

**Feather Water District  
Water Management Plan  
2008 Criteria**

**Date of draft 5/11/2010  
Date of final – (date)**

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## Section 1: Description of the District

District Name: Feather Water District

Contact Name: Todd Duncan

Title: Conservation Coordinator

Telephone: (530) 674-2807

E-mail: jtdfwd@yahoo.com

Web Address NONE

### A. History

Feather Water District diverts water from the Feather River and it is replaced with CVP water at the confluence of the Feather River and the Sacramento River to make up for the district's diversions.

1. Date district formed: 6/23/58 Date of first Reclamation contract: 6/26/1962

Original size (acres): 9,850 Current year (last complete calendar year): 2008

#### 2. Current size, population, and irrigated acres

	2008
size (acres)	8,365
population served	n/a
irrigated acres	7,398

#### 3. Water supplies received in current year

Water Source	AF
<i>Federal urban water (Tbl 1)</i>	
<i>Federal agricultural water (Tbl 1)</i>	10,572
<i>State water (Tbl 1)</i>	0
<i>Other Wholesaler (define) (Tbl 1)</i>	0
<i>Local surface water (Tbl 1)</i>	1,425
<i>Upslope drain water (Tbl 1)</i>	0
<i>District ground water (Tbl 2)</i>	3,225
<i>Banked water (Tbl 1)</i>	0
<i>Transferred water (Tbl 6)</i>	0
<i>Recycled water (Tbl 3)</i>	0
<i>Other (define) (Tbl 1)</i>	0
<i>Total</i>	15,222

4. Annual entitlement under each right and/or contract

	AF	Source	Contract #	Availability period(s)
Urban				
Agric - BOR	20,000	Feather River	14-06-200-171A-LTR1	March 1 <sup>st</sup> - February 28

5. Anticipated land-use changes

No anticipated land-use changes.

6. Cropping patterns

Original Plan (1994)		2003		2008	
Crop Name	Acres	Crop Name	Acres	Crop Name	Acres
Prunes	1,096	Prunes	4,028	Prunes	3,928
Peaches	2,180	Peaches	1,348	Peaches	1,308
Walnuts	870	Walnuts	1,173	Walnuts	1,105
melons	835	Olives	0	Olives	220
Alfalfa	336	Almonds	0	Almonds	152
Rice	920	Rice	170	Rice	170
misc. (<5%)	1,161	misc. (<5%)	679	misc. (<5%)	515
TOTAL 7,398	7,398	TOTAL	7,398	TOTAL	7,398

7. Major irrigation methods

Original Plan (1994)		2003		2008	
Irrigation Method	Acres	Irrigation Method	Acres	Irrigation Method	Acres
Flood	5,835	Flood	2,741	Flood	1,773
Row risers	1,417	Row risers	4,323	Row risers	5,191
Micro-jets	5	Micro-jets	325	Micro-jets	425
Sprinklers	141	Sprinklers	9	Sprinklers	9
TOTAL	7,398	TOTAL	7,398	TOTAL	7,398

**B. Location and Facilities**

See Attachment A for inflow points, turnouts (internal flow), and outflow (spill) points, measurement locations, conveyance system, and storage facilities. See Attachment F for wells – each well is a groundwater quality monitoring location. There is no operational loss recovery system because the delivery is completely piped.

1. Incoming flow locations and measurement methods

Location Name	Physical Location	Type of Measurement Device	Accuracy
North Reservoir inlet	¼ mile east of 6200 Garden Hwy. Yuba City	Propeller meter	+/- 2%
South Reservoir Inlet	¼ mile east of 75 Wilkie Ave., Yuba City	Propeller meter	+/- 2%

2. *Current year Agricultural Conveyance System*

<i>Miles Unlined - Canal</i>	<i>Miles Lined - Canal</i>	<i>Miles Piped</i>	<i>Miles - Other</i>
N/A	N/A	40	n/a

~~3. *Current year Urban Distribution*~~

4. *Storage facilities (tanks, reservoirs, regulating reservoirs)*

<i>Name</i>	<i>Type</i>	<i>Capacity (AF)</i>	<i>Distribution or Spill</i>
North reservoir	Reservoir	1.75	Distribution
South reservoir	Reservoir	0.75	Distribution
TOTAL		2.50	

5. *Outflow locations and measurement methods*

*Provide this information in Section 2 F.*

6. *Description of the agricultural spill recovery system*

None - No spill recovery system as delivery system is piped.

7. *Agricultural delivery system operation*

<i>On-demand</i>	<i>Scheduled</i>	<i>Rotation</i>	<i>Other (describe)</i>
	X		

8. *Restrictions on water source(s)*

<i>Source</i>	<i>Restriction</i>	<i>Cause of Restriction</i>	<i>Effect on Operations</i>
	Only 18,533 acre feet of water can be diverted during June, July, August, September	Agreed to contract restriction	None anticipated

9. *Proposed changes or additions to facilities and operations for the next 5 years*

No proposed changes in delivery systems or facilities

**C. Topography and Soils**

1. *Topography of the district and its impact on water operations and management*

No impact on water operations or management as land within district does not have extreme high or low elevations; basically land within the district is “flat land.”

2. *District soil association map*

See Attachment B, District Soils Map

3. *Agricultural limitations resulting from soil problems*

<i>Soil Problem</i>	<i>Estimated Acres</i>	<i>Effect on Water Operations and Management</i>
none	n/a	n/a

**D. Climate**

*1. General climate of the district service area*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg Precip.	4.3	3.5	3.0	1.6	0.7	0.2	0.0	0.1	0.3	1.3	2.8	3.7	21.6
Avg Temp.	46	51.0	55.3	60.8	67.7	74.5	79.2	77.5	73.5	65.3	53.9	46.8	62.7
Max. Temp	54.1	61.1	66.3	73.7	81.8	90.1	96.4	94.5	89.7	79.6	64.7	55.1	75.6
Min. Temp	38	41.7	44.3	47.9	53.6	58.9	62	60.5	57.3	50.9	43.1	38.5	49.7
ETo (#30)	0.87	1.57	3.22	4.86	6.28	7.51	7.98	6.92	5.16	3.39	1.51	0.89	50.16

Weather station ID     Marysville 045385     Data period: 1948-2005

Average wind velocity     7.25     Average annual frost-free days: 260

*2. Impact of microclimates on water management within the service area*

NONE

**E. Natural and Cultural Resources**

*1. Natural resource areas within the service area*

Name	Estimated Acres	Description
NONE		

*2. Description of district management of these resources in the past or present*

NONE

*3. Recreational and/or cultural resources areas within the service area*

Name	Estimated Acres	Description
NONE		

**F. Operating Rules and Regulations**

*1. Operating rules and regulations*

See Attachment C, District Rules and Regulations

*2. Water allocation policy*

See Attachment C

Summary – On demand service. During critical water shortage due to line capacity, water given on first come first serve basis, although harvest, sizing and other needs are considered, as certain crop needs may trump the first come first serve policy. This would be on a case-by-case basis. A written policy in development and expected by end of 2011.

*3. Official and actual lead times necessary for water orders and shut-off*

See Attachment C

Summary – Turn on and turn off time are with minimum one hour notice.

4. *Policies regarding return flows (surface and subsurface drainage from farms) and outflow*  
 Summary – No written district policies regarding return flows. No substantial known outflow from district.

5. *Policies on water transfers by the district and its customers*

See Attachment C

Summary – No written district policies regarding water transfers, as no transfers are anticipated or allowed.

**G. Water Measurement, Pricing, and Billing**

**1. Agricultural Customers**

- a. *Number of farms* 92
- b. *Number of delivery points (turnouts and connections)* 140
- c. *Number of delivery points serving more than one farm* \*10
- d. *Number of measured delivery points (meters and measurement devices)* 135
- e. *Percentage of delivered water that was measured at a delivery point* 96%

- *The delivery points that serve more than one turnout are on a schedule to be replaced with one meter per farm. The intent to complete the meter installation within the next three years, funds permitting.*

*Delivery point measurement device table*

<i>Measurement Type</i>	<i>Number</i>	<i>Accuracy (+/- %)</i>	<i>Reading Frequency (Days)</i>	<i>Calibration Frequency (Months)</i>	<i>Maintenance Frequency (Months)</i>
<i>Orifices</i>					
<i>Propeller meter</i>	135	2	30	12	1
<i>Weirs</i>					
<i>Flumes</i>					
<i>Venturi</i>					
<i>Metered gates</i>					
<i>Acoustic doppler</i>					
<i>Other (define)</i>					
<i>Total</i>					

**3. Agricultural Customers**

a. *Current year agriculture water charges - including rate structures and billing frequency*  
 See Attachment D for current year rate ordinance

b. *Annual charges collected from customers (current year data)*

<i>Assessment Charges – determined by acre</i>			
<i>\$</i>	<i>per acre, etc.</i>	<i>Units billed per year</i>	<i>\$ collected per year</i>
70	Per acre	7,789	545,230
		TOTAL	545,230

<i>Volumetric charges</i>			
<i>Charges (\$ unit)</i>	<i>Charge units (\$ per AF, etc.)</i>	<i>Units billed during year (AF, etc.)</i>	<i>\$ collected (\$ times units)</i>
10	AF	1,425	14,250
30	AF	13,792	413,760
40	AF	0	0
		TOTAL	428,010

\* Water charges are initially charged per acre, depending on irrigation system. Drip irrigation is charged upfront for 1 acre of water per acre of land, row risers are charged 2 acre feet of water per acre of land, flood irrigation is charged 2.75 acre feet of water per acre, rice is charged 4.5 acre feet of water per acre of land. The charges are for upfront payments, before irrigation starts. The amount charged is base on history of water use for the aforementioned irrigation systems. The last of the water season meter reading for each farm is tallied and a refund or additional charge may be made, if the farm used more or less water than initially charged for. If the farmer has used the initial allotment and request more water the charge would be 33% more. Example initial water cost \$30 per acre foot, additional water would be \$40 per acre foot. See Attachment D, District Sample Bill

*c. Water-use data accounting procedures*

Water use history is kept on the district computer and covers seven years. Customers are able to request that data at any time. Use history and billing are tracked with QuickBooks.

**H. Water Shortage Allocation Policies**

*1. Current year water shortage policies or shortage response plan - specifying how reduced water supplies are allocated.*

Water in shortage years is supplied to farms, in the same way as non-shortage years, except the water is limited to two feet of water per acre. Types of crop could be limited, due to water needed. Written plan in development - expect completion 2011.

*2. Current year policies that address wasteful use of water and enforcement methods*

See Attachment E

## Section 2: Inventory of Water Resources

### A. Surface Water Supply

1. *Acre-foot amounts of surface water delivered to the water purveyor by each of the purveyor's sources*  
See Water Inventory Tables, Table 1

2. *Amount of water delivered to the district by each of the district sources for the last 10 years*  
See Water Inventory Tables, Table 8

### B. Ground Water Supply

1. *Acre-foot amounts of ground water pumped and delivered by the district*  
See Water Inventory Tables, Table 2

2. *Ground water basin(s) that underlies the service area*

<i>Name</i>	<i>Size (Square Miles)</i>	<i>Usable Capacity (AF)</i>	<i>Safe Yield (AF/Y)</i>
Sutter Ground water sub basin	Unknown	Unknown	Unknown

3. *Map of district-operated wells and managed ground water recharge areas*  
See Attachment F, District Map of Ground Water Facilities

<i>Name</i>	<i>Date Drilled</i>	<i>Capacity (gpm)</i>	<i>Depth (ft)</i>	<i>Pump Depth (ft)</i>	<i>Spring Static Water Level (ft)</i>	<i>Pumped Water Level (ft)</i>
North Res. Ground well	3/77	4,000	230	115	26.55	60
South Res. Ground well	3/77	4,000	200	100	23.45	60

4. *Description of conjunctive use of surface and ground water*

During water shortage years or peak water usage ground wells, privately own or district owned, are used to supplement the river supply. Wells are monitored for “total salts” content, as some wells within the district are too high in “total salts.”

5. *Ground Water Management Plan*  
No ground water management program.

6. *Ground Water Banking Plan*  
No water banking implemented.

### C. Other Water Supplies

1. *“Other” water used as part of the water supply*  
See the Water Inventory Tables, Table 1

**D. Source Water Quality Monitoring Practices**

~~1. Potable Water Quality~~

2. Agricultural water quality concerns: Yes       X       No                       
 Water is tested for total salt content when groundwater is mixed with river water.

3. Description of the agricultural water quality testing program and the role of each participant, including the district, in the program.

When groundwater is used it is tested for total salt content. It is important for the district to maintain the periodic testing, as salt content can affect crops in an adverse way.

4. Current water quality monitoring programs for surface water by source

Analyses Performed	Frequency	Concentration Range	Average
Total Salts	Monthly	300-400	350

Current water quality monitoring programs for groundwater by source

Analyses Performed	Frequency	Concentration Range	Average
Total Salts	Monthly	600-1200	800

**E. Water Uses within the District**

1. Agricultural

See Water Inventory Tables, Table 5 - Crop Water Needs

2. Types of irrigation systems used for each crop in current year

Crop name	Total Acres	Level Basin - acres	Furrow - acres	Sprinkler - acres	Low Volume - acres	Total acres of various irrigation types
Rice	170	170				170
Prunes	3,928	887	2,991		50	3,928
Peaches	1,308	207	1,000		101	1,308
Olives	220	170			50	220
Almonds	152	32	70		50	152
Walnuts	1,105		896	9	200	1,105
Other	515	515				515
TOTAL	7,398	1,981	4,957	9	451	7,398

~~3. Urban use by customer type in current year~~

~~4. Urban Wastewater Collection/Treatment Systems serving the service area—current year~~

5. Ground water recharge/management in current year (Table 6)

NONE

6. *Transfers and exchanges into or out of the service area in current year (Table 6)*

<i>From Whom</i>	<i>To Whom</i>	<i>AF</i>	<i>Use</i>
NONE			

7. *Trades, wheeling, wet/dry year exchanges, banking or other transactions in current year (Table 6)*

<i>From Whom</i>	<i>To Whom</i>	<i>AF</i>	<i>Use</i>
NONE			

8. *Other uses of water in current year*

<i>Other Uses</i>	<i>AF</i>
NONE	

**F. Outflow from the District**

See Facilities Map, Attachment A, for the location of surface and subsurface outflow points, outflow measurement points, outflow water-quality testing locations

1. *Surface and subsurface drain/outflow in current year*

<i>Outflow point</i>	<i>Location description</i>	<i>AF</i>	<i>Type of measurement</i>	<i>Accuracy (%)</i>	<i>% of total outflow</i>	<i>Acres drained</i>
Many	*drainage ditches for high water table drainage are throughout south portion of district.	unk	none	n/a	unknown	unknown

\*The district is completely piped and has no spills or outflow. Drainage from farmers' fields goes into District and County drainage ditches. Explained below

<i>Outflow point</i>	<i>Where the outflow goes (drain, river or other location)</i>	<i>Type Reuse (if known)</i>
*	Into drainage ditch, eventually Sutter bypass	unknown

\* Ditches within the district are a combination of county and district owned, typically district ditches are designed to have water /drainage flow toward and or into county ditches, where the water would flow eventually into the Sutter Bypass.

2. *Description of the Outflow (surface and subsurface) water quality testing program and the role of each participant in the program.*

No program at this time.

3. *Outflow (surface drainage & spill) Quality Testing Program*

<i>Analyses Performed</i>	<i>Frequency</i>	<i>Concentration Range</i>	<i>Average</i>	<i>Reuse limitation?</i>
none				

*Outflow (subsurface drainage) Quality Testing Program*

<i>Analyses Performed</i>	<i>Frequency</i>	<i>Concentration Range</i>	<i>Average</i>	<i>Reuse limitation?</i>
n/a				

4. *Provide a brief discussion of the District’s involvement in Central Valley Regional Water Quality Control Board programs or requirements for remediating or monitoring any contaminants that would significantly degrade water quality in the receiving surface waters.*

No involvement at this time.

**G. Water Accounting (Inventory)**

1. *Water Supplies Quantified*

- a. *Surface water supplies, imported and originating within the service area, by month (Table 1)*
- b. *Ground water extracted by the district, by month (Table 2)*
- c. *Effective precipitation by crop (Table 5)*
- d. *Estimated annual ground water extracted by non-district parties (Table 2)*
- e. *Recycled urban wastewater, by month (Table 3)*
- f. *Other supplies, by month (Table 1)*

2. *Water Used Quantified*

- a. *Agricultural conveyance losses, including seepage, evaporation, and operational spills in canal systems (Table 4) or*  
~~*Urban leaks, breaks and flushing/fire uses in piped systems (Table 4)*~~
- b. *Consumptive use by riparian vegetation or environmental use (Table 6)*
- c. *Applied irrigation water - crop ET, water used for leaching/cultural practices (e.g., frost protection, soil reclamation, etc.) (Table 5)*
- d. ~~*Urban water use (Table 6)*~~
- e. *Ground water recharge (Table 6)*
- f. *Water exchanges and transfers and out-of-district banking (Table 6)*
- g. *Estimated deep percolation within the service area (Table 6)*
- h. *Flows to perched water table or saline sink (Table 7)*
- i. *Outflow water leaving the district (Table 6)*
- j. *Other*

3. *Overall Water Inventory*

- a. *Table 6*

**H. Assess Quantifiable Objectives:**

*Identify the Quantifiable Objectives that apply to the District (Planner, chapter 10) and provide a short narrative describing past, present and future plans that address the CALFED Water Use Efficiency Program goals identified for the District.*

<i>QO #</i>	<i>QO Description</i>	<i>Past, Present &amp; Future Plans</i>
42	Reduce salinity	Monitor salinity levels at distribution points for ground water. As ground water is the only factor affecting the salinity on –site distribution points, are monitored for salinity and not add if more than 600ppm total salts are indicated. Surface/river water is always mixed to reduce salinity.
41	Reduce pesticides	Growers are encouraged to use organic materials whenever possible. Monetary incentive program proposed, due to budgetary constraints, no money would be available for near future.
40	Reduce Group A pesticides	Growers are encouraged to use organic materials whenever possible. Monetary incentive program proposed, due to budgetary constraints, no money would be available for near future.
39	Reduce water temperature	We eliminate pumping during extreme temperature days. Which eliminate pumping in river, in turn relieving temperature increase of water due to pumping, at pumping site, which flows into river. Also eliminating drainage from district which prevents surface and sun heated water reaching river

**Section 3: Best Management Practices (BMPs) for Agricultural Contractors**

**A. Critical Agricultural BMPs**

1. Measure the volume of water delivered by the district to each turnout with devices that are operated and maintained to a reasonable degree of accuracy, under most conditions, to +/- 6%

Number of turnouts that are unmeasured or do not meet the standards listed above: 15

Number of measurement devices installed last year: 2

Number of measurement devices installed this year: 3

Number of measurement devices to be installed next year: 6

<i>Types of Measurement Devices Being Installed</i>	<i>Accuracy</i>	<i>Total Installed During Current Year</i>
Propeller meter	±2	5

2. Designate a water conservation coordinator to develop and implement the Plan and develop progress reports

Name: Todd Duncan Title: Office Manager

Address: 280 Wilkie Ave., Yuba City, CA 95993

Telephone: (530) 674-2807 E-mail: jtdfwd@yahoo.com

3. Provide or support the availability of water management services to water users  
See Attachment J, Notices of District Education Programs and Services Available to Customers.

**a. On-Farm Evaluations**

- 1) On farm irrigation and drainage system evaluations using a mobile lab type assessment

	<i>Total in district</i>	<i># surveyed last year</i>	<i># surveyed in current year</i>	<i># projected for next year</i>	<i># projected 2<sup>nd</sup> yr in future</i>
<i>Irrigated acres</i>	7,398	500	500	500	500
<i>Number of farms</i>	110	1	5	3	3

- 2) Timely field and crop-specific water delivery information to the water user  
Water delivery information is gathered through regular water meter readings and is available by contacting district personnel

**b. Real-time and normal irrigation scheduling and crop ET information**

Real time ETo information is gathered through CIMIS station 30 and is available at the District Office in 2011.

*c. Surface, ground, and drainage water quantity and quality data provided to water users*

Total salts information is given to farmers that desire the information. Readings are available at counter at district office if desired

*d. Agricultural water management educational programs and materials for farmers, staff, and the public*

<i>Program</i>	<i>Co-Funders (If Any)</i>	<i>Yearly Targets</i>
Annual Meeting	n/a	Current farmers

See Attachment J for samples of provided materials and notices

*e. other*

*4. Pricing structure - based at least in part on quantity delivered*

Pricing is per acre and per acre-foot. This pricing became effective in 1960.

*5. Evaluate and describe the need for changes in policies of the institutions to which the district is subject.*

No policies changes suggested.

*6. Evaluate and improve efficiencies of district pumps*

Pumps are evaluated each year by a local pump company and replaced as needed. Also efficiency tests are made each year by Pacific Gas and Electric company employees.

## B. Exemptible BMPs for Agricultural Contractors

### 1. Facilitate alternative land use

<i>Drainage Characteristic</i>	<i>Acreage</i>	<i>Potential Alternate Uses</i>
<i>High water table (&lt;5 feet)</i>	N/A	
<i>Poor drainage</i>	N/A	
<i>Ground water Selenium concentration &gt; 50 ppb</i>	N/A	
<i>Poor productivity</i>	N/A	

Describe how the contractor encourages customers to participate in these programs.

### 2. Facilitate use of available recycled urban wastewater that otherwise would not be used beneficially, meets all health and safety criteria, and does not cause harm to crops or soils

<i>Sources of Recycled Urban Waste Water</i> <i>n/a</i>	<i>AF/Y Available</i>	<i>AF/Y Currently Used in District</i>
Currently no sources of recycled urban waste water available.	n/a	n/a

### 3. Facilitate the financing of capital improvements for on-farm irrigation systems

<i>Funding source Programs</i>	<i>How provide assistance</i>
General fund	District provides a cost sharing for labor and materials for new irrigation systems on a case by case basis

### 4. Incentive pricing

<i>Structure of incentive pricing</i>	<i>Related goal</i>
33% price increase per acre-foot for additional water over the initial allotted water. * See Section 1, G3	Water conservation

### 5. a) Line or pipe ditches and canals

<i>Canal/Lateral (Reach)</i>	<i>Type of Improvement</i>	<i>Number of Miles in Reach</i>	<i>Estimated Seepage (AF/Y)</i>	<i>Accomplished/Planned Date</i>
Delivery system is completely piped	none			

### b) Construct regulatory reservoirs

<i>Reservoir Name</i> <i>None</i>	<i>Annual Spill in Section (AF/Y)</i>	<i>Estimated Spill Recovery (AF/Y)</i>	<i>Accomplished/Planned Date</i>
District has two regulatory reservoirs at this time. No need for another reservoir now.	n/a		

### 6. Increase flexibility in water ordering by, and delivery to, water users

There is no contractor 'agricultural water order' form. Customers make water orders by telephone. During the last several years, a increased flexibility of water delivery/shut- off was implemented, by relinquishing

the old hard fast rule, established during the early years of the district, of 6am- 6pm turn on-turn off program , which required the farmers to turn the water on or off at these times. The new applicable rule is to turn water on during the day,with a one hour lead time, anytime during 6am-6pm. Also instituted was the availability of turning off water at night, to eliminate the need to turn off the water the previous evening and starting water again the next morning to finish the field. The farmer gets to continue irrigation until the field is completely irrigated.This policy negates the need to re-start water and flood previously flooded portions of the fields, to reach an area of the field that needs water.

7. *Construct and operate district spill and tail-water recovery systems*

<i>Distribution System Lateral</i>	<i>Annual Spill (AF/Y)</i>	<i>Quantity Recovered and reused (AF/Y)</i>
No distribution spill, as delivery system is completely piped.	none	none
Total		

<i>Drainage System Lateral</i>	<i>Annual Drainage Outflow (AF/Y)</i>	<i>Quantity Recovered and reused (AF/Y)</i>
No outflow from district, as delivery system is completely piped.	None	none
Total		

8. Plan to measure outflow.

Total # of outflow (surface) locations/points none

Total # of outflow (subsurface) locations/points none

Total # of measured outflow points none

Percentage of total outflow (volume) measured during report year none

*Identify locations, prioritize, determine best measurement method/cost, submit funding proposal*

<i>Location &amp; Priority</i>	<i>Estimated cost (in \$1,000s)</i>				
n/a	2009	2010	2011	2012	2013

9. *Optimize conjunctive use of surface and ground water*

Conjunctive use of surface and ground water is used during peak water usage time or river water shortage. During certain times of the irrigation season, line capacity is not sufficient for the number of outlets irrigating, for this reason, a deep well in that pipeline section would be used to fill the pipeline with sufficient pressure to keep pipe line full. Ground wells are also use when there are restrictions of water from the river system and there is not an adequate supply of water to provide to customers.

10. *Automate canal structures*

n/a – fully piped system

11. *Facilitate or promote water customer pump testing and evaluation*

See Attachment J, Notices of District Education Programs and Services Available to Customers Annual grower meeting covers this and many other topics. Growers are provided information pertaining to pump testing and evaluation. Typically the district will test the pump water and help defer cost, by paying

for individual pump testing if pumps are within the acceptable total salts range.

12. Mapping

<i>GIS maps</i>	<i>Estimated cost (in \$1,000s)</i>				
	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>
<i>Layer 1 – Distribution system</i>	none		1,000		
<i>Layer 2 – Drainage system</i>	none		1,000		
<i>Suggested layers:</i>				500	
<i>Layer 3 – Ground water information</i>	None			500	
<i>Layer 4 – Soils map</i>	None			500	
<i>Layer 5 – Natural &amp; cultural resources</i>	None			500	
<i>Layer 6 – Problem areas</i>	none			500	

**C. Provide a 3-Year Budget for Implementing BMPs**

1. Amount actually spent during current year. 2009

<i>BMP #</i>	<i>BMP Name</i>	<i>Actual Expenditure (not including staff time)</i>	<i>Staff Hours</i>
A 1	<i>Measurement</i>	5,000	160
2	<i>Conservation staff</i>	2,000	80
3	<i>On-farm evaluation /water delivery info</i>	2,000	20
	<i>Irrigation Scheduling</i>	1,000	20
	<i>Water quality</i>	500	20
	<i>Agricultural Education Program</i>	500	20
4	<i>Quantity pricing</i>	1,000	20
5	<i>Policy changes</i>	2,000	20
6	<i>Contractor’s pumps</i>	15,000	40
B 1	<i>Alternative land use</i>	\$0	0
2	<i>Urban recycled water use</i>	\$0	0
3	<i>Financing of on-farm improvements</i>	10,000	100
4	<i>Incentive pricing</i>	\$0	10
5	<i>Line or pipe canals/install reservoirs</i>	\$0	0
6	<i>Increase delivery flexibility</i>	\$0	40
7	<i>District spill/tailwater recovery systems</i>	\$0	0
8	<i>Measure outflow</i>	\$0	0
9	<i>Optimize conjunctive use</i>	\$0	20
10	<i>Automate canal structures</i>	\$0	0
11	<i>Customer pump testing</i>	5,000	40
12	<i>Mapping</i>	\$0	0
	<i>Total</i>	<i>\$44,000</i>	<i>610</i>

2. Projected budget summary for the next year. 2010

<i>BMP #</i>	<i>BMP Name</i>	<i>Budgeted Expenditure (not including staff time)</i>	<i>Staff Hours</i>
A 1	Measurement	5,000	160
2	Conservation staff	2,000	80
3	On-farm evaluations/water delivery info	1,500	20
	Irrigation Scheduling	500	4
	Water quality	500	4
	Agricultural Education Program	500	24
4	Quantity pricing	1,000	20
5	Policy changes	\$0	10
6	Contractor's pumps	10,000	40
B 1	Alternative land use	\$0	0
2	Urban recycled water use	\$0	0
3	Financing of on-farm improvements	5,000	40
4	Incentive pricing	\$0	10
5	Line or pipe canals/install reservoirs	\$0	0
6	Increase delivery flexibility	\$0	20
7	District spill/tailwater recovery systems	\$0	40
8	Measure outflow	\$0	0
9	Optimize conjunctive use	\$0	20
10	Automate canal structures	\$0	0
11	Customer pump testing	5,500	40
12	Mapping	\$0	0
	<i>Total</i>	<i>\$31,500</i>	<i>532</i>

3. Projected budget summary for 2011.

<i>BMP #</i>	<i>BMP Name</i>	<i>Budgeted Expenditure (not including staff time)</i>	<i>Staff Hours</i>
A 1	Measurement	3,000	80
2	Conservation staff	2,000	40
3	On-farm evaluations/water delivery info	1,000	40
	Irrigation Scheduling	500	8
	Water quality	1,000	20
	Agricultural Education Program	1,000	20
4	Quantity pricing	0	20
5	Policy changes	0	40
6	Contractor's pumps	5,000	40

(continued)

<i>BMP #</i>	<i>BMP Name</i>	<i>Budgeted Expenditure (not including staff time)</i>	<i>Staff Hours</i>
B 1	<i>Alternative land use</i>	0	0
2	<i>Urban recycled water use</i>	0	0
3	<i>Financing of on-farm improvements</i>	6,000	40
4	<i>Incentive pricing</i>	0	10
5	<i>Line or pipe canals/install reservoirs</i>	0	0
6	<i>Increase delivery flexibility</i>	0	40
7	<i>District spill/tailwater recovery systems</i>	0	20
8	<i>Measure outflow</i>	0	20
9	<i>Optimize conjunctive use</i>	0	20
10	<i>Automate canal structures</i>	0	0
11	<i>Customer pump testing</i>	5,000	40
12	<i>Mapping</i>	2,000	40
	<i>Total</i>	\$26,500	538

**Section 4: — Best Management Practices for Urban Contractors —**

Res Notes



LEGEND

- DISTRICT BOUNDARY
- OWNERSHIP BOUNDARY
- PRELIMINARY LOCATION OF DISTRIBUTION LATERAL
- PRELIMINARY LOCATION OF PIPE DELIVERY
- VALVE SYMBOL
- PIPE SIZE
- PIPE CAPACITY FROM RATE RECORD SHEET
- CONTROL VALVE

MAP OF  
**FEATHER WATER DISTRICT**  
 PRELIMINARY DISTRIBUTION DESIGN  
 SUTTER COUNTY, CALIFORNIA  
 EDWARD VON GELDERN  
 Civil Engineer  
 430 Second Street  
 Yuba City, California

T.14N.-R.3E.  
T.13N.-R.3E.

Res SW 1/4

Attachment A



Attachment A



Drainage Ditch

Drainage Ditch

Wilson Rd.

© 2010 Google

Google

Data SIO, NOAA, U.S. Navy, NGA, GEBCO

38°58'26.63" N 121°37'01.48" W

elev 42 ft

Apr 7, 2010

Eye alt 2097 ft



Drainage Ditch

Drainage Ditch

Wilson Rd.

© 2010 Google

Google

Data SIO, NOAA, U.S. Navy, NGA, GEBCO

38°58'26.63" N 121°37'01.46" W

elev 42 ft

Apr 7, 2010

Eye alt 2097 ft



Wilson Rd

Wilson Rd

Drainage Ditch which carries water out of district, eventually draining into the Sutter ByPass

© 2010 Google

Data SIO, NOAA, U.S. Navy, NGA, GEBCO

elev 37 ft

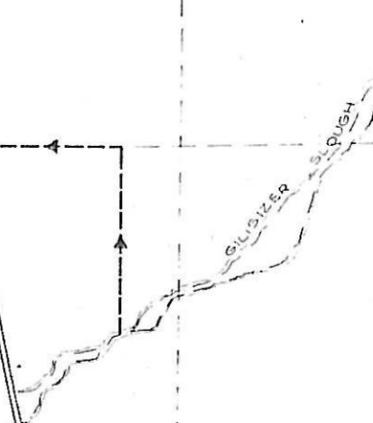
Apr 7, 2010

Eye alt 2097 ft

Google

38° 58' 20.04" N 121° 37' 16.57" W

PUMP NO 2



STATE DRAIN  
SUTTER  
BY PMS

19

20

21

23

24

30

25

26

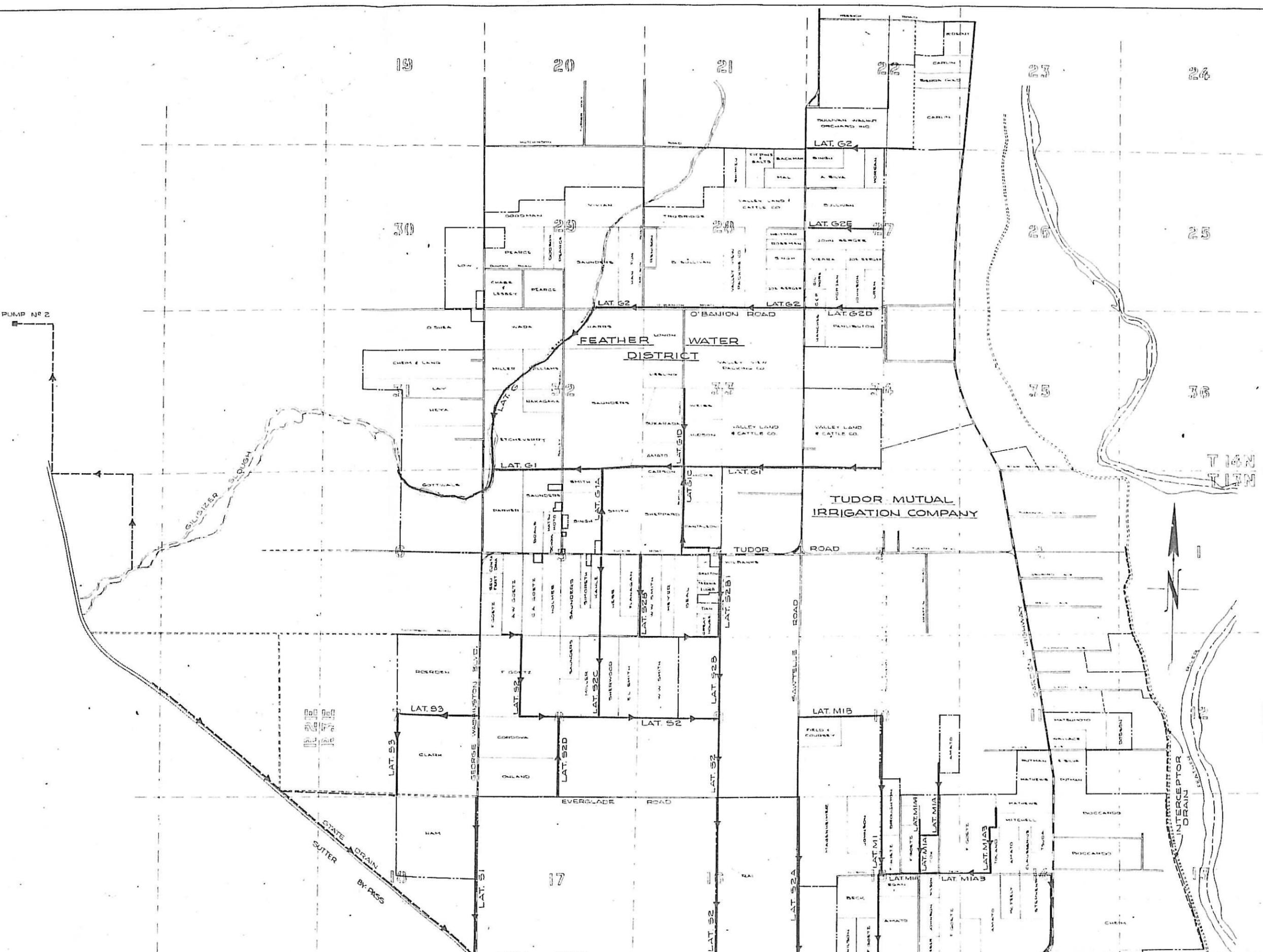
### FEATHER WATER DISTRICT

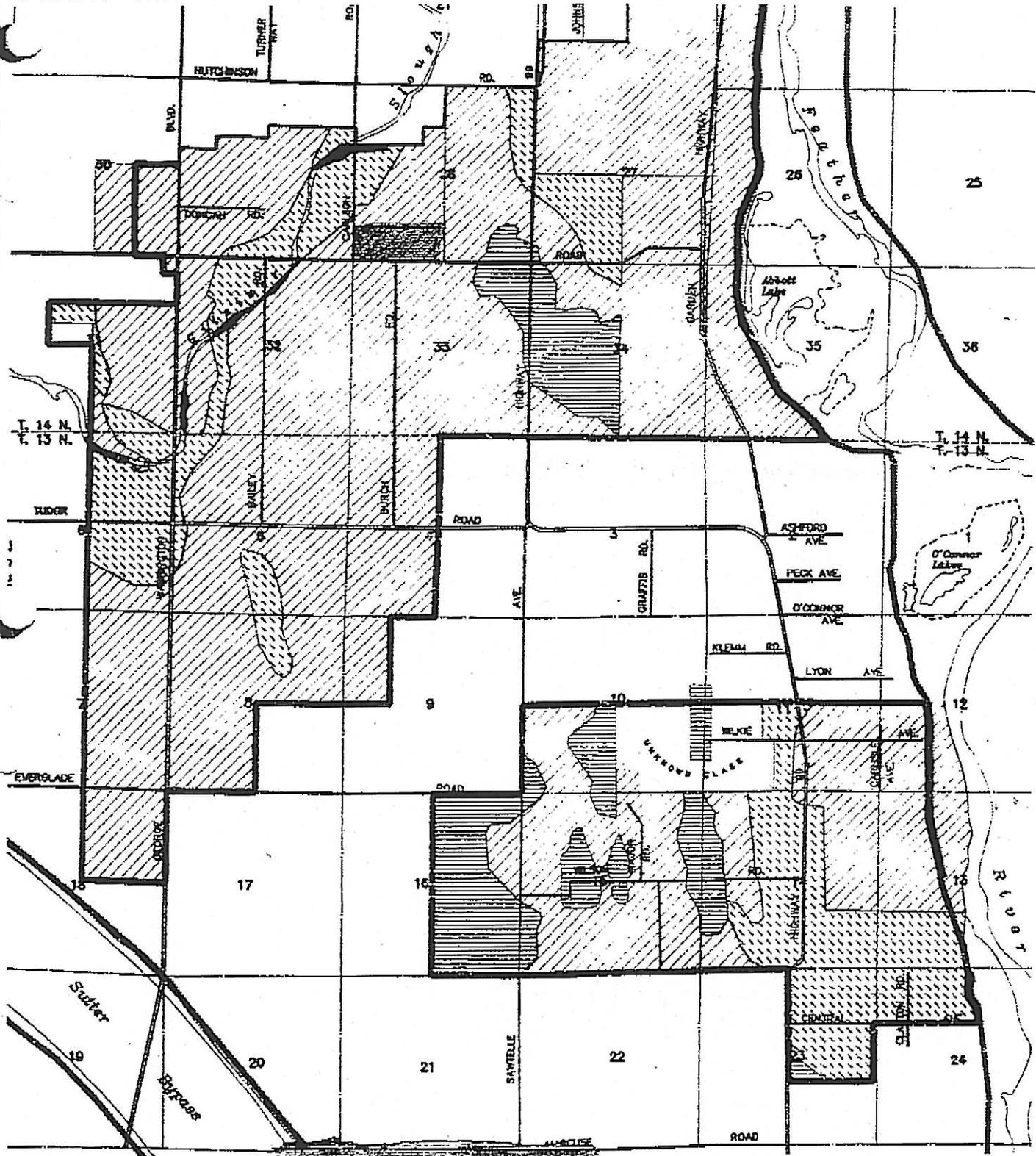
### TUDOR MUTUAL IRRIGATION COMPANY

TION  
TLEN



100  
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1000





-  CLASS 1
-  CLASS 2
-  CLASS 3
-  CLASS 6

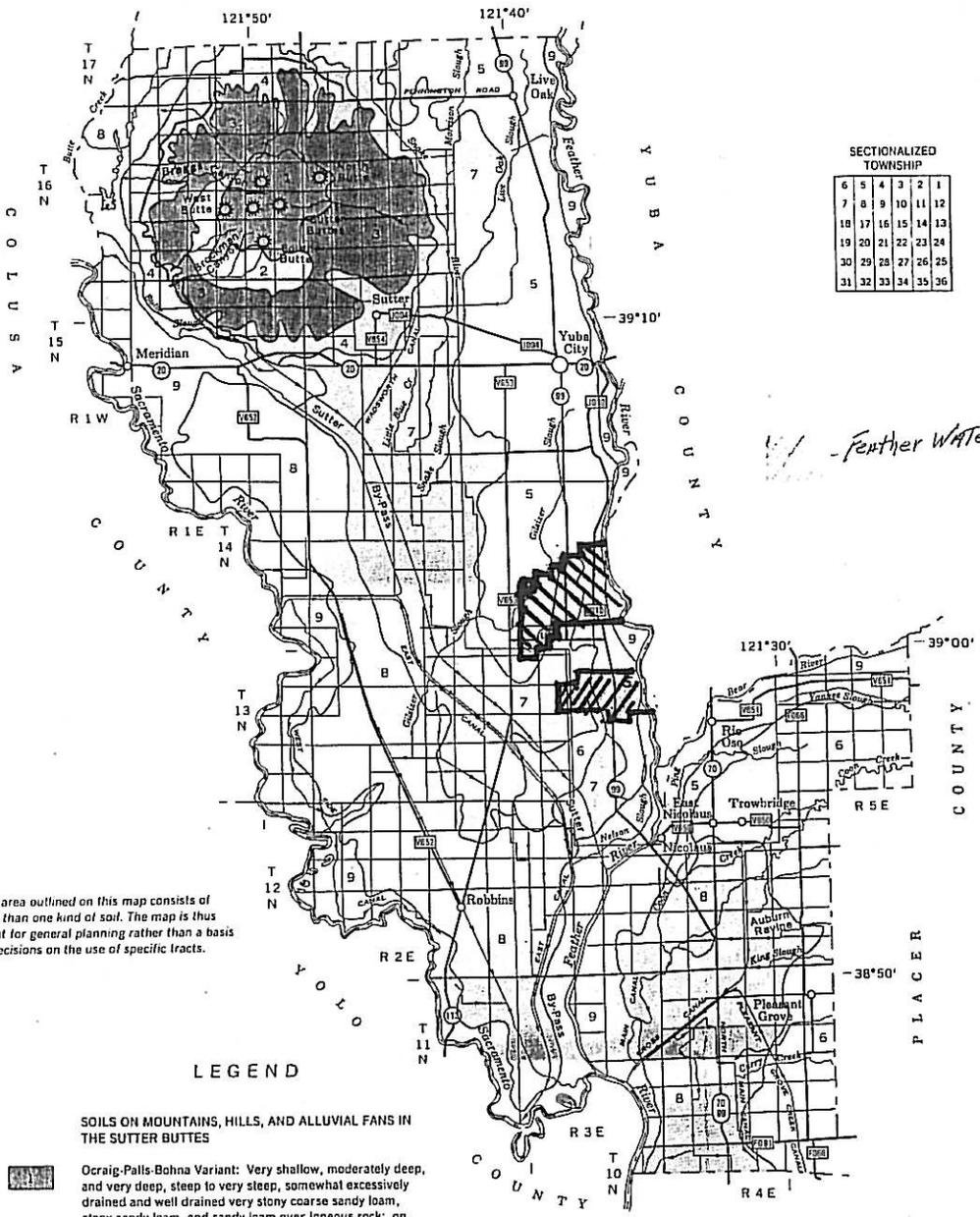
OUT

Attachment  
B

UNITED STATES  
 DEPARTMENT OF INTERIOR  
 BUREAU OF RECLAMATION  
 CENTRAL VALLEY PROJECT  
 FEATHER WATER DISTRICT  
**LAND CLASSIFICATION**

SCALE: 1"=4000'

BUTTE COUNTY



SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

LEGEND

SOILS ON MOUNTAINS, HILLS, AND ALLUVIAL FANS IN THE SUTTER BUTTES

- Ocala-Palis-Bohna Variant: Very shallow, moderately deep, and very deep, steep to very steep, somewhat excessively drained and well drained very stony coarse sandy loam, stony sandy loam, and sandy loam over igneous rock; on mountains
- Allamont-Dibble: Moderately deep and deep, rolling to steep, well drained silty clay and silty clay loam over sedimentary rock; on hills
- Palis-Stohman: Shallow and moderately deep, rolling to steep, well drained stony sandy loam over igneous rock; on hills
- Olashes: Very deep, nearly level to gently sloping, well drained sandy loam; on alluvial fans

SOILS ON TERRACES

- Conejo-Tisdale: Moderately deep to very deep, level to nearly level, well drained loam and clay loam; on terraces
- San Joaquin-Cometa: Moderately deep and very deep, level to nearly level, well drained sandy loam and loam; on terraces

SOILS IN BASINS AND ON BASIN RIMS

- Oswald-Gridley-Subaco: Moderately deep, level to nearly level, poorly drained and moderately well drained clay and clay loam; in basins and on basin rims
- Clear Lake-Capay: Deep and very deep, level to nearly level, poorly drained and moderately well drained clay and silty clay; in basins and on basin rims

SOILS ON FLOOD PLAINS

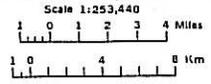
- Shanghai-Nueva-Columbia: Very deep, level to nearly level, somewhat poorly drained silt loam, loam, and fine sandy loam; on flood plains

COMPILED 1986

*Feather Water District*

*Attachment B*

U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
UNIVERSITY OF CALIFORNIA  
AGRICULTURAL EXPERIMENT STATION  
**GENERAL SOIL MAP**  
SUTTER COUNTY, CALIFORNIA



*EXHIBIT #2*

ATTACHMENT C

## **FEATHER WATER DISTRICT**

280 Wilkie Avenue, Yuba City, CA 95991

530-674-2807

530-674-9562 (fax)

### **Rules and Regulations Feather Water District (as amended on September 9, 2008)**

#### **Control of System**

1. The Operations Manager who is appointed by and under the authority of the Board of Directors, shall have the responsibility and authority for operation of all of the works of Feather Water District (the "District"), and no other persons shall interfere with the system and works in any manner.
2. No persons shall tamper with any District ditch pumps or switch boxes, or place any obstructions in District ditches or related facilities (unless expressly approved by the Operations Manager), or damage any pipelines, standpipes, valves, pumps or other property of the District, or otherwise interfere with the orderly operation of the water system.
3. The District maintains a 20-foot right-of-way around its facilities, including 20 feet on either side of its ditches and underground pipelines. No person shall build any structure or place any obstruction within this right-of-way. Any trees, brush, or crops within this District right-of-way may be removed by the District when it becomes necessary, in the District's sole judgment and discretion, to operate, alter, modify, maintain, repair, or replace any of the District's facilities. If the landowner is unsure of the location of District facilities, the landowner should contact the District and a map of District facilities will be shown to the landowner. In the event that trees, brush, or crops need to be removed, the District shall not be liable to the landowner for the removal of the unauthorized encroachments, but it may bill the landowner for the time spent in removing and disposing of the encroachments.
4. Any tree or vine prunings, cuttings, branches, brush, piles of weeds or grass or other materials placed within twelve (12) feet of the banks of the District ditches and drains (ditches) or on top of or within six feet on either side of an underground pipeline shall be removed promptly upon request by the Operations Manager when necessary to permit periodic maintenance of the ditches and pipelines. No tree or vine prunings, cuttings, branches, brush, weeds, grass, or other materials shall be either dumped into the District ditches or placed on or adjacent to the ditch banks, where they might fall, slide, or be blown into District ditches.
5. No persons shall begin major alteration of their property (e.g. pushing out an orchard, grading, ripping, etc.) without first notifying in writing the District's General Manager and Operations Manager 30 days in advance of such alteration. The written notification must include a description of the work to be performed, who will be performing the work, and the purpose of the work. The purpose of the notification will be to give the

District time to determine whether any of its property is located within the work area and whether special steps must be taken to ensure it is not damaged during the work. Failure to provide such written notice to the General Manager and Operations Manager shall constitute negligence per se, and the property owner, or person requesting the work, shall be liable to the District for any damages to District property.

### **Liability for Damages**

6. Each property owner and irrigator shall be liable to the District for any damages to District property caused by negligent, careless or intentional destruction of or damage to any District pipelines, standpipes, valves, pumps or other property of the District. Upon the repair of any such damage by the District, said persons shall be billed by the District and shall immediately pay the costs thereof to the District. The property owner and any persons dumping or placing any tree or vine prunings, cuttings or branches, brush, weeds, grass, or other materials on top of District pipelines or into the District ditches or placing them adjacent to the ditch banks in locations where they fell, slid or were blown into the District ditches shall immediately remove them. Upon their failure to do so, they shall be liable to the District for its cost of removing said materials. In the event any such materials within 12 feet of the ditch bank or within 6 feet of underground pipelines are not promptly removed when requested by the Operations Manager to permit ditch maintenance, the landowner and any other persons responsible for such placement shall be required to reimburse the District for its costs of clearance or removal.

### **Discontinuance of Water Service**

7. Prior to each irrigation season, the Board of Directors shall have the power and authority not to commence water delivery to any person who has not paid his water charges or penalties thereon or other indebtedness owing to the District, or who has not complied with or has violated any rule or regulation made by the Board of Directors, or who has not paid for damages to District property.

### **Ordering Water**

8. Water must be requested 12 hours in advance, with the request being made to the Operations Manager between 6:00 a.m. and 6:00 p.m., on the day prior to when delivery is requested. The person requesting such service shall also provide the Operations Manager with the estimate of the length of time he desires the delivery of water.

### **Payment for Water**

9. The Board of Directors shall fix all rates annually. Water tolls are billed once a year and are delinquent if not paid within 30 days after they are due.

a. Notification of changes and payment for water. It shall be the responsibility of the landowner to notify the District of changes of tenant information including home address, telephone, ranch and acreage at the beginning of each crop year. The landowner shall

have thirty (30) days from the date of the annual invoice statement to notify the District in writing of any corrections in acreage, ownership, or payment responsibility and after that thirty day period, if no changes are reported to the District in writing, the original invoice will stand and cannot be changed for the current irrigation season.

b. General crops. Water users shall be billed once a year and the charges shall be payable upon receipt of the invoice. If water users do not receive the annual invoice for water, it shall be the water user's responsibility to contact the District. The amount due is delinquent 30 days from the date of the annual invoice. A 20% penalty, or such other amount that may be fixed by the Board, shall be added to all delinquent payments if not received within the 30-day pay period, and shall also be added to any accounts paid with checks dishonored by a bank. Pursuant to Rule #7, no water shall be delivered unless and until all water charges, penalties, or other indebtedness owing to the District have been paid in full.

c. Interest Added to Penalty. In addition to the delinquent penalty charge, interest on unpaid charges and penalties shall accrue daily at one percent (1%) per month or 12% per annum from the date of delinquency to and including the date paid. For those ordering water the year following in which there was a delinquent payment and before water is delivered, all irrigations must be paid for in advance.

d. Liens for Amounts Owing to District. Delinquent assessments and delinquent charges for water and/or drainage provided by the District and any other indebtedness owing to the District shall be a lien upon the lands to which the water and/or drainage is provided, and a Certificate of Lien may be recorded with the Sutter County Recorder for such amounts. Legal action may also be brought by the District for the collection of any such amounts payable to the District and the District shall also be entitled to judgment for its reasonable attorneys fees incurred thereby.

### **Delivery of Water**

10. Pumping. The District shall provide only two pumping lifts in the delivery of water, as determined by the Board of Directors, including the pumping lift at the Feather River into the District's system. Any additional lift(s) required for service to the landowner shall be approved by the Board of Director and at the landowner's expense.

11. Point of Delivery. In any extension of service, the point of delivery of the water by the District shall be as determined by the Board of Directors, and all responsibility for conveyance or delivery beyond the point shall be upon the landowner.

12. Costs Associated With Extending Water Delivery or Drainage Works. The District shall not be obligated to provide facilities for or to pay the cost of extending water or drainage service as a result of any subdivision of parcels or an Owner's sale of less than all parcels in that ownership. In the event a service extension is desired to any newly subdivided or separated parcels, whether by adding extensions to existing distribution or drainage facilities to those currently existing or otherwise, all costs

thereof shall be borne by the subdivider or the shareholder requesting such extension of service.

13. Use of Water

- a. All orchards that are flood irrigated shall use ditches with contours or riser systems.
- b. All irrigation must run 24 hours a day until completed.
- c. When water starts spilling into the drain the irrigation is completed. For every hour after the irrigation is completed that the user allows water to be spilled into the drain, as determined by the Operations Manager, the user will be billed proportionately for this wasteful overuse.
- d. User shall notify the Operations Manager at least one hour before turning water off.

14. District Contacts

Feather Water District  
280 Wilkie Avenue  
Yuba City, CA 95991

Office Phone: 530-674-2807  
Office Fax: 530-671-9562

General Manager  
Francis Silva  
530-674-2807

Operations Manager  
Dan Duncan  
530-682-7400

David Berg  
Accountant (for billing questions only)  
530-671-0855

\*\*\*\*\*



Neill Mitchell, President  
Feather Water District

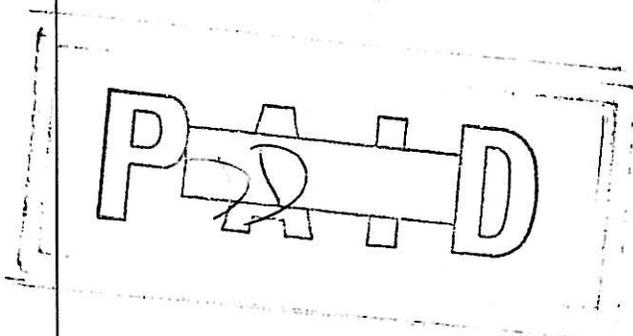
Feather Water District

280 Wilkie Ave  
Yuba City, CA 95991

# Invoice

Date	Invoice #
03/18/2009	1051

Bill To
Lally Kulwinder 1961 Taylor St. <i>WHITER OUT</i> Yuba City, Ca 95993

				Terms
Item	Quantity	Description	Rate	Amount
Water	202	Acre Foot of irrigation water	30.00	6,060.00
Electricity charge	202	Electricity surcharge.	7.50	1,515.00
				
			<b>Total</b>	\$7,575.00
IF YOU DO NOT NEED WATER PLEASE CONTACT DAN DUNCAN AT (530) 674-2807 AS SOON AS POSSIBLE.			<b>Payments/Credits</b>	\$0.00
			<b>Balance Due</b>	\$7,575.00

*D ATTACHMENT  
SAMPLE BILL*

Feather Water District

Water rates: Lands charged at following rates;

Land with;

Micro-jets- charged at 1 acre foot of water per acre of land.

Row risers- charged at 2 acre foot of water per acre of land.

Flood- charged at 2.75 acre foot of water per acre of land.

Rice- charged at 4.5 acre foot of water per acre of land.

CURRENT RATE ALSO

ATTACHMENT D  
RATES

have thirty (30) days from the date of the annual invoice statement to notify the District in writing of any corrections in acreage, ownership, or payment responsibility and after that thirty day period, if no changes are reported to the District in writing, the original invoice will stand and cannot be changed for the current irrigation season.

b. General crops. Water users shall be billed once a year and the charges shall be payable upon receipt of the invoice. If water users do not receive the annual invoice for water, it shall be the water user's responsibility to contact the District. The amount due is delinquent 30 days from the date of the annual invoice. A 20% penalty, or such other amount that may be fixed by the Board, shall be added to all delinquent payments if not received within the 30-day pay period, and shall also be added to any accounts paid with checks dishonored by a bank. Pursuant to Rule #7, no water shall be delivered unless and until all water charges, penalties, or other indebtedness owing to the District have been paid in full.

c. Interest Added to Penalty. In addition to the delinquent penalty charge, interest on unpaid charges and penalties shall accrue daily at one percent (1%) per month or 12% per annum from the date of delinquency to and including the date paid. For those ordering water the year following in which there was a delinquent payment and before water is delivered, all irrigations must be paid for in advance.

d. Liens for Amounts Owing to District. Delinquent assessments and delinquent charges for water and/or drainage provided by the District and any other indebtedness owing to the District shall be a lien upon the lands to which the water and/or drainage is provided, and a Certificate of Lien may be recorded with the Sutter County Recorder for such amounts. Legal action may also be brought by the District for the collection of any such amounts payable to the District and the District shall also be entitled to judgment for its reasonable attorneys fees incurred thereby.

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11. Point of Delivery. In any extension of service, the point of delivery of the water by the District shall be as determined by the Board of Directors, and all responsibility for conveyance or delivery beyond the point shall be upon the landowner.

12. Costs Associated With Extending Water Delivery or Drainage Works. The District shall not be obligated to provide facilities for or to pay the cost of extending water or drainage service as a result of any subdivision of parcels or an Owner's sale of less than all parcels in that ownership. In the event a service extension is desired to any newly subdivided or separated parcels, whether by adding extensions to existing distribution or drainage facilities to those currently existing or otherwise, all costs

ATTACHMENT D  
FREQUENCY OF  
BILLING SECTION b.

thereof shall be borne by the subdivider or the shareholder requesting such extension of service.

13. Use of Water

- a. All orchards that are flood irrigated shall use ditches with contours or riser systems.
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David Berg  
Accountant (for billing questions only)  
530-671-0855

\*\*\*\*\*



Neill Mitchell, President  
Feather Water District

ATTACHMENT  
OPERATING RULES

# FEATHER WATER DISTRICT

## Annual Meeting

Where: 280 Wilkie Ave.

Yuba City, Ca.

When: March 23, 2010

### Topics

1. Water Allotment/Allocation for 2010
2. Water Conservation
3. Guest speaker Donn Zea from N.C.W.A.
4. Open Forum

Lunch will be served from 11:30am to 1:00pm

ATTACHMENT  
# 5  
ATTACHMENT #



Northern California Water Association (NCWA)  
NCWA is the Voice of the Valley for Water  
www.norcalwater.org

## Forum

# Protecting the Future of the Sacramento Valley Overcoming Threats to our Water and Quality of Life

Wednesday, June 23, 2010

7:30 a.m. – 9:00 a.m.

(Coffee, juice and pastries will be served)

Best Western Bonanza Inn, Yuba City

1001 Clark Avenue,

(One block north of Highway 20)

## Program Agenda

**Welcome:** Steve Danna, NCWA Chairman

**Overview of Threats and Opportunities:** Donn Zea, NCWA President

**Panel: Perspectives from the Capitol on legal, political, and policy issues critical to the Valley**

**Speakers:** Kevin O'Brien, attorney, Downey Brand; Ryan Bezerra, attorney, Bartkiewicz, Kronick, Shanahan; and Dominic DiMare, lobbyist, DiMare, Van Vleck & Brown

- **Issues Affecting the Sacramento Valley**
  - Water rights issues affecting the Sacramento Valley
  - Fee issues update
  - Other potential threats and alternative responses
- **Bay-Delta Decision Points and Implications for the Sacramento Valley**
  - Delta Stewardship Council, timeline for decisions, and courses of action
  - Water bond and Sites Reservoir: flexibility in dealing with Delta issues

Q&A

Closing Re

ATTACHMENT

t

Rubin & Associates Public Relations  
[r.com](http://www.rubin.com); 530-346-2858

NCWA is the Voice of the Valley for Water



*Northern California Water Association (NCWA)*  
**NCWA is the Voice of the Valley for Water**  
[www.norcalwater.org](http://www.norcalwater.org)

**Please Invite Landowners in Your District**  
**and Other Community Leaders**  
**to NCWA'S June Forum**

**Attached are multiple copies of the Forum Program Agenda**

**Distribute this flyer so more people can join the effort to protect our water  
and get involved with NCWA**

**Help NCWA better serve you and your community**

**Let's Work Together!**

**NCWA is the Voice of the Valley for Water**

**For more information, contact Cheryl Rubin, Rubin & Associates Public Relations  
[cheryl@rubinpr.com](mailto:cheryl@rubinpr.com); 530-346-2858**

ATTACHMENT  
J ~~6-11~~

Year of Data  **Enter data year here**

**Table 1**

***Surface Water Supply***

<b>2008 Month</b>	<b>Federal Ag Water (acre-feet)</b>	<b>Federal non- Ag Water. (acre-feet)</b>	<b>State Water (acre-feet)</b>	<b>Surface Water (acre-feet)</b>	<b>Other Water (define) (acre-feet)</b>	<b>Drain Water (acre-feet)</b>	<b>Total (acre-feet)</b>
<b>Method</b>	<b>M1</b>			<b>M3</b>			
January	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0
April	1,613	0	0	0	0	0	1,613
May	2,078	0	0	284	0	0	2,362
June	2,780	0	0	288	0	0	3,068
July	1,933	0	0	305	0	0	2,238
August	934	0	0	306	0	0	1,240
September	1,234	0	0	242	0	0	1,476
October	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>10,572</b>	<b>0</b>	<b>0</b>	<b>1,425</b>	<b>0</b>	<b>0</b>	<b>11,997</b>

**Table 2**  
**Ground Water Supply**

<b>2008 Month</b>	<b>Groundwater r (acre-feet)</b>	<b>Agric Groundwater *(acre-feet)</b>
<b>Method</b>	<b>M3</b>	<b>E3</b>
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	750	120
July	825	260
August	1,300	220
September	350	175
October	0	0
November	0	0
December	0	0
<b>TOTAL</b>	<b>3,225</b>	<b>775</b>

\*normally estimated

**Table 3**

***Total Water Supply***

<b>2008 Month</b>	<b>Surface Water Total (acre-feet)</b>	<b>Groundwater (acre-feet)</b>	<b>M&amp;I Wastewater (acre-feet)</b>	<b>District Water (acre-feet)</b>
<b>Method</b>				
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	1,613	0	0	1,613
May	2,362	0	0	2,362
June	3,068	750	0	3,818
July	2,238	825	0	3,063
August	1,240	1,300	0	2,540
September	1,476	350	0	1,826
October	0	0	0	0
November	0	0	0	0
December	0	0	0	0
<b>TOTAL</b>	<b>11,997</b>	<b>3,225</b>	<b>0</b>	<b>15,222</b>

\*Recycled M&I Wastewater is treated urban wastewater that is used for agriculture.

**Table 4**

***Agricultural Distribution System***

**2008**

<b>Underground Pipeline &amp; Reservoir</b>	<b>Length (feet)</b>	<b>Width (feet)</b>	<b>Surface Area (square feet)</b>	<b>Precipitation (acre-feet)</b>	<b>Evaporation (acre-feet)</b>	<b>Spillage (acre-feet)</b>	<b>Seepage (acre-feet)</b>	<b>Total (acre-feet)</b>
Lateral A (total)	116,160	10	1,161,600	piped	piped	0	1	1
Lateral B(total)	63,360	10	633,600	piped	piped	0	1	1
Lateral C(total)	31,680	10	316,800	piped	piped	0	1	1
	0	0	0	0.0	0.0	0	0	0
Reservoir-north	70	70	4,900	0.1	0.5	0	1	(1)
Reservoir-south	50	50	2,500	0.0	0.2	0	1	(1)
	0	0	0	0.0	0.0	0	0	0
	0	0	0	0.0	0.0	0	0	0
	0	0	0	0.0	0.0	0	0	0
	0	0	0	0.0	0.0	0	0	0
	0	0	0	0.0	0.0	0	0	0
<b>TOTAL</b>				0.1	0.7	0	4	(5)

**Table 5**

***Crop Water Needs***

<b>2008 Crop Name</b>	<b>Area (crop acres)</b>	<b>Crop ET (AF/Ac)</b>	<b>Leaching Requiremen (AF/Ac)</b>	<b>Cultural Practices (AF/Ac)</b>	<b>Effective Precipitation (AF/Ac)</b>	<b>Appl. Crop Water Use (acre-feet)</b>
Rice	170	3.50	0.00	1.00	0.0	765
Melons	160	2.24	0.00	0.25	0.0	398
Prunes	3,928	1.50	0.00	0.25	0.0	6,874
Peaches	1,308	2.00	0.00	0.60	0.0	3,401
Olives	220	2.00	0.00	0.00	0.0	440
Almonds	152	2.00	0.00	0.00	0.0	304
Walnuts	1,105	2.00	0.00	0.00	0.0	2,210
	0	0.00	0.00	0.00	0.0	0
	0	0.00	0.00	0.00	0.0	0
	0	0.00	0.00	0.00	0.0	0
	0	0.00	0.00	0.00	0.0	0
	0	0.00	0.00	0.00	0.0	0
	0	0.00	0.00	0.00	0.0	0
	0	0.00	0.00	0.00	0.0	0
	0	0.00	0.00	0.00	0.0	0
All other crops	355	2.00	0.00	0.00	0.0	710
Crop Acres	7,398					15,102

Total Irrig. Acres 7,546 (If this number is larger than your known total, it may be due to double cropping)

**Table 6**

**2008 District Water Inventory**

Water Supply	Table 3		15,222
Riparian ET	(Distribution and Drain)	minus	5
Groundwater recharge	intentional - ponds, injection	minus	0
Seepage	Table 4	minus	4
Evaporation - Precipitation	Table 4	minus	1
Spillage	Table 4	minus	0
<b>Transfers/trades/wheeling</b>		<b>plus/minus</b>	0
<b>Non-agricultural sales (urban)</b>		minus	0
Water Available for sale to customers			15,212
<hr/>			
<u>2008 Actual Agricultural Water Sales</u>	From District Sales Records		15,217
Private Groundwater	Table 2	plus	775
Crop Water Needs	Table 5	minus	15,102
Drainwater outflow	(tail and tile not recycled)	minus	0
Percolation from Agricultural Land	(calculated)		890

**Table 7**

***Influence on Groundwater and Saline Sink***

**2008**

Agric Land Deep Perc + Seepage + Recharge - Groundwater Pumping = District Influence on	(3,221)
Estimated actual change in ground water storage, including natural recharge)	0
Irrigated Acres (from Table 5)	7,398
Irrigated acres over a perched water table	0
Irrigated acres draining to a saline sink	0
Portion of percolation from agri seeping to a perched water table	0
Portion of percolation from agri seeping to a saline sink	0
Portion of On-Farm Drain water flowing to a perched water table/saline sink	0
Portion of Dist. Sys. seep/leaks/spills to perched water table/saline sink	0
Total (AF) flowing to a perched water table and saline sink	0

**Table 8**

***Annual Water Quantities Delivered Under Each Right or Contract***

<b>Year</b>	<b>Federal Ag Water (acre-feet)</b>	<b>Federal non-Ag Water. (acre-feet)</b>	<b>State Water (acre-feet)</b>	<b>Local Surface (acre-feet)</b>	<b>Distict Groundwtr* (acre-feet)</b>	<b>Upslope Drain (acre-feet)</b>	<b>Total (acre-feet)</b>
1999	16,395	0	0	533	Unknown	0	16,928
2000	14,564	0	0	768	Unknown	0	15,332
2001	10,926	0	0	620	Unknown	0	11,546
2002	12,752	0	0	701	Unknown	0	13,453
2003	9,581	0	0	1,113	Unknown	0	10,694
2004	6,958	0	0	867	Unknown	0	7,825
2005	6,789	0	0	965	Unknown	0	7,754
2006	10,942	0	0	1,164	Unknown	0	12,106
2007	11,870	0	0	928	Unknown	0	12,798
2008	10,572	0	0	1,425	3,225	0	15,222
Total	111,349	0	0	9,084	3,225	0	123,658
Average	11,135	0	0	908	3,225	0	12,366

RECEIVED

RESOLUTION NUMBER 2011- 38  
Resolution of Feather Water District Adopting  
2010 Water Management Plan

MAR 16 2011

SHASTA DIV. - WILLOWS

WHEREAS, the District holds a long-term contract with the Bureau of Reclamation for the delivery of Central Valley Project water; and,

WHEREAS, the contract requires the District to periodically update its Water Management Plan; and,

WHEREAS, the District has completed its 2010 update to the Water Management Plan; and,

WHEREAS, the Bureau has reviewed the updated plan and by letter dated January 26, 2011, has approved the update to the plan; and,

WHEREAS, the District is prepared to adopt the updated plan.

NOW, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE FEATHER WATER DISTRICT AS FOLLOWS:

Section 1 – The Board has reviewed the updated plan and hereby adopts it in its entirety.

Section 2 – The Board directs its staff to implement the plan.

PASSED AND ADOPTED this 8<sup>th</sup> day of March 2011, by the following roll call vote:

AYES: 3

NOES: 0

ABSENT: 2

  
Dennis Serger, Secretary

  
Neill Mitchell, President