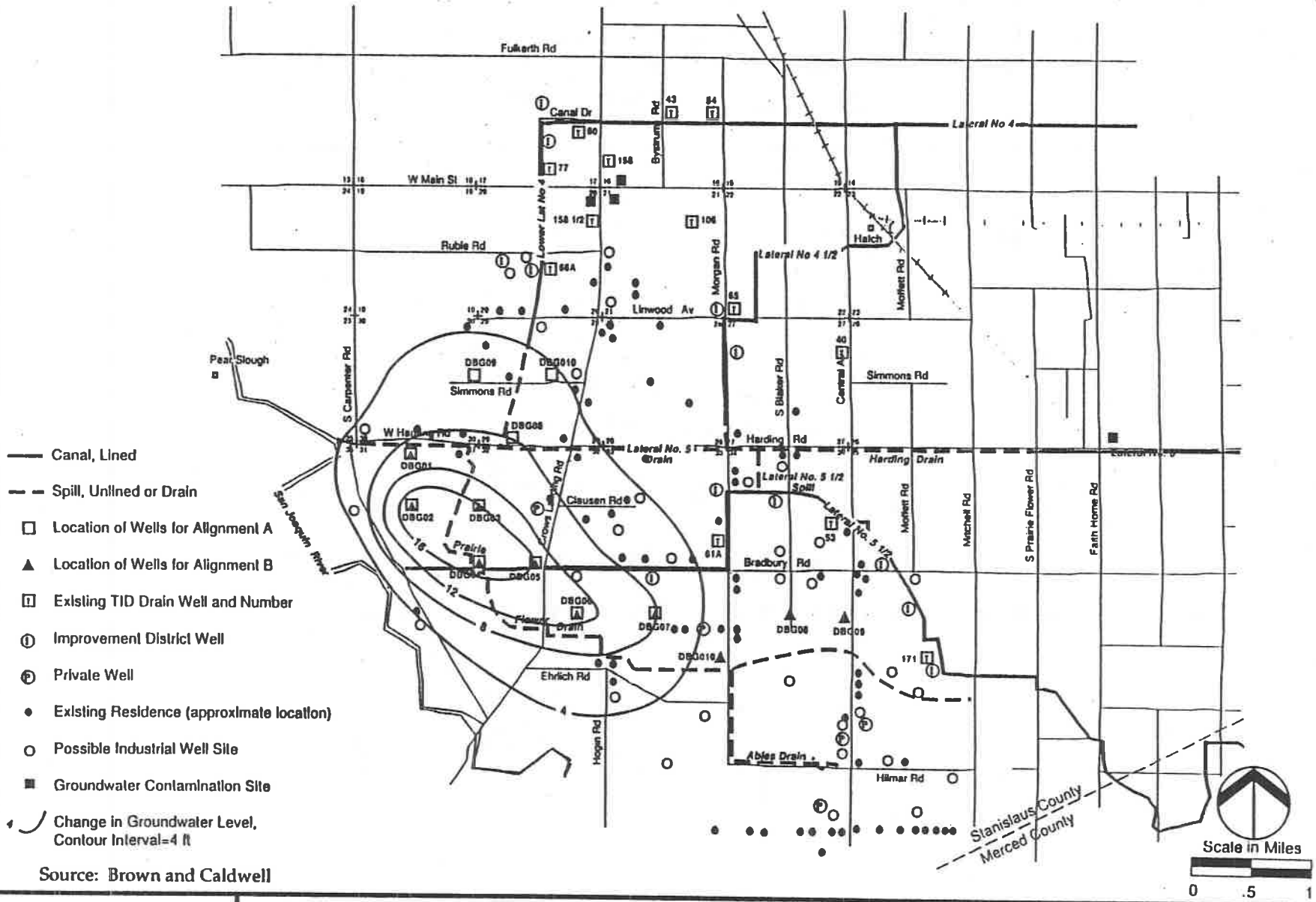
Diablo Grande Water Plan SEIR

Estimated Changes in Groundwater Levels in Shallow Aquifer Well Alignment A. Climate Scenario A. Summer 2028

Figure 22



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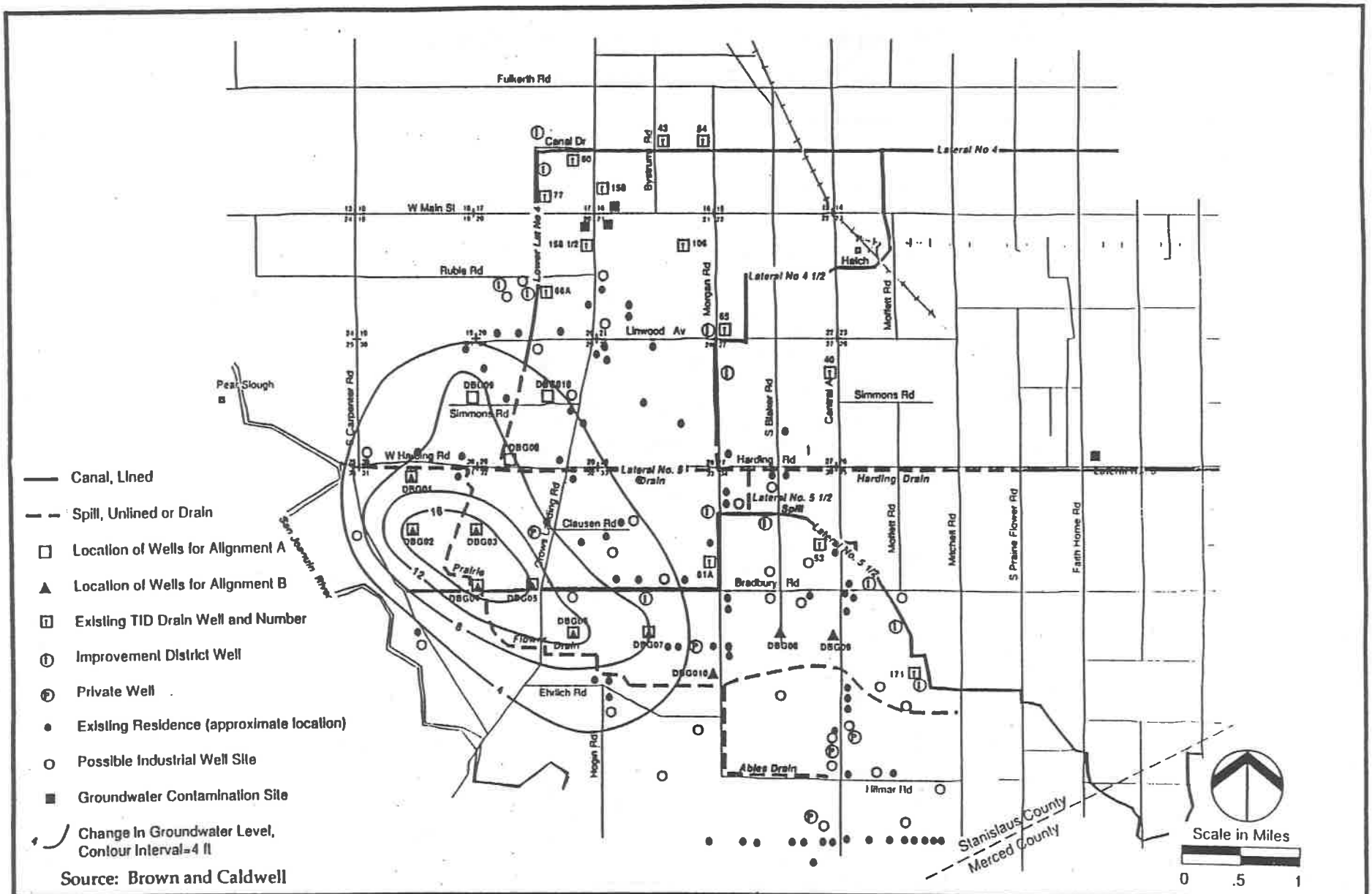
Estimated Changes in Groundwater Levels in Upper Aquifer Well Alignment A. Climate Scenario A. Summer 2028

Figure 23



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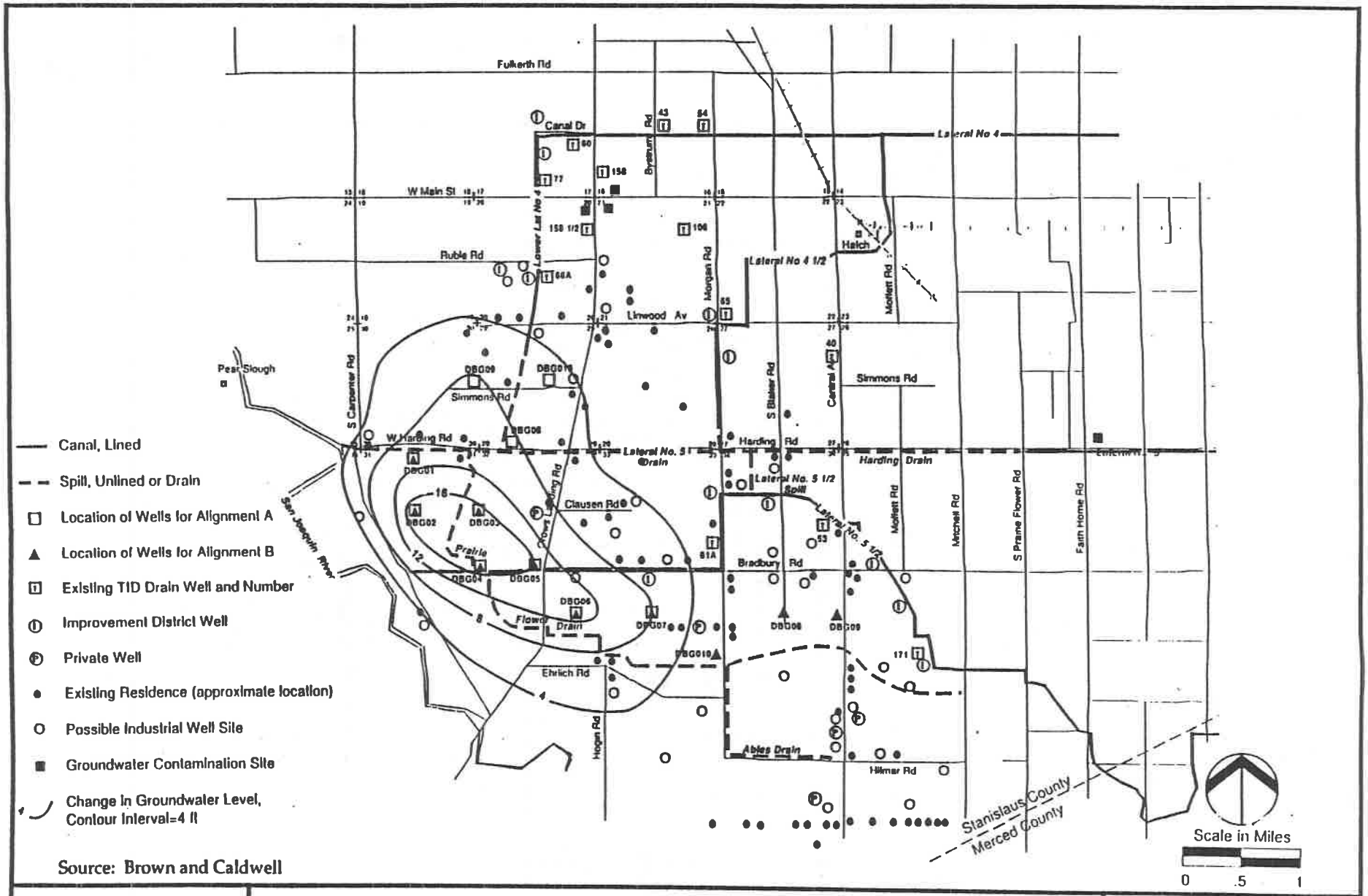
Estimated Changes in Groundwater Levels in Shallow Aquifer Well Alignment A. Climate Scenario B. Summer 2028

Figure 24



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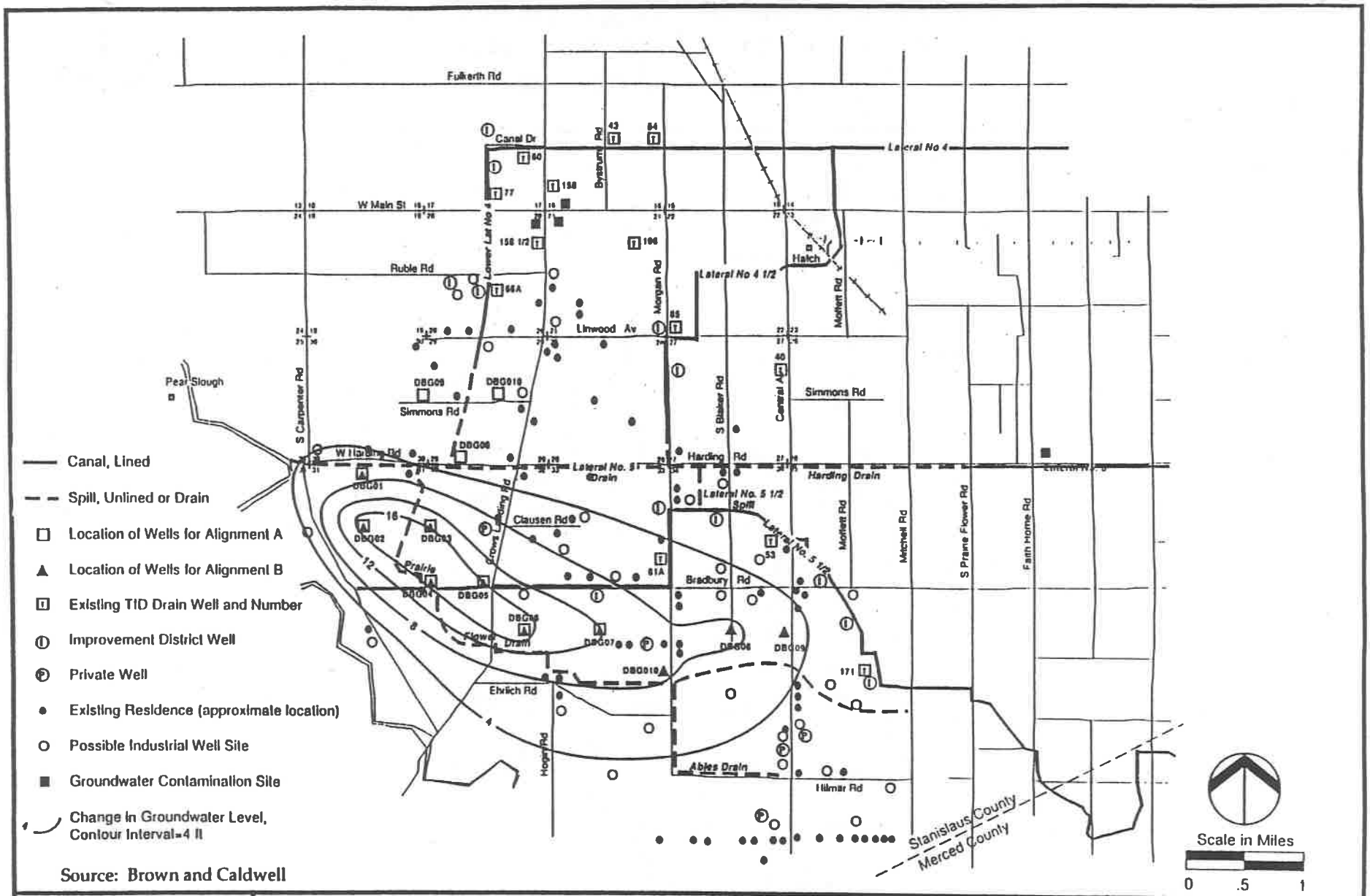
Estimated Changes in Groundwater Levels in Upper Aquifer Well Alignment A. Climate Scenario B. Summer 2028

Figure 25



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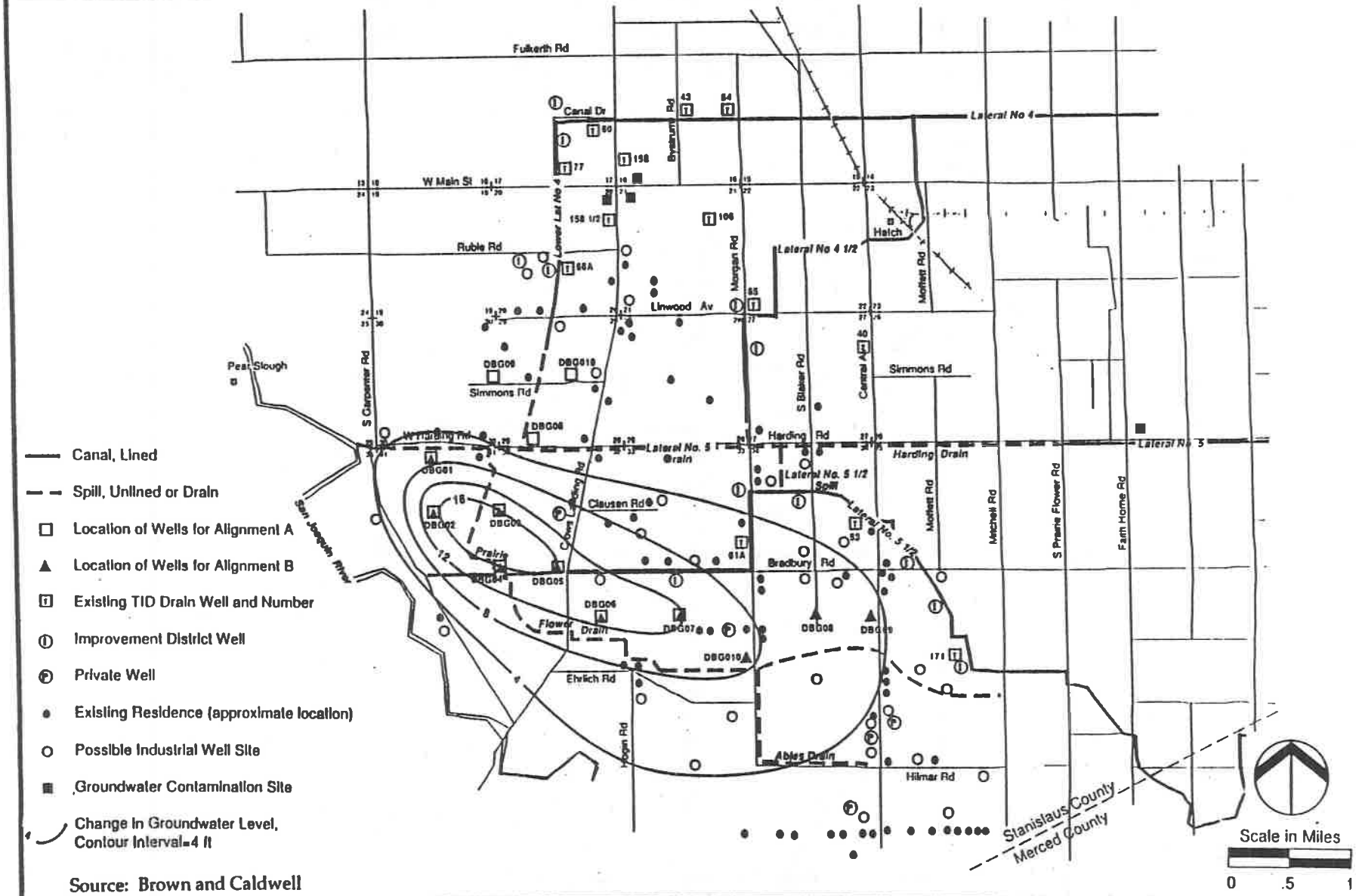
Diablo Grande Water Plan SEIR

Estimated Changes in Groundwater Levels in Shallow Aquifer Well Alignment B. Climate Scenario A. Summer 2028

Figure 26



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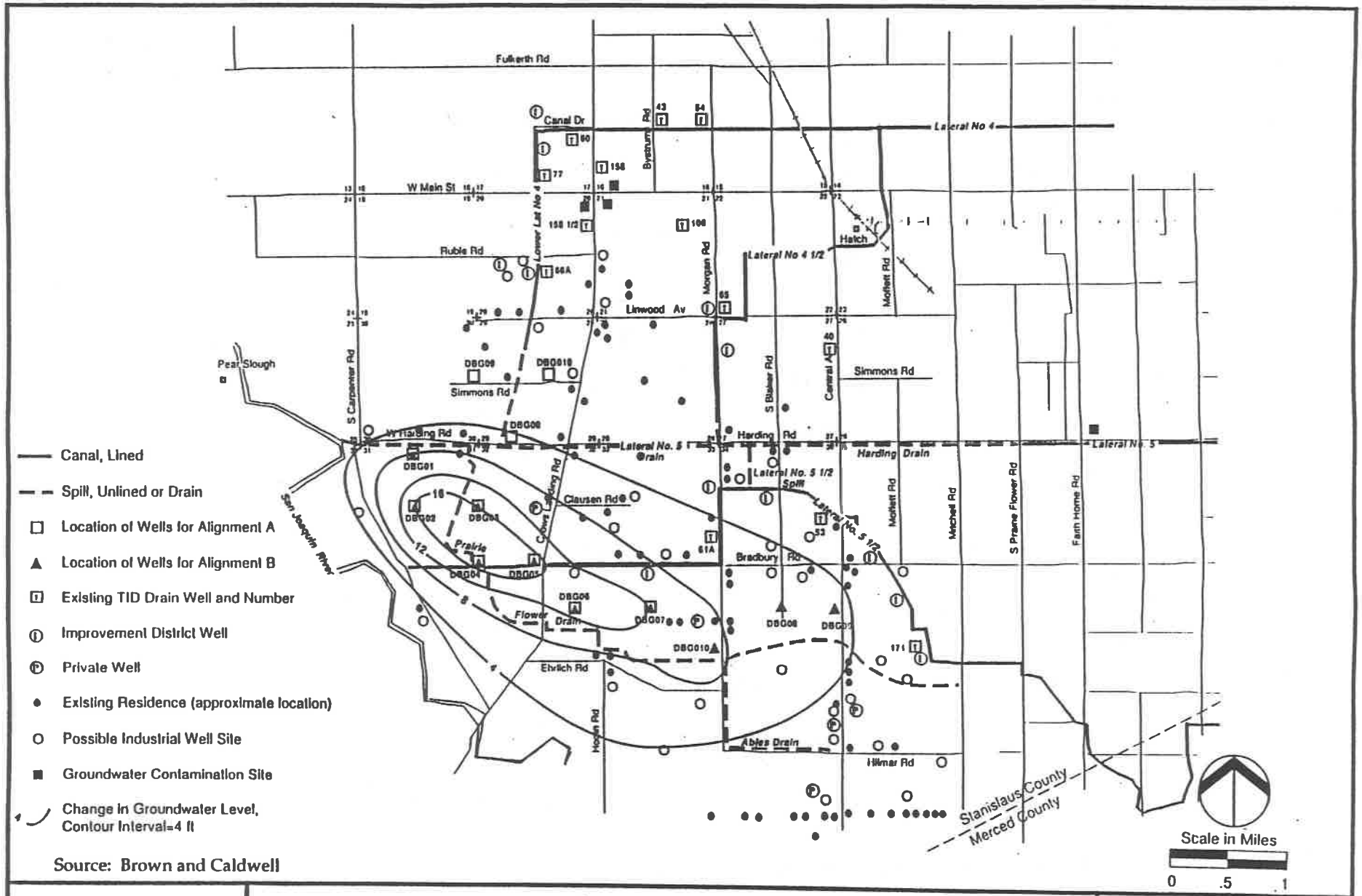
Diablo Grande Water Plan SEIR

Estimated Changes in Groundwater Levels in Upper Aquifer Well Alignment B. Climate Scenario A. Summer 2028

Figure 27



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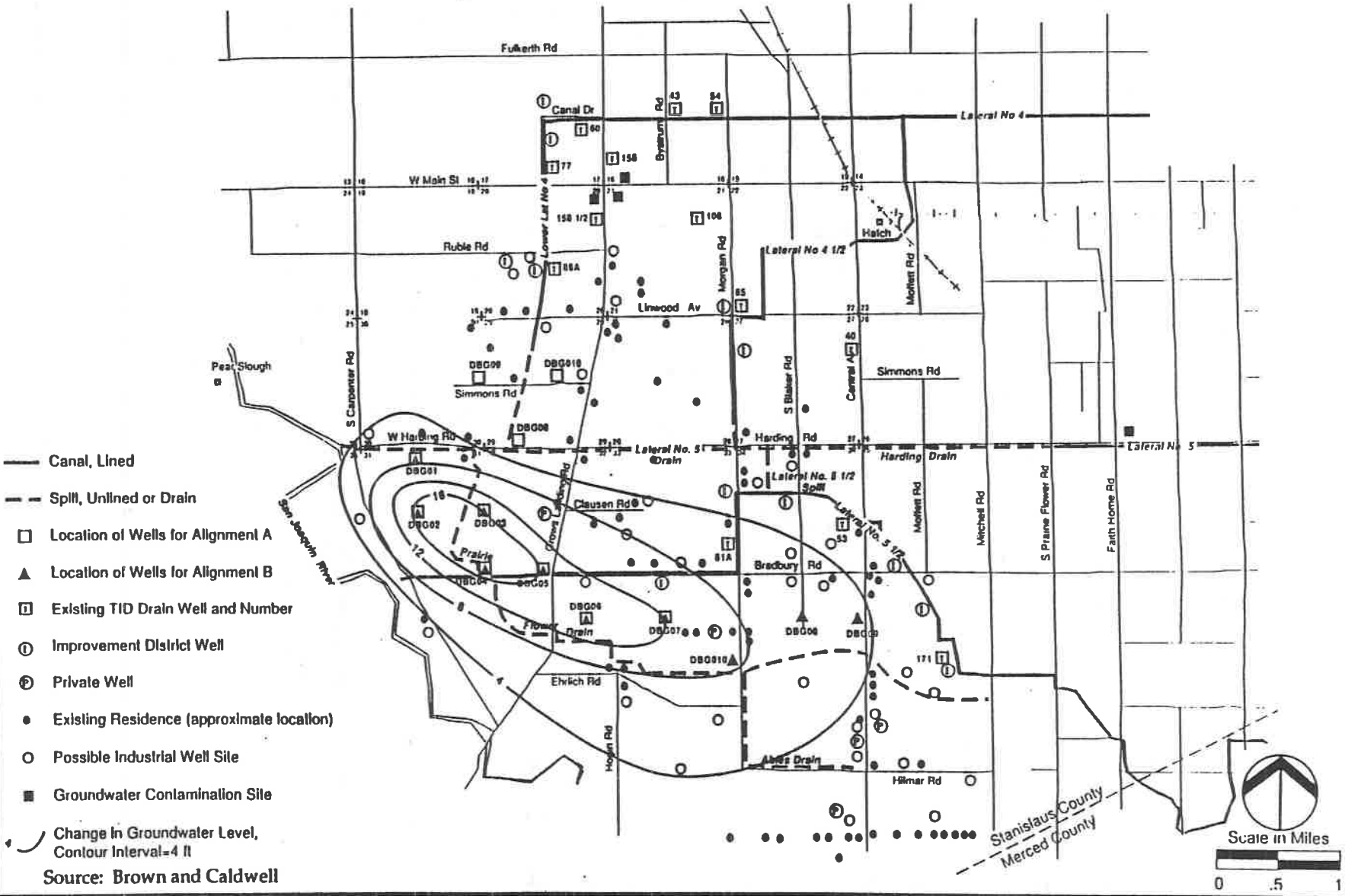
Diablo Grande Water Plan SEIR

Estimated Changes in Groundwater Levels in Shallow Aquifer Well Alignment B. Climate Scenario B. Summer 2028

Figure 28



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Diablo Grande Water Plan SEIR

Estimated Changes in Groundwater Levels in Upper Aquifer Well Alignment B. Climate Scenario B. Summer 2028

Figure 29

Page 4-1. Add the following references to Literature Cited, Persons Contacted and Report Preparers.

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4.2 Persons Contacted

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Hofer, Jim	Geoconsultants, Inc.
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Liebersbach, Debbie	Turlock Irrigation District
Masuda, Roger	Turlock Irrigation District
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Meyers, Robert	United States Geological Survey
Riddle, Bill	City of Ceres
Robocker, Cathy	Diablo Grande
Saqqa, Mahmoud	San Joaquin County
Selb, Ted	Merced Irrigation District
Selsky, Paul	Brown and Caldwell
Smith, Brian	City of Modesto
Wire, Jeremy	Geoconsultants, Inc.

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Zander Associates
Biotic Analysis

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Appendix A

Mitigation Monitoring Program

DIABLO GRANDE WATER RESOURCES PLAN MITIGATION MONITORING PROGRAM

Introduction

All public agencies are required by State law (AB 3180) to adopt monitoring programs when they approve proposed projects subject to environmental impact reports (EIRs) that include mitigation measures to avoid significant adverse environmental impacts. The mitigation monitoring program is designed to ensure compliance with mitigation measures during project implementation in order to avoid significant adverse environmental impacts.

Monitoring Program Procedures

It is required that the County of Stanislaus use this mitigation monitoring program for the proposed project. The mitigation monitoring program should be implemented as follows:

- The Department of Planning and Community Development Director (hereinafter the "Director"), or designee, shall be responsible for coordination of the mitigation monitoring program. The Director, or designee, shall be responsible for completing the mitigation monitoring program and distributing the mitigation monitoring program to the responsible individuals or agencies for their use in monitoring the mitigation measures. It is the responsibility of the Director, or designee, to convey to all individuals and agencies who will use this program, that it must be thoroughly read and understood in order to properly implement its mitigations.

- If a responsible individual or agency determines that a non-compliance has occurred, a written notice shall be delivered by certified mail to the entity or individual responsible for the project within 10 days, with a copy to the Director, or designee, describing the non-compliance and specifying the manner in which compliance within a specified period of time will be attained. If a non-compliance still exists at the expiration of the specified period of time, construction may be halted and fines may be imposed at the discretion of the County of Stanislaus.

Monitoring Program

The basis for this mitigation monitoring program are the mitigation measures contained in the *Diablo Grande Water Resources Plan Supplemental Environmental Impact Report.* These mitigation measures become conditions of project approval which are required to be implemented before, during and after implementation of the proposed project.

Mitigation 1: Should groundwater extraction from the Marshall-Davis Well Site wells continue beyond the year 2001 as a water source for

Diablo Grande, the Monitoring Plan for Operation of the Marshall-Davis Well by the Western Hills Water District shall continue to be carried out.

Agency/Individual Responsible for Implementation:	Western Hills Water District
Implementation Timing:	Continuously after 2001
Mitigation Specifications:	There is an established monitoring plan for this source of water contained in Appendix F of the Draft Supplemental EIR, which would continue to be carried out in the event the Marshall-Davis well site is used beyond the year 2001.
Agency/Individual Responsible for Monitoring:	Western Hills Water District
Action by Monitor:	Implement the requirements of the existing monitoring program

Mitigation 2:

Prior to the proposed increase in pumping from the FPR well, a regular monitoring program for the Frog Pond and the riparian zone immediately upstream of the pond shall be established by the WHWD in conjunction with the Stanislaus County Environmental Coordinator. A depth gauge will be placed at a representative location in the pond to be determined in collaboration with the environmental coordinator. Water levels in the pond, and the condition of the wetland/riparian habitat adjacent to the pond, shall be monitored by a qualified technician monthly from November 1 to April 30, and biweekly from May 1 to October 31. The data shall be evaluated by the environmental coordinator to insure compliance with reasonable standards for pond depth and rate of drawdown, given seasonal variations in water availability and requirements for the pond turtle.

The following standards shall be adopted for maintenance of the Frog Pond:

a. The water level in the Frog Pond shall be maintained at the existing high level, established by the elevation of the outflow culverts, during the period from November 1 to July 31.

b. The Frog Pond shall not be dry (i.e., without standing water) for more than one month per year. A dry period of up to one month shall be allowed only between August 1 and October 31.

In the event that water levels in the pond fall below the prescribed level during the period from November 1 to July 31, or water levels decline at an excessive rate (> 6 inches per month) during any one month period, the Diablo Grande environmental monitor in conjunction with the environmental coordinator will conduct a directed review to assess the reasons for such decline and develop remedial measures as necessary to insure continued viability of habitat for pond turtles. In the event that the Frog Pond is dry for a period of more than one month during the period from August 1 to October 31, or the adjacent riparian habitat is determined to be adversely affected because of insufficient water inflow, WHWD shall implement compensatory measures to restore water to the Frog Pond and/or the adjacent riparian area. These measures could include reducing extraction from the FPR well and/or introducing water to the Frog Pond from other suitable sources, via the adjacent riparian area if necessary. Additionally, in order to maintain water quality in the Frog Pond, untreated surface runoff from roads or developed areas shall not be introduced into the Frog Pond.

Agency/Individual Responsible for Implementation:	WHWD and County of Stanislaus Environmental Coordinator
Implementation Timing:	Prior to increase in pumping from the FPR well.
Mitigation Specifications:	As indicated in mitigation.
Agency/Individual Responsible for Monitoring:	WHWD and County of Stanislaus Environmental Coordinator
Action by Monitor:	As indicated in mitigation.

Mitigation 3: Prior to any domestic, commercial, or other non-irrigation use of the water generated from this option, the water from each well to be used for such purposes shall be treated as necessary to meet all applicable health standards. The WHWD shall be responsible for ensuring compliance with this measure.

Agency/Individual Responsible for Implementation:	WHWD
Implementation Timing:	Prior to use of water for domestic, commercial or other non-irrigation uses
Mitigation Specifications:	As indicated in mitigation.
Agency/Individual Responsible for Monitoring:	WHWD
Action by Monitor:	The WHWD is required to treat water per the current requirements of Title 22.
Mitigation 4:	A mitigation program shall be established to protect existing and future wells within a two mile radius of the center of the well field. Historical and current well water quality shall also be determined. The elements of this mitigation program are as follows:

a. Well Inventory. Prior to operation of project wells, a well inventory of all wells within two miles of the center of the well field shall be conducted to develop baseline data on the pre-project status of the groundwater levels, as well as the condition and characteristics of individual wells, and water quality. The county shall cooperate by providing any relevant groundwater data and well information it has to the TID. Future wells to be installed within a two mile radius of the center of the well field shall also be inventoried. General threshold criteria are defined below in section "c".

b. Well Monitoring Plan. Prior to operation of project wells, a groundwater monitoring plan shall be developed. Existing wells, the new project wells, and any new monitoring wells that are deemed necessary, within two miles of the center of the well field, shall be monitored as set forth in the monitoring plan. The Well Monitoring Plan reports shall be evaluated to determine impacts based upon thresholds defined below in the Well Monitoring Plan.

c. Define Thresholds. Thresholds of significance are as follows:

1. The groundwater level drops below an existing operational well's bowl level and said drop is due to the proposed project's groundwater pumping, not natural conditions.

2. The groundwater level drops such that the capacity of the existing well's pump is significantly reduced, whereby groundwater is no longer being pumped at the pump bowl, or air is being pumped at the pump bowl, and said drop is due to the proposed project's groundwater pumping, and not natural conditions.

3. The groundwater quality changes to such an extent that it can longer be used for existing use without first being treated or intermingled with other sources of water.

d. Groundwater Modeling. An element of the Well Monitoring Plan is groundwater modeling, calculations, or other scientific method that will determine if an impact to a well or wells is occurring and determine if the impact is the result of the proposed groundwater pumping from the well field.

If impacts are the result of the proposed project's groundwater pumping, then mitigation measures would be triggered to offset those impacts, to include:

- the Well Monitoring Plan will include who shall pay for the cost to lower the pump bowls, or

- replace the well as necessary on existing wells projected by the model to be significantly adversely impacted by project pumping, or

- as an alternative, pumping could be reduced in some wells, while increasing pumping in another project well. Modeling would allow the TID to determine where and when pumping in another project well could occur.

- Modeling would be done per the requirements of the Well Monitoring Plan.

Agency/Individual Responsible for Implementation:	WHWD
Implementation Timing:	Prior to operation of project wells

Mitigation Specifications:	As indicated in mitigation
Agency/Individual Responsible for Monitoring:	County of Stanislaus Environmental Coordinator
Action by Monitor:	Initiate mitigation implementation.
Mitigation 5:	Following the onset of pumping of the project wells, a quarterly monitoring program for the Prairie Flower Drain between Crows Landing Road and Lateral 5 1/2 shall be implemented. The presence of water or saturated soils in this section of the drain shall be assessed visually and the water level estimated and recorded. If the channel is found to be dry (i.e., no water or saturated soils present in the channel) in two or more consecutive quarterly monitoring surveys, and hydrophytic vegetation in the drain is found to be adversely affected by dry conditions in the channel, measures shall be implemented to restore sufficient water to this section of the channel to re-establish saturated soil conditions and support hydrophytic vegetation. Such measures could include allowing supplemental backflow into the drain channel from Lateral 5 1/2, or diverting agricultural drainage runoff from adjacent fields to the affected section of the drain.
Agency/Individual Responsible for Implementation:	WHWD
Implementation Timing:	Continuously and immediately following commencing groundwater pumping
Mitigation Specifications:	The depth of soil to be determined as dry will be at least 18 inches
Agency/Individual Responsible for Monitoring:	County of Stanislaus Environmental Coordinator
Action by Monitor:	Review reports submitted by WHWD and periodically investigate site to verify accuracy of the reports.

Mitigation 6: Mitigation measures shall be implemented during water years classified as Dry or Critical by the DWR for the San Joaquin River basin, as indicated in DWR Bulletin 120. Bulletin 120-2 (March 1) and 120-3 (April 1) shall be referred to annually, starting on the first year of pumping of the project wells. If Dry or Critical conditions are forecast for that water year, the following measures shall be implemented:

a. An adaptive management program shall be implemented to offset the project impacts to San Joaquin River flow, as predicted by the hydrological model and verified by monitoring of appropriate measuring gauges, for a 30-day period between April 1 and May 15, and a 30-day period between October 1 and November 15. A qualified hydrologist shall be retained by the WHWD to monitor hydrologic conditions in the project area and implementation of the management program. The primary component of this management program will consist of release of water into the San Joaquin River on a continuous basis during the mitigation period in the affected reach of the river, in an amount sufficient to offset project impacts as projected by the hydrological model or determined by direct monitoring of San Joaquin River flow in the project area. The primary option to implement this discharge of water to the San Joaquin River will consist of:

1) Release of surface water. If during the mitigation period, TID or some other water district in the project vicinity has water available which could be released into the river, this water may be purchased and released in the affected area of the river to supplement the river and meet the mitigation requirement. Options could include the following:

a. The WHWD will obtain the amount of water necessary (based on modeling using a monthly average) to mitigate the impact and "bank" the water, and/or

b. Use Marshall-Davis water for mitigation during the critical water years.

In addition to option (1) above, the following secondary options may be implemented individually or in combination to insure that the river is supplemented as set forth in this mitigation measure:

2) Reduction in project groundwater pumping. Under this option, the groundwater pumping would be reduced in an amount to permit increased accretion based on the required discharge amounts. This option generally would be

implemented when groundwater levels in the area of the well field are low. This option implies that Diablo Grande would reduce water use across the board for all land uses to fully or partially offset the impact.

3) Release of groundwater from other areas of the TID. The TID has groundwater drainage wells in many other areas of the District. If, during the required mitigation period, the groundwater level in the well field area is low, but the groundwater remains substantially high in other areas of the TID, then TID could increase pumping in those areas to supply the appropriate amount of discharge to the river.

If reduced project pumping, or increased project or drainage pumping is to be included as a component of this mitigation measure, a hydrological analysis would be required prior to implementation of this measure to assess how much the proposed reduction or increase would affect project impacts to the river during the mitigation period; the quantity of supplemental water purchased and discharged to the river would then be adjusted accordingly. This hydrological analysis would also address the potential impacts to the groundwater levels throughout the TID. The timing of this mitigation shall be coordinated with projected increased Merced River flows resulting from the VAMP and other programs, to support migration of salmon through the affected reach of the river. Mitigation requirements shall be phased to match the phased increases in project pumping and offset resultant impacts to the river. For example, at 25 percent project build-out, the estimated loss in accretion would average approximately 2 cfs during a drought year, and the mitigation requirement would total approximately 240 AF for the 60-day mitigation period. At full project build-out, the estimated loss in accretion would average approximately 8 cfs during a drought year, and the mitigation requirement would total approximately 950 AF for the 60-day period. If scheduled Merced River pulse flow releases are implemented for a period of less than 30 days in either spring or fall, the mitigation period and quantity shall be reduced accordingly.

b. This mitigation program shall be reviewed each year that it is implemented to assess its feasibility and success of implementation, which will be determined by a qualified hydrologist as provided in measure 6(a) above. Pursuant to this review, specific alternatives may be recommended, in consultation with the CDFG, USFWS and/or regional water resource agencies, which may be implemented in lieu of or in addition to measure 6(a) above, to mitigate potential cumulative

impacts of the project on fisheries resources of the San Joaquin River. Such alternatives could include contributing funds to local or regionally-based programs for restoration of riparian and instream habitat, management of naturally spawning/native Chinook salmon populations, or improvement of water quality in the San Joaquin River basin.

Agency/Individual Responsible for Implementation:	WHWD
Implementation Timing:	During dry and critical water years
Mitigation Specifications:	The WHWD assigned staff shall contact the DWR Bulletin 120-2 on March 1 and DWR Bulletin 120-3 on April 1 to determine if a dry or critical water year is projected. Thereafter, if a dry or critical water year is forecasted, commence implementation of mitigation 6.a. In addition, the WHWD shall submit adaptive management program reports and hydrological reports to the CDFG and Department of Water Resources.
Agency/Individual Responsible for Monitoring:	County of Stanislaus Environmental Coordinator in conjunction with the CDFG
Action by Monitor:	The County of Stanislaus Environmental Coordinator shall review the adaptive management program and hydrological analysis in conjunction with CDFG and DWR to assure accuracy of the reports and implementation of the findings contained in the reports.
Mitigation 7:	Prior to construction, a qualified biologist shall survey the project site and surrounding areas in the floodplain to determine the extent of the riparian vegetation zone, and identify any other sensitive plant communities or habitats (e.g., wetlands) that may occur in this area. Based on this survey, the construction area shall be located at least 100 feet from the edge of the riparian vegetation zone. The limits of the construction zone shall be clearly marked with flags or temporary fencing, and construction activities shall be contained within this zone. If loss of sensitive plants or habitats can not be avoided, a habitat restoration plan shall be developed and approved by the

Environmental Coordinator in consultation with the CDFG, and implement restoration activities following completion of construction.

Agency/Individual Responsible for Implementation:	County of Stanislaus Environmental Coordinator
Implementation Timing:	Prior to construction
Mitigation Specifications:	As specified in mitigation
Agency/Individual Responsible for Monitoring:	County of Stanislaus Environmental Coordinator in conjunction with CDFG
Action by Monitor:	Verify that the mitigation has been properly implemented.

Mitigation 8: Prior to construction, both prior to (February-March) and during (March-September) the breeding season, a qualified biologist shall conduct surveys to identify potential raptor nests in all suitable nest trees within one-half mile of the west staging area. If an unoccupied nest that could potentially be used by Swainson's hawk is identified in the vicinity of the construction site prior to the breeding season, a cover shall be placed on the nest to prevent nest establishment at that site, and shall remain in place until completion of construction activities. Authorization from the CDFG shall be obtained prior to implementing nest covering activities. All nest covers installed shall be removed following construction. If an active raptor nest is found during the breeding season, its location shall be marked and a site-specific buffer zone established by the biologist. For raptor species other than Swainson's hawk, construction activities shall be avoided within this buffer zone while the nest is occupied by adults and/or nestlings. For Swainson's hawk, construction activities shall be avoided within one-half mile of an active nest site between March 1 and September 15 (or August 15 if authorization is obtained from CDFG). If construction can not be avoided during the period when an active raptor nest is present, the biologist shall monitor the nest site(s) during construction. If a Swainson's hawk nest is abandoned during construction, or any active raptor nest is removed as a result of the project, the WHWD shall contribute

	funds for recovery and controlled release of nestlings, as specified in the current CDFG mitigation guidelines/management conditions for Swainson's hawk.
Agency/Individual Responsible for Implementation:	WHWD
Implementation Timing:	Prior to and during construction
Mitigation Specifications:	As stated in mitigation
Agency/Individual Responsible for Monitoring:	County of Stanislaus Environmental Coordinator
Action by Monitor:	Verify that mitigation is being implemented through periodic investigations.
Mitigation 9:	Following project approval and prior to construction, the WHWD shall consult with the Corps and CDFG to determine the extent of jurisdiction of these agencies and obtain any necessary authorizations. Best management practices and methods acceptable to the Corps and/or CDFG shall be employed to minimize potential impacts of construction within the slough. A qualified environmental technician shall be present during construction to monitor sediment discharges, and recommend appropriate measures as needed and these measures shall be implemented, to minimize potential impacts on water quality in the slough.
Agency/Individual Responsible for Implementation:	WHWD
Implementation Timing:	Prior to and during construction
Mitigation Specifications:	As specified in mitigation
Agency/Individual Responsible for	

Monitoring:	WHWD in conjunction with CDFG and U.S. Army Corps of Engineers
Action by Monitor:	
Mitigation 10:	Refer to mitigation measure 7
Agency/Individual Responsible for Implementation:	Same as mitigation measure 7
Implementation Timing:	Same as mitigation measure 7
Mitigation Specifications:	Same as mitigation measure 7
Agency/Individual Responsible for Monitoring:	Same as mitigation measure 7
Action by Monitor:	Same as mitigation measure 7
Mitigation 11:	The pipeline alignment shall be placed so as to minimize disruption of riparian vegetation and avoid removal of mature valley oaks or other potential nesting trees along the slough. If removal of such trees can not be feasibly avoided, WHWD shall replant an equal number of trees of the same species as those removed on the site. If riparian vegetation is removed, the affected areas shall be restored by replanting appropriate native riparian species following completion of the pipeline crossing.
Agency/Individual Responsible for Implementation:	WHWD
Implementation Timing:	Pipeline routes shall be selected prior to construction of pipeline.
Mitigation Specifications:	Each pipeline alignment shall be reviewed by a qualified biologist to determine the extent of riparian habitat loss, loss of mature valley oaks or other potential nesting trees along the slough. A report shall be submitted to the County of Stanislaus Environmental Coordinator for review.

Agency/Individual Responsible for Monitoring:	County of Stanislaus Environmental Coordinator
Action by Monitor:	Verify that mitigation for any potential loss is implemented as required by federal, state and/or the county requirements.
Mitigation 12:	Prior to issuance of a grading permit for pipeline installation, the applicant shall submit an agricultural restoration plan identifying the exact pipeline route in relation to adjacent land uses and the specific measures that will be taken to restore disturbed agricultural lands to their pre-project condition. This plan should include such measures as stockpiling strippings and measures necessary to enhance soil structure for compacted areas. The plan shall be reviewed and approved by the County Environmental Coordinator prior to initiation of trenching activities.
Agency/Individual Responsible for Implementation:	WHWD
Implementation Timing:	Prior to issuance of a grading permit for pipeline installation
Mitigation Specifications:	As specified in mitigation
Agency/Individual Responsible for Monitoring:	County of Stanislaus Environmental Coordinator
Action by Monitor:	The plan shall be reviewed and approved by the County Environmental Coordinator prior to initiation of trenching activities. Periodic site inspections by the Environmental Coordinator shall be required to verify compliance.
Mitigation 13:	Prior to digging trenches for water conveyance pipelines, the applicant shall be responsible for conducting a site reconnaissance of the pipeline location and a literature search through the relevant California Information Center.
Agency/Individual Responsible for Implementation:	WHWD

Implementation Timing:	Prior to digging trenches
Mitigation Specifications:	A qualified archaeologist shall walk the pipeline routes and shall submit a written report of the findings to the County of Stanislaus Environmental Coordinator. Construction plans shall contain specifications pertaining to potential archaeological resources that may be found during trenching and what state law requires in the case something is found.
Agency/Individual Responsible for Monitoring:	County of Stanislaus Environmental Coordinator
Action by Monitor:	Review report submitted by archaeologist
Mitigation 14:	If a resource is found prior to or during construction, the applicant will be required to implement the conditions contained in Appendix K of CEQA. Appendix K outlines actions that must be implemented in the event resources are found.
Agency/Individual Responsible for Implementation:	WHWD and all contractors
Implementation Timing:	Continuously during construction
Mitigation Specifications:	Refer to Appendix K of CEQA
Agency/Individual Responsible for Monitoring:	County of Stanislaus Environmental Coordinator
Action by Monitor:	When the Environmental Coordinator receives word that a resource has been found the Environmental Coordinator shall verify that Appendix K of CEQA is thereafter properly implemented.
Mitigation 15:	Refer to mitigation 13 and 14.
Agency/Individual	

Responsible for Implementation:	Refer to mitigation 13 and 14.
Implementation Timing:	Refer to mitigation 13 and 14.
Mitigation Specifications:	Refer to mitigation 13 and 14.
Agency/Individual Responsible for Monitoring:	Refer to mitigation 13 and 14.
Action by Monitor:	Refer to mitigation 13 and 14.
Mitigation 16:	Refer to mitigation 13 and 14.
Agency/Individual Responsible for Implementation:	Refer to mitigation 13 and 14.
Implementation Timing:	Refer to mitigation 13 and 14.
Mitigation Specifications:	Refer to mitigation 13 and 14.
Agency/Individual Responsible for Monitoring:	Refer to mitigation 13 and 14.
Action by Monitor:	Refer to mitigation 13 and 14.

Appendix B

South Delta Water Agency Information

REPORT ON THE EFFECTS OF THE CVP UPON THE SOUTHERN DELTA WATER SUPPLY SACRAMENTO-SAN JOAQUIN RIVER DELTA, CALIFORNIA

Prepared jointly by the
Water and Power Resources Service
and the South Delta Water Agency

EXHIBIT A

EFFECTS OF THE CVP
UPON THE SOUTHERN DELTA WATER SUPPLY
SACRAMENTO-SAN JOAQUIN RIVER DELTA, CALIFORNIA

JUNE 1980

Prepared jointly by the
Water and Power Resources Service
and the South Delta Water Agency

TABLE V-18 (1980)

SUMMARY OF REDUCTIONS IN RUNOFF OF SAN JOAQUIN RIVER AT VERNALIS FROM PRE-CVP TO POST-CVP

YEAR TYPE & PERIOD	EFFECT OF ALL POST-CVP UPSTREAM DEVELOPMENT ON RUNOFF AT VERNALIS		EFFECT OF CVP ON RUNOFF AT VERNALIS		
	Reduction in Runoff acre-feet[1]	Post CVP Reduction as Percent of Pre-CVP Actual Runoff	Reduction in Runoff[1] acre-feet	Reduction at Vernalis as Percent of Pre-CVP Flow	Reduction at Vernalis as Percent of Post CVP Flow
DRY					
April-Sept	417,000	68[2]	6,000[3]	1.4	3.0
Full Year	519,000	45	128,000	11	13
BELOW NORMAL					
April-Sept	1,064,000	60[2]	386,000	22[2]	55
Full Year	1,219,000	44[2]	543,000	20[2]	35
ABOVE NORMAL					
April-Sept	1,732,000	57	440,000	15	40
Full Year	1,400,000	28	768,000	15	25
WET					
April-Sept	1,000,000	19	554,000	15	10
Full Year	1,168,000	13	771,000	9	12
AVERAGE OF ALL YEARS					
April-Sept	1,053,000	40	345,000	13	24
Full Year	1,076,000	24	553,000	12	19

1. From Tables 2, 4, 6, 8, 10, 12, 14, 16
2. Pre-CVP "actual" is assumed to be post-CVP actual plus pre-CVP to post-CVP loss per Tables 4, 6, and 10
3. (rected for difference in pre-CVP and po/ CVP unimpaired flow

SUMMARY OF THE EFFECTS OF THE CVP ON THE QUANTITY AND QUALITY OF THE SAN JOAQUIN RIVER INFLOW TO THE SOUTHERN DELTA AT VERNALIS AVERAGE FOR DECADE OF THE 1960s

Item	Units	Year Classification: Dry	Below Normal	Above Normal	Wet
1. Post-CVP flow	1000 acre-feet				
A-S		190	246	1200	3639
O-M		695	1450	950	2836
Year		885	1696	2150	6475
2. Reduction in flow due to CVP	1000 acre-feet				
A-S		6.5	407*	572	760
O-M		109.0	136	350	633
Year		115.5	543	922	1393
3. Post-CVP TDS	mg/L				
A-S		671	683	326	225
O-M		418	284	461	308
Year		546	484	394	267
4. Reduction in Post-CVP TDS due to restoring CVP reduction in flow	mg/L				
A-S		21	395	89	30
O-M		50	20	111	47
Year		37	105	103	38
5. Increase in Salt Load due to CVP, through decade of 1960s	1000 tons				
A-S		58	77	21	43
O-M		44	52	19	27
Year		102	129	40	70
6. Reduction in Post-CVP TDS due to removal of CVP contribution to salt load increase	mg/l				
A-S		224	230	13	9
O-M		47	26	15	7
Year		85	56	14	8
7. Reduction in Post-CVP TDS due to restoring CVP flow reduction and removing CVP contribution to salt load increase	mg/L				
A-S		238	481**	98	37
O-M		90	44	121	53
Year		132	148	113	45
8. TDS that would have existed on the average in the absence of the CVP	mg/L				
A-S		435	202	228	188
O-M		328	240	340	255
Year		414	336	281	222

Notes:

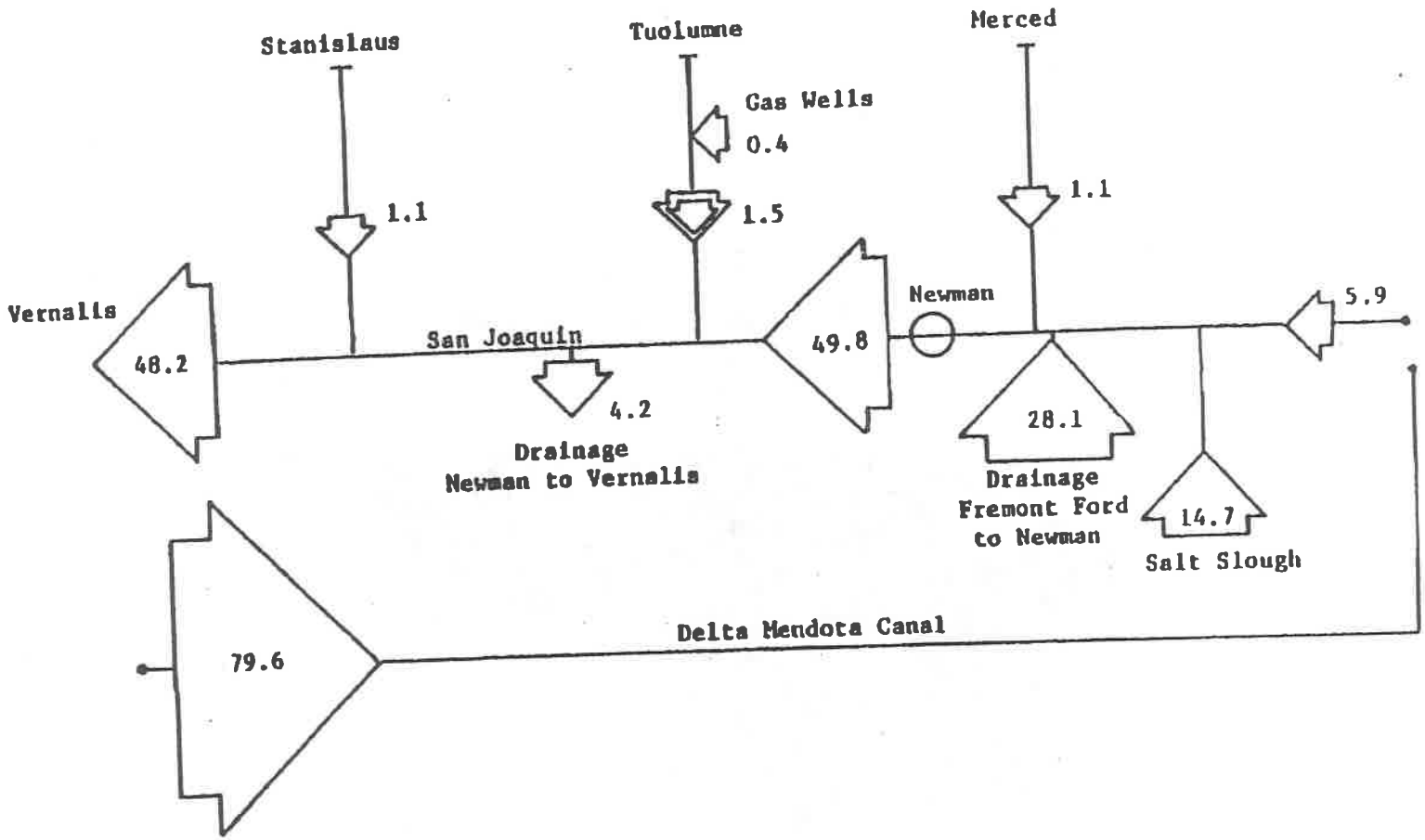
1. Based on Tables V-2 through V-17 for decade of 1960s
2. From Table V-21, using average values over the ranges indicated
3. From Table VI-13
4. Reduction = Post-CVP TDS = $\frac{\text{Post-CVP flow} \times \text{Post-CVP TDS} + 30 \times \text{CVP flow reduction}}{\text{Post-CVP flow} + \text{CVP flow reduction}}$

   $= (3) - \frac{(1) \times (3) + 50 \times (2)}{(1) + (2)}$
5. From Table VI-34; Average Increase Caused by CVP in 1960s; Pre-CVP salt load = $\frac{\text{Salt Load Increase}}{\text{Percent of Pre-CVP}} \times 100$
6. Reduction = $\frac{\text{Salt Load Increase Due to CVP}}{1.36 \times \text{Post-CVP flow}} = \frac{(5) \times 1000}{1.36\ (1)}$
7. Reduction = Post-CVP TDS = $\frac{\text{Post-CVP flow} \times \text{Post-CVP TDS} - \text{Salt Load Incr.}/1.36 + 50 \times \text{CVP flow reduction}}{\text{Post-CVP flow} + \text{CVP flow reduction}}$

   $= (3) - \frac{(1) \times (3) - (5) \times 1000/1.36 + 50 \times (2)}{(1) + (2)}$
8. TDS without CVP = Post-CVP TDS - Reduction due to CVP = (3) - (7)

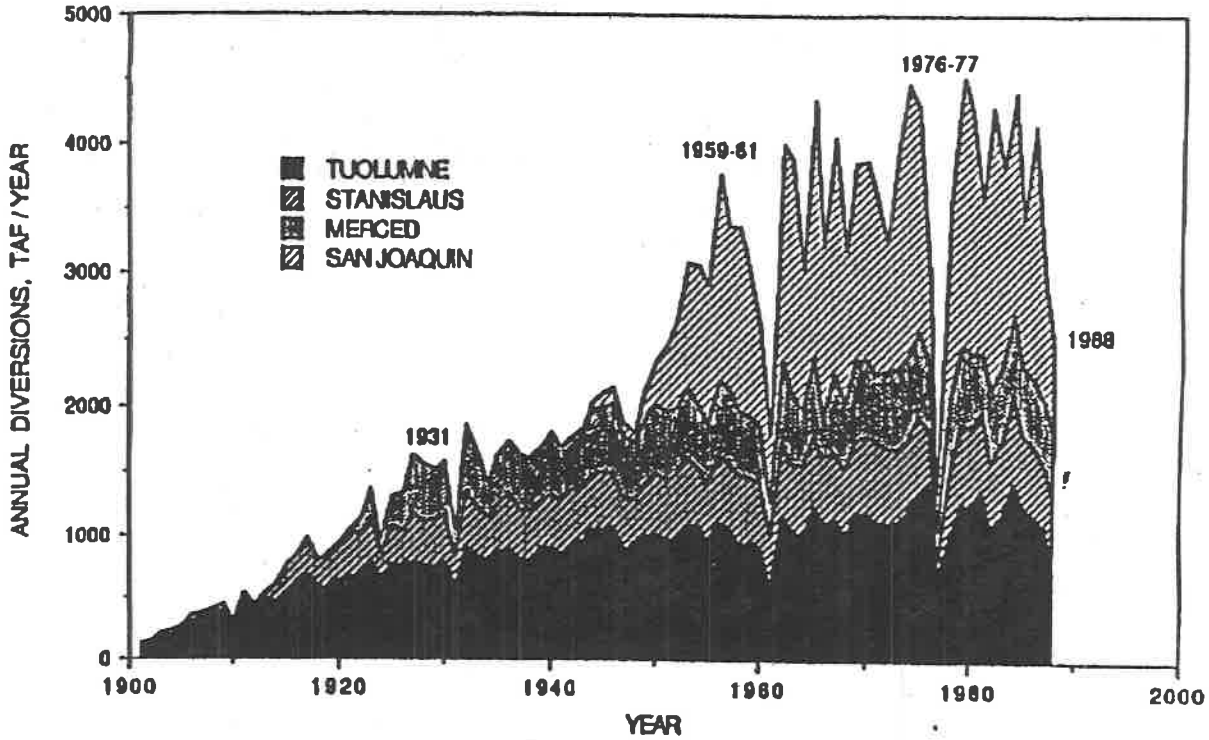
* Flow reduction for an average "below normal" year in the April--September period; this may be high for the single "below normal" year (1966) that occurred in the 1960s

** This estimate is probably high for the reason given above (*). The actual effect would probably not exceed about 285 mg/L.



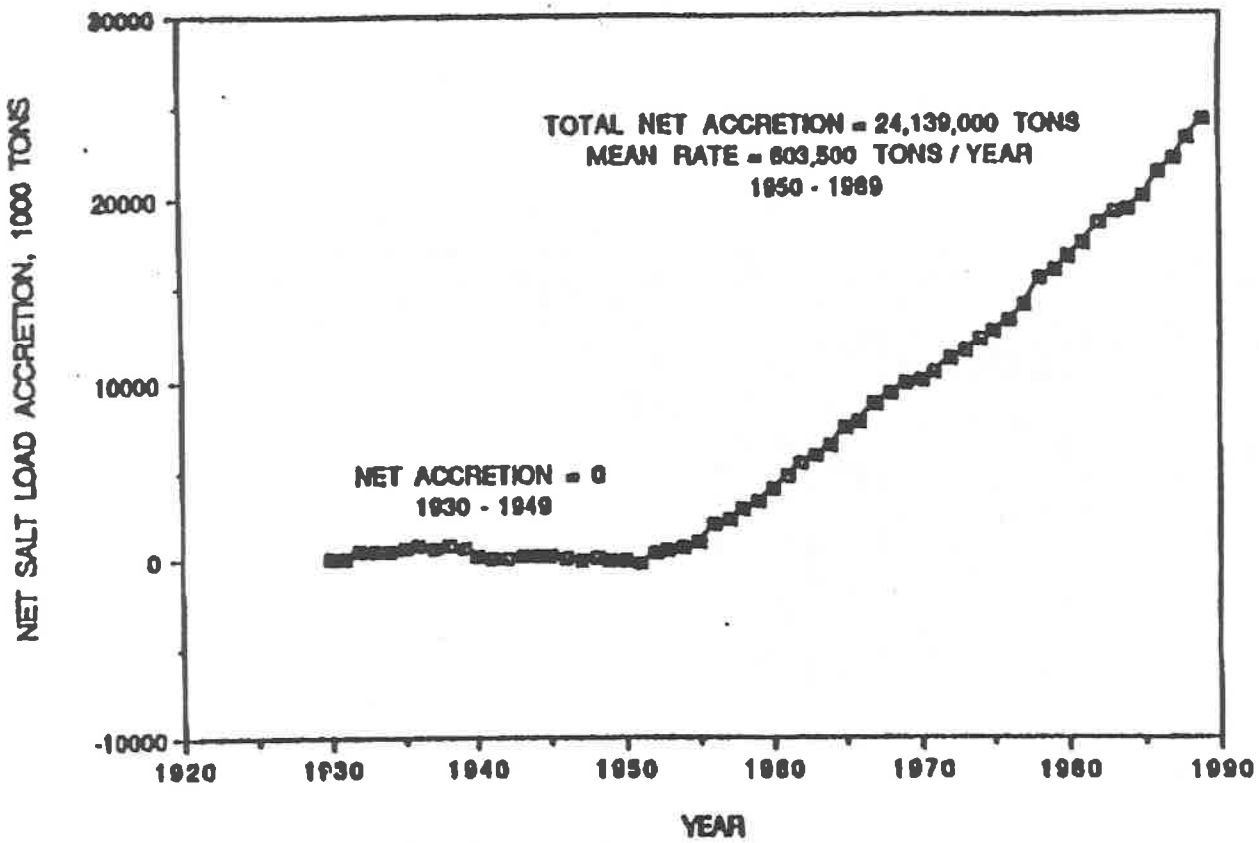
SULFATE SALT BALANCE FOR SAN JOAQUIN RIVER SYSTEM, 1960-61

(Numbers indicate salt load in thousand tons per year)



DIVERSIONS FROM MAJOR TRIBUTARY STREAMS
SAN JOAQUIN BASIN, 1900 - 1988

GTO 10/89

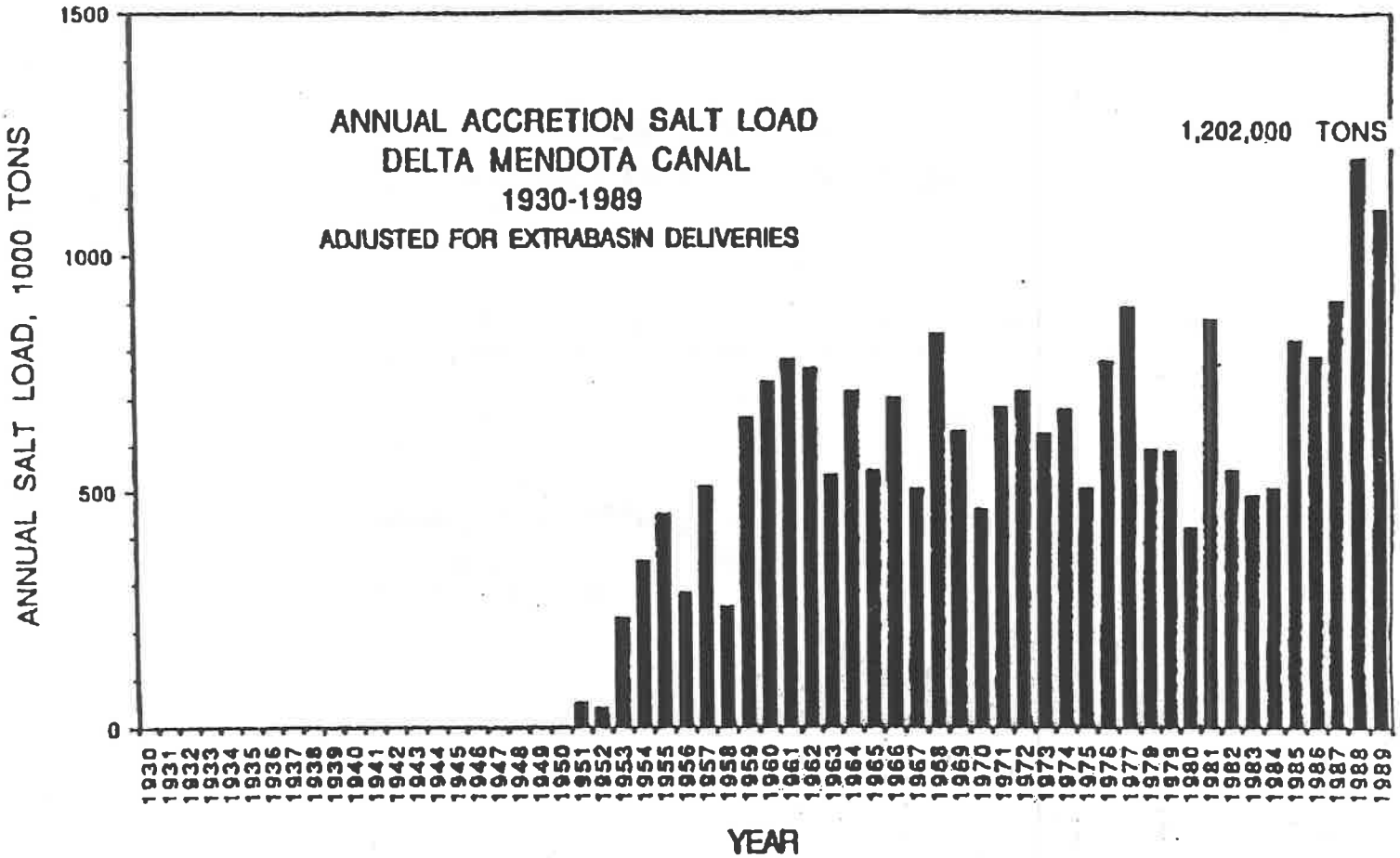


NET SALT LOAD ACCUMULATION

SAN JOAQUIN BASIN, 1930 - 1989

GTO 2/90

SDWA 9


ANNUAL ACCRETION SALT LOAD
DELTA MENDOTA CANAL
1930-1989
ADJUSTED FOR EXTRABASIN DELIVERIES
1,202,000 TONS
ANNUAL SALT LOAD, 1000 TONS
1500
1000
500
0
1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989
YEAR

GTO 6/90

5

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS

PERMIT FOR DIVERSION AND USE OF WATER

AMENDED PERMIT 16597

Application 14858A of U. S. Department of the Interior, Bureau of Reclamation, Region 2
2800 Cottage Way, Sacramento, CA 95825

filed on June 16, 1952 has been approved by the State Water Resources Control Board SUBJECT TO VESTED RIGHTS and to the limitations and conditions of this Permit.

Permittee is hereby authorized to divert and use water as follows:

1. Source: Stanislaus River

Tributary to: San Joaquin River

2. Location of point of diversion:	40-acre subdivision of public land survey or protraction thereof	Section	Township	Range	Base and Meridian
New Melones Dam - North 29°34' East, 1,075 feet from SW corner of Section 11	SW¼ of SW¼	11	1N	13E	MD

Counties of Calaveras and Tuolumne

3. Purpose of use:	4. Place of use:	Section	Township	Range	Base and Meridian	Acres
Irrigation	within the counties of					
Domestic	Stanislaus, Calaveras,					
Municipal	Tuolumne and San Joaquin					
Industrial						
Recreational	New Melones Reservoir		3N	14E	MD	
Water Quality and	and downstream reaches of		2N	13E	MD	
Preservation and Enhance-	the Stanislaus and San		2N	13E	MD	
ment of Fish and Wildlife	Joaquin Rivers		1N	14E	MD	

The place of use is shown on map filed with the State Water Resources Control Board.

WRCB 14 (11-72)

EXHIBIT 'B'

APPLICATION 14858A PERMIT 16597

5. The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed 980,000 acre-feet per annum by storage to be collected from November 1 of each year to June 30 of the succeeding year. (0000000)

This permit does not authorize collection of water to storage outside of the specified season to offset evaporation and seepage losses or for any other purpose.

6. The amount authorized for appropriation may be reduced in the license if investigation warrants. (0000000)

7. Complete application of the water to the proposed use shall be made on or before December 1, 1990. (0000000)

8. Permittee shall allow representatives of the State Water Resources Control Board and other parties as may be authorized from time to time by said Board reasonable access to project works to determine compliance with the terms of this permit. (0000000)

9. Progress reports shall be submitted promptly by Permittee when requested by the State Water Resources Control Board until license is issued. (0000000)

10. Pursuant to California Water Code Sections 100 and 275, all rights and privileges under this permit and under any license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Resources Control Board in accordance with law and in the interest of the public welfare to prevent waste, unreasonable use, unreasonable methods of use, or unreasonable method of diversion of said water.

The continuing authority of the Board may be exercised by imposing specific requirements over and above those contained in this permit with a view to minimizing waste of water and to meeting the reasonable water requirements of Permittee without unreasonable draft on the source. Permittee may be required to implement such programs as (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation. (0000011)

11. In compliance with Fish and Game Code Section 5943, Permittee shall accord to the public, for the purpose of fishing, reasonable right of access to the waters impounded by the dam under this permit during the open season for the taking of fish, subject to the regulations of the Fish and Game Commission. (0000004)

12. Permittee shall install and maintain an outlet pipe of adequate capacity in his dam as near as practicable to the bottom of the natural stream channel, or provide other means satisfactory to the State Water Resources Control Board, in order that water entering the reservoir which is not authorized for appropriation under this permit may be released. (0000002)

13. In accordance with the requirements of Water Code Section 1393, Permittee shall clear the site of the reservoir of all structures, trees and other vegetation which would interfere with the use of the reservoir for water storage and recreational purposes. This provision, however, shall not preclude the Permittee from retaining vegetation cover in selected areas as required for the protection of wildlife. Clearing operations shall be coordinated with authorized increases in storage levels. (0120050)

14. Rights under this permit are, and shall be, subject to existing rights determined by the Stanislaus River Adjudication, Superior Court, San Joaquin County dated November 14, 1929, Action No. 16873 with supplemental decrees dated February 24, 1930; March 8, 1934; May 8, 1935 and November 29, 1960, insofar as said adjudicated rights are maintained, and such other rights as may presently exist. (0000021)

APPLICATION 14858A PERMIT 16597

15. The quantity of water diverted under this permit and under any license issued pursuant thereto is subject to modification by the State Water Resources Control Board if, after notice to the Permittee and an opportunity for hearing, the Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges. (0000018)

16. In order to prevent degradation of the quality of water during and after construction of the project, Permittee shall file a report pursuant to Water Code Section 13260 and shall comply with any waste discharge requirements imposed by the California Regional Water Quality Control Board, Central Valley Region Region, or by the State Water Resources Control Board. (0000700)

17. Permittee shall impound in new Melones Reservoir such water as is necessary to provide (a) not in excess of 98,000 acre-feet per annum for the preservation and enhancement of fish and wildlife to be released at a rate specified by the California Department of Fish and Game, plus (b) such additional water as is necessary to maintain the water quality conditions set forth in Paragraph 19. The above amounts are in addition to water stored for satisfaction of prior rights at existing Melones Reservoir and for flood control. The Board reserves jurisdiction for the purpose of establishing dry year criteria. (0000500)

18. Permittee shall file with the Board a reservoir operation study showing the water level elevations required to provide the yield specified in Paragraph 17. A reservoir operation schedule shall be submitted by the Permittee which shall be subject to approval of the Board. The study shall be updated at least once every five years until further order of the Board. (0000500)

19. Releases of conserved water from New Melones Reservoir for water quality control purposes shall be scheduled so as to maintain a mean monthly total dissolved solids concentration in the San Joaquin River at Vernalis of 500 parts per million or less and a dissolved oxygen concentration in the Stanislaus River as specified in Water Quality Control Plan (interim), San Joaquin River Basin 5c, State Water Resources Control Board, June 1971.

In the event that the water quality control plan (interim) is amended or superseded, the foregoing water quality objectives shall be modified to conform to then current criteria. (0000700)

20. The State Water Resources Control Board reserves jurisdiction over this permit for the purpose of revising water release requirements for water quality objectives and fish releases and for establishing dry year criteria pursuant to studies to be conducted by the Permittee and other parties in an effort to better define water needs. (0000600)

21. Permittee shall file with the Board at least biennially a report of water diversions and use along the Stanislaus River and San Joaquin River between New Melones Dam and the Vernalis Gage which will show any increased diversions subsequent to the beginning of releases of water under this permit, which diversions may be encroaching on the water supply provided for preservation and enhancement of fish and wildlife and for water quality control, and will show what steps, if any, Permittee is taking to prevent any such encroachment. (0000700)

22. Permittee shall file with the Board an annual report showing (a) daily storage level in New Melones Reservoir, (b) daily record of total dissolved solids at Vernalis, and (c) daily record of minimum dissolved oxygen level for the day at Ripon or at an alternate location approved by the Board. (0000700)

23. This permit shall be subject to appropriation by storage upstream from New Melones Reservoir for stockwatering and recreational purposes, provided the individual capacities of reservoirs for such purposes do not exceed 10 acre-feet and the reservoirs are kept free of phreatophytes. (0000700)

24. This permit shall be subject to the following agreements between the Permittee and other parties:

Application 14858A Permit 16597

(A) The "Agreement and Stipulation" dated October 24, 1972 and executed by the Permittee, Oakdale Irrigation District and South San Joaquin Irrigation District.

(B) The agreement between the Permittee and Tuolumne County Water District No. 2 dated November 29, 1972.

(C) The agreement dated July 31, 1972 between Permittee and Calaveras County Water District. (0000017)

Reference to the above three agreements shall not be construed as a finding by the State Water Resources Control Board with respect to the rights of any of the parties involved.

25. This permit does not authorize the use of any water outside the counties of origin which is necessary for the development of the counties. (0000800)

26. Permittee shall consult with the Division of Water Rights and the Department of Water Resources, and develop and implement a water conservation plan or actions. The proposed plan or actions shall be presented to the Board for approval by March 8, 1984. A progress report on the development of a water conservation plan may be required by the Board within this period. (0000029)

27. Before making any change in the project determined by the State Water Resources Control Board to be substantial, Permittee shall submit such change to the Board for its approval in compliance with Water Code Section 10504.5 (A). (0000119)

This permit is issued and permittee takes it subject to the following provisions of the Water Code:

Section 1390. A permit shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code), but no longer.

Section 1391. Every permit shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriator of water to whom a permit is issued takes it subject to the conditions therein expressed.

Section 1392. Every permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefor shall at any time be assigned to or claimed for any permit granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any permittee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any permittee, of the possession of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Dated: JULY 25 1983

STATE WATER RESOURCES CONTROL BOARD

[signature]

Chief, Division of Water Rights

WRCB 14-E (1-79)

United States Department of the Interior

BUREAU OF RECLAMATION
Central Valley Operations Office
3310 El Camino Avenue, Suite 300
Sacramento, California 95821

IN REPLY
REFER TO:
CVO-400
WTR-4.10

MAY 0 1 1997

To: Stanislaus River Basin Stakeholders
Other Interested Parties
(See Attached List)

From: Lowell F. Ploss
Operations Manager, Central Valley Operations

Subject: Transmittal of New Melones Interim Plan of Operation

Attached is the interim plan of operation for New Melones Reservoir. The interim plan was developed as a joint effort between The Bureau of Reclamation (Reclamation) and the Fish and Wildlife Service (FWS) in conjunction with the Stanislaus River Basin Stakeholders. This process began in 1995 with a goal to develop a management plan with clear operating criteria for available water supplies in the Stanislaus Basin on a long-term basis. In 1996, that effort was continued with a group of Stanislaus stakeholders; however, the focus shifted to an interim plan for 1997 and 1998 operations. During a meeting of the stakeholders on January 29, 1997, a final interim plan of operation for New Melones Reservoir was agreed to in concept. The details of this plan are attached. Also attached are examples of operations under the 50 percent probability of exceedance (most probable) and 90 percent probability of exceedance (90 percent chance of having increased inflows) hydrologic conditions which include Water Years 1997 and 1998. This plan is contingent upon all elements as described in this document. It was also decided at the January 29, 1997, meeting that between now and late 1998 additional work on a long-term plan would continue.

If you have any questions regarding this interim plan, please call Dave Read (Reclamation) at 979-2684 or Roger Guinee (FWS) at 979-2760.

Attachments

cc: Fish & Wildlife: Maria Macoubrie
Joel Medlin
Dick Jewell

EXHIBIT C

New Melones Interim Plan of Operation

Annual Water Supply Categories

Table 1 shows the five annual water supply categories to be used in the interim plan of operation and the corresponding ranges of February end of month storage plus March through September forecast of inflow to New Melones Reservoir.

Table 1

Annual Water Supply Category	Mar.-Sept. Forecast plus Feb. End of Month Storage (TAF)	
	From	To
Low	0	1,400
Medium-Low	1,400	2,000
Medium	2,000	2,500
Medium-High	2,500	3,000
High	3,000	6,000

Water Distribution

Table 2 shows the distributions of annual (March through February) water supplies measured at Goodwin Dam, based on Table 1 categories, for fishery, Vernalis water quality, Bay-Delta, and Central Valley Project (CVP) contractors. The annual deliveries for these purposes will be determined by interpolating user allocation against the corresponding Table 1 hydrologic category. Allocations to Oakdale and South San Joaquin Irrigation Districts will be pursuant to their 1988 agreement with the Bureau of Reclamation (Reclamation). It was agreed that Reclamation and the Fish and Wildlife Service (Service) will acquire water from Oakdale and South San Joaquin Irrigation Districts (up to 50 TAF per year during 1997 and 1998) for fishery purposes. The release patterns for fishery purposes will be developed by the Service and Reclamation in cooperation with the California Department of Fish and Game (DFG) and in consultation with interested agencies/parties. As part of the interim plan, it was negotiated that CVP contractors will receive 50 TAF per year during 1997 and 1998; therefore, this interpolation procedure will not apply to them for the interim period. The allocation in Table 2 for CVP Contractors is presented for information only. It should be noted that the low water supply category has been deleted from Table 2, because it is not anticipated that it will be reached during 1997 and 1998.

Table 2
(1,000 acre-feet)
(measured at Goodwin)

New Melones storage plus inflow		Fishery		Vernalis water quality		Bay-Delta		CVP contractors	
From	To	From	To	From	To	From	To	From	To
1,400	2,000	98	125	70	80	0	0	0	0
2,000	2,500	125	345	80	175	0	0	0	59
2,500	3,000	345	467	175	250	75	75	90	90
3,000	6,000	467	467	250	250	75	75	90	90

Preliminary water supply allocations will be announced by February 15 of each year, with updates by the 15th of each subsequent month through June. Although an initial fishery release pattern has been developed by the Service in consultation with the DFG, Reclamation will continue to request annual schedules from DFG pursuant to the June 1987 agreement between Reclamation and DFG. The Service will consult with DFG to schedule additional quantities allocated pursuant to this plan. The terms of the 1987 agreement will continue to be met during 1997 and 1998.

Stanislaus River Releases

The derived release patterns for each purpose (from Goodwin Dam to the Stanislaus River) must be consistent with Table 2. All river releases up to the amount of the fishery pattern will be included in the annual fishery allocation. All river releases up to the amount of the Bay-Delta pattern excluding fishery will be included in the annual Bay-Delta allocation. All river releases up to the amount of the Vernalis water quality requirement excluding fishery and Bay-Delta will be included in the annual Vernalis water quality allocation. Water quality criteria as stated on pages 17 and 19 of the May 1995, Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary will be met up to the maximum indicated allocation. If necessary, additional Goodwin river releases will be made to meet the Ripon dissolved oxygen requirement. Additional releases for fishery purposes (temporary water acquisition during 1997 and 1998) will be made on top of all other releases. Releases from Goodwin Dam to the Stanislaus River (except for flood control) shall not exceed 1,500 ft^3/s.

It should be noted that Table 2 yields quantities that are additive. However, Table 2 does not show the total benefit to fishery, Vernalis water quality, and Bay-Delta. Releases for these purposes yield multiple benefits. For example, a release to meet fishery may also benefit Bay-Delta and/or Vernalis water quality even though it is included only in the fishery allocation.

During 1997 and 1998, it is anticipated that all objectives will be met according to the understanding that was reached in the Stanislaus Stakeholders meeting, and pursuant to

Reclamation's April 4, 1997, letter to the Service and the Service's April 8, 1997, response (both attached). However, should extremely dry conditions or some unforeseen circumstance occur, Reclamation and the Service will convene a meeting with the Stakeholders to seek a solution.

Lowell F. Ploss
Operations Manager, Central
Valley Operations Office
Bureau of Reclamation

Wayne White
Field Supervisor
Fish and Wildlife Service

Plan [redacted]
PRSM B33

Oct-Sep Frcst (TAF) From	To	OID/SSJID (TAF) From	To
0	[redacted]	[redacted]	[redacted]
600	[redacted]	[redacted]	[redacted]
6000	[redacted]	[redacted]	[redacted]
N/A	[redacted]	[redacted]	[redacted]
N/A	[redacted]	[redacted]	[redacted]

Mar-Sep Frcst Plus Feb. EOM Storage (TAF) From	To	Annual Fish Release (TAF) From	To
0	1400	[redacted]	[redacted]
1400	2000	[redacted]	[redacted]
2000	2500	[redacted]	[redacted]
2500	3000	[redacted]	[redacted]
3000	6000	[redacted]	[redacted]

Mar-Sep Frcst Plus Feb. EOM Storage (TAF) From	To	Max. Ann WQ Release (TAF) From	To
0	1400	[redacted]	[redacted]
1400	2000	[redacted]	[redacted]
2000	2500	[redacted]	[redacted]
2500	3000	[redacted]	[redacted]
3000	6000	[redacted]	[redacted]

Mar-Sep Frcst Plus Feb. EOM Storage (TAF) From	To	Max. Ann BD Fsh Rel (TAF) From	To
0	1400	[redacted]	[redacted]
1400	2000	[redacted]	[redacted]
2000	2500	[redacted]	[redacted]
2500	3000	[redacted]	[redacted]
3000	6000	[redacted]	[redacted]

Mar-Sep Frcst Plus Feb. EOM Storage (TAF) From	To	Annual CSJ Deliv. (TAF) From	To
0	1400	[redacted]	[redacted]
1400	2000	[redacted]	[redacted]
2000	2500	[redacted]	[redacted]
2500	3000	[redacted]	[redacted]
3000	6000	[redacted]	[redacted]

Mar-Sep Frcst Plus Feb. EOM Storage (TAF) From	To	Annual SEWD Div (TAF) From	To
0	1400	[redacted]	[redacted]
1400	2000	[redacted]	[redacted]
2000	2500	[redacted]	[redacted]
2500	3000	[redacted]	[redacted]
3000	6000	[redacted]	[redacted]

Mar-Sep Frcst Plus Feb. EOM Storage (TAF) From	To	Increased WQ Standard (Ratio) From	To
0	1400	[redacted]	[redacted]
1400	2000	[redacted]	[redacted]
2000	2500	[redacted]	[redacted]
2500	3000	[redacted]	[redacted]
3000	6000	[redacted]	[redacted]

Max. Release Below Goodwin In CF [redacted]

Range From	To	Name	Counts
0	[redacted]	[redacted]	5
1400	[redacted]	[redacted]	20
2000	[redacted]	[redacted]	22
2500	[redacted]	[redacted]	13
3000	[redacted]	[redacted]	11
		Sum	71

Plan Pro.

Goodwin Rel. Data		
Avg. Ann. (TAF)		409
Max. Ann. (TAF)		0
Min. Ann. (TAF)		0

Minimum Storage (TAF)	80

Avg. Ann. Spill (TAF)	87

OID/SSJID Deliveries		
Avg. Ann. (TAF)		582
No. of Years >=	300	56

Stanislaus Instream Fish		
No. of Years >=	90:0	66
No. of Years >=	155:0	45
No. of Years >=	400:0	14
No. of Years >=	450:0	0

WQ (Comprd to Specified Stndrds)	
Avg. Ann. Deficit (TAF)	20
Avg. Ann. Deficit in Deficient Yrs. (TAF)	46
Max. Ann. Deficit in Deficient Yrs. (TAF)	101
Min. Ann. Deficit (TAF)	0
Deficient Yrs. Count	31

WQ	
Sep-Mar Target (PPM)	650
Apr-Aug Target (PPM)	455
Avg. Ann. Deficit (TAF)	20
Avg. Ann. Deficit in Deficient Yrs. (TAF)	46
Max. Ann. Deficit in Deficient Yrs. (TAF)	101
Min. Ann. Deficit (TAF)	0
Deficient Yrs. Count	31

BD Flow	
Avg. Ann. Deficit (TAF)	55
Avg. Ann. Deficit in Deficient Yrs. (TAF)	76
Max. Ann. Deficit in Deficient Yrs. (TAF)	209
Min. Ann. Deficit (TAF)	0
Deficient Yrs. Count	51

CVP Deliveries		
Avg. Ann. Delivery (TAF)		35
No. of Years >=	10:0	44
No. of Years >=	20:0	38
No. of Years >=	40:0	24
No. of Years >=	80:0	24

Optional Diversions		
Avg. Ann. Delivery (TAF)		7
No. of Years >=	10:0	24
No. of Years >=	20:0	13
No. of Years >=	50:0	0
No. of Years >=	75:0	0

GTO
Consulting Engineers
G. T. ORLOB & ASSOCIATES

1850 de Leu Drive, Green Valley, Suisun, CA 94585
(707) 864-1850

October 18,1997

To: Alex Hildebrand and John Herrick

From: G. T. Orlob

Re: Assessment of Potential Effects of Deliveries to Stockton East Water District from Stanislaus River Basin

Proposed Agreement to Transfer

The proposed Water Transfer Agreement between the Oakdale Irrigation District (OID), South San Joaquin Irrigation District (SSJID) and Stockton East Water District (SEWD) stipulates that Stockton East may purchase up to 30 TAF in water years in which the United States Bureau of Reclamation (USBR) forecast of inflow to New Melones Reservoir equals or exceeds 500 TAF; 12.5 TAF when the projected inflow is in the range 400-499 TAF; and 8 TAF when the forecast inflow is less that 400 TAF. Of course, these conditions apply to the uncertain future so there is no exact precedent against which one may assess the impacts of the proposed transfers. However, it is reasonable, I believe, to use historic experience of inflow to New Melones to estimate possible effects given the likelihood of recurrence of similar hydrologic conditions in the future. For this purpose I have chosen to use the same 6 year period, 1990 - 1995, adopted for the preliminary study of extrabasin transfer effects reported in my memo of September 9, 1997.

This requires identification of water years according to the forecast criteria set forth in the proposed agreement, i.e., estimation of the inflow to New Melones Reservoir. In this case we can calculate the inflow by summing the various components of the water budget for the reservoir as reported by the USGS. The water budget equation for the reservoir states that the change in storage is equal to the difference between inflow (the quantity we need to calculate) and the sum of outflows, i.e.,

Change in storage = Inflow - diversions - evaporation + minor gains and losses

Change in storage in New Melones reservoir is reported by the USBR. Diversions include deliveries to OID and SSJID and releases from Goodwin Dam, also documented by the USGS. Evaporation from the reservoir surface is calculated by the USBR and reported by the USGS. A small change in storage in Tulloch Reservoir above Goodwin is also reported. Other minor gains or losses are neglected for this analysis since they are either not reported or are orders of magnitude smaller that the principal components of the water balance. The individual components of the water budget resulting in an estimate of reservoir inflow are summarized in Table 1.

As expected, estimated inflow varies among the various water years. 1990, 1992 and 1994 are seen to be years of comparatively low inflow, much less than the lower limit of the proposed purchase agreement, hence would qualify for deliveries to SEWD of 8 TAF or less. Inflows for the alternate years, 1991, 1993 and 1995, all exceed 500 TAF, although in 1991 the inflow of 522.2 TAF is only marginally above the upper limit. These years presumably would qualify for deliveries to Stockton East of 30 TAF.

EXHIBIT 'E'

Effects of Extrabasin Deliveries to Stockton East

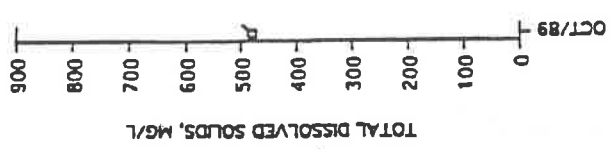
To assess the potential impact of the SEWD delivery program on the quality of the San Joaquin River near Vernalis a mass balance procedure like that used in the previous analysis (September 9, 1997 memo) was employed. A minor change was a restriction of diversions to the irrigation season April-September, consistent with the April 1 date for forecasting water year inflow. Otherwise diversions were distributed in time proportional to the irrigation patterns of SSJID and OID, 8 TAF in 1990, 1992 and 1994 and 30 TAF in 1991, 1993, and 1995.

Results of the mass balance analysis are depicted graphically in Figure 1. As expected, changes in water quality were positive, that is, increases in total dissolved solids in the San Joaquin River were calculated to result from the proposed diversions. Calculated changes in water quality were smaller than in the previous analysis, due to the lower diversions, especially in those years where diversions would be restricted to only 8 TAF. In the case of 1991, when it was assumed that an inflow 522.2 TAF qualified for a delivery of 30 TAF, increases exceeded 50 mg/l TDS during much of the irrigation season. The pattern of TDS increase over historic values is shown in Figure 2 together with the comparable pattern estimated for the case of a 50 TAF extrabasin transfer in all years.

For comparative purposes, results of the analysis of the Stockton East proposal and the previous analysis of USBR's general proposal for interim water acquisition, are presented together in Figure 3. Shaded areas represent changes in San Joaquin quality that might be expected under the two different scenarios.

Concluding Comment

Results derived from the scenario of deliveries proposed by Stockton East indicate that even though the transferred quantities are smaller that for the USBR interim acquisition plan, the effects on the San Joaquin River are still negative, i.e., some degradation in quality may be expected. Moreover, this scenario of deliveries is probably only a part of the ultimate reallocation of Stanislaus water outside of the basin of origin. The potential for increased diversions, perhaps of the order of the USBR proposed interim acquisition plan, remains high and the consequences to water quality in the San Joaquin River will surely be negative. In this analysis only the six-year period, 1990-1995, was examined. Future investigation should be extended to embrace longer hydrologic series and a wider range of operation scenarios, especially as may result from other measures to preserve the quality of the river.



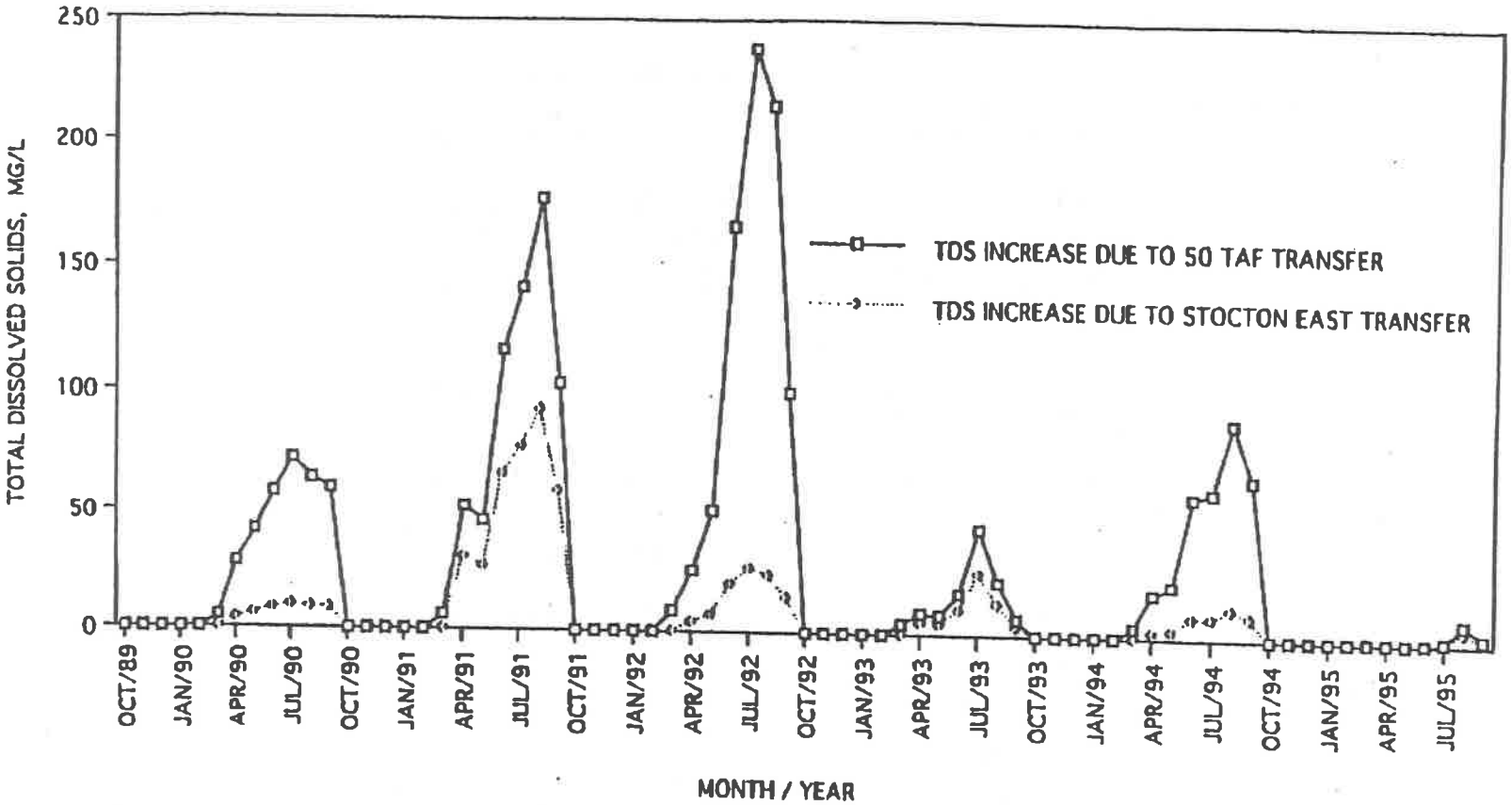
YEAR	SSJID
1990	177.0
1991	350.4
1992	169.2
1993	159.7
1994	174.3
1995	152.0

* Note: Table sum New Melones District; 30 T.

HISTOF

* Note: than

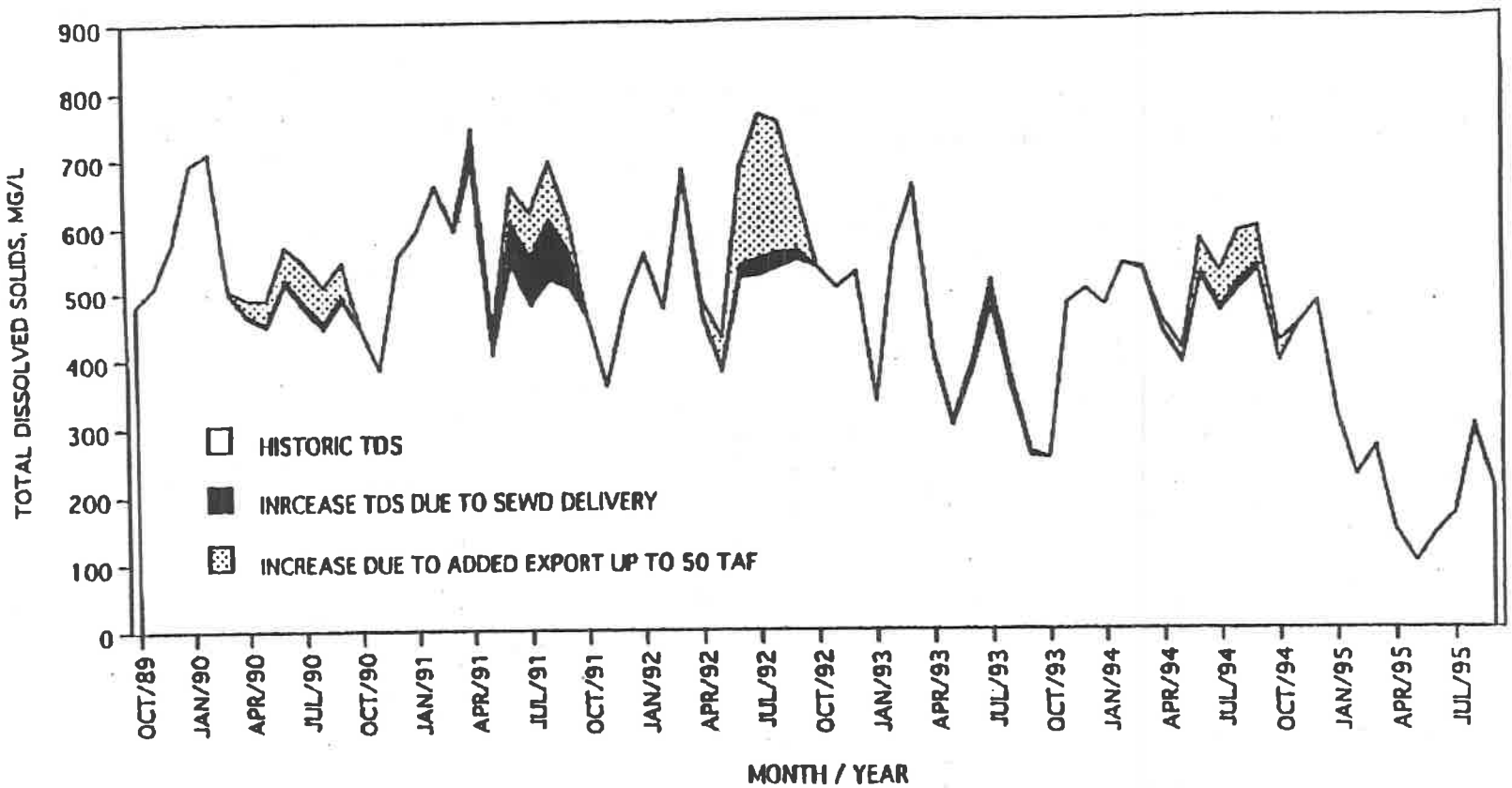
FIGURI



INCREMENTAL INCREASES IN TOTAL DISSOLVED SOLIDS IN THE SAN JOAQUIN RIVER NEAR VERNALIS DUE TO EXTRABASIN TRANSFER OF WATER FROM THE STANISLAUS BASIN, 1990 - 1995*

* Note: Deliveries to Stockton East Water District subject to April 1 forecast of water year inflow to New Melones Reservoir; 30 TAF for inflow greater than 500 TAF; 12.5 TAF for inflow 400-499 TAF; and 8 TAF for inflow less that 400 TAF. Total extrabasin transfers assumed to be limited to 50 TAF during irrigation season

FIGURE 2



CHANGES IN WATER QUALITY DUE TO WATER TRANSFER TO FROM STANSILAUS BASIN
TO STOCKTON EAST WATER DISTRICT* AND OTHER EXTRABASIN USERS
SAN JOAQUIN RIVER NEAR VERNALIS, 1990 - 1995

* Note: Deliveries to Stockton East Water District subject to April 1 forecast of water year inflow to New Melones Reservoir; 30 TAF for inflow greater than 500 TAF; 12.5 TAF for inflow 400 - 499 TAF; and 8 TAF for inflow less than 400 TAF. Total increase assumes 50 TAF total extrabasin transfer.

FIGURE 3

GTO
Consulting Engineers
G. T. ORLOB & ASSOCIATES
1850 de Leu Drive, Green Valley, Suisun, CA 94535
(707) 864-1850

September 9, 1997

To: Alex Hildebrand, Alex

From: G. T. Orlob Jerry

Re: New Melones Interim Water Acquisition Program, Potential Effects on Flow and Water Quality in the San Joaquin River near Vernalis

Selection of Time Series of Runoff

In order to assess the potential impacts of the USBR proposed interim water acquisition (and reallocation) program I have chosen to utilize the hydrologic records of flows delivered and diverted at various locations in the Stanislaus River watershed as reported by the USGS for the years 1990-1995. The general scheme of water distribution within the basin below New Melones is illustrated in Figure 1.

The period 1990-1995 includes one of the driest years of record, 1992, as well as one of the wettest, 1995. These extremes are represented graphically in the time series plot of Figure 2, showing the history of storage in New Melones Reservoir. The lowest level of storage experienced by the reservoir since it was placed in normal operation in 1978 occurred on October 1, 1992 when storage was only 83,500 acre feet. This was just slightly greater than one third of the 1992 combined water demand of the South San Joaquin and Oakdale irrigation districts, i.e., about 241,000 acre feet.

Scenarios Examined

Two alternative water reallocation schemes were investigated, both involving the reallocation of 50,000 acre feet of water normally delivered to SSID and OID. The first of these scenarios considers extrabasin transfer of the full amount to an out-of-basin entity, such as the Stockton East Water District. The second alternative considers retaining the water in storage and releasing it as fishery pulse flow, 10 TAF in October and 40 TAF in the period April 15-May 15.

Both these scenarios involve diminishing the allocation to the two irrigation districts by the increment of reallocation distributed over the normal irrigation season, March-September, proportional to the 6 year average monthly delivery and the relative amounts normally delivered to the districts. The historical deliveries, as shown in Figure 3, were summed and averaged to provide the representative distribution shown in Figure 4. Thus, for this analysis I assumed that the same amounts were taken from irrigation deliveries in all months of the 6 year period. The monthly decrements (in TAF) are:

Mar	Apr	May	Jun	Jul	Aug	Sep
1.3	5.6	8.4	8.1	9.9	9.8	6.9

The result of diminishing in-basin irrigation delivery as a consequence of extrabasin transfer is shown also in Figure 4, together with the result of reallocating the total decrement to pulse flow in the month of October and in the period April 15-May 15.

Salt Balance Calculation

To assess the impact of these scenarios on the San Joaquin River near Vernalis, it was necessary to create a time series of salt load at Vernalis. This was achieved using the historic time series of flow and salinity, as depicted in Figure 5. It is noted that during the first two years of the record the mean monthly TDS concentrations ranged from about 400 to 700 mg/l, higher values usually occurring during the fall and winter periods when the first flush of salts from the watershed arrived at Vernalis. Later in the time series concentrations declined due to dilution by abnormally high runoff events. Salt loads corresponding to these flows and concentrations generally increased with time over the six-year period, due primarily to the basin's readjustment to accumulation of salt during the previous drier than normal years.

Given the historic series of monthly salt loads and flows and changes in these quantities due to the proposed scenarios of reallocation, one can calculate by mass balance the concentration changes that would occur in the river near Vernalis. This calculation requires two assumptions: (1) that the change in flow occurs in the Stanislaus Riverat Ripon and (2) that the Ripon contribution to salt load in the San Joaquin is due to the product of the flow change and an average water quality at Ripon. For this preliminary analysis the Ripon TDS concentration was fixed at 100 mg/l.

Extrabasin Transfer Scenario

The initial step toward obtaining incremental changes in Vernalis TDS is to adjust the flow according to the decrement, or increment, of runoff produced in the Stanislaus flow. The adjusted Ripon flow series for an extrabasin transfer of 50 TAF is depicted in Figure 6. Applying this result to the Vernalis flow series produces the result shown in Figure 7. At this point the change in salt load in the Vernalis flow due to extrabasin transfer can be calculated and subtracted from the historic Vernalis salt load (Figure 5). The resulting monthly salt loads are then divided by the corresponding diminished flows to obtain new estimates of TDS concentrations, that would have resulted as consequences of extrabasin transfer. This pattern of TDS, higher in certain periods than occurred historically, due largely to reduced flow (but also slightly affected by the reduced salt load)is shown in Figures 8 and 9.

As expected, the quality of Vernalis flow was found to be degraded under this scenario, especially during low flow periods. During the summer period in a year like 1992, such a scenario of extrabasin transfer might be expected to increase TDS concentrations by more than 200 mg/l. Actually, a maximum of 762.5 mg/l was calculated to occur during July 1992, a concentration 238.5 mg/l greater than was actually observed. According to this analysis, in all but the comparatively wet years of 1993 and 1995 the TDS concentrations would have exceeded the nominal target of 500 mg/l.

Pulse Flow Scenario

The alternative of allocating the decrement in irrigation delivery to fishery pulse flow was evaluated in a similar manner, except that in this case flow and salts were added during the pulse flow periods. A result was an improvement in quality during those comparatively brief periods, but no change during the intervening periods of reduced runoff at Ripon. The results of this scenario are depicted in Figure 10. In this case slight improvements in quality are calculated for the months of October, April and May, in all years, but the differences, although favoring fish, would appear to be of little consequence to irrigation water use. Figure 11 shows the increases and decreases in TDS concentrations that would result from the pulse flow scenario.

Concluding Comment

The results of mass balance estimates of changes in water quality at Vernalis due to the USBR Interim Water Acquisition Program indicate that a general degradation in water quality would surely occur during dry and below normal hydrologic years. Reallocation of "acquired" water, either to extrabasin uses or to fishery pulse flows, would have a detrimental effect on water quality. This would be a consequence of removing the higher quality Stanislaus runoff, either from the system entirely or by displacing it in time when the release would be of little benefit to agricultural users. This analysis should be regarded as preliminary, subject to updating as more accurate data and operation assumptions are made available. It appears, however, that this should be a matter of real concern to the South Delta Water Agency, and to others, perhaps including the State and Bureau of Reclamation, who also have a stake in the maintenance of high quality in the South Delta channels

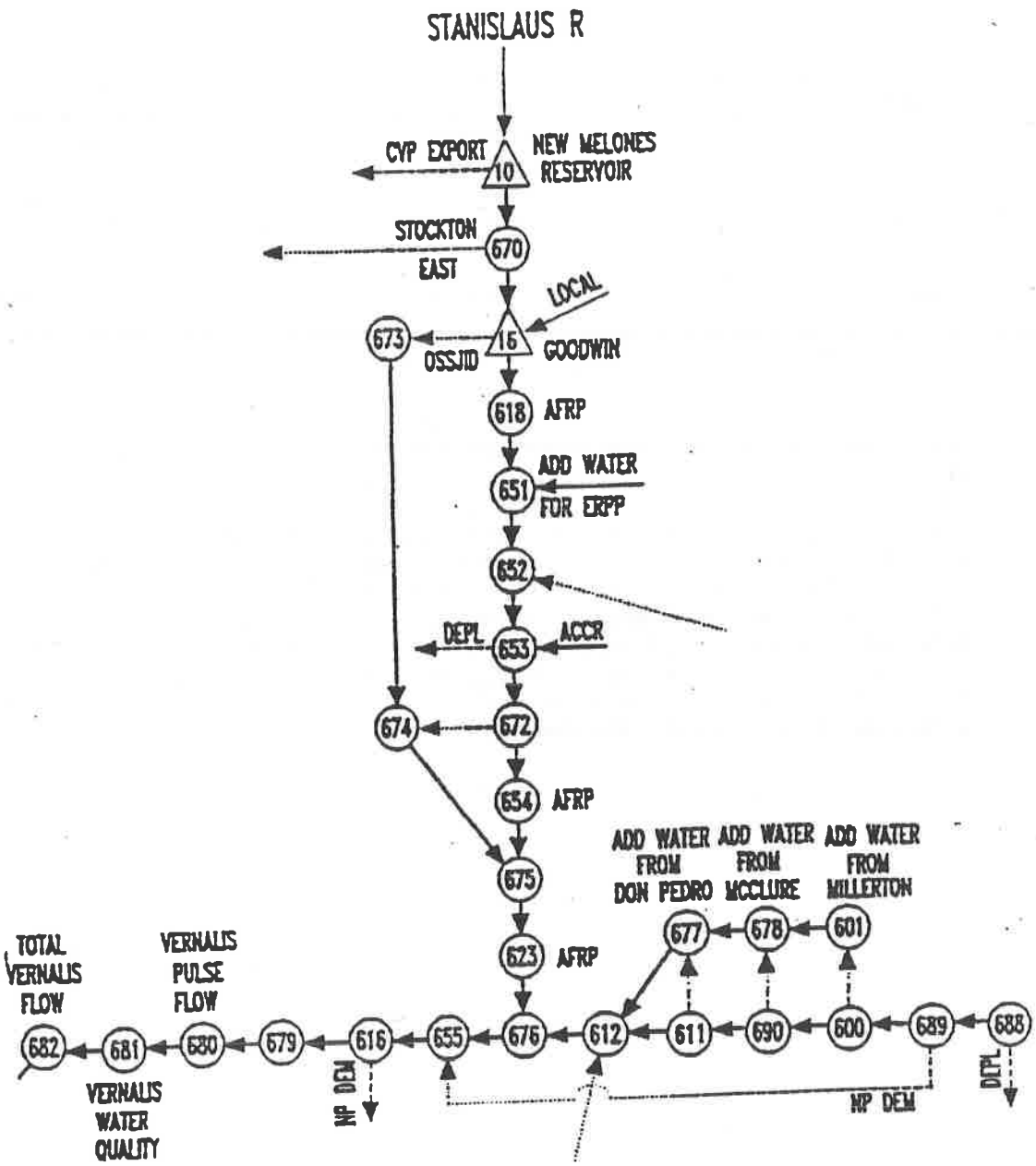
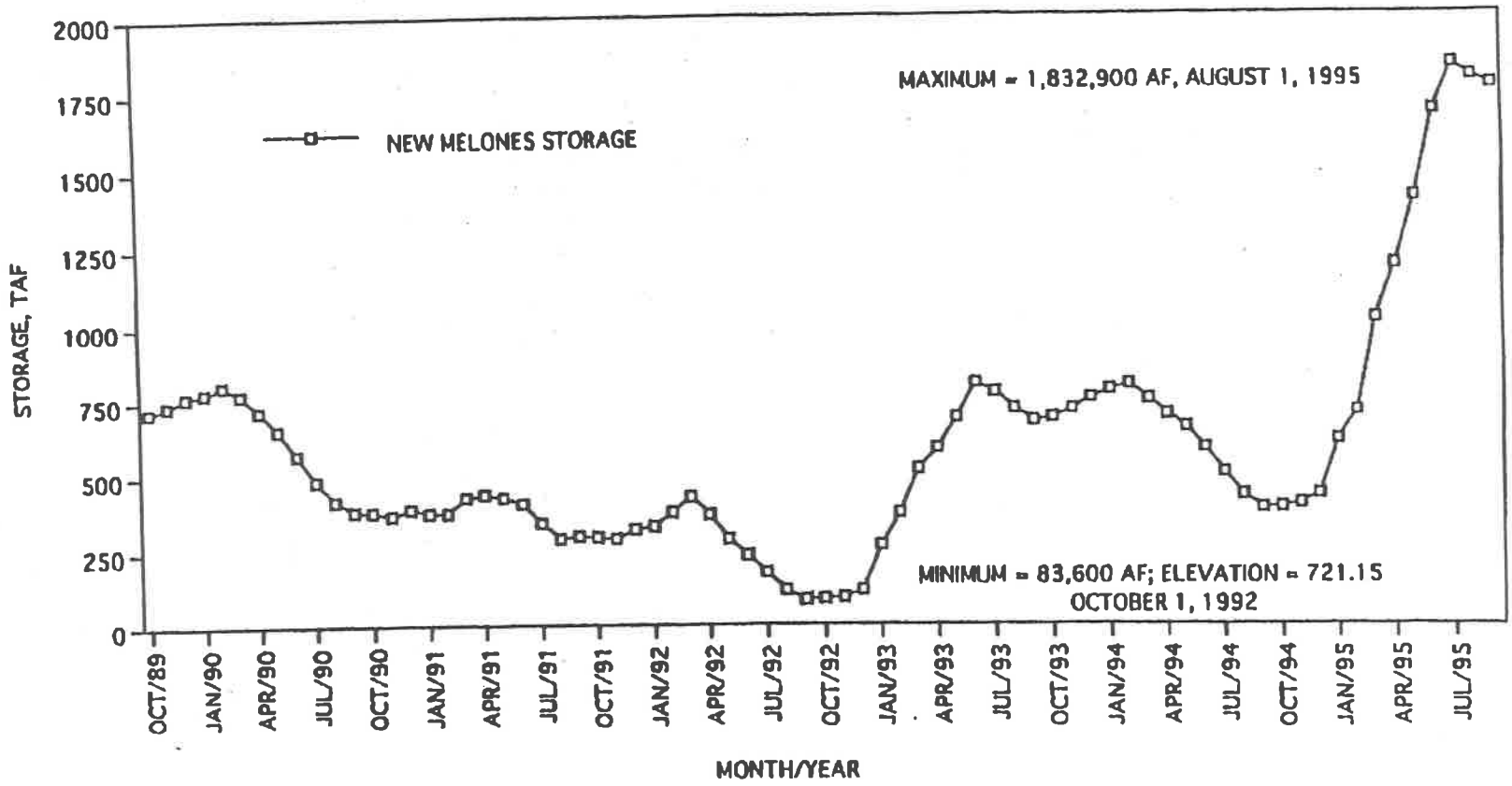
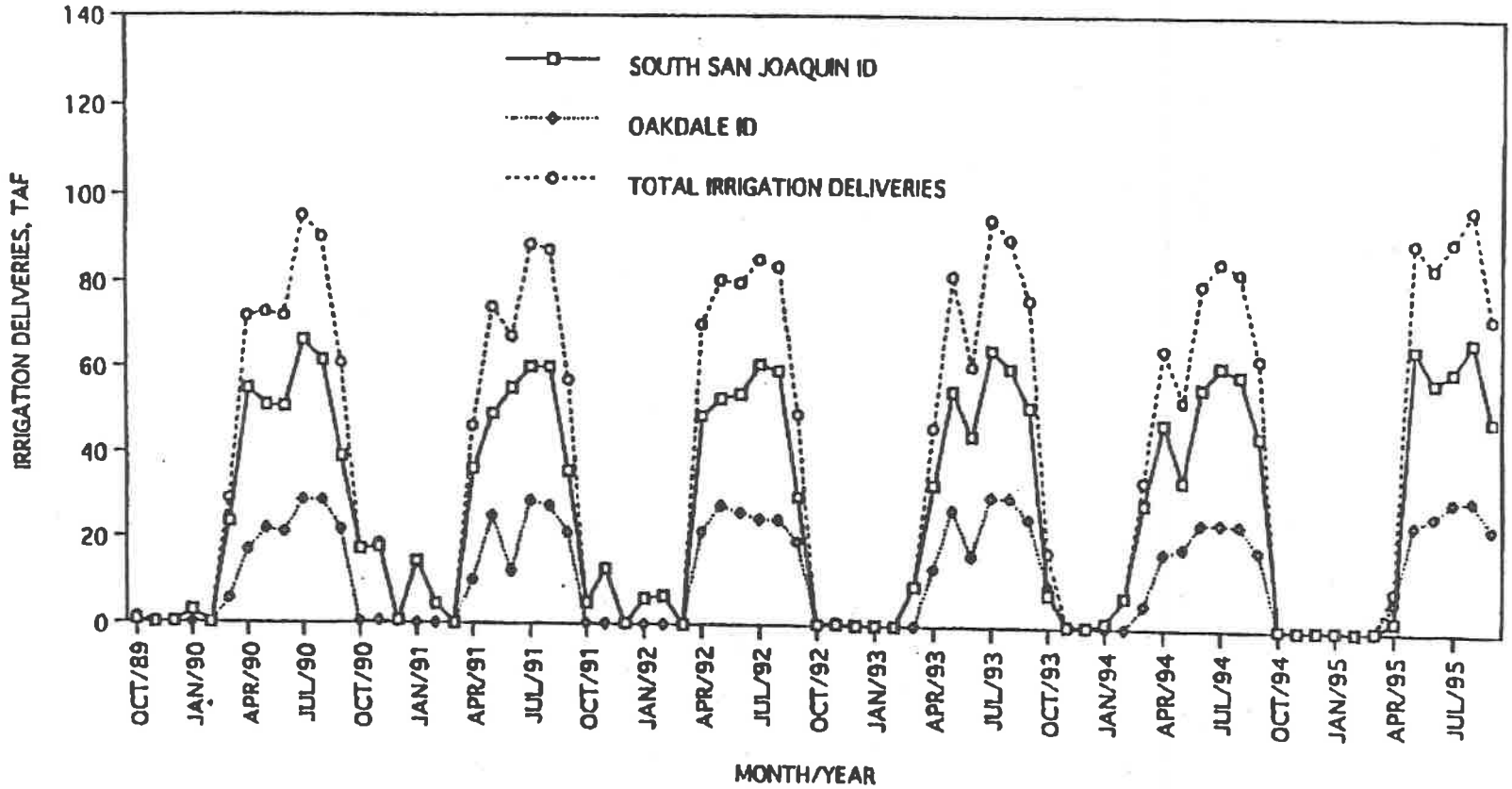


FIGURE 1 Schematic of Stanislaus River Water Allocation Options
Source: DWR Planning Simulation Model Network



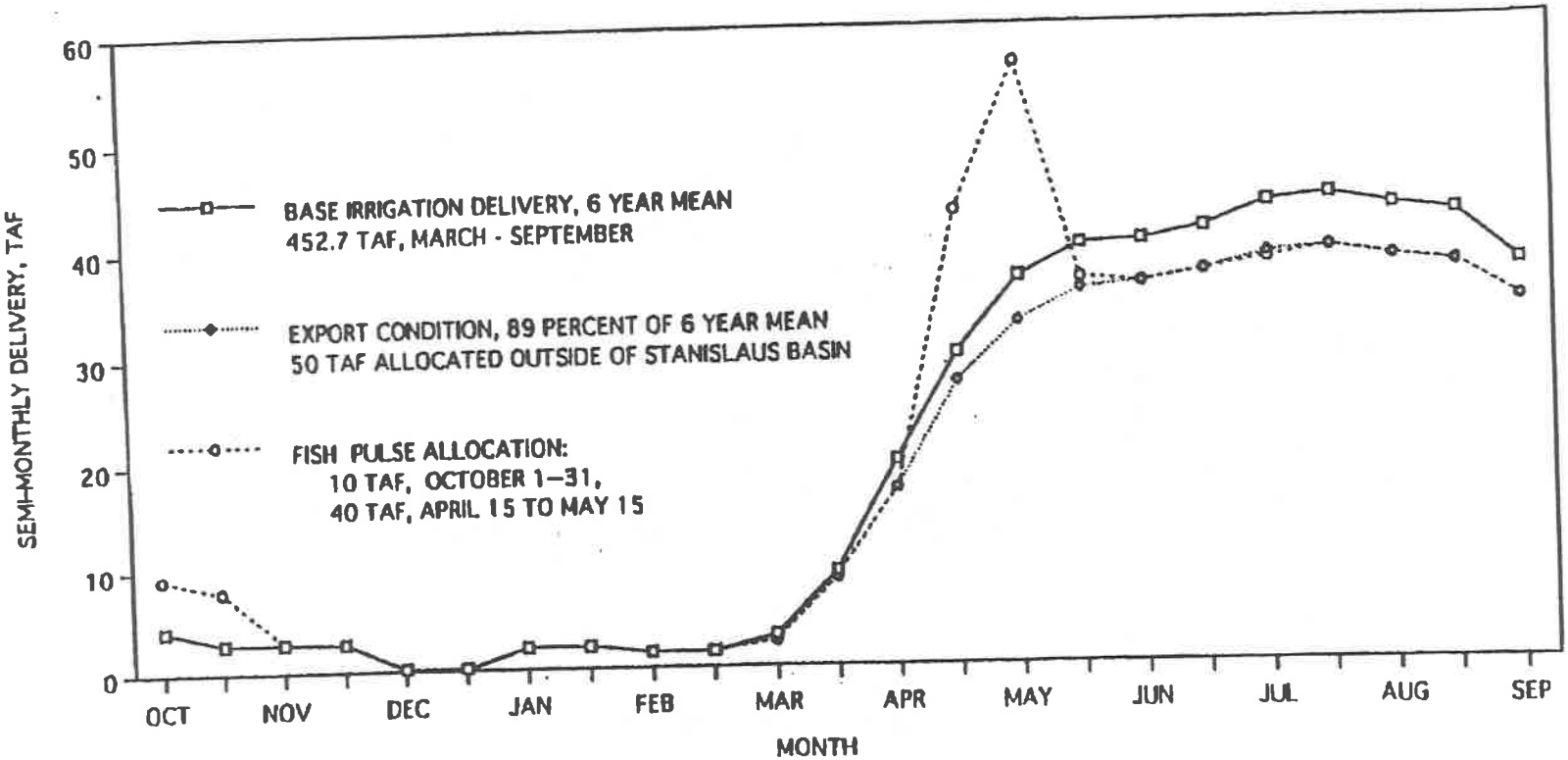
STORAGE IN NEW MELONES RESERVOIR, 1990 - 1995

FIGURE 2



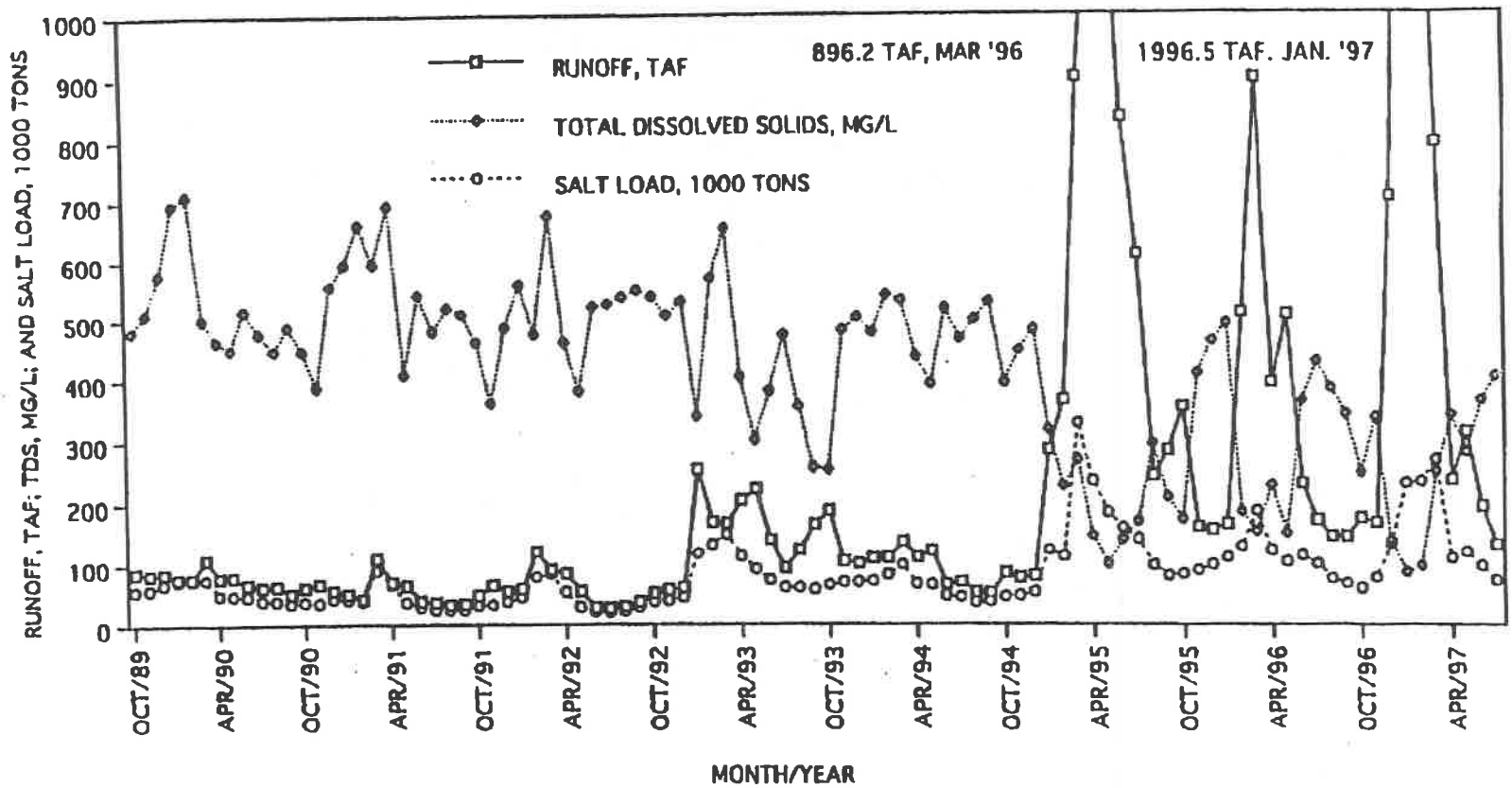
IRRIGATION DELIVERIES, NEW MELONES PROJECT
1990-1995

FIGURE 3



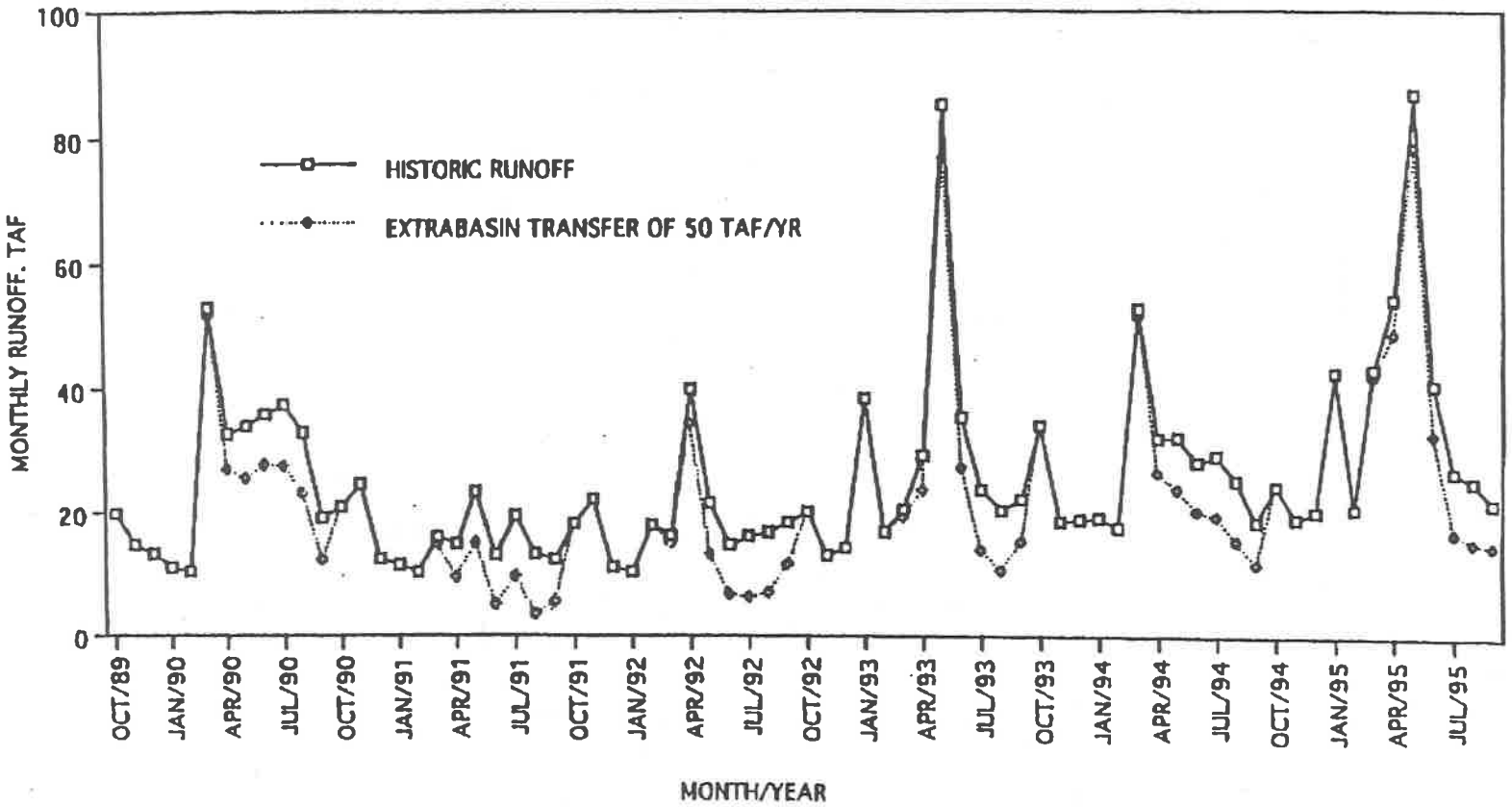
SEASONAL DISTRIBUTION OF NEW MELONES DELIVERIES
UNDER INTERIM WATER ACQUISITION PROGRAM

FIGURE 4



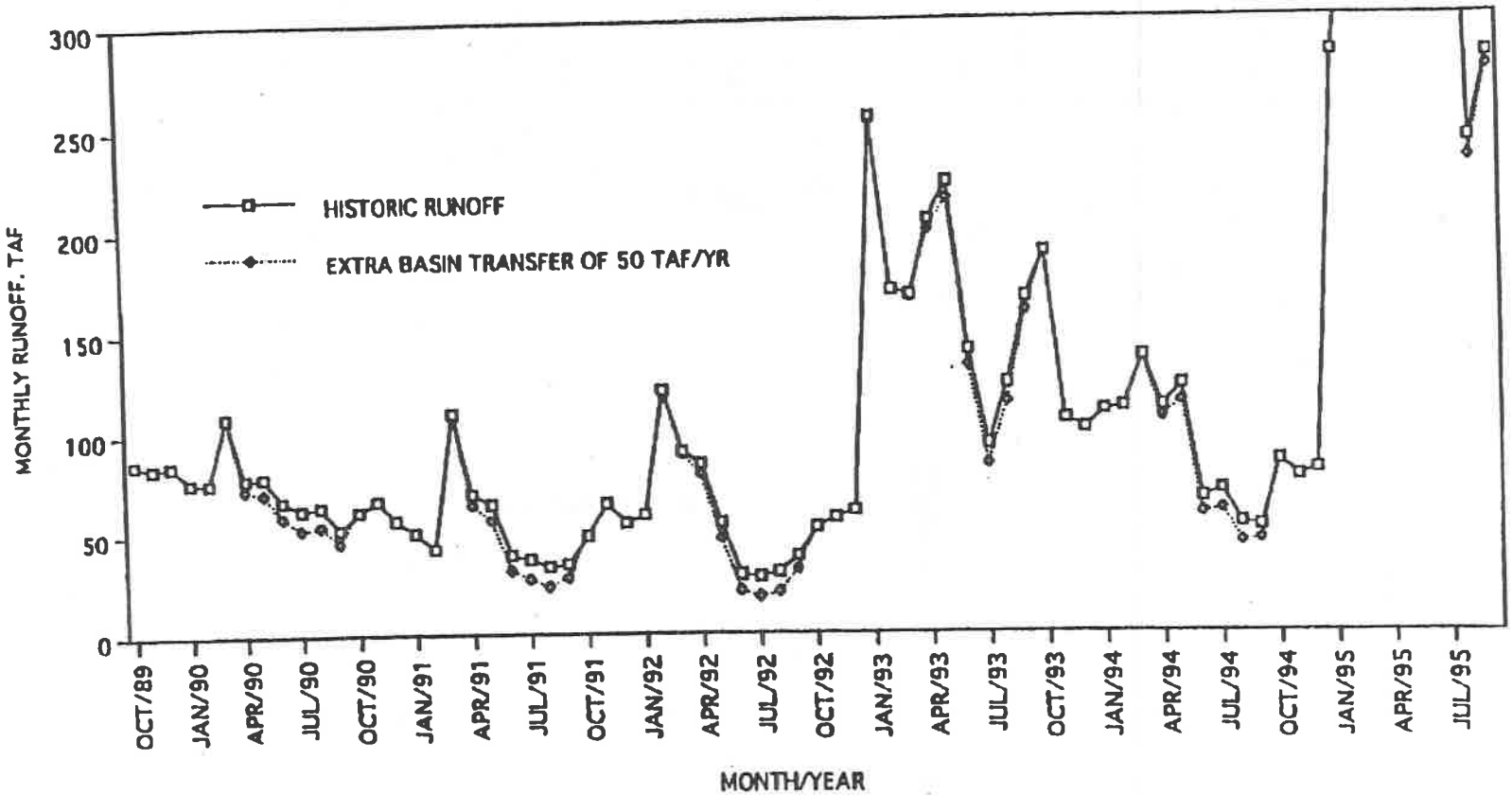
MONTHLY RUNOFF, MEAN TDS AND SALT LOAD
SAN JOAQUIN RIVER NEAR VERNALIS, 1990 -1997

FIGURE 5



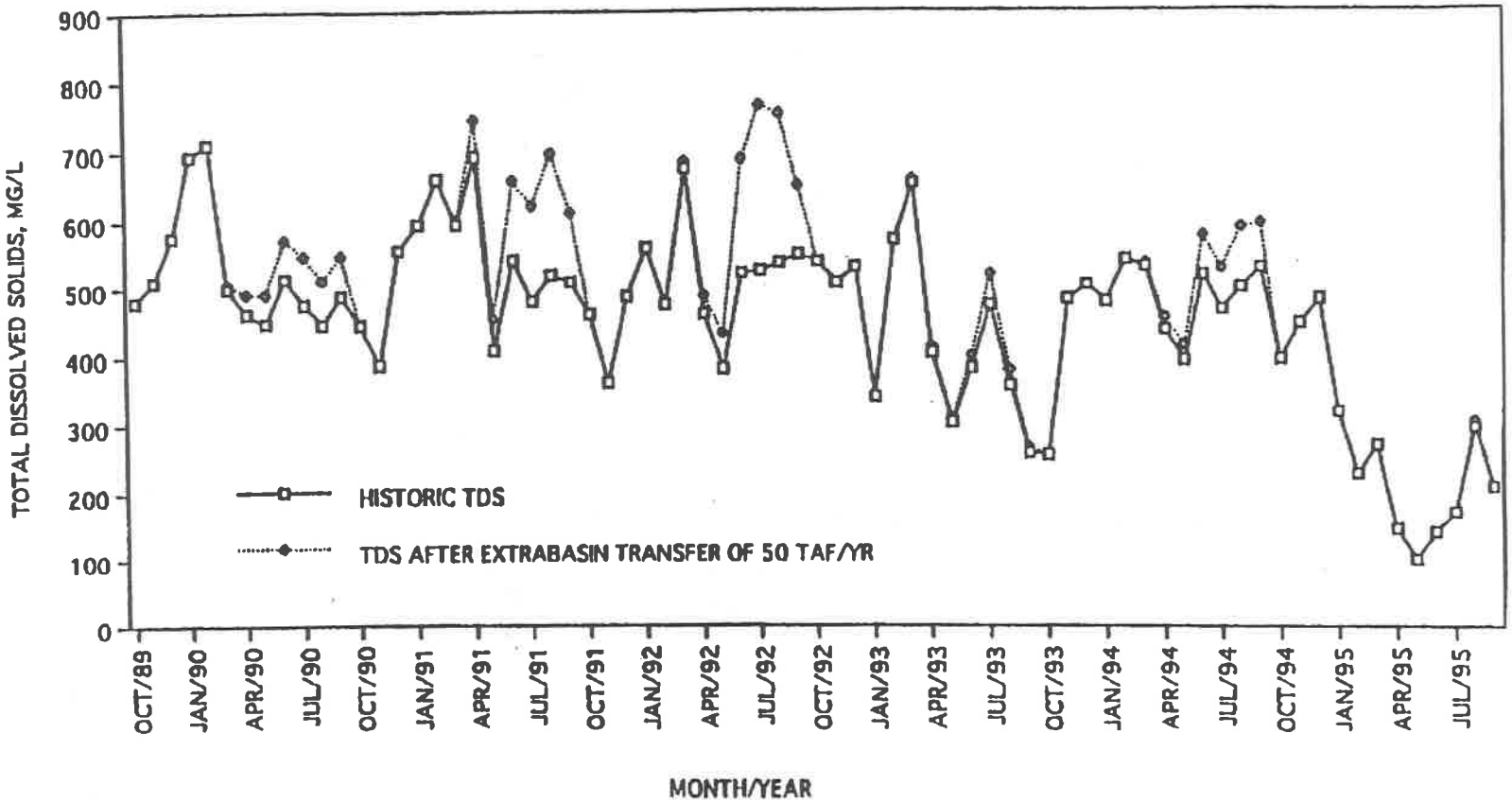
RUNOFF OF STANISLAUS RIVER AT RIPON, 1990 - 1995
HISTORIC AND AS ADJUSTED FOR 50 TAF EXTRABASIN TRANSFER

FIGURE 6



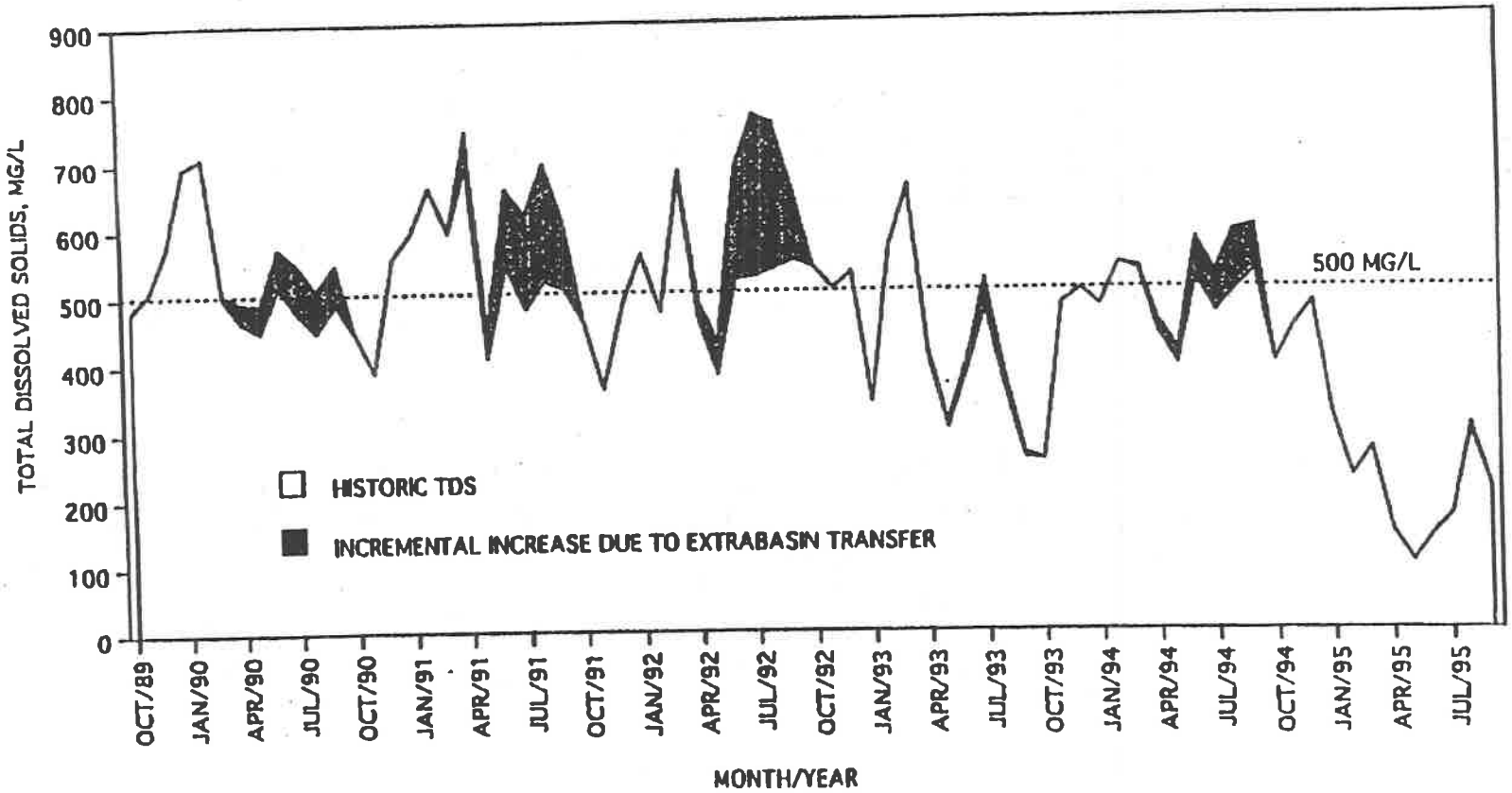
RUNOFF OF SAN JOAQUIN RIVER NEAR VERNALIS, 1990 - 1995
HISTORIC AND AS ADJUSTED FOR 50 TAF EXTRABASIN TRANSFER

FIGURE 7



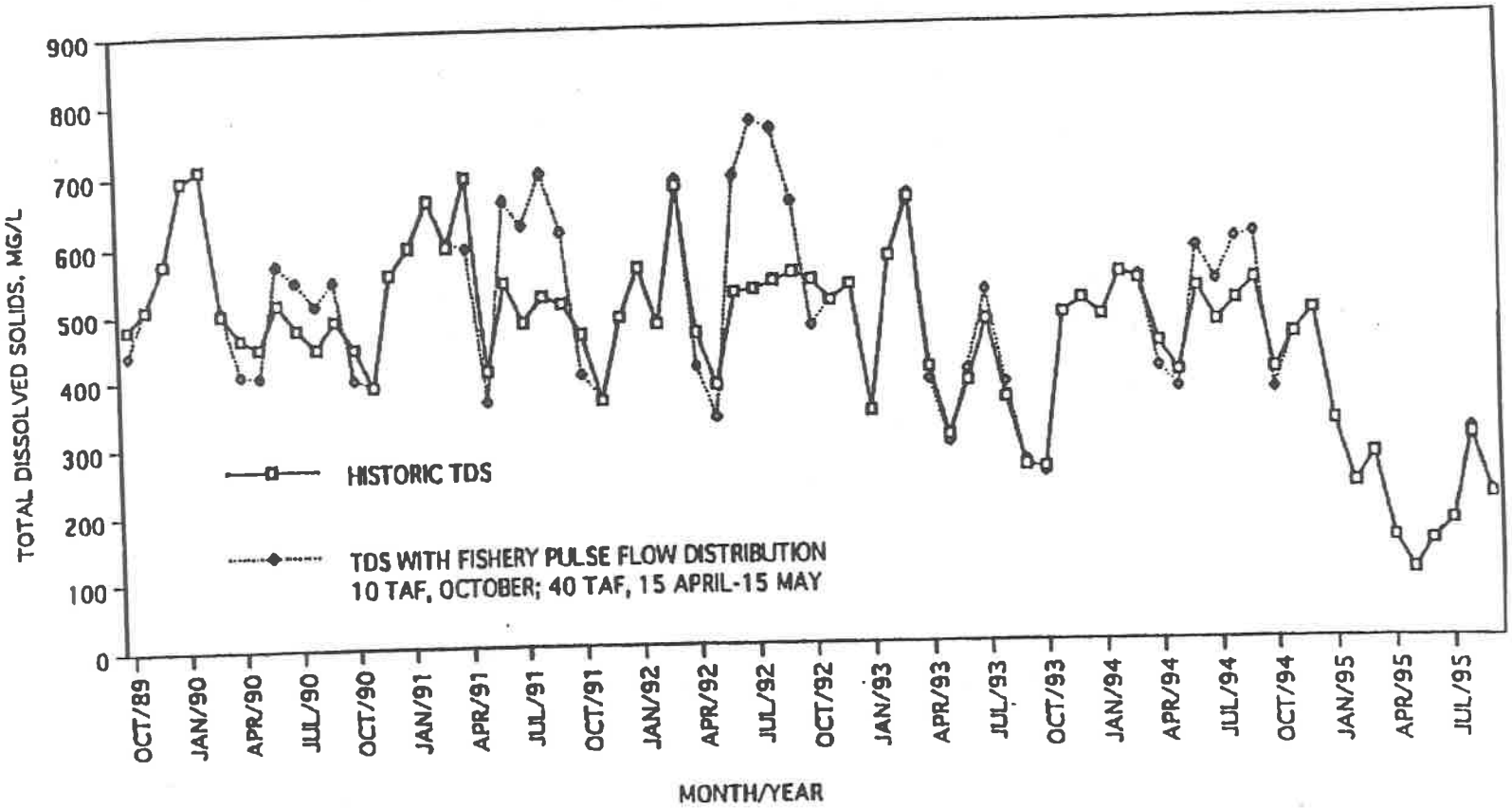
TOTAL DISSOLVED SOLIDS, SAN JOAQUIN RIVER NEAR VERNALIS, 1990-1995
HISTORIC AND AS ADJUSTED FOR 50 TAF EXTRABASIN TRANSFER

FIGURE 8



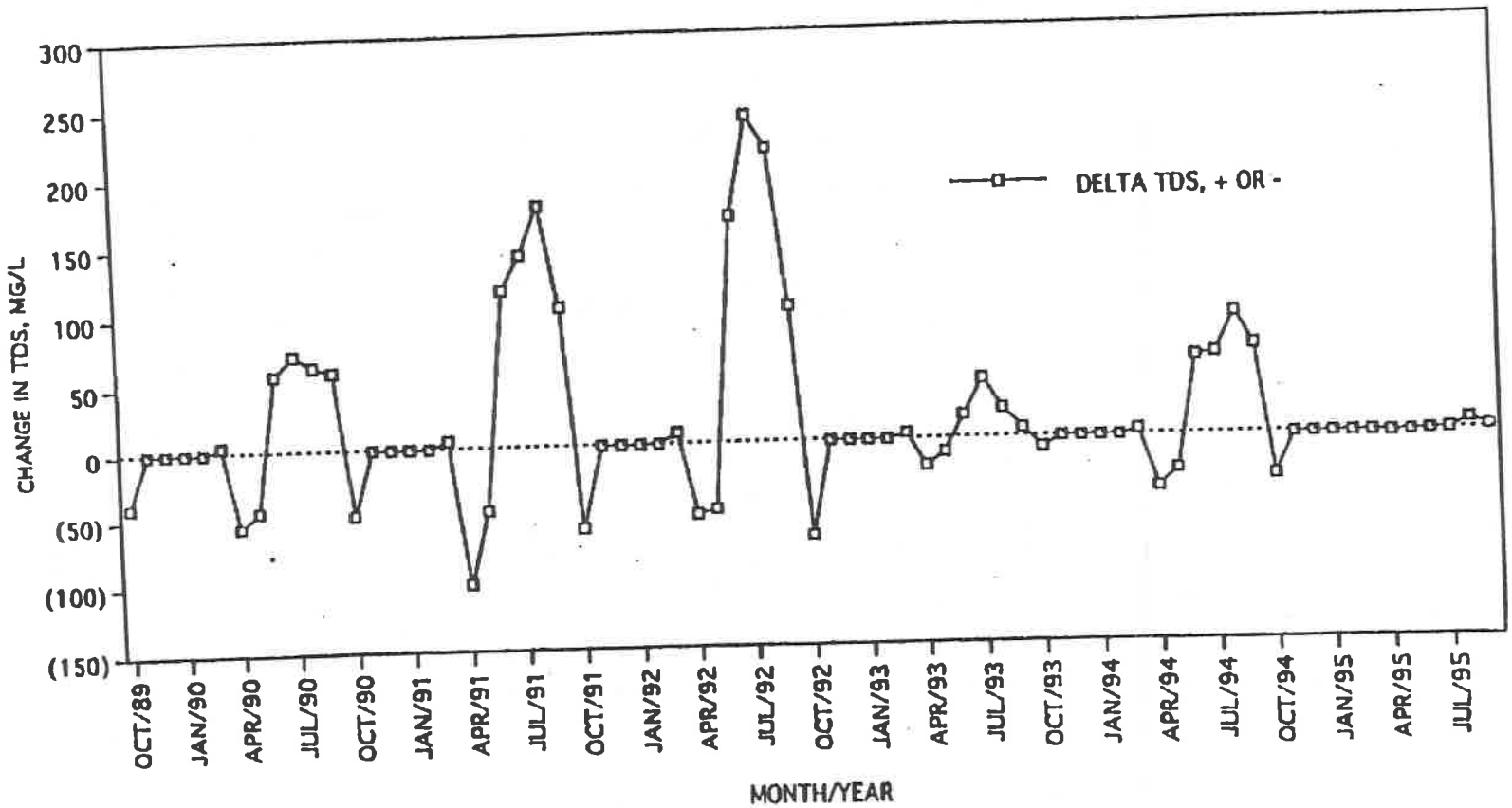
CHANGE IN WATER QUALITY DUE TO WATER TRANSFER FROM STANISLAUS BASIN
SAN JOAQUIN RIVER NEAR VERNALIS, 1990 - 1995

FIGURE 9



TOTAL DISSOLVED SOLIDS, SAN JOAQUIN RIVER NEAR VERNALIS, 1990-1995
HISTORIC AND AS ADJUSTED FOR 50 TAF ALLOCATED TO FISH PULSE FLOW

FIGURE 10



CHANGE IN TOTAL DISSOLVED SOLIDS IN SAN JOAQUIN RIVER NEAR VERNALIS, 1990-1995
DUE TO REALLOCATION OF 50 TAF OF NEW MELONES RELEASE TO FISH PULSE FLOW*

* 50 TAF REALLOCATED FROM IRRIGATION DELIVERIES TO PROVIDE 50 TAF FOR FISHERY PULSE;
10 TAF IN OCTOBER AND 40 TAF IN PERIOD APRIL 15 - MAY 15

FIGURE 11

Mean monthly values (GW 1.0)
SJRIO base flows

Month	Without Bypass				With Bypass			
	Flow (ac-ft)	TDS (ppm)	TDS load (tons)	Objective Exceedance (percent)	Flow (ac-ft)	TDS (ppm)	TDS load (tons)	Objective Exceedance (percent)
OCT	170766	335	77763	0%	163190	293	65038	0%
NOV	148573	395	70877	10%	141524	374	72118	7%
DEC	166351	278	62981	0%	164394	273	61344	0%
JAN	208466	407	115407	17%	207415	408	114323	17%
FEB	290697	312	123172	10%	289837	311	122517	10%
MAR	263704	610	218617	44%	258867	620	219183	44%
APR	309288	289	121718	15%	314092	313	133831	20%
MAY	291400	356	141259	31%	291582	363	143880	32%
JUN	208693	466	129217	59%	205648	456	127572	59%
JUL	123922	534	88983	70%	122359	545	90628	70%
AUG	87435	533	63380	65%	84862	522	60236	61%
SEP	101514	534	73708	24%	96353	517	67048	23%
Sum	2371239		1297039		2341123		1277820	
Average		420				416		
Flow wtd average		402				401		

MEMORANDUM

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD • CENTRAL VALLEY REGION
3443 Routier Road, Suite A
Sacramento, CA 95827-3098
Phone: (916) 255-3000
CALNET: 8-494-3000

TO: Mike Delamore, USBR
Nigel Quinn, USBR
Joe Karkkoski, CVRWQCB

FROM: Leslie Grober

DATE: December 12, 1995

SIGNATURE:

SUBJECT: GRASSLANDS BYPASS MODEL RUNS (CORRECTION)

Per your request, I run SJRIO using the Grasslands Bypass data for Mud and Salt Slough as shown in USBR table 9 that was given to me by Nigel Quinn. This grasslands bypass data is based on water year 1988 hydrology. I made two runs of SJRIO in SANJASM mode using 71 years of generated hydrology for the major San Joaquin River (SJR) tributaries: SJR at Lander Avenue, Merced, Tuolumne, and Stanislaus Rivers. My generated data set is based on information supplied by DWR. DWR used SANJASM and DWRSIM to estimate the reservoir releases necessary to provide the minimum fish flows specified in the Bay-Delta Water Quality Control Plan. All other model inputs varied according to water year type except for Mud and Salt Sloughs which were fixed based on the input provided by Nigel.

The attached results show that there is some variability in mean monthly TDS concentrations and loads. There is also some change in the estimated rate of exceedance of water quality objectives. In summary there is a 48 percent exceedance of the April to August 700 us/cm objective for both the with and without bypass model runs. The September to March 1000 us/cm objective is exceeded 15 percent of the time without the bypass and decreases to 14 percent with the use of the bypass. With use of the bypass, the mean monthly TDS concentration increased in five months and decreased in seven months.

Estimated exceedance rates cannot be used as an absolute prediction of future rates of exceedance associated with use of the wetland bypass. Because many broad assumptions are included in the formulation of the generated hydrology, these model runs are most useful only to compare the results of the with and without bypass scenarios. The differences in the with and without bypass scenarios are a function of the assumptions built into the data provided for Mud and Salt Slough flow and TDS concentration data given in USBR table 9. This analysis simply provides an estimate of the impact to water quality in the SJR near Vernalis.

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 2
To Mike Delamore	From Les Grober
Co. USBR	Co. CVRWQCB
Dept.	Phone # 916-255-3105
Fax # (209) 487-5397	Fax # 916-255-3015

L.G/wpi

On-file as: JOKASC12.WPD

EXHIBIT 'F'

Appendix C

Graphics

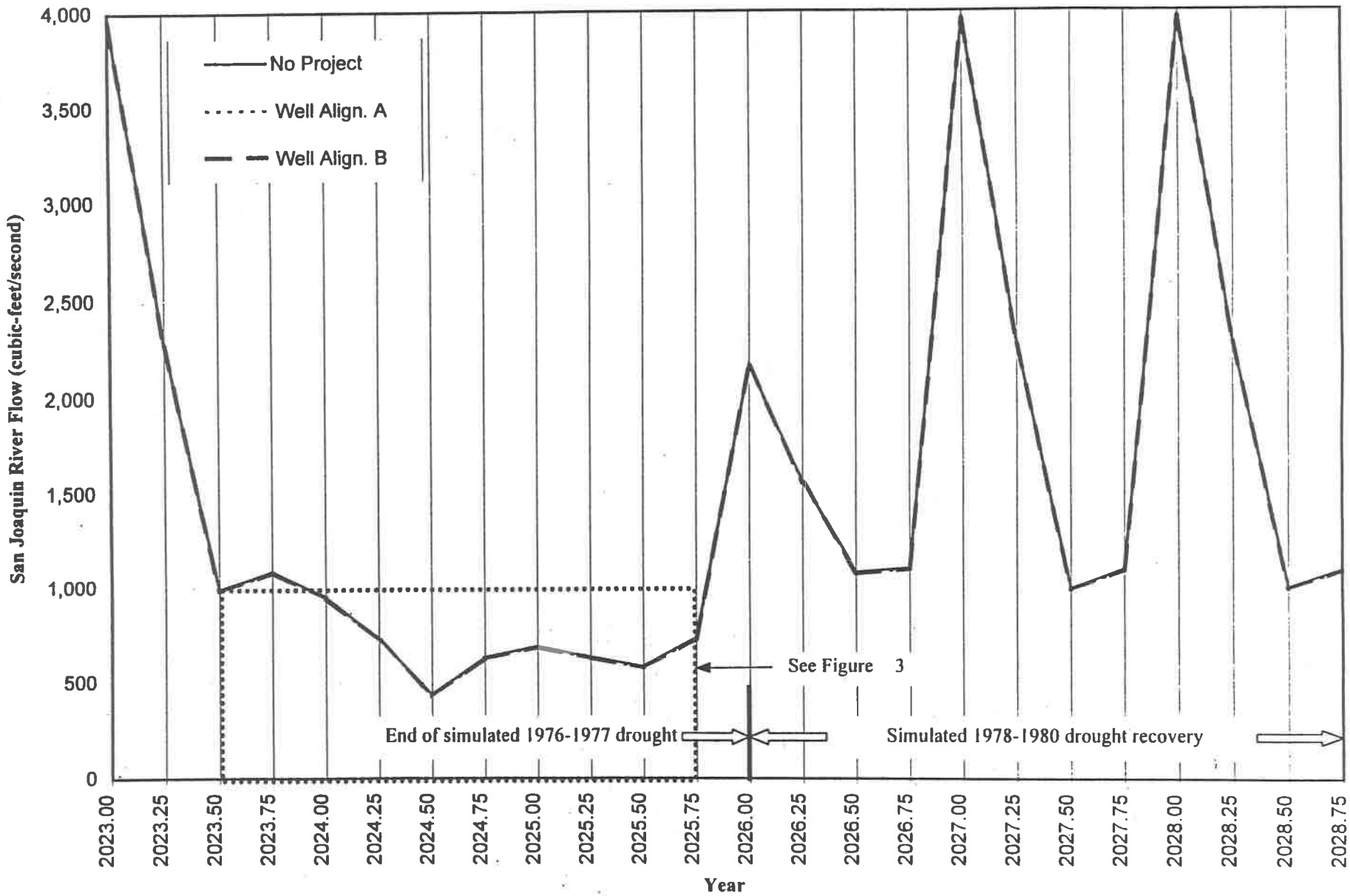


Figure 1. Quarterly San Joaquin Streamflow above the Tuolumne River for Climate Scenario A

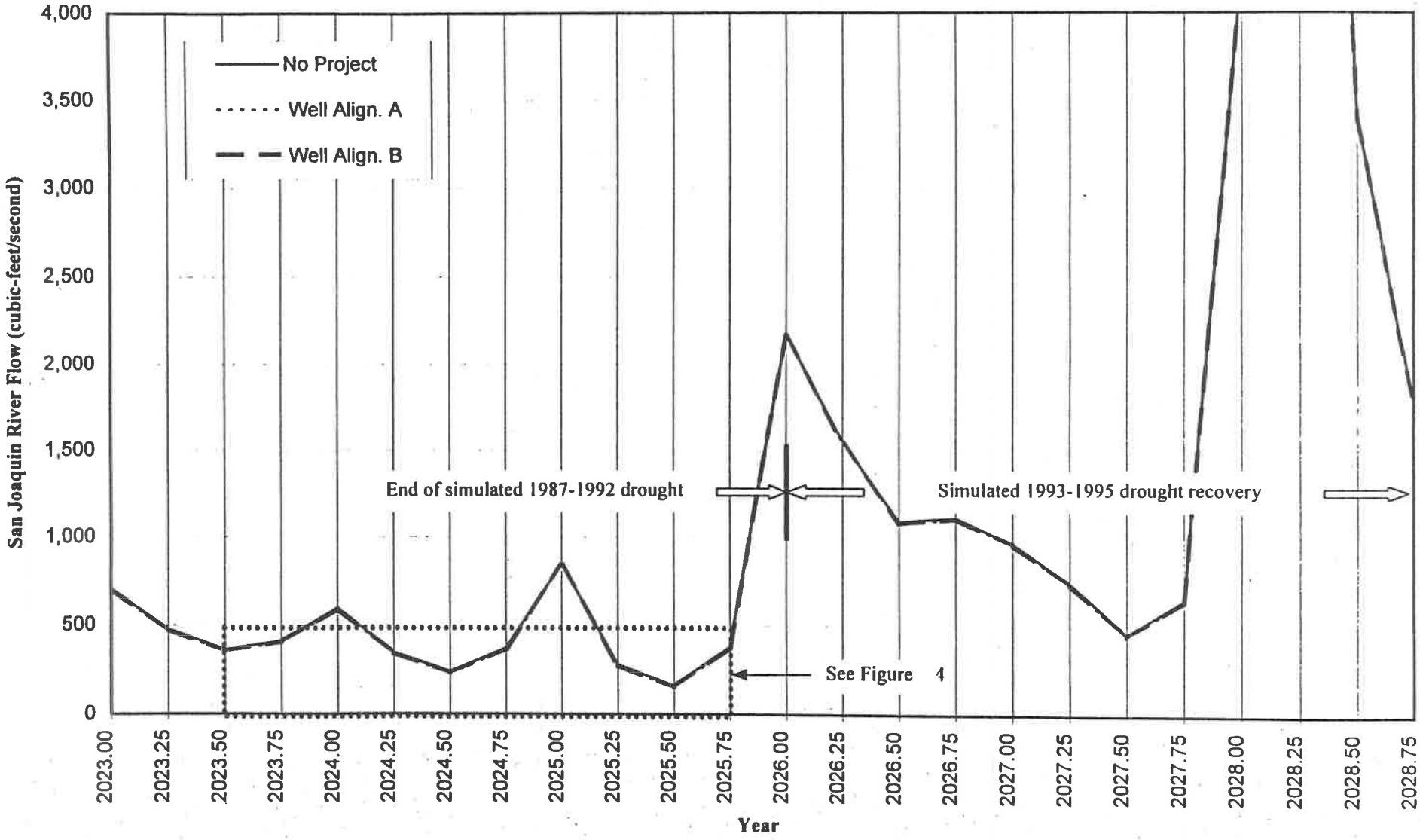


Figure 2. Quarterly San Joaquin Streamflow above the Tuolumne River for Climate Scenario B

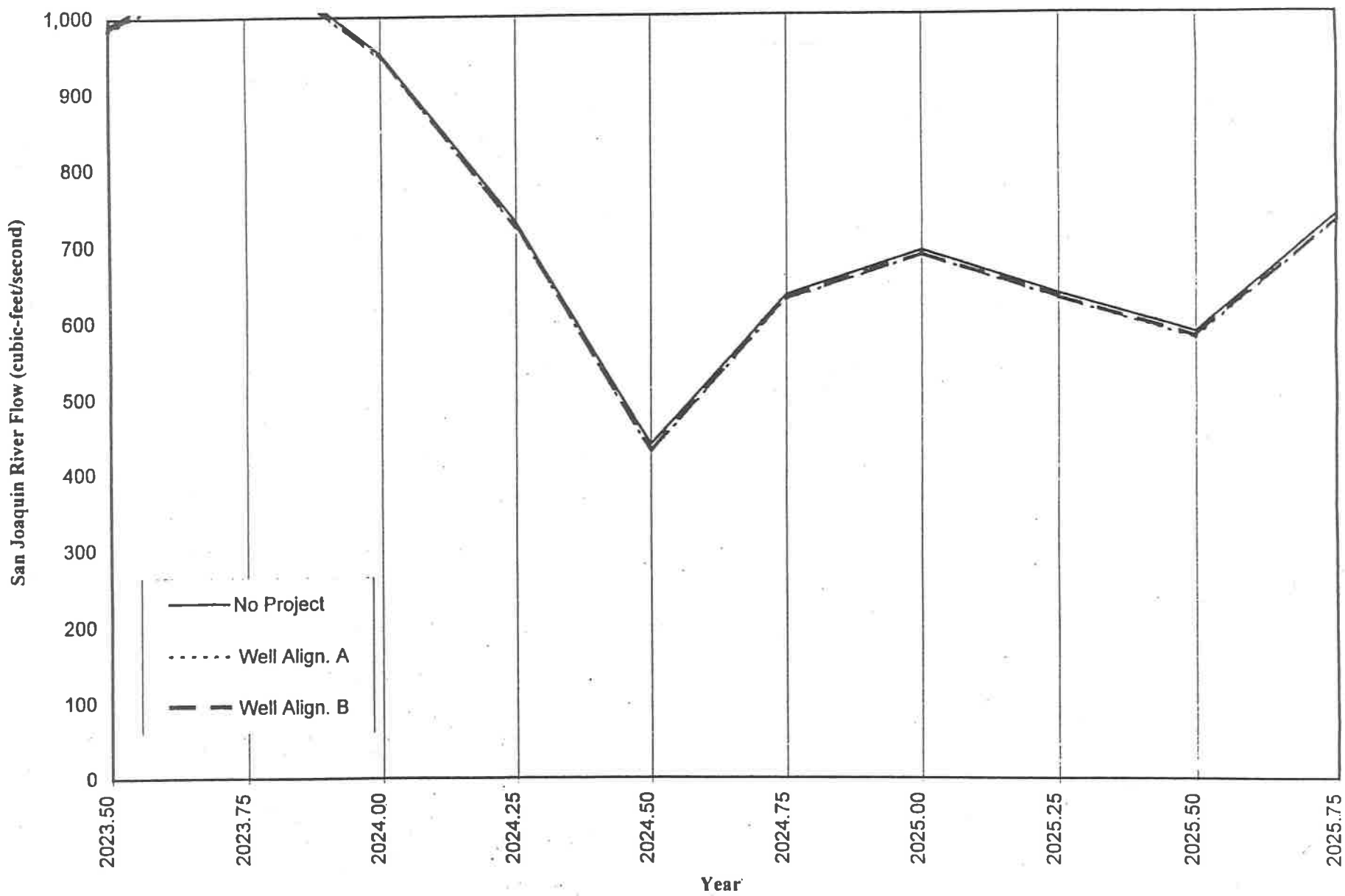


Figure . 3. Quarterly San Joaquin Streamflow above the Tuolumne River for Climate Scenario A

1000cfs-Scenario A

e:\5273\Diablo\%graph.xls

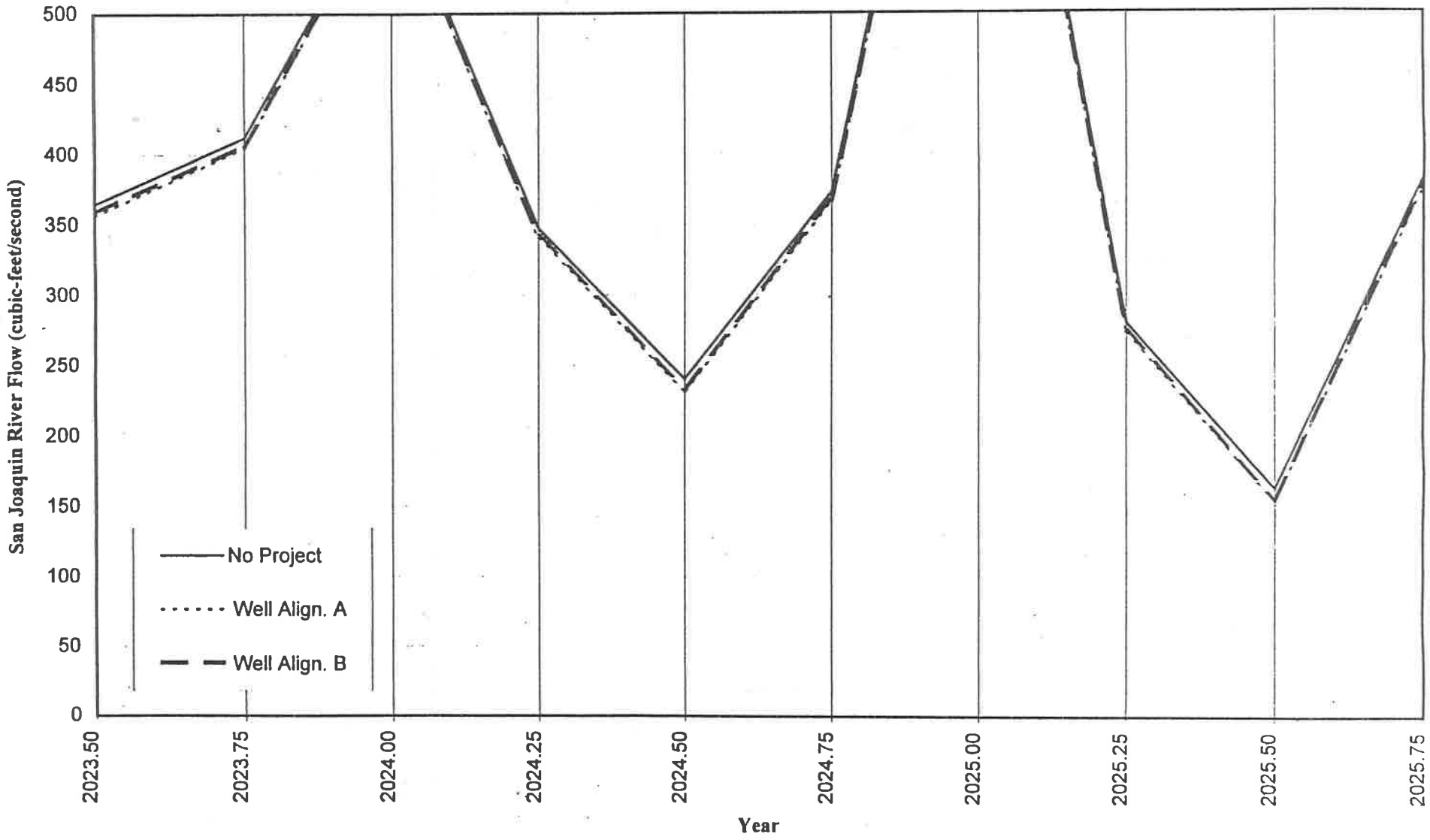


Figure 4. Quarterly San Joaquin Streamflow above the Tuolumne River for Climate Scenario B

500cfs-Scenario B

e:\5273\Diablo\%graph.xls