Wagner&Bonsignore
Consulting Civil Engineers, A Corporation

Nicholas F. Bonsignore, P.E.
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David M. Houston, P.E.
Ryan E. Stolfus

June 1, 2007

Ms. Victoria Whitney, Chief
State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000

Re: Petitions for Change and Underground Storage Supplement
North San Joaquin Water Conservation District Permit 10477 (Application 12842)

Dear Ms. Whitney:

On behalf of North San Joaquin Water Conservation District, we are submitting the enclosed Petitions for Change in Place and Purpose of Use, Distribution of Storage, Modification of Permit Terms, and an Underground Storage Supplement for Permit 10477. We have also enclosed the required Environmental Information Form.

Two copies of the Map to Accompany the Petitions and Underground Storage Supplement are being provided. Upon your review and acceptance of the Petitions, we will provide a mylar reproducible of the map. The filing fees of $5,150 payable to the State Water Board and $850 payable to the Department of Fish and Game are enclosed.

Please direct any questions regarding the enclosed actions to Karna Harrigfeld at Herum Crabtree Brown (209) 472-7700.

Very truly yours,

WAGNER & BONSIGNORE
CONSULTING CIVIL ENGINEERS

Paula J. Whealen

Encl.

cc: Karna Harrigfeld (w/encl)
Ed Steffani, NSJWCD (w/encl)

HCBW005.DOC

State of California
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Info: (916) 341-5300, FAX: (916) 341-5400, Web: http://www.waterrights.ca.gov

PETITION FOR CHANGE
(WATER CODE 1700)

__X__ Point of Diversion, _____ Point of Rediversion, __X__ Place of Use, _____ Purpose of Use __X__ Permit terms
Application 12842 Permit 10477 License _____ Statement or Other _____

I (we) hereby petition for change(s) noted above and shown on the accompanying map and described as follows: (see attachment)

Point of Diversion or Rediversion (Give coordinate distances from section corner or other ties as allowed by Cal CR 715, and the 40-acre subdivision in which the present & proposed points lie.)
Present See Attachment
Proposed See Attachment

Place of Use (If irrigation then state number of acres to be irrigated within each 40-acre tract.)
Present See Attachment
Proposed See Attachment

Purpose of Use
Present _____
Proposed _____
Does the proposed use serve to preserve or enhance wetlands habitat, fish and wildlife resources, or recreation in or on the water (See WC 1707)? _____ (yes/no)

- GIVE REASON FOR PROPOSED CHANGE: See Attachment "B" to Underground Storage Supplement accompanying this petition.
- WILL THE OLD POINT OF DIVERSION OR PLACE OF USE BE ABANDONED? No (yes/no)
- WATER WILL BE USED FOR See Attachment PURPOSES.

I(we) have access to the proposed point of diversion or control the proposed place of use by virtue of ? See Attachment (ownership, lease verbal or written agreement)

Are there any persons taking water from the stream between the old point of return flow and the new point of return flow? Unknown (yes/no)

If by lease or agreement, state the name and address of party(s) from whom access has been obtained.

See Attachment

Give name and address of any person(s) taking water from the stream between the present point of diversion or rediversion and the proposed point of diversion or rediversion, as well as any other person(s) known to you who may be affected by the proposed change.

See files of State Water Resources Control Board

THIS CHANGE DOES NOT INVOLVE AN INCREASE IN THE AMOUNT OF THE APPROPRIATION OR SEASON OF USE.
I (we) declare under penalty of perjury that the above is true and correct to the best of my (our) knowledge and belief.

Dated 6/1, 2007 at Stockton, California

Signature(s) Attorney (209) 472-7700 Telephone No.

NOTE: A $1,000 fee, for each Application listed, made payable to the State Water Resources Control Board and an **$850 fee** made payable to the Department of Fish and Game must accompany a petition for change.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demands and cut your energy costs, see our web-site at: http://waterrights.ca.gov.

North San Joaquin Water Conservation District
Permit 10477 (Application 12842)

Attachment to Petition for Change in Points of Diversion and Place of Use, and to Change Permit Terms

CHANGE IN PERMIT TERMS

1. This petition requests that the clause "and (b) underground storage at a maximum rate of 10 cfs" be stricken from the second sentence of Term 5 of Permit 10477 as modified by Order WR 2006-0018-DWR, and replaced with "and (b) underground storage at a maximum rate of 10 cfs at each of Points 2, 3, 4, 5, and 6."

2. This petition requests that Term 20 of Permit 10477, which, as modified by Order WR-2006-0018-DWR, precludes construction of additional capacity and storage facilities except for the installation of pumping facilities and construction of underground storage facilities necessary to implement the North San Joaquin Pilot Recharge Project, be deleted in its entirety from Permit 10477.

POINT OF DIVERSION OR REDIVERSION

Present:

Map Point	Description	40-acre subdivision of public land survey or projection thereof	Section	Town-ship	Range	Base and Meridian
1	**Camanche Reservoir:** South 41° 33' West, 1,824 feet from E1/4 corner of Section 6	SE 1/4 of SE 1/4	6	4N	9E	MD
2	**Direct Diversion & Rediversion:** North 2,600 feet and West 1,000 feet from SE corner of Section 26	NE 1/4 of SE 1/4	26	4N	7E	MD
3	**Direct Diversion & Rediversion:** South 75 feet and East 850 feet from W 1/4 corner of Section 35	NW 1/4 of SW 1/4	35	4N	7E	MD
4	**Diversion and Rediversion:** California Coordinate Zone 3, North 603,200 feet and East 1,793,790 feet	SE ¼ of NW ¼	33	4N	7E	MD

Proposed:

Map Point	Description	40-acre subdivision of public land survey or projection thereof	Section	Township	Range	Base and Meridian
1	**Camanche Reservoir:** California Coordinate Zone 3, North 628,550 feet and East 1,850,100 feet	SE 1/4 of SE 1/4	6	4N	9E	MD
2	**Diversion & Rediversion:** California Coordinate Zone 3, North 608,300 feet and East 1.807,050 feet	NE 1/4 of SE 1/4	26	4N	7E	MD
3	**Diversion & Rediversion:** California Coordinate Zone 3, North 602,850 feet and East 1,803,450 feet	NW 1/4 of SW 1/4	35	4N	7E	MD
4	**Diversion and Rediversion:** California Coordinate Zone 3, North 603,200 feet and East 1,793,790 feet	SE ¼ of NW ¼	33	4N	7E	MD
5	**Diversion and Rediversion:** California Coordinate Zone 3, North 626,150 feet and East 1,841,800 feet	NE ¼ of NW 1/4	12	4N	8E	MD
6	**Diversion and Rediversion:** California Coordinate Zone 3, North 624,550 feet and East 1,839,800 feet	SW ¼ of NW ¼	12	4N	8E	MD
7	**Diversion and Rediversion:** California Coordinate Zone 3, North 604,050 feet and East 1,771,000 feet	SW ¼ of NW ¼	35	4N	6E	MD

PLACE AND PURPOSES OF USE

Present:

Purpose of Use:	Place of Use:	Section	Township	Range	Base and Meridian	Acre
Recreational	Camanche Reservoir in SE 1/4 of SE 1/4	6	4N	9E	MD	-
Domestic, Municipal, Industrial and Irrigation	45,000 net acres within gross area of 52,000 acres being within the service area of the North San Joaquin Water Conservation District, including Township 3 North, Ranges 6, 7, 8 East, and T4N, Ranges 6, 7, and 8 East, MDB&M					45,000
Underground storage with subsequent application to irrigation, water quality, and fish and wildlife preservation and enhancement uses.	-					-

Proposed:

Purpose of Use:	Place of Use:	Section	Township	Range	Base and Meridian	Acre
Recreational	Camanche Reservoir in SE 1/4 of SE 1/4	6	4N	9E	MD	-
Domestic, Municipal, Industrial and Irrigation	Within the collective boundaries of North San Joaquin Water Conservation District, Stockton East Water District, and Central San Joaquin Water Conservation District, and additional areas within the spheres of influence of the City of Stockton and City of Lodi, as shown on the map accompanying this petition.					-
Underground storage with subsequent application to irrigation, water quality, and fish and wildlife preservation and enhancement uses.	-					-

ACCESS TO POINTS OF DIVERSION AND REDIVERSION

Point 1:	Permittee has an agreement with EBMUD for storage of 20,000 acre-feet in Camanche Reservoir.
Points 2 & 3:	Easements.
Point 4:	Rental agreement with Landowner.
Point 5, 6 & 7:	Permitttee does not own land at these proposed points of diversion, but will obtain easements as necessary for construction and operation of the project.

State of California
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Info: (916) 341-5300, FAX: (916) 341-5400, Web: http://www.waterrights.ca.gov

PETITION FOR CHANGE IN DISTRIBUTION OF STORAGE

Change in Point of Diversion for a Portion of the Water
(WATER CODE 1700)

Application 12842 **Permit** 10477 **License** _____ **Statement or Other** _____

I (we) request permission to change the amounts to be stored in each reservoir as set forth in paragraph 4 of this permit or license to amounts in each reservoir as follows:

Reservoir No. 1 Camanche Reservoir - Up to 20,000 acre-feet

Reservoir No. 2 Underground Storage - Up to 17,000 acre-feet

~~Reservoir No. 3~~ The total combined amount diverted to storage in Reservoirs 1 and 2

~~Reservoir No. 4~~ shall not exceed 20,000 acre-feet.

- WILL ANY RESERVOIR NAMED IN THE ORIGINAL APPLICATION BE ABANDONED? No (yes/no)
- WILL THE CHANGE IN DISTRIBUTION OF STORAGE INVOLVE A CHANGE IN PURPOSE OF USE? No (yes/no?)
- If so, does the proposed use serve to preserve or enhance wetlands habitat, fish and wildlife resources, or recreation in or on the water (see WC 1707)? N/A (yes/no?)

I (we) have access to the additional land to be flooded by vitue of See Attachment (ownership, lease verbal or written agreement)

If by lease or agreement, state the name and address ao party(s) from whom access has been obtained.

Give name and address of any person(s) taking water from the stream between the upper and lower reservoirs...
See State Water Resources Control Board files.

THIS CHANGE DOES NOT INVOLVE AN INCREASE IN THE AMOUNT OF THE APPROPRIATION

I (we) declare under penalty of perjury that the above is true and correct to the best of my (our) knowledge and belief.

Dated: 6/1/07 at Stockton, California

Signature(s) Atty (209) 472-7700 Telephone No.

NOTE: A **$1,000 filing fee**, for for each Application listed, made payable to the State Water Resources Control Board and an **$850 fee** made payable to the Department of Fish and Game must accompany a petition for change.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demands and cut your energy costs, see our web-site at: http://waterrights.ca.gov. Additional copies of this form and water right information can be obtained at www.waterrights.ca.gov.

PET-STOR (3-01)

North San Joaquin Water Conservation District
Permit 10477 (Application 12842)

Attachment to Petition for Change in Distribution of Storage

Re: Access to additional land to be flooded:

Because this petition seeks to divert water to underground storage, the only land that will be "flooded" are lands owned, purchased, leased, or accessed by easement by the Petitioner/Permittee that will be used as groundwater recharge sites. As stated in the Underground Storage Supplement accompanying this petition, the total area to be developed for groundwater recharge is expected to be no greater than 500 acres.

Alan C. Lloyd, Ph.D.
Agency Secretary

State Water Resources Control Board

Division of Water Rights
1001 I Street, 14th Floor ♦ Sacramento, California 95814 ♦ 916.341.5300
Mailing Address: P.O. Box 2000 ♦ Sacramento, California 95812-2000
FAX: 916.341.5400 ♦ www.waterrights.ca.gov

Arnold Schwarzenegger
Governor

APPLICATION NO. 12842
(Leave blank)

UNDERGROUND STORAGE SUPPLEMENT to PETITION for CHANGE for PERMIT 10477 (APPLICATION 12842)

1. State amount of water to be diverted to underground storage from each point of diversion in item 3b of form APP.

   a. Maximum Rate of diversions (1) 50 (2) _____ (3) _____ cfs
   b. Maximum Annual Amount (1) 17,000 (2) _____ (3) _____ acre-feet

2. Describe any works used to divert to offstream spreading grounds or injection wells not identified in item 7 of form APP.

Natural waterway will provide opportunities for enhanced infiltration and ground water recharge. In addition, water diverted or re-diverted from natural channels will be conveyed by existing and proposed pump stations, gravity-flow turnouts, canals, and pipelines to various offstream recharge facilities, including flooded fields (created by the construction of low berms), shallow excavated spreading basins, and deeper excavated pits. No injection wells are planned due to high pre-treatment and operational costs. Individual diversion rates are generally expected to be up to 10 cfs. The actual diversion rate will be determined by the capability of individual recharge facilities to percolate the applied water. The report entitled Farmington Groundwater Recharge and Seasonal Habitat Study, Final Report, August 2001 by Montgomery Watson Harza (MWH Report) and an existing recharge project indicate that the rate of percolation in the region varies from 0.25 to well over 1.0 feet per day (Table V-6 in MWH Report).

3. Describe spreading grounds and identify its location and number of acres or location of upstream and downstream limits if onstream.

Enhanced percolation is expected to occur within Bear, Coyote, Gill and Pixley Creeks with the addition of water during non-flow periods. In addition, water will be rediverted to off-stream recharge facilities described in Item 2 above. For infiltration rates in the range of 0.25 to 1.0 feet per day, between 85 and 340 acres of land would be required to infiltrate all of the water sought by this Petition. Existing recharge facilities and certain future recharge sites have been identified on the Petition map. Additional recharge facilities will be determined by field percolation studies, and the total of all recharge sites will not exceed 500 acres and will be located within the place of use identified on the map accompanying the Petition.

4. State depth of groundwater table in spreading grounds or immediate vicinity:
   _____ feet below ground surface on _____ 19 __ measured at a point located within the _____ ¼ of _____ ¼ of Section _____, T _____, R _____, _____ B&M

See Attachment "A" and Engineer's Report, Proposed Groundwater Charge, April 2007, which is attached as Attachment "B."

5. Give any historic maximum and or minimum depths to the groundwater table in the area.
Location _____ Maximum _____ feet below ground surface on _____ (date)
Location _____ Maximum _____ feet below ground surface on _____ (date)

See Attachment "B" Engineer's Report, Proposed Groundwater Charge, April 2007.

6. Describe proposed spreading operation. As described in Item 3, some water will be recharged through enhanced percolation in the natural channels identified on the Petition map. Water will also be re-diverted to off-stream recharge facilities through existing and future re-conveyance and rediversion facilities. The capacity of individual facilities will be designed to match the recharge capabilities of specific recharge facilities depending upon percolation rate. Average percolation rates for sites identified to date range from 0.25 to over 1.0 foot of water per day.

7. Describe location, capacity and features of proposed pretreatment facilities and/or injected wells. No injection well facilities are planned for this water due to high pretreatment and operational costs. It is not anticipated that any pretreatment will be required prior to application of water to recharge facilities.

8. Reference any available engineering reports, studies, or data on the aquifer involved. The ground water decline in the Eastern San Joaquin County Groundwater Basin (ESJCGB) is well documented. Reference is made to the bibliographies of the MWH Report, as well as the report entitled *San Joaquin County Flood Control and Water Conservation District Water Management Plan, Phase 1 – Planning Analysis and Strategy, October 2001*, prepared by Camp, Dresser & McKee (CDM Report), copies of which are attached for reference as **Attachment 1.**

9. Describe underground reservoir and attach a map or sketch of its location. _____
A general discussion of aquifer characteristics within the San Joaquin Valley is provided in DWR Bulletin 118. Aquifers are generally described as being quite thick with "groundwater wells commonly extending to depth up to 800 feet." According to DWR Bulletin 118, the ESJCGB covers approximately 707,000 acres and extends beyond the boundaries of NSJWCD. Figure 2-5 from the CDM Report (**Attachment 2**) shows groundwater contours in the regional area in the year 2000.

10. State estimated storage capacity of underground reservoir. _____
The CDM Report states that groundwater levels in San Joaquin County are in a state of overdraft. While the capacity of the "underground reservoir" is not stated, it is estimated that between 1970 and 1993, approximately 2,800,000 acre-feet of groundwater was mined, or otherwise "lost" due to lateral inflow of poorer quality groundwater from the Delta area to the west. The CDM Report projects that continuance of current groundwater and surface water management practices will result in the depletion of an additional 2,000,00 acre-feet by 2030.

11. Describe existing use of the underground storage reservoir and any proposed change in its use. _____
The ESJCGB is in overdraft and threatened with further saline intrusion from the Delta. A primary objective of NSJWCD since its formation in 1948 has been to manage the groundwater basin, and secure supplemental water to prevent further overdraft and saline contamination. The future use of the basin is expected to be consistent with historical use.

12. Describe the proposed method and location of measurement of water placed into and withdrawn from underground storage. Water supply will be determined by use of existing measuring devices and at proposed measuring devices to be installed on the facilities that will redivert water into conveyance facilities and natural stream channels. Water delivered to recharge facilities will be determined by use of flow measuring devices at each facility or series of facilities. Each water agency in the Basin, San Joaquin County, and others keep records of how much water is pumped from the ESJCGB each year. The County conducts extensive monitoring of the basin, and with the assistance of other local water agencies, has developed groundwater models that incorporate all input and extraction numbers for the Basin. These models predict both groundwater level trends and movement of the saline contamination of the Basin. The models rely on previous studies to determine anticipated input and Basin contributions to the Delta, and water agency data for extraction from the Basin. Upon initiation of the project, NSJWCD will provide input to these models of the quantities of water placed into underground storage.

All publicly owned and operated wells, those of private water companies and significant industrial operations are metered. Privately owned agricultural and domestic wells are generally not metered, however groundwater use is estimated annually using cropping data, average crop water use statistics, and average domestic use statistics.

4. State depth of groundwater table in spreading grounds or immediate vicinity:

NSJWCD overlies the Eastern San Joaquin County Groundwater Basin ("ESJCGB" or "Basin"), which is a sub-basin of the San Joaquin Valley Basin. The Basin is in a state of critical overdraft. In 1980 it was determined to be one of only eight groundwater basins in California subject to critical conditions of overdraft. *Department of Water Resources Bulletin 118-80, 1980 at p. 44-45.* An average of 867,600 acre-feet is pumped from the Basin each year for agricultural and urban needs. An additional 144,000 acre-feet are lost from the basin annually to streams and lateral outflow. The Basin is recharged by an average of 904,577 acre-feet each year from rain, groundwater lateral flows, and natural and artificial percolation. This results in an average overdraft of approximately 150,000 acre-feet per year. *Eastern San Joaquin Groundwater Basin Groundwater Management Plan, September 2004.*

Because of the geologic conditions peculiar to the area, when groundwater elevations drop, saline groundwater underlying the Delta to the west of the basin flows into the basin, causing serious water quality deterioration and permanent destruction of that portion of the Basin. *Department of Water Resources Bulletin 118-80, 1980 at p. 44-45.* Salt-water intrusion has already severely impacted the groundwater in the vicinity of Stockton and wells have been abandoned. *Department of Water Resources Bulletin 118-80, 1980 at p. 44-45.* It is estimated that the saline front advances 145 feet east every year and will advance an additional two miles by the year 2020. *Brown and Caldwell, Eastern San Joaquin County Groundwater Study, October 1985, at p. 1-13.* Without additional surface water supplies, it is estimated that groundwater levels in the agricultural region east of Stockton will continue to decline an average of 1.7 feet per year. Id.

NSJWCD has all of the powers of a Water Conservation District in the Water Code.

The place of use service area is within the boundary of the ESJCGB, identified as Subbasin Number 5-22.01 on the attached Figure 35 from California Department of Water Resources Bulletin 118 *California's Groundwater* (Update 2003). As show, the ESJCGB is bounded on the north by the Sacramento/San Joaquin County line, on the south by the Stanislaus River, on the west by the San Joaquin River, and on the east by the interface of the water-bearing alluvium and bedrock associated with the Sierra Nevada foothills. A discussion of groundwater conditions in the ESJCGB is provided in an earlier edition of Bulletin 118 (1980), which states the following:

> "Eastern San Joaquin County Basin. This basin for many years has experienced overdraft, the adverse effects of which include declining water levels that have induced the movement of poor quality water from the Delta sediments eastward near the City of Stockton. Migration of these saline waters has severely impacted the quality of ground water in the vicinity of Stockton. Wells have been abandoned and replacement water supplies have been obtained by drilling additional wells generally to the east.

> To stop the easterly migration of poor quality water would require maintaining higher water levels in the basin and other measures, which, in turn, would probably reduce ground water inflow from the south. Under those higher water level conditions, the estimated supplemental water requirement would be materially greater than at the present. The exact amount of the overdraft and supplemental water requirement is presently under study."

Ground water conditions in the ESJCGB are also discussed in the report entitled *San Joaquin County Flood Control and Water Conservation District Water Management Plan, Phase 1 – Planning Analysis and Strategy, October 2001*, prepared by Camp Dresser & McKee (CDM Report).

5. Give any historic maximum and or minimum depths to the groundwater table in the area.

The estimated "predevelopment" water table is as shown on the attached Figure 11 (**Attachment 3**) taken from U.S. Geological Survey Professional Paper 1401-A. As shown, in the region covered by these applications, the elevation of the predevelopment water table varied from about Elevation 0 on the west near the San Joaquin River to about Elevation 160 on the east near the alluvium-bedrock interface. These contours are shown on the map accompanying this petition. The predevelopment water table would correspond to the historic minimum depth to groundwater, and in alluvial areas generally varied from about 0 on the west near the San Joaquin River to about 20 feet on the east near Bellota.

Section 2.3.1 of CDM Report states that groundwater levels within the ESJCGB show a historical trend of decline, and in some areas have fallen by 40 to 60 feet over the past 20 to 30 years. The main cone of depression is located east of the City of Stockton, where there is a large area with groundwater levels more than 50 feet below sea level. The attached hydrograph of Well Number 02N08E34E00M (**Attachment 4**), obtained from

DWR's Central District web site, illustrates the historic decline in groundwater between 1948 and 1996.

Groundwater data complied by San Joaquin County shows that in the fall of 1998, depth to groundwater was about 20 feet on the west side of Stockton, and about 140 feet near Bellota. Although groundwater levels fluctuate from year-to-year based on hydrologic conditions, it is assumed that the fall 1998 level is at or near the historic maximum depth to ground water. Review of more recent groundwater information, which the County is presently compiling, may show that the maximum depth has increased since 1998.

ATTACHMENT "B"

ENGINEER'S REPORT
PROPOSED GROUNDWATER CHARGE
APRIL 2007

The following report has been prepared in accordance with Section 75561 of the Water Code.

Annual Overdraft

Overdraft of the Eastern San Joaquin County Groundwater Basin has been common knowledge since the early 1900's when falling levels made use of centrifugal pumps impossible unless pits were dug to keep the suction lift under twenty feet. Continuing decline of water levels led to the invention of the vertical turbine pump.

Dangerously low water levels in the Stockton area during the 1970's caused the electorate to vote overwhelming in favor of a Stockton East Water District Treatment Plant to treat surface water from New Hogan Reservoir.

The State formally recognized the problem in 1982 when it designated the Basin as being "critically overdrafted".

A number of studies have been completed over the years, with the first detailed report by Brown and Caldwell, consulting engineers, accepted in 1985. That study estimated the overdraft to be 269,000 acre-feet annually (AFA) for the 600,000 acre area of San Joaquin County lying easterly of the San Joaquin River.

More recent studies have estimated the overdraft to be anywhere from 130,000 to 200,000 AFA. No absolute number is possible, only estimates, at least at this point.

I will use 200,000 AFA as a reasonable estimate of the overdraft. This works out to be about 0.33 AFA for each of the approximate 600,000 acres within the Basin.

At any rate, the 200,000 AFA figure is reasonable for current development. We know that an overdraft of 200,000 AFA causes groundwater levels to fall about 1 foot per year. Some areas see a little more and others a little less. Please see the following table for wells within the District.

ATTACHMENT "B"

Ground Water Elevation Data

Location	Water Elevations Year/Elevation		Year/Elevation		Decline Feet/Year
Source- EBMUD Records					
e/o Clements Rd & n/o Kettleman	1962	17.7	2002	-21.2	1.0
East end of Kettleman	1962	27.2	2002	-25.6	1.3
Kettleman between Tully & Linn	1962	-1.6	2002	-35.8	0.9
Harney at Tully	1962	-3.6	2002	-38.4	0.9
Jack Tone s/o Harney Lane	1962	-10.0	2002	-38.7	0.7
Tully s/o Harney Lane	1962	-3.2	1988	-23.1	0.8
Tully at Live Oak	1962	-11.3	1988	-27.4	0.7
Linn at Sargent	1962	12.9	2002	-27.0	1
Brandt at Tully	1964	2.8	2002	-24.2	0.7
n/o Sargent, e/o Tully	1962	3.2	2002	-29.9	0.8
Kettleman at Linn	1962	5.2	2002	-34.6	1
Source- County Data					
Liberty Road at Mackville Road	1975	20.0	1998	-13.0	1.4
Liberty at Hwy 88	1975	60.0	1998	60.0	0
Clements at Hwy 88	1975	50.0	1998	3.0	2
Clements at Brandt Road	1975	9.0	1998	-22.0	1.3
Clements at Harney Lane	1975	-10.0	1998	-32.0	1
Source - EBMUD Records					
Liberty e/o Bruella	1962	0.6	1978	-40.1	2.5
Liberty e/o Bruella	1973	-19.0	2002	-35.7	0.6
Collier w/o Bruella	1966	-14.4	2002	-33.4	0.5
Collier w/o Mackville	1962	37.8	1999	-4.9	1.2
Collier w/o Hwy 88	1962	52.5	2002	2.9	1.3
Buena Vista Road	1962	73.6	2002	54.8	0.5
n/o Hwy 12 & e/o Hwy 99	1962	61.8	2002	33.3	0.7
Hwy 88 n/o Hwy 12	1962	47.0	2002	8.5	1

Ground Water Elevation Data

Location	Water Elevation Historical High** Year/Elevation		Latest Year/Elevation		Decline Feet/ Year
Soucre –County Data					
Collier & Eunice	1963	-8.0	2002	-18.6	0.3
Collier & Kennefick	1960	-4.8	2002	-34.5	0.7
Hwy 99 & Jahant	1960	-0.1	2002	-19.6	0.5
Peltier & Kennefick	1958	11.9	2002	-29.8	0.9
Acampo e/o Hwy 99	1958	16.5	2002	-10.6	0.6
Hwy 99 & Woodbridge	1958	24.5	2002	4.0	0.5
Locke w/o Hwy 88	1963	11.5	2002	-15.6	0.7
Brandt & Tully	1959	16.6	2002	-27.6	1
Hwy 12 & Locust Tree	1958	19.7	2002	-18.8	0.9

ATTACHMENT "B"

Ground Water Elevation Data

	Water Elevation				Decline
	Historical High**		Latest		
Source - County Data	**Year/Elevation**		**Year/Elevation**		**Feet/Year**
Hwy 12 & Alpine	1958	21.4	2002	-18.6	0.9
Kettleman & Curry	1960	15.0	2002	-19.7	0.8
Kettleman & Hwy 99	1983	-2.6	2002	-24.3	1.1
Harney & Vintage	1965	-0.7	2002	-32.0	0.8
Harney & Hwy 88	1965	-2.4	2002	-31.0	0.8
Alpine & Handel	1980	-30.5	2002	-32.0	0.1
Armstrong & Lower Sacramento	1960	0.6	2002	-34.2	0.8
Jack Tone & Live Oak	1958	8.6	2002	-46.7	1.3
Ham and West Lane	1971	-1.2	2002	-21.9	0.7

** San Joaquin County and Stockton East Water District began monitoring levels in the 1950's.

Based upon the above assumption that the average overdraft is 0.33 AFA per acre, the 150,000 acre North San Joaquin Water Conservation District (District) has a current overdraft of 50,000 AFA. But only 100,000 acres of the District have been developed and now use 173,000 AFA of groundwater. Some 50,000 acres are dry pasture which are and will be developed.

Vineyards and houses are moving into the dry pasture area. A 200 acre vineyard is replacing dry pasture across from my 10 acres of irrigated pasture (formerly dry).

Assuming a new groundwater demand of 1.75 AF/acre, development of the 50,000 acres will increase the District overdraft to 137,500 AFA.

Accumulated Overdraft

The accumulated overdraft from the time man began pumping groundwater from the Basin probably approaches ten million acre-feet. It would be impractical to try to bring the Basin back to "natural pre-man" conditions. It is generally accepted that the empty, usable space (accumulated overdraft) is somewhere between two and three million acre-feet.

Again, assuming that the accumulated overdraft is spread uniformly throughout the Basin, the District's share is 500,000 to 750,000 acre-feet.

Groundwater Production for 2005-2006*

The following table develops groundwater use by type of development within the District.

Water Code Section 75507 defines water year as July 1st to June 30th.

ATTACHMENT "B"

Estimated Groundwater Use 2005-2006				
Use Code	**Description**	**Quantity**	**AFA/Unit**	**Total AFA**
0	Single Family Dwelling	100 each	0.5	50
51	Rural Residential	2428 each	1	2,428
52	Rural Residential, 2+ Residences	250 each	2	500
291	Nursery	716 Acres	4	2,864
352	Large Winery	10 each	4	40
353	Small Winery	6 each	2	12
-	Misc. Commercial	100 each	0.5	50
401	Irrigated Orchard	8,185 acres	2.8	22,918
420	Irrigated Vineyard	45,309 acres	1.5	67,964
450	Irrigated Row Crops	7,204 acres	2.8	20,171
460	Irrigated Pasture	11,070 acres	4	44,280
462	Horse Ranch	40 each	2	80
471	Dairy	27 each	5	135
480	Poultry Ranch	13 each	5	65
-	Ag. Residences	1,028 each	1	1,028
-	Golf Courses	592 acres	4	2,368
-	Cemeteries	83 acres	4	332
-	Lodi Schools*			27
-	City of Lodi	-	-	9,300
-	Lockeford Community SVC District	-	-	520
-	County Service Areas	-	-	232
-	Micke Grove park	62 acres	4	248
-	Micke Grove Golf Course	87 acres	4	348
	Subtotal			**175,960**
	Less Surface Water			-3000
	TOTAL			**172,960**
	*Not included in City or Service Areas			

I consider the 2005-2006 groundwater production to be fairly normal. Production increases during dry years and decreases when rainfall is high. It also increases slightly when surface water is not available to the District (drier years).

Estimated Overdraft for 2006-2007-and 2007-2008

As stated earlier, the accepted figure for current average annual overdraft is 50,000 AFA for the District. It is greater in dry years and less in wet years and will increase in the future.

By definition, we divide the historical hydrology into five equal classifications; wet, above normal, below normal, dry, and critically dry. This means that overdraft would be greater during roughly 40% of the time, and less during 40% of the time.

We believe that average natural recharge of the Basin is approximately 1 foot per year, from rainfall, irrigation percolation, and streams.

This means that approximately 600,000 AFA are naturally recharged during an average year. Remember that on an average, approximately 800,000 AFA are currently taken from the Basin, causing a 200,000 AFA overdraft. Remember also, that the average water level decline is about 1 foot per year.

Assuming 2006-2007 (with its very hot summer) and apparently dry winter is a "below normal year", we can say that the overdraft will be greater than average, and probably about 100,000 acre-feet.

And, assuming 2007-2008 will be normal, we estimate the overdraft will be 50,000 acre-feet.

Surface Water Needed for 2006-2007

As indicated above, 50,000 acre-feet of surface water would be required annually to offset an average overdraft of that amount, but surface water is not currently available every year.

The only realistic way to deal with an average overdraft of 50,000 AFA, is to use 100,000 acre-feet or more during wet years because none is available in dry years.

The District is currently fighting to keep its current, temporary right to 20,000 AFA of Mokelumne River water which is available almost 70% of the time. The District must not only increase its use from the current 3,000 AFA to 20,000 AFA, but must also acquire another 80,000 AFA for use during wet years, just to cope with the overdraft caused by existing development. Another 175,000 AFA would be required during wet years to replace groundwater used by possible, future development.

A Catastrophe in the Making

The State decided last November to deny the District's petition for extension of its 20,000 AFA right to Mokelumne River water because the District has not used the full 20,000 AFA.

The District petitioned the State for reconsideration of the denial and has been granted a hearing on June 21, 2007. The District must show construction and financing plans at the hearing or will lose the water right.

More recently, the State canceled the County's water right application for Mokelumne River water.

Should a majority of the people within the District oppose the groundwater charge, the District will definitely lose its water right, and the County will probably lose its first priority position for water from the Mokelumne River.

North San Joaquin Water Conservation District and all other agencies within Eastern San Joaquin County must take immediate action to correct the overdraft. If nothing is done, the State will proceed with "adjudication" of the Basin.

Adjudication means limiting groundwater pumping to natural recharge. It would result in

all pumpers being restricted to approximately 75% of what they pump today. It would also eliminate any future development that would need more than 75% of the current groundwater use for a specific location.

Prepared by:

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Registered Civil Engineer
R. C. E. 12852

ATTACHMENT 1

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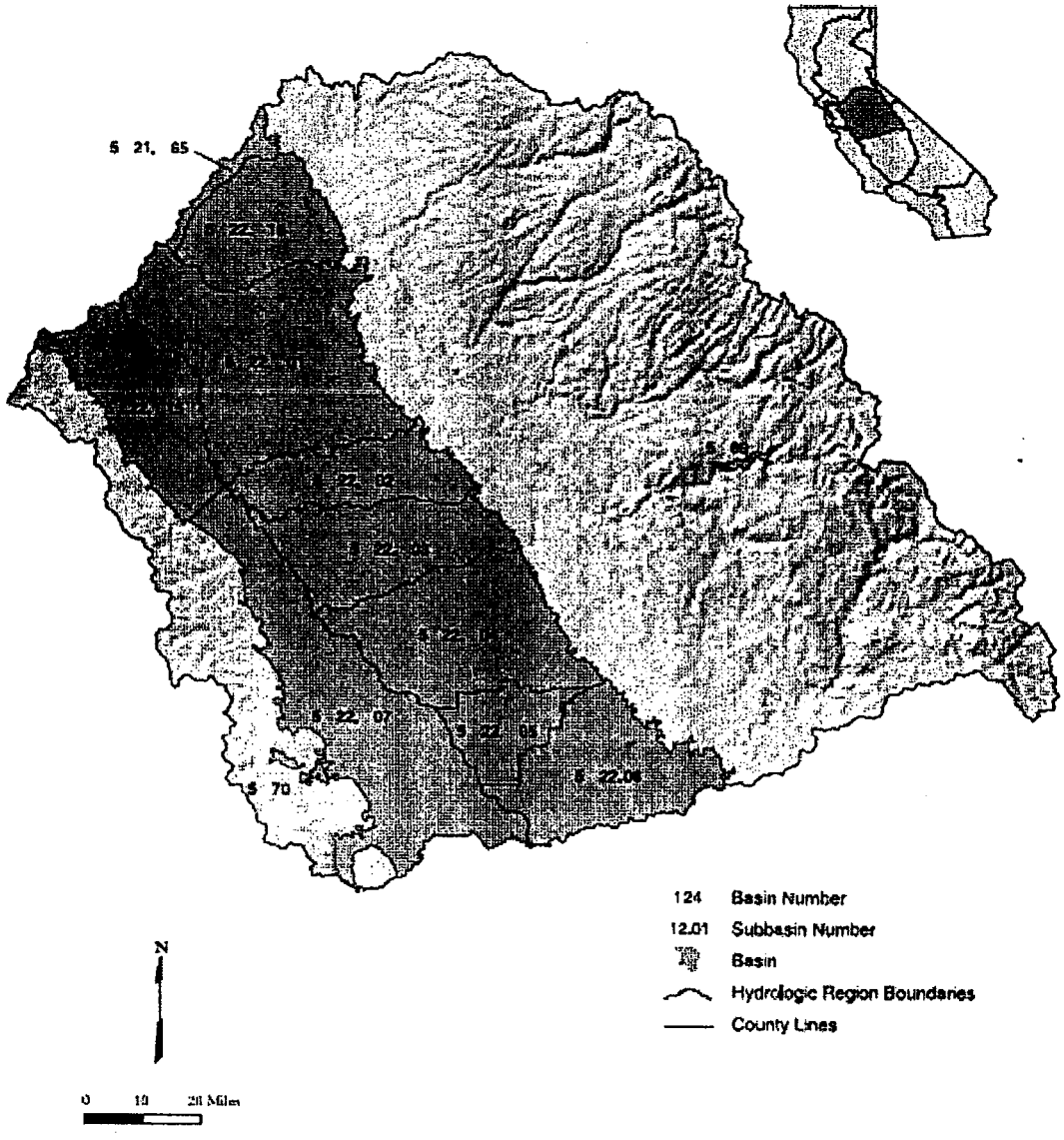
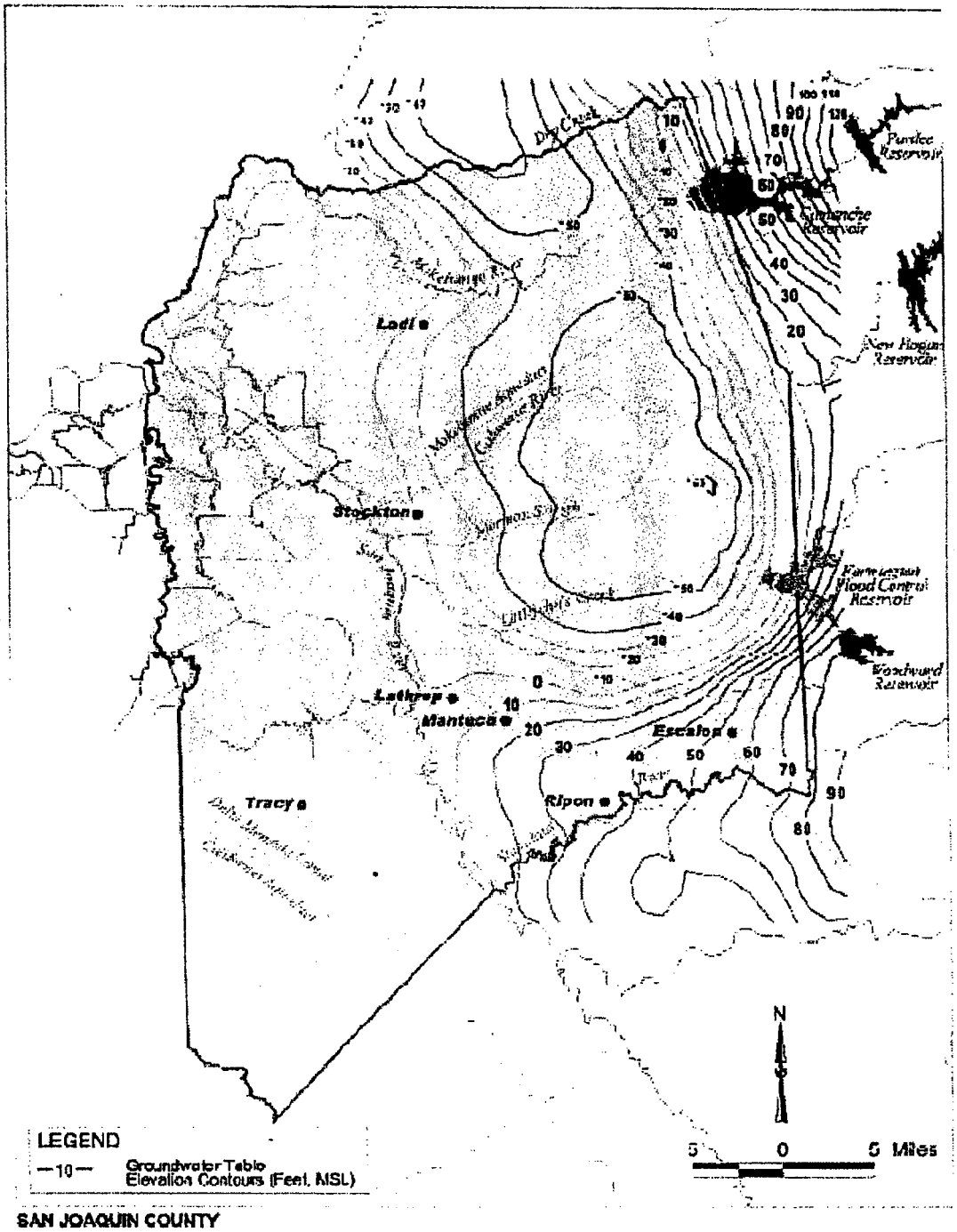


Figure 35 San Joaquin River Hydrologic Region



SAN JOAQUIN COUNTY
WATER MANAGEMENT PLAN

CDM Camp Dresser & McKee

Figure 2-3
SIMULATED GROUNDWATER TABLE CONTOUR MAP FOR 2000

Section 2
Water Resource Background

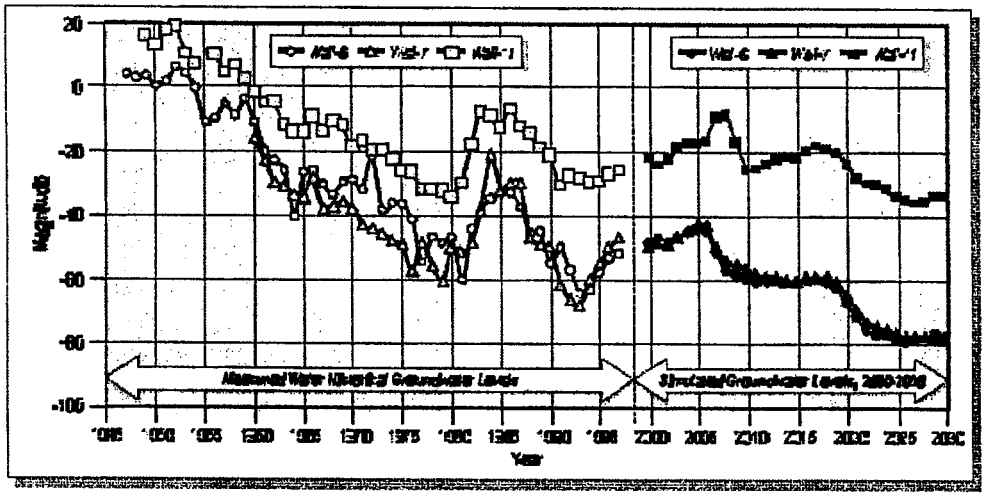


Figure 2-6

Decline of Historic and Projected Groundwater Levels

ATTACHMENT 3

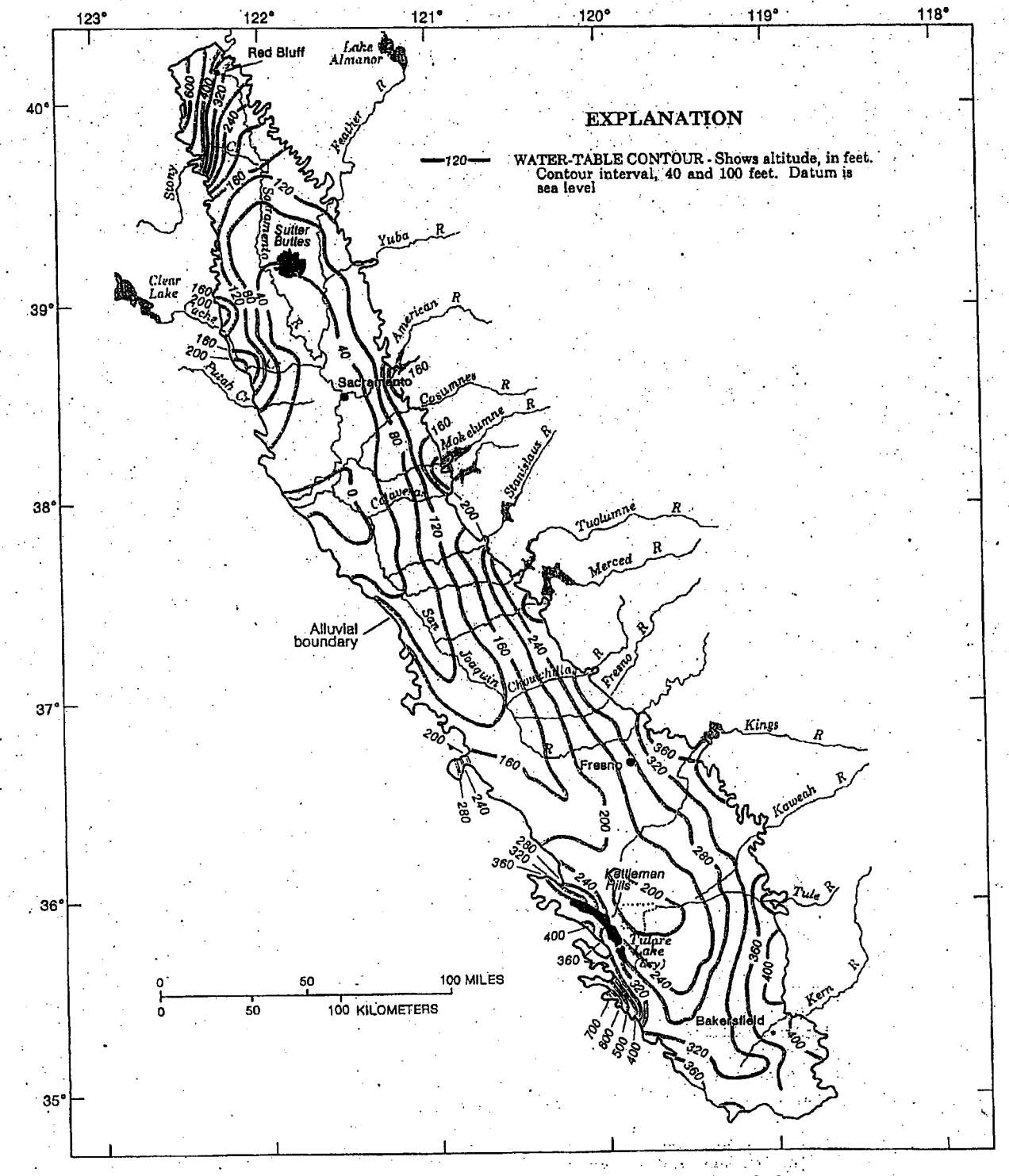
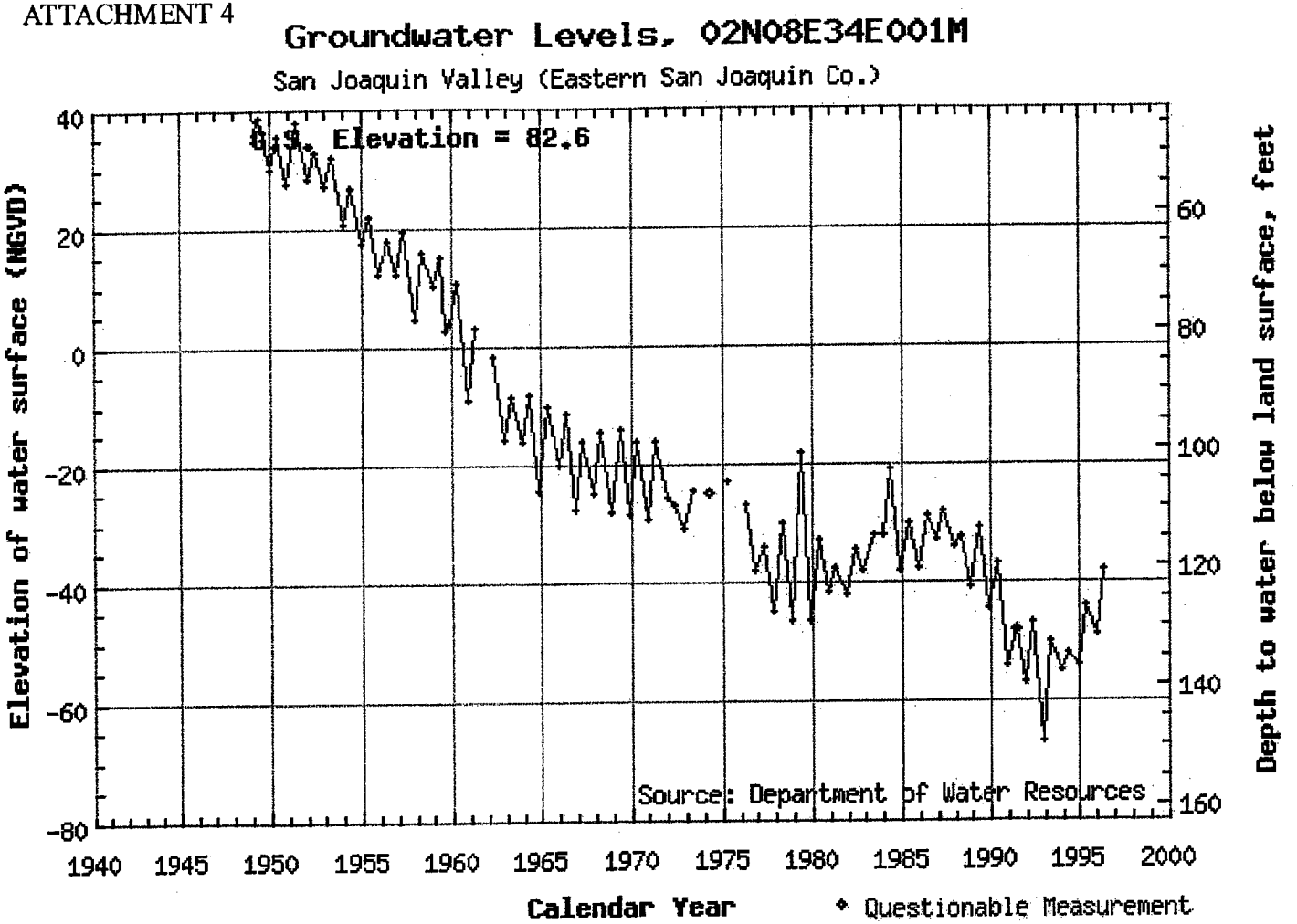


FIGURE 11.—Estimated predevelopment water table (modified from Williamson and others, 1989).

ATTACHMENT 4



California Environmental Protection Agency

State Water Resources Control Board

DIVISION OF WATER RIGHTS

P.O. Box 2000, Sacramento, CA 95812-2000

Info: (916) 341-5300, FAX: (916) 341-5400, Web: http://www.waterrights.ca.gov

ENVIRONMENTAL INFORMATION FOR PETITIONS

Permit 10477 (Application 12842)

☒ **Petition for Change** ☐ **Petition for Extension of Time**

Before the State Water Resources Control Board (SWRCB) can approve a petition to change your water right permit or a petition for extension of time to complete use, the SWRCB must consider the information contained in an environmental document prepared in compliance with the California Environmental Quality Act (CEQA). This form is not a CEQA document. If a CEQA document has not yet been prepared, a determination must be made of who is responsible for its preparation. As the petitioner, you are responsible for all costs associated with the environmental evaluation and preparation of the required CEQA documents. Please answer the following questions to the best of your ability and submit any studies that have been conducted regarding the environmental evaluation of your project. If you need more space to completely answer the questions, please number and attach additional sheets.

1. DESCRIPTION OF PROPOSED CHANGES OR WORK REMAINING TO BE COMPLETED

For a petition to change, provide a description of the proposed changes to your project including, but not limited to, type of construction activity, structures existing or to be built, area to be graded or excavated, increase in water diversion and use (up to the amount authorized by the permit), changes in land use, and project operational changes, including changes in how the water will be used. For a petition for extension of time, provide a description of what work has been completed and what remains to be done. Include in your description any of the above elements that will occur during the requested extension period.

☒ *See Attachment No.* 1

2. COUNTY PERMITS

a. Contact your county planning or public works department and provide the following information:

Person contacted: _____ Date of contact: _____

Department: _____ Telephone: (____) _____

County Zoning Designation: _____

Are any county permits required for your project? ☐ YES ☐ NO If YES, check appropriate box below:
☐ Grading permit ☐ Use permit ☐ Watercourse ☐ Obstruction permit ☐ Change of zoning
☐ General plan change ☐ Other (explain):

_____

_____

b. Have you obtained any of the required permits described above? ☐ YES ☐ NO
If YES, provide a complete copy of each permit obtained.
☒ *See Attachment No.* 2

3. STATE/FEDERAL PERMITS AND REQUIREMENTS

a. Check any additional state or federal permits required for your project:
☐ Federal Energy Regulatory Commission ☐ U.S. Forest Service ☐ Bureau of Land Management
☐ Soil Conservation Service ☐ Dept. of Water Resources (Div. of Safety of Dams) ☐ Reclamation Board
☐ Coastal Commission ☐ State Lands Commission ☒ Other (specify) _____

b. For each agency from which a permit is required, provide the following information:

AGENCY	PERMIT TYPE	PERSON(S) CONTACTED	CONTACT DATE	TELEPHONE NO.

☒ *See Attachment No.* 3

c. Does your proposed project involve any construction or grading-related activity that has significantly altered or would significantly alter the bed or bank of any stream or lake? ☒ YES ☐ NO
If YES, explain: _____

_____

_____

_____

_____

_____

_____

_____

_____

☒ *See Attachment No.* 3

d. Have you contacted the California Department of Fish and Game concerning your project? ☐ YES ☒ NO
If YES, name and telephone number of contact: _____

4. ENVIRONMENTAL DOCUMENTS

a. Has any California public agency prepared an environmental document for your project? ☐ YES ☒ NO
If YES, submit a copy of the latest environmental document(s) prepared, including a copy of the notice of determination adopted by the California public agency. Public agency: _____

b. If NO, check the appropriate box and explain below, if necessary:
☒ The petitioner is a California public agency and will be preparing the environmental document.*
☐ I expect that the SWRCB will be preparing the environmental document.**
☐ I expect that a California public agency other than the State Water Resources Control Board will be preparing the environmental document.* Public agency: _____

_____

☐ *See Attachment No.* ___

* Note: When completed, submit a copy of the final environmental document (including notice of determination) or notice of exemption to the SWRCB, Division of Water Rights. Processing of your petition cannot proceed until these documents are submitted.

** Note: CEQA requires that the SWRCB, as Lead Agency, prepare the environmental document. The information contained in the environmental document must be developed by the petitioner and at the petitioner's expense under the direction of the SWRCB, Division of Water Rights.

5. WASTE/WASTEWATER

a. Will your project, during construction or operation, (1) generate waste or wastewater containing such things as sewage, industrial chemicals, metals, or agricultural chemicals, or (2) cause erosion, turbidity or sedimentation?
☐ YES ☒ NO
If YES, or you are unsure of your answer, explain below and contact your local Regional Water Quality Control Board for the following information (See instruction booklet for address and telephone no.):

_____

☐ *See Attachment No.* ___

b. Will a waste discharge permit be required for your project? ☐ YES ☐ NO

Person contacted: _____ Date of contact: _____

c. What method of treatment and disposal will be used? _____

_____

_____

☐ *See Attachment No.* ___

6. ARCHEOLOGY

a. Have any archeological reports been prepared on this project? ☐ YES ☒ NO
b. Will you be preparing an archeological report to satisfy another public agency? ☐ YES ☒ NO
c. Do you know of any archeological or historic sites located within the general project area? ☐ YES ☒ NO

If YES, explain: _____

_____

_____

_____

_____

☐ *See Attachment No.* ___

7. ENVIRONMENTAL SETTING

Attach **three complete sets of color photographs,** clearly dated and labeled, showing the vegetation that exists at the below-listed three locations. For time extension petitions, the photographs should document only those areas of the project that will be impacted during the requested extension period.

☒ Along the stream channel immediately downstream from the proposed point(s) of diversion.

☒ Along the stream channel immediately upstream from the proposed point(s) of diversion.

☒ At the place(s) where the water is to be used.

8. CERTIFICATION

I hereby certify that the statements I have furnished above and in the attachments are complete to the best of my ability and that the facts, statements, and information presented are true and correct to the best of my knowledge.

Date: 6/1/07 Signature: _____

ATTACHMENT 1

Re: Item 1, Description of Proposed Changes:

This project involves changes necessary to allow for an increase in the amount of the Permittee's storage allocation diverted to underground storage from 1,000 acre-feet to 17,000 acre-feet annually. A necessary element of the proposed change is the modification of Permit Term 5 and the deletion of Permit Term 20. In addition, the changes sought by this petition involve enlarging the place of use to coincide with the enlarged boundary of the North San Joaquin Water Conservation District, and the boundaries of Stockton East Water District (SEWD), Central San Joaquin Water Conservation District (CSJWCD), and additional areas within the spheres of influence of the City of Stockton and City of Lodi. The changes seek to allow water diverted under Permit 10477 to be used for domestic, irrigation, municipal, industrial, water quality, and fish & wildlife enhancement uses within the proposed enlarged place of use.

This proposed project involves the construction of two new pump stations on the Mokelumne River. The pump station at POD 5 will divert water for release into Coyote Creek where it will be rediverted to underground storage at several recharge sites along Coyote Creek. The pump station at POD 6 will divert water for release into Bear Creek where it will be 1) rediverted at the proposed Alliance Canal for conveyance to SEWD and CSJWCD; 2) rediverted to underground storage at several recharge sites along Bear Creek, and 3) rediverted at a proposed water treatment plant to be constructed on Pixley Slough by the City of Stockton. Construction of at least 11,000 feet of new transmission pipelines will be required, the location of which are shown on the map accompanying this petition. In addition, water is proposed to be diverted at the existing Woodbridge Diversion dam (POD 7) for conveyance via the Woodbridge South Main Canal to Pixley Slough thence the City of Stockton's proposed water treatment plant. Alternatively, if the Department of Health Services will not allow transmission through Woodbridge South Main Canal, then an approximate 5 mile pipeline may be constructed for delivery from Woodbridge Dam to the City of Stockton's treatment plant.

ATTACHMENT 2

Re: Item 2, County Permits:

Government Code Section 53901 provides in pertinent part:

> Zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, or transmission of water . . .

Consequently, no zoning permits or related approvals will be required from San Joaquin County for any construction to be completed on the project.

ATTACHMENT 3

Re: Item 3, State & Federal Permits:

3b. It is anticipated that the following permits and approvals will be required for this project:

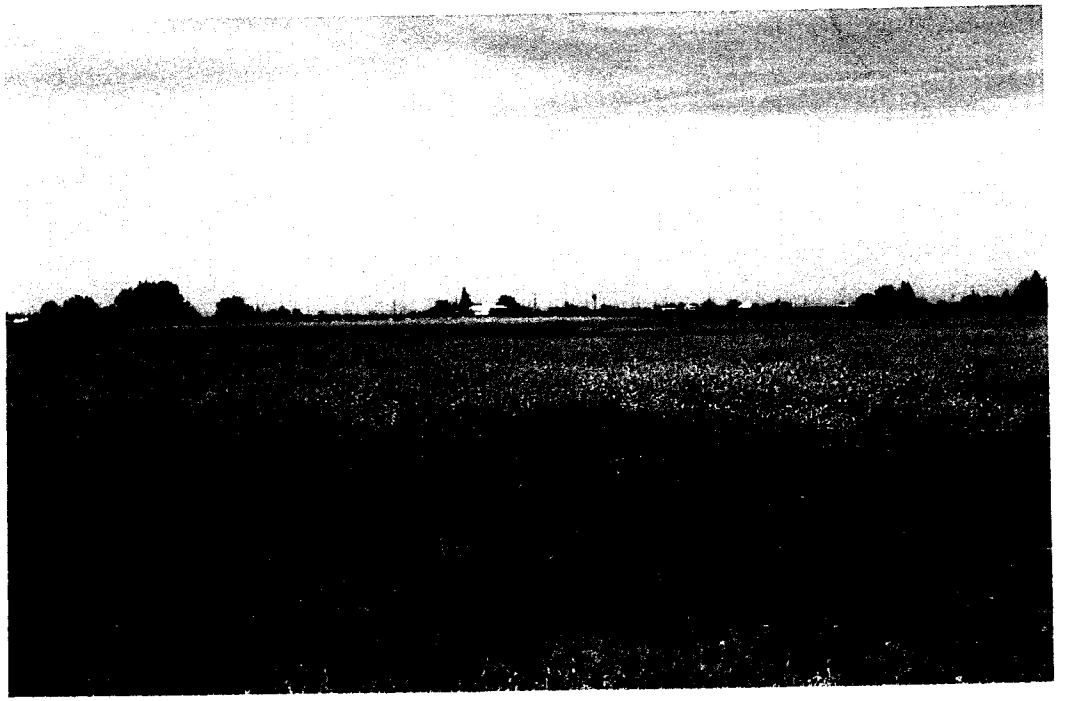
- Streambed Alternation Agreement from the Department of Fish & Game pursuant to Section 1600 of the Fish & Game Code.
- Section 404 permit from the US Army Corps of Engineers.
- Section 401 Water Quality Certification from the California Regional Water Quality Control Board.

3c. The following activities will require alteration of the bed and bank of a stream:

- Construction of two pump stations on the Mokelumne River;
- Construction of diversion facilities on Coyote Creek and Bear Creek for rediversion of water into groundwater recharge sites;
- Construction of diversion facilities on Bear Creek for rediversion of water into the Alliance Canal.
- Construction of a diversion facility on Pixley Slough for rediversion of water at the City of Stockton's proposed water treatment plant.

South Side of Mokelumne River below Camanche near new point of diversion

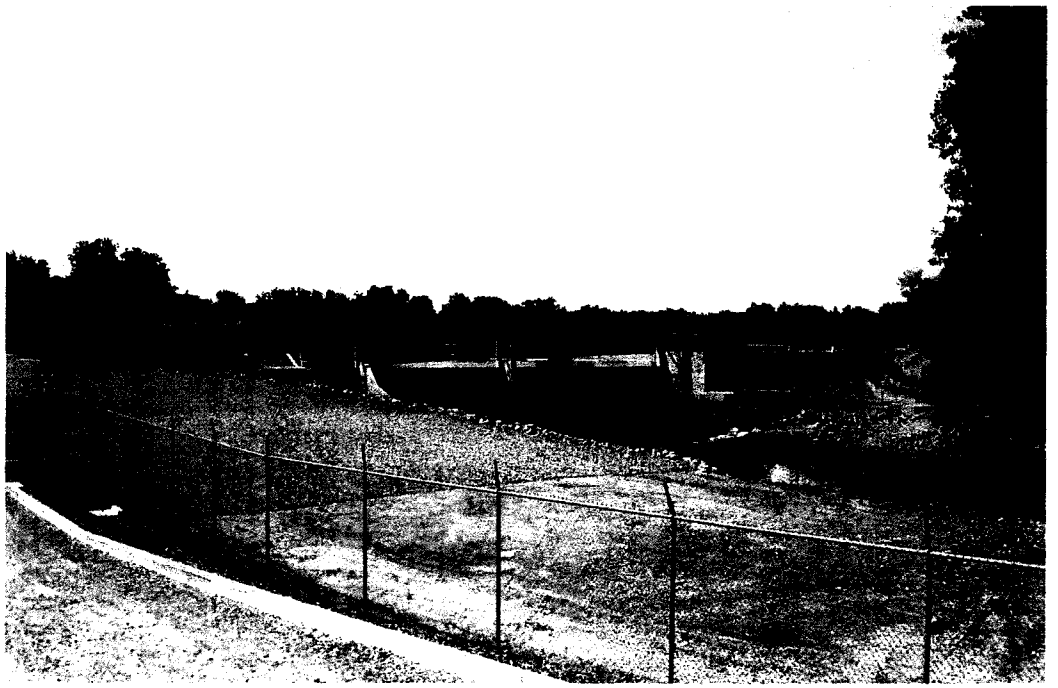
North Side of Mokelumne River below Camanche near new point of diversion



Hammer Recharge Field

Flume to measure water place on Hammer recharge field

Monitoring well at Hammer Recharge Field



Woodbridge Dam