Exhibit A

BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re:	)	
Dry Creek Rancheria	)	NPDES Appeal No.
NPDES Permit No CA 0005241	)	

EXHIBITS TO PETITION FOR REVIEW

LIST OF EXHIBITS

A. Permit Application and Engineering Report (Feb. 17, 2005).

B. Letter from Region to Permittee requesting additional information (May 27, 2005).

C. Letter from Permittee to Region with additional application information (June 30, 2005).

D. Letter from Petitioners to Region regarding the Permit Application (March 21, 2006).

E. Proposed Permit (June 29, 2006).

F. Statement of Basis for Proposed Permit (June 29, 2006).

G. Letter from Congressman Mike Thompson to Region regarding the proposed permit (Sept. 18, 2006).

H. Letter from AVA to Region regarding the proposed permit (Sept. 27, 2006).

I. Letter from Petitioners to Region regarding the proposed permit (Sept. 29, 2006).

J. Letter from Regional Board to Region regarding the proposed permit (Oct. 2, 2006).

K. Memo from Ginette Chapman, EPA Region 9 Office of Regional Counsel to record re conference call with the Office of Senator Barbara Boxer (Oct. 6, 2006).

L. Letter from Permittee to Petitioners with first water balance chart (April 17, 2007).

M. Second draft of water balance chart (sent from Region to Petitioners on April 20, 2007).

N. Technical memorandum and third draft of water balance chart (sent from Region to Petitioners on April 25, 2007).

O. Letter from Petitioners to Region re water balance information (April 27, 2007).

P. E-mail from Region to Petitioners re final water balance technical memorandum (April 30, 2007).

Q. California Department of Water Resources, *A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California*, pages 1-22 (Aug. 2000)

R. Final Permit (April 30, 2007).

S. Final Statement of Basis (April 30, 2007).

T. Responses to Comments Document (April 30, 2007).

U. Final technical memorandum and water balance chart (included as Appendix 3 to Responses to Comments Document) (April 30, 2007).

DRY CREEK RANCHERIA
BAND OF POMO INDIANS

February 17, 2005

Susan Saucerman (WTR-5)
CWA Standards and Permits Office
USEPA Region 9
75 Hawthorne Street
San Francisco, CA 94105

Dear Ms. Saucerman:

Subject: NPDES Permit Application and Engineering Report for the Dry Creek WWTP
Dry Creek Band of Pomo Indians

The Dry Creek Band of Pomo Indians has constructed a wastewater treatment plant near the City of Geyserville, CA in Sonoma County, CA. This plant provides tertiary treatment of sewage generated by existing and future Tribal facilities, including the existing casino.

A comprehensive program for reuse and disposal of treated wastewater has been developed, which includes discharge to surface water as one component. This permit application is submitted to support the NPDES effluent discharge permit to allow the discharge of a portion of the treated wastewater from the Dry Creek WWTP to surface waters on Tribal lands. This permit application package consists of the following documents:

1. USEPA Form 1: General Information, Consolidated Permits Program
2. USEPA Form 2A: Basic Application – Parts A, B, and C
3. Engineering Report describing the Project, treatment process, design parameters, and anticipated discharge permit limitations

Additional work to support this planned surface water discharge includes a biological evaluation of the impacts of this discharge to aquatic habitat, and a technical memorandum about the rapid bioassessment in drainages P-1 and A-1. These documents are included as attachments to this application.

Should you have any questions about this NPDES application or the Engineering Report, please do not hesitate to contact me at (707) 473-2182.

Sincerely yours,

Thomas Keegan
Director of Environmental Protection

Enclosures (3)

Mailing Address: P.O. Box 607, Geyserville, CA 95441
Office Address: 190 Foss Creek Circle, Suite A, Healdsburg, CA 95448
707-473-2178 • Fax 707-473-2171

USEPA Application Form 1:

General Information, Consolidated Permits Program

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved. OMB No. 2040-0086.

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area*(s)* below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold—faced terms.**

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a discharge to **waters of the U.S.**? (FORM 2A)	X		X
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: DRY CREEK RANCHERIA WWTP

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*: 2 KEEGAN, TOM, ENVIRON. DIRECTOR

B. PHONE *(area code & no.)*: 707 473 2178

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: 3 PO BOX 607

B. CITY OR TOWN: 4 GEYSERVILLE

C. STATE: CA

D. ZIP CODE: 95441

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 5 3250 HIGHWAY 128 EAST

B. COUNTY NAME: SONOMA

C. CITY OR TOWN: 6 DRY CREEK RANCHERIA

D. STATE: CA

E. ZIP CODE: 95441

F. COUNTY CODE *(if known)*:

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
7 4 9 - - (specify) ELECTRIC, GAS, & SANITARY SEWERS	7 4 9 5 - (specify) SANITARY SERVICES
C. THIRD	**D. FOURTH**
7 4 9 5 2 (specify) SEWERAGE SYSTEMS	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME

8 DRY CREEK RANCHERIA BAND OF POMO INDIANS

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other", specify.)*

F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC *(other than federal or state)*; O = OTHER *(specify)*

M (specify) INDIAN TRIBE

D. PHONE *(area code & no.)*

A 707 473 2178

E. STREET OR P.O. BOX

PO BOX 607

F. CITY OR TOWN

B GEYSERVILLE

G. STATE CA

H. ZIP CODE 95441

IX. INDIAN LAND

Is the facility located on Indian lands? ☒ YES ☐ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*: 9 N — N/A	**D. PSD** *(Air Emissions from Proposed Sources)*: 9 P — N/A
B. UIC *(Underground Injection of Fluids)*: 9 U — N/A	**E. OTHER** *(specify)*: 9 — (specify)
C. RCRA *(Hazardous Wastes)*: 9 R — N/A	**E. OTHER** *(specify)*: 9 — (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

The Dry Creek Rancheria Band of Pomo Indians is a federally recognized Indian Tribe which owns and operates facilities on its Trust lands, the Dry Creek Rancheria. These facilities include a gaming facility, restaurants, parking structures, and administration facilities. Tribal housing will also be located on the Rancheria. The Dry Creek Rancheria is located near Highway 128, approximately two miles south of Geyserville, CA.

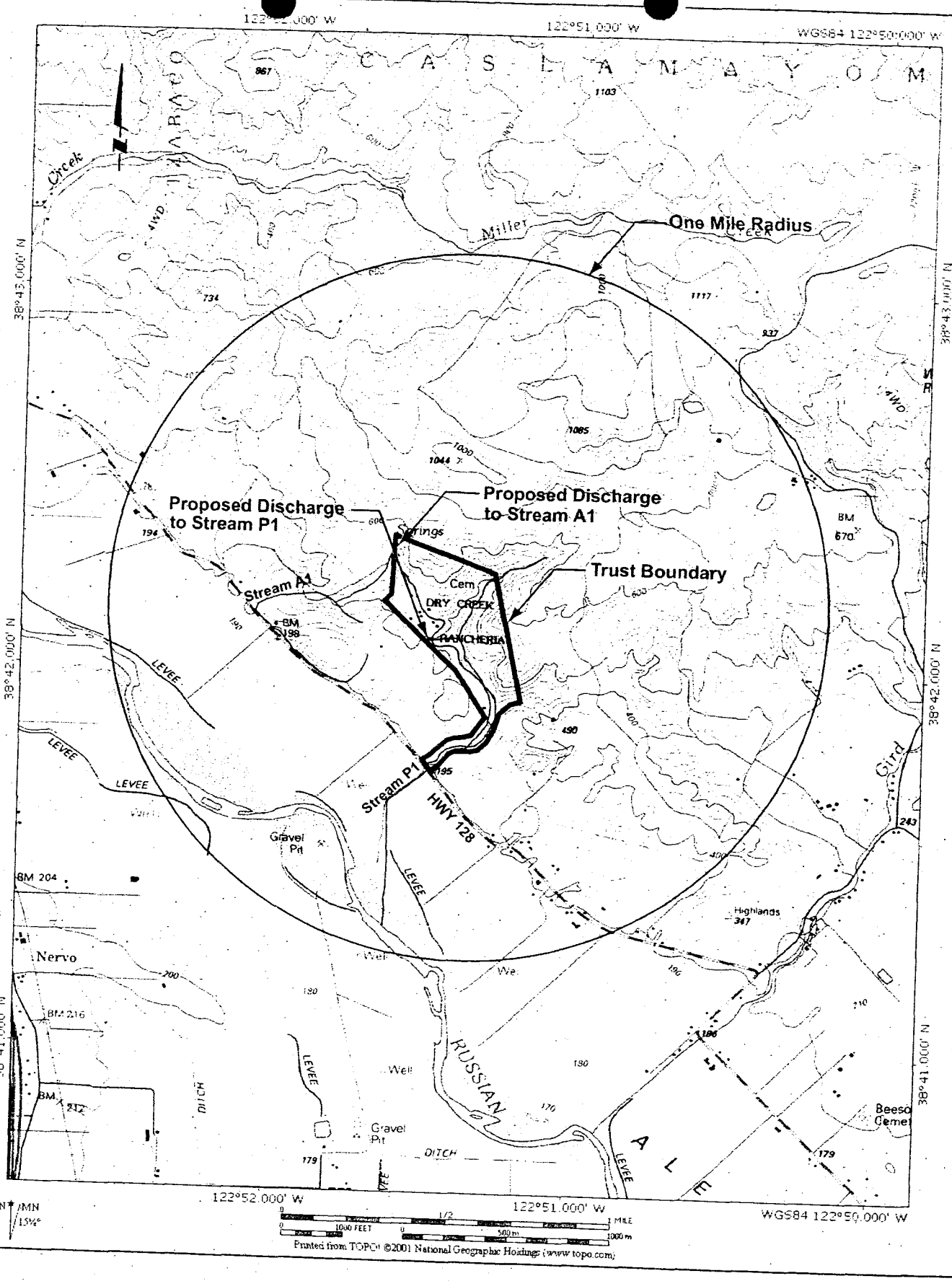
XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
HARVEY HOPKINS, TRIBAL CHAIRPERSON	Harvey Hopkins	2-16-05

COMMENTS FOR OFFICIAL USE ONLY

C



s:\common\projects\Dry_Creek\Engineering_Report-2004\Dwgs\Figure_1-1.ai

HydroScience Engineers, Inc.

Source: TOPO!

FIGURE 1-1
DRY CREEK BAND OF POMO INDIANS
WASTEWATER TREATMENT PLANT ENGINEERING REPORT
LOCATION MAP

USEPA Form 2A:

Basic Application – Parts A, B, and C

FACILITY NAME AND PERMIT NUMBER:
Dry Creek Rancheria WWTP

Form Approved 1/14/99
OMB Number 2040-0086

FORM 2A NPDES

NPDES FORM 2A APPLICATION OVERVIEW

APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

A. **Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.

B. **Additional Application Information for Applicants with a Design Flow ≥ 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.

C. **Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

D. **Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to provide the information.

E. **Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to submit results of toxicity testing.

F. **Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:

1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
2. Any other industrial user that:
   a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
   b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
   c. Is designated as an SIU by the control authority.

G. **Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

FACILITY NAME AND PERMIT NUMBER:
Dry Creek Rancheria WWTP

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

A.1. Facility Information.

Facility named: Dry Creek Rancheria - Wastewater Reclamation Facility

Mailing Address: P.O. Box 607
Geyserville, CA 95441

Contact person: Tom Keegan

Title: Environmental Director

Telephone number: (707) 473-2178

Facility Address (not P.O. Box): 3250 Highway 128 East
Dry Creek Rancheria, CA 95441

A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant name: Same as above

Mailing Address:

Contact person:

Title:

Telephone number:

Is the applicant the owner or operator (or both) of the treatment works

X owner X operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

___ facility X applicant

A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES: N/A
UIC: N/A
RCRA: N/A
PSD: N/A
Other: N/A
Other: N/A

A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
Plant Operations Division	Predominantly transient population	Separate	Tribal Government

Total population served Predominantly transient population

A.5. Indian Country.

a. Is the treatment works located in Indian Country?

X Yes ____ No

b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

X Yes ____ No

A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

a. Design flow rate 0.15 mgd

	Two Years Ago (2003)	Last Year (2004)	This Year (2005 projected)	
b. Annual average daily flow rate	0.015	0.030	0.04	mgd
c. Maximum daily flow rate	0.032	0.047	0.06	mgd

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

X	Separate sanitary sewer	100 %
____	Combined storm and sanitary sewer	____ %

A.8. Discharges and Other Disposal Methods.

a. Does the treatment works discharge effluent to waters of the U.S.? X Yes ____ No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent	2 (projected), 0 (current)
ii. Discharges of untreated or partially treated effluent	0
iii. Combined sewer overflow points	0
iv. Constructed emergency overflows (prior to the headworks)	0
v. Other ____	None

b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.? ____ Yes X No

If yes, provide the following for each surface impoundment:

Location: N/A

Annual average daily volume discharged to surface impoundment(s) N/A mgd

Is discharge ____ continuous or ____ intermittent?

c. Does the treatment works land-apply treated wastewater? X Yes ____ No

If yes, provide the following for each land application site:

Location: Landscape Irrigation and Spray-field Application

Number of acres: Plans for up to 16 acres, total

Annual average daily volume applied to site: 0.03 Mgd

Is land application ____ continuous or X intermittent?

d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works? ____ Yes X No

If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

N/A

If transport is by a party other than the applicant, provide:

Transporter name: _____

Mailing Address: _____

_____

_____

Contact person: _____

Title: _____

Telephone number: _____

For each treatment works that receives this discharge, provide the following:

Name: _____

Mailing Address: _____

_____

_____

Contact person: _____

Title: _____

Telephone number: _____

If known, provide the NPDES permit number of the treatment works that receives this discharge. _____

Provide the average daily flow rate from the treatment works into the receiving facility. _____ mgd

e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? _____ Yes X No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

N/A

Annual daily volume disposed of by this method: _____

Is disposal through this method _____ continuous or _____ intermittent?

FACILITY NAME AND PERMIT NUMBER:

Dry Creek Rancheria WWTP

Form Approved 1/14/99
OMB Number 2040-0086

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 **once for each outfall** (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. **If you answered "no" to question A.8.a**, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

a. Outfall number: P1-1

b. Location:
Dry Creek Rancheria (City or town, if applicable) 95441 (Zip Code)
Sonoma (County) CA (State)
38° 42' 06" N (Latitude) 122° 51' 31" W (Longitude)

c. Distance from shore (if applicable): N/A ft.

d. Depth below surface (if applicable): N/A ft.

e. Average daily flow rate (2005 Projected): OCT 1 - MAY 14: 0.039 / MAY 15 - SEP 30: 0.000 mgd

f. Does this outfall have either an intermittent or a periodic discharge? ____ Yes X No (go to A.9.g.)

If yes, provide the following information:

Number of times per year discharge occurs: ____

Average duration of each discharge: ____

Average flow per discharge: ____ mgd

Months in which discharge occurs: ____

g. Is outfall equipped with a diffuser? ____ Yes X No

A.10. Description of Receiving Waters.

a. Name of receiving water: Unnamed seasonal creek (P1) - Tributary to the Russian River

b. Name of watershed (if known): Russian River

United States Soil Conservation Service 14-digit watershed code (if known): ____

c. Name of State Management/River Basin (if known): Russian River

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): 18010110

d. Critical low flow of receiving stream (if applicable):
acute 0 cfs chronic 0 cfs

e. Total hardness of receiving stream at critical low flow (if applicable): N/A mg/l of $CaCO_3$

FACILITY NAME AND PERMIT NUMBER:

Dry Creek Rancheria WWTP

Form Approved 1/14/99
OMB Number 2040-0086

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 **once for each outfall** (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. **If you answered "no" to question A.8.a**, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

a. Outfall number: A1-1

b. Location:
Dry Creek Rancheria (City or town, if applicable) 95441 (Zip Code)
Sonoma (County) CA (State)
38°42' 19" N (Latitude) 122°51' 35" N (Longitude)

c. Distance from shore (if applicable): N/A ft.

d. Depth below surface (if applicable): N/A ft.

e. Average daily flow rate (2005 Projected): 0.001 mgd

f. Does this outfall have either an intermittent or a periodic discharge?
___ Yes X No (go to A.9.g.)

If yes, provide the following information:

Number of times per year discharge occurs: ___

Average duration of each discharge: ___

Average flow per discharge: ___ mgd

Months in which discharge occurs: ___

g. Is outfall equipped with a diffuser?
___ Yes X No

A.10. Description of Receiving Waters.

a. Name of receiving water: Unnamed seasonal creek (A1) - Isolated inland surface water not tributary to Russian River

b. Name of watershed (if known): Russian River

United States Soil Conservation Service 14-digit watershed code (if known): ___

c. Name of State Management/River Basin (if known): Russian River

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): 18010110

d. Critical low flow of receiving stream (if applicable):
acute 0 cfs chronic 0 cfs

e. Total hardness of receiving stream at critical low flow (if applicable): N/A mg/l of $CaCO_3$

FACILITY NAME AND PERMIT NUMBER:

Dry Creek Rancheria WWTP

Form Approved 1/14/99
OMB Number 2040-0086

A.11. Description of Treatment.

a. What levels of treatment are provided? Check all that apply.

X Primary X Secondary

X Advanced _____ Other. Describe: _____

b. Indicate the following removal rates (as applicable):

Design BOD_5 removal or Design $CBOD_5$ removal	99	%
Design SS removal	99	%
Design P removal	73	%
Design N removal	84	%
Other Turbidity	< 1 NTU	%

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

Ultraviolet (UV) disinfection and Chlorination

If disinfection is by chlorination, is dechlorination used for this outfall? X Yes _____ No

d. Does the treatment plant have post aeration? _____ Yes X No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: DATA NOT AVAILABLE - FACILITY COMPLETED DECEMBER 2004

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)		s.u.			
pH (Maximum)		s.u.			
Flow Rate					
Temperature (Winter)					
Temperature (Summer)					

* For pH please report a minimum and a maximum daily value

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
BIOCHEMICAL OXYGEN DEMAND (Report one) BOD-5							
BIOCHEMICAL OXYGEN DEMAND (Report one) CBOD-5							
FECAL COLIFORM							
TOTAL SUSPENDED SOLIDS (TSS)							

END OF PART A.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Dry Creek Rancheria WWTP

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

3,000 (2% max.) gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

_____

_____

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

a. The area surrounding the treatment plant, including all unit processes.

b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.

c. Each well where wastewater from the treatment plant is injected underground.

d. Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.

e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.

f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g. chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ____Yes _X_No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: _____

Mailing Address: _____

_____

Telephone Number: _____

Responsibilities of Contractor: _____

B.5. Scheduled Improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

N/A

b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

____Yes ____No

c. If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule MM / DD / YYYY	Actual Completion MM / DD / YYYY
– Begin construction	__/__/____	__/__/____
– End construction	__/__/____	12 / 15 / 2004
– Begin discharge	05 / 01 / 2005	__/__/____
– Attain operational level	05 / 01 / 2005	__/__/____

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? X Yes ___ No

Describe briefly: Environmental Assessment

B.6. EFFLUENT TESTING DATA (GREATER THAN O.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number: DATA NOT AVAILABLE - FACILITY NOT COMPLETED

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)							
CHLORINE (TOTAL RESIDUAL, TRC)							
DISSOLVED OXYGEN							
TOTAL KJELDAHL NITROGEN (TKN)							
NITRATE PLUS NITRITE NITROGEN							
OIL and GREASE							
PHOSPHORUS (Total)							
TOTAL DISSOLVED SOLIDS (TDS)							
OTHER							

Facility completed 12/04

END OF PART B.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Dry Creek Rancheria WWTP

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

__X__ Basic Application Information packet

Supplemental Application Information packet:

_____ Part D (Expanded Effluent Testing Data)

_____ Part E (Toxicity Testing: Biomonitoring Data)

_____ Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

_____ Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title: Thomas Keegan - Director of Environmental Protection

Signature: _____

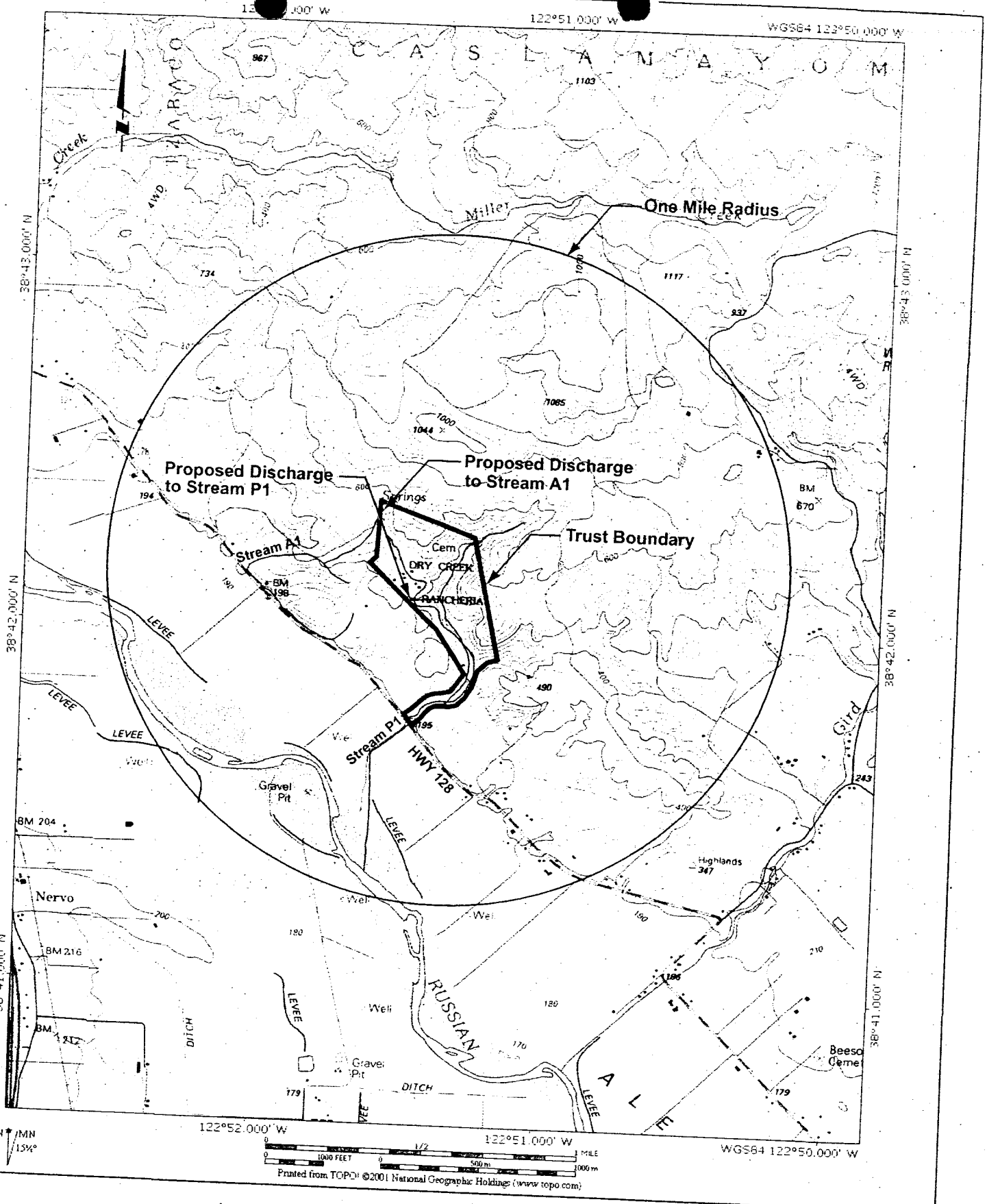
Telephone number: (707) 473-2178

Date signed: _____

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

Suesan Saucerman (WTR-5)
CWA Standards and Permits Office
USEPA Region 9
75 Hawthorne Street
San Francisco, CA 94105



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HydroScience Engineers, Inc.

Source: TOPO!

FIGURE 1-1
DRY CREEK BAND OF POMO INDIANS
WASTEWATER TREATMENT PLANT ENGINEERING REPORT
LOCATION MAP

Wastewater Treatment Plant Engineering Report

February 2005

DRY CREEK RANCHERIA

WASTEWATER TREATMENT PLANT
ENGINEERING REPORT

Prepared For
Dry Creek Band of Pomo Indians

Submitted By
HydroScience Engineers, Inc.
221 Gateway Road West, Suite 403, Napa, CA 94558

February 2005

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APPENDICES

SECTION 1 – PROJECT DESCRIPTION

HydroScience Engineers, Inc. (HSe) was retained by the Dry Creek Band of Pomo Indians (Tribe) to prepare an Engineering Report for the conveyance, treatment, and disposal of wastewater generated by the Dry Creek Wastewater Treatment Plant (WWTP). This plant treats sewage from Tribal facilities on the Dry Creek Rancheria (Project), including the existing River Rock Casino. This document describes the existing Dry Creek WWTP, which currently treats and will continue to treat all of the wastewater generated by the Project. The objectives of this report are to:

- Identify the wastewater treatment options,
- Identify the required wastewater treatment facilities,
- Determine the wastewater treatment plant capacity, and
- Identify the proposed effluent disposal method(s).

1.1 Site Description

The Project site is located on the Dry Creek Rancheria in Sonoma County, California. The Project is accessible from Highway 128, and is located on a hillside just east of the Russian River. **Figure 1-1** identifies the Project site location. Existing developments within the Rancheria include an entertainment facility (River Rock Casino), parking garages, roadways, utilities, and a tertiary wastewater treatment plant. The entertainment facility contains slot machines, gaming tables and restaurants.

1.2 Project Description

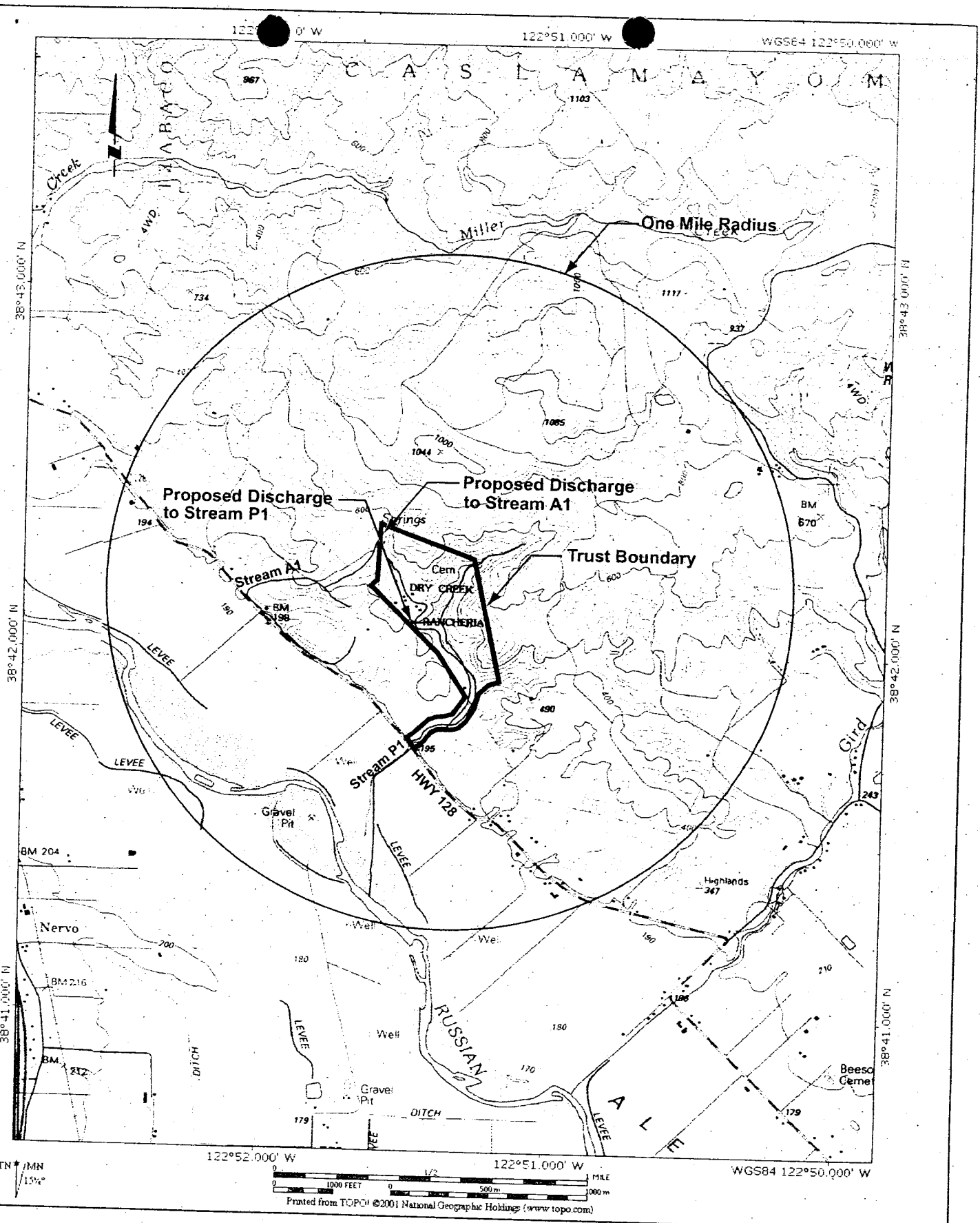
This application includes the conveyance, treatment and disposal of wastewater from the Project. The Dry Creek WWTP is located southwest of the existing casino, and produces recycled water for reuse on-site. Recycled water produced on-site is used by the Project for toilet flushing, landscape irrigation, and construction purposes, such as dust control and soil compaction. None of the treated wastewater is discharged to waters of the U.S. (i.e., all of it is recycled on site).

A map of the overall project is included as **Figure 1-2**. A map showing the proposed wastewater treatment and effluent disposal facilities is included in *Section 3*.

1.3 Report Organization

This report is divided into three sections as described below.

- **Section 1 – Project Description:** This section provides background project information and a description of the project site.
- **Section 2 – Proposed Wastewater Treatment:** This section identifies the wastewater treatment process, effluent disposal methods, applicable State and Federal laws, historical water quality characterization, current water quality, discharge limit provisions, and anticipated effluent limits.
- **Section 3 – Wastewater Treatment Plant Process:** This section identifies the components, parameters, and the process treatment train for the on-site wastewater treatment plant.

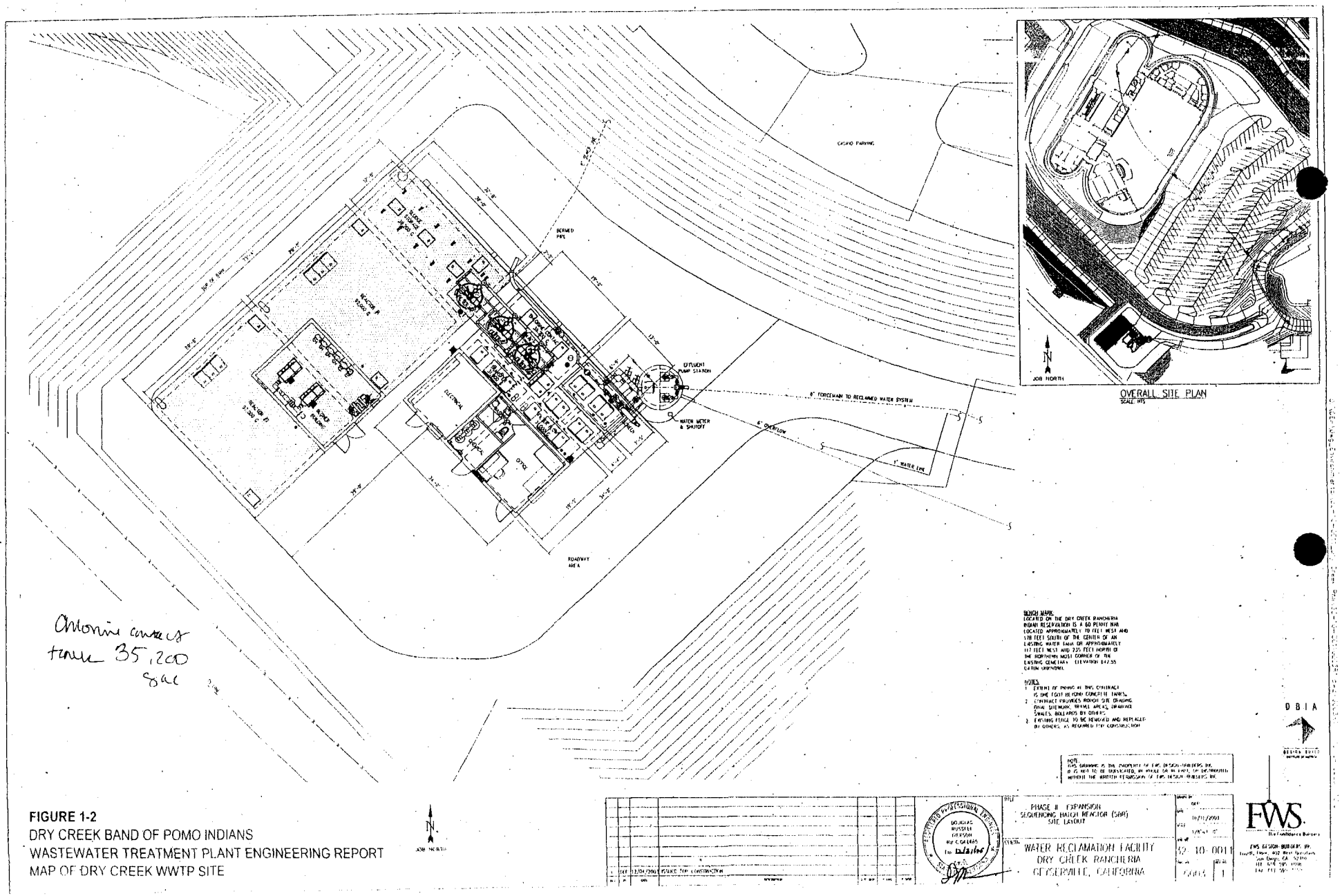


s:\Common\projects\Dry Creek\Engineering Report-2004\Dwgs\Figure 1-1.ai

HydroScience Engineers, Inc.

Source: TOPO!

FIGURE 1-1
DRY CREEK BAND OF POMO INDIANS
WASTEWATER TREATMENT PLANT ENGINEERING REPORT
LOCATION MAP



Chlorine contact tank 35,200 gal

FIGURE 1-2
DRY CREEK BAND OF POMO INDIANS
WASTEWATER TREATMENT PLANT ENGINEERING REPORT
MAP OF DRY CREEK WWTP SITE

SECTION 2 – PROPOSED WASTEWATER TREATMENT

This section provides a review of expected Dry Creek WWTP influent water quality, provides an estimate of the quantity of wastewater required for treatment, describes existing wastewater treatment and disposal facilities, and identifies the treatment options explored for this Project.

2.1 Influent Water Quality and Capacity

This section provides background on the typical quality of influent water at gaming facilities and identifies the facilities required to treat it.

Water Quality: The quality of the Project's influent wastewater differs somewhat from typical domestic sewage. Typical gaming facility wastes have higher BOD and TSS values compared to domestic wastewater. Typical BOD and TSS values for gaming and domestic sewage are identified in **Table 2-1.**

Table 2-1: Typical Dry Creek WWTP Influent Water Quality

Parameter	Units	Dry Creek WWTP	Domestic Sewage
BOD	mg/L	450-600	200-300
TSS	mg/L	450-600	200-300

Shock loadings are also typical of gaming facility wastewater facilities. Weekend flows are much higher than weekday flows, and evening flows are higher than daytime flows. This is largely due to the larger attendance at similar facilities outside of normal business hours. Any wastewater treatment process selected for use must be able to handle the high strength waste and react well to wide variations in flow.

Capacity: Average weekday and peak weekend flows were developed from analysis of similar gaming facilities. Based on projected water usage by the Project, daily wastewater demands for weekday and weekend usage are summarized in **Table 2-2**. The average annual flow is a weighted average of the weekday and weekend flows for the Project, and is largely based on historical flows generated from similar gaming facility operations. These numbers are preliminary and are provided for planning purposes only.

Table 2-2: Design Flows for the Dry Creek WWTP

Average Weekday Flow (gpd)	Average Weekend Flow (gpd)	Average Annual Flow (gpd)
101,000	141,000	112,000

Notes:
1. gpd: Gallons per day
2. All flows rounded to the nearest 1,000 gpd.

The existing plant was recently expanded, and has a treatment capacity of approximately 150,000 gpd. Based on the flow projections identified in **Table 2-2**, the Dry Creek WWTP will have sufficient capacity to treat wastewater generated by the Project.

Effluent: This section describes the major water quality constituents of concern in the Dry Creek WWTP effluent. The sources of wastewater contaminants are comprised of those present in the existing groundwater supply and loadings from the Project when the water is used. Some chemical characteristics of wastewater quality vary by location depending on water supplies, while other characteristics such as BOD and suspended solids are based more on the type of use.

Influent wastewater concentrations are summarized in **Table 2-1**. The wastewater is not expected to contain any significant concentrations of heavy metals or other priority pollutants that may be present in municipal treatment plants with industrial dischargers.

Projected effluent quality from the SBR system is summarized in **Table 2-3**. Since construction activities at the Dry Creek WWTP were completed during December 2004, and startup activities are currently underway, representative operating data for the Dry Creek WWTP is not currently available. When operational data is available, it will be submitted to the USEPA in accordance with all permit requirements.

Table 2-3: Example SBR Effluent Wastewater Quality

Parameter	Units	Title 22[1]	Average
TSS	mg/L	--	3.35
Turbidity	NTU	2 to 5	2.48
Coliform	MPN/100 ml	2.2	1

Source: Jackson Rancheria SBR facility.

2.2 Existing Dry Creek WWTP Facilities

The existing Dry Creek WWTP was recently upgraded and expanded to a capacity of 150,000 gpd. The Dry Creek WWTP was designed to provide tertiary treatment of wastewater generated by the Project so effluent can be reused on Tribal lands. Effluent water quality is projected to meet or exceed the California Department of Health Services (DHS) standards for unrestricted reuse. It is understood that State regulations do not apply to Tribal lands. A description of each of the following Dry Creek WWTP process components is included below.

- Influent Screening;
- Sequential Batch Reactors (SBRs);
- Filtration;
- UV Disinfection;
- Chlorination/Dechlorination;
- Effluent Pumping;
- Sludge Storage;
- Dewatering;
- Operations Building, and
- Recycled Water Use.

The reader is referred to **Appendix B** for design drawings of each of the existing Dry Creek WWTP process facilities. A wastewater treatment process flow diagram is included as **Figure 2-1**.

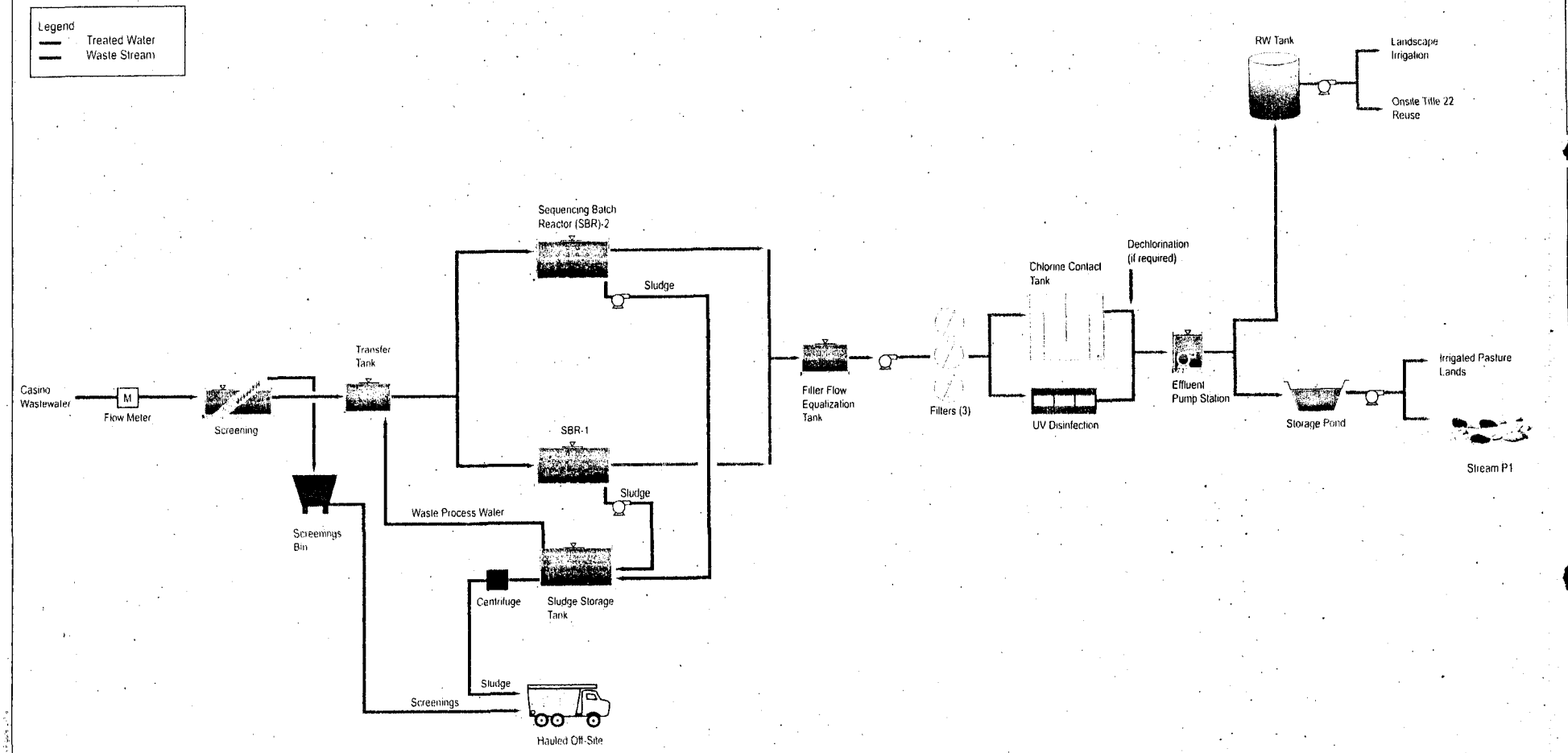


FIGURE 2-1
DRY CREEK BAND OF POMO INDIANS
WASTEWATER TREATMENT PLANT ENGINEERING REPORT
WASTEWATER TREATMENT PROCESS FLOW DIAGRAM

Influent Screening: Wastewater from the Project goes through an oil and grease separator, travels via gravity and enters the rotary screen. The rotary screen is self-cleaning and has ¼-inch openings. Particles that do not pass through the screen are transferred to the screening bin, and then trucked off-site. Wastewater then goes to the transfer tank where it is conveyed to the SBR basins for treatment.

SBRs: The SBR treatment process is a fill and draw activated sludge treatment system where aeration and sedimentation occur sequentially in batch mode within the same tank. This method of treatment differs from conventional activated sludge systems in that the reactors receive the influent in batches rather than via continuous flow. There are five steps involved in this SBR system:

Step 1.Fill: Screened influent fills the SBR tank until the basin is full. The influent mixes with biomass produced from previous operation of the SBR system.

Step 2.React: Inside the SBR basin, air is added to the mixed liquor via diffusers located in the tank. The air initiates an aerobic reaction where the nitrification process takes place. Mixers ensure distribution of the influent, the food source, to the biomass (organisms) for biological treatment. The biomass is selected to have an MCRT sufficient for partial nitrification and denitrification, though not necessarily at the peak daily capacity. The resulting mixed liquor is then diverted to a second SBR basin, where excess sludge is removed. Once mixing is complete, air is added for polishing as needed.

Step 3. Settle (sedimentation/clarification): All physical activities, e.g. air and mixing, are stopped to allow for settling of the activated sludge.

Step 4. Draw/Decant: Secondary effluent is drawn from the second SBR basin and pumped to a flow equalization tank.

Step 5. Idle: Once the effluent from the SBR basin has been removed, the basin is once again ready for another cycle of treatment.

Filtration: Secondary effluent is transferred to a filter flow equalization tank were the effluent is stabilized to provide slower flow rates for the filtering process. Once the effluent is stabilized, it is pumped to one of three Parkson Dynasand sand media filters, each with a surface area of 19 square feet. These filters are continuous upflow filters, in which effluent is pumped upwards through a sand media. Filtered effluent flows over a weir at the top of the filter, and onwards to the UF disinfection unit. The sand inside the filter is continuously backwashed and recirculated back into the media through an air cleaning system. Alum is added to enhance coagulation.

UV Disinfection: The filtered effluent flows from the filters to the ultraviolet (UV) units for disinfection. The UV units are housed inside a quartz sleeve and located inside stainless steel channels parallel to the flow. Bacteria are inactivated as the effluent passes by the UV light; preventing them from reproducing. The UV lamps include a self-cleaning system to prevent the build-up of material on the quartz sleeve. The UV system is located opposite the chlorination tank in a newly constructed section of the wastewater treatment facility facing the casino parking lot. There are six UV modules; each one contains ten UV-lamp assemblies.

Chlorination/Dechlorination: Filtered effluent that will be utilized for Title 22 approved uses on-site will be pumped from the filters to the chlorine contact tank where chlorine will be added for disinfection. The chlorine contact tank has a 35,200 gallon capacity and is located directly below the filters. When necessary, sodium metabisulphite is used to trim the chlorine residual.

Effluent Pumping: Disinfected effluent is pumped from an effluent pump station through a 6-inch force main to the recycled water storage tanks and distribution system. Each pump has a design set point of 160 gpm at 272 ft total dynamic head.

Sludge Storage: Waste sludge from the SBR is pumped to a sludge storage tank where it will be periodically hauled off-site. The sludge storage tank also receives floating and settleable material from the SBR waste process stream and the filter backwash. The tank capacity is 39,200 gallons.

Dewatering: The Tribe is currently exploring the option of installing a dewatering system to increase the solids content in the sludge. Preliminary estimates indicate that the centrifuge would produce cakes with a solids content of approximately 16%, therefore, minimizing the number of trucks required to transport the sludge off-site. The centrifuge would be located in a new building adjacent to the sludge storage tank (FWS, July 2004).

Operations Building: An operations building contains an office/laboratory, a restroom, a chemical room, and an electrical room. The building is located to the east of the SBR basins behind the filters and chlorination facilities.

Recycled Water Use: On-site recycled water use will be maximized, year-round, by using it for landscape irrigation, toilet and urinal flushing, and other approved uses. Additionally, the Tribe will irrigate an existing cemetery and new spray fields with recycled water. All irrigation with recycled water will be within Tribal lands.

To ensure that there is enough capacity to use all recycled water on-site during the summer, when discharge to surface waters is generally prohibited, the Tribe will construct seasonal storage facilities and spray fields to maximize the amount of recycled water that can be used on-site. Based on a seasonal discharge to surface waters, as described in *Section 3*, approximately 1.8 MG of recycled water storage and 16 acres of spray fields would be constructed at buildout. Currently, the Tribe utilizes multiple Baker tanks for operational recycled water storage, which provide an overall storage capacity of approximately 200,000 gallons. All storage and recycled water use facilities will be located within Trust lands.

All recycled water use would be in accordance with all applicable laws for use of recycled water on Trust lands, as regulated by the Indian Health Services. In addition, the recycled water will meet California Title 22 requirements for unlimited reuse. The use and distribution of recycled water within Trust lands will be further detailed in a separate Engineers Report.

2.3 Plant Design Parameters

The design criteria for the Dry Creek WWTP are summarized in **Table 2-4**. A description of each unit process follows the table.

This section describes the buildout wastewater treatment process proposed for the Project. The reader is referred to **Appendix B** for the Dry Creek WWTP design drawings, which include site layout drawings for each unit process.

Table 2-4: Dry Creek WWTP Design Parameters

Parameter	Value
Design Flows	
Maximum Day Flow:	150,000 gpd
Max Hydraulic Day:	300,000 gpd
Reactors	
Volume:	2 @ 92,000 gal (each)
Dimensions:	28' x 32'-8" (each)
Sludge Storage Tank	
Volume:	39,200 gal
Dimensions:	12' x 32'-8"
Transfer Tank	
Volume:	31,000 gal
Filter Flow Equalization Tank	
Volume:	31,000 gal
Filters	
Size:	3 @ 19 sq-ft (each)
Chlorine Contact Tank	
Volume:	35,200 gal
Blowers	
Inlet Air Volume:	670 SCFM, 750 ACFM
Discharge Pressure:	7.5 psi
Motor:	50 HP/1800RPM/460 V/3Ø
Decant Pumps	
Design Point:	385 gpm
Motor:	460 V/3Ø/5 HP
Transfer Pumps	
Design Point:	300 gpm
Motor:	460 V/3Ø/5 HP
Sludge Pumps	
Design Point:	95 gpm
Motor:	460 V/3Ø/2.2 HP
Air Compressor	
Nominal Capacity:	10.9 SCFM @ 90 psi
Motor:	460 V/3Ø/3 HP (each motor)
Type:	Automatic pressure start/stop 120 gallon horizontal ASME air receiver.
Pressure Cell	
Type:	Liquid level transmitter
Flow Meter	
Type:	4" Magmeter
Effluent Pumps	
Design Point:	160 gpm
Motor:	460 V/3Ø/20 HP
Screen	

Parameter	Value
Motor:	230/480 V/3Ø/3/4"HP
Screen Opening:	¼"
Filter Pumps	
Design Point:	140 gpm @ 32-ft total dynamic head
Motor:	460 V/3Ø/3 HP
Mixer	
Motor:	460 V/3Ø/4 HP
Recirculation Pump	
Design Point:	30 gpm @ 50-ft total dynamic head
Motor:	208 V/1Ø/1.0 HP
Odor Control	
Motor:	115 V, 1/25 HP

Source: Dry Creek Rancheria Sequencing Batch Reactor (SBR) Water Reclamation Facility Drawings, December 1, 2003.

2.4 Surface Water Discharge Options

The Dry Creek WWTP plant produces tertiary effluent which requires seasonal surface water discharge of effluent that cannot be reused on-site. Two receiving waters for surface water discharge have been identified: Stream P1 and Stream A1. Stream P1 would be the primary receiving water, while Stream A1 would be a secondary receiving water. This section will identify the methods for each discharge. The locations of both streams are shown in **Figure 2-2**.

Stream P1: To discharge to Stream P1, the Dry Creek WWTP would convey effluent to an existing stormwater detention basin located to the south and west of the existing plant site. Wastewater from the detention basin would flow through an outlet and down a cascade reaeration system. This system would then drain into an existing ephemeral channel, which is a tributary to Stream P1 within Tribal lands.

Stream P1 flows southeast through the Project site, through several culverts and finally off-site near the southeast corner of the Tribal property. Once off the site, P1 continues on its natural course, crosses Highway 128, then flows into its existing confluence with the Russian River. The confluence of P1 and the Russian River is located at latitude 38°41'27"N and longitude 122°51'31"W, elevation 200-feet, and is located approximately one mile from the Dry Creek WWTP. The location of this discharge and Stream P1 are shown in **Figure 2-2**.

Following on-site reuse of recycled water, surface water discharge to Stream P1 would be the primary method of effluent discharge. Discharge to Stream P1 would be limited both seasonally and based on flow in the Russian River, as further described in *Section 3.5.3*.

Stream A1: To discharge to Stream A1, the Dry Creek WWTP would convey effluent in a new pipeline around the entertainment facility to the north of the plant. Effluent would be discharged into an existing intermittent channel within Tribal lands. This proposed discharge location is located at latitude 38°42'19"N and longitude 122°51'36"W. This channel is tributary to Stream A1. The location of this discharge and Stream A1 are shown in **Figure 2-2**.

Stream A1 flows from the discharge location along the northeast border of the trust lands before flowing off Tribal lands to the west. The stream eventually crosses Highway 128, then turns immediately to the

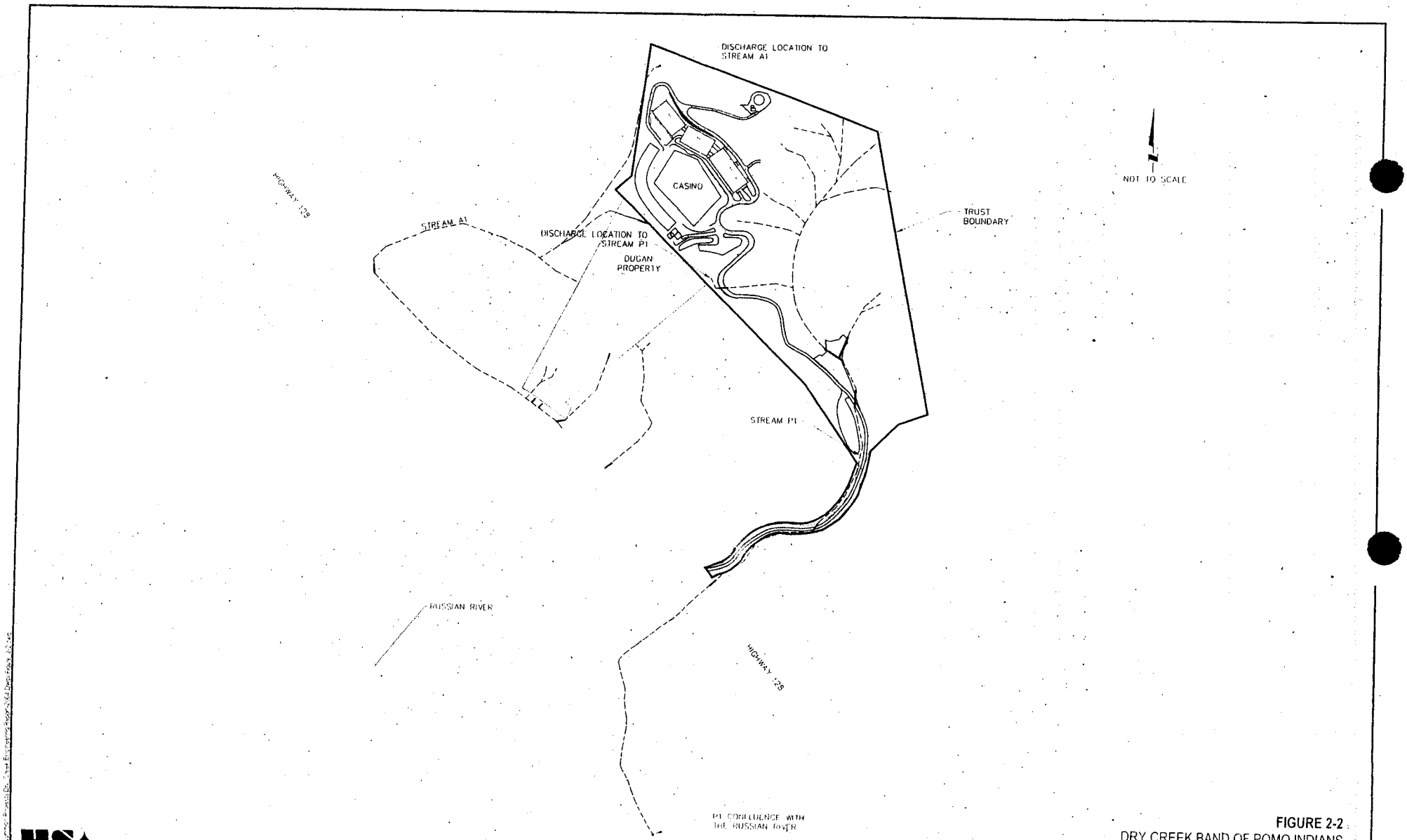
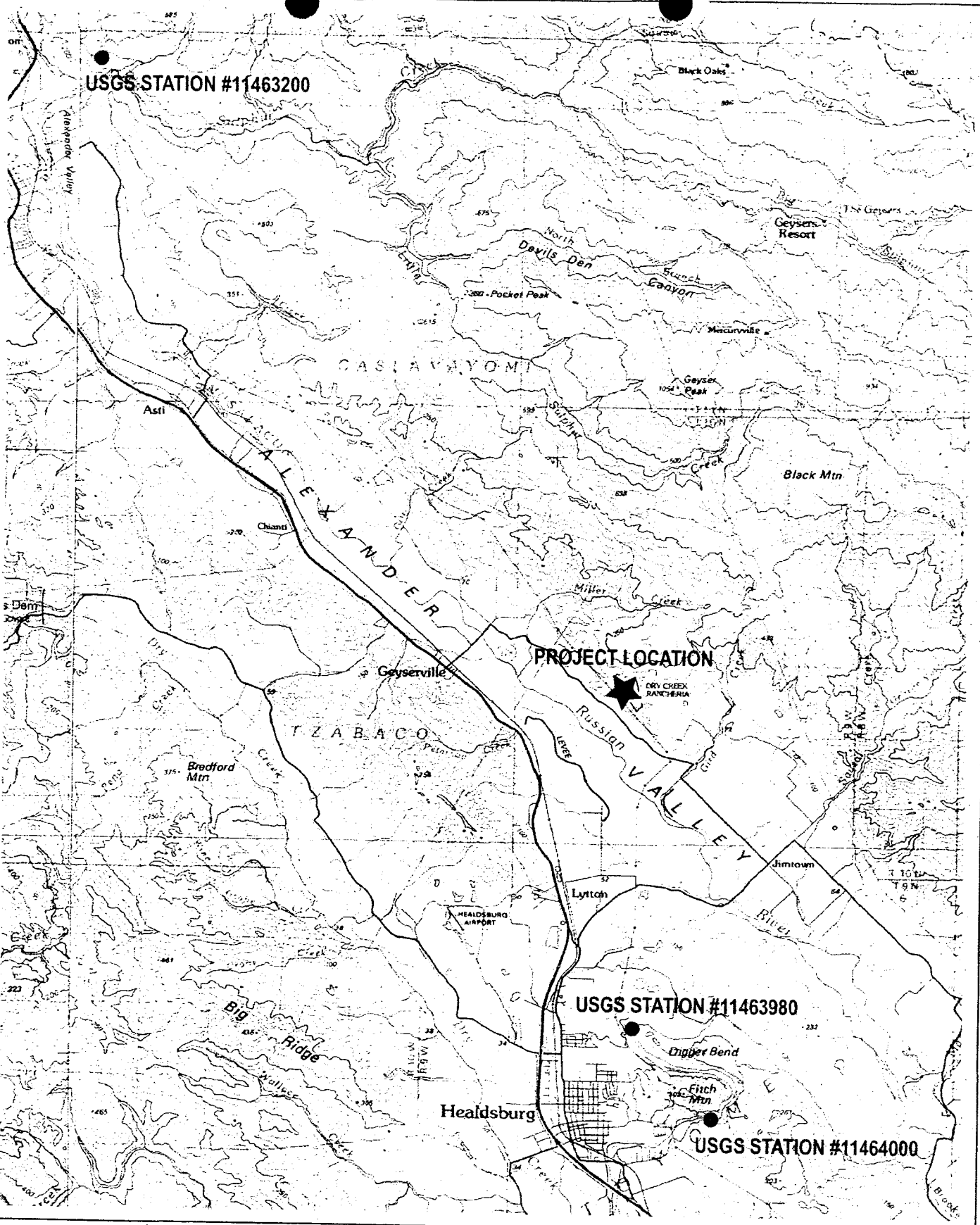


FIGURE 2-2
DRY CREEK BAND OF POMO INDIANS
WASTEWATER TREATMENT PLANT ENGINEERING REPORT
MAP OF EFFLUENT DISCHARGE LOCATIONS



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HydroScience Engineers, Inc.

Source: TOPO!

FIGURE 2-3
DRY CREEK BAND OF POMO INDIANS
WASTEWATER TREATMENT PLANT ENGINEERING REPORT
USGS GAUGING STATION LOCATIONS

south within a roadside ditch. This stream terminates in a ditch alongside Highway 128. It is noted that the U.S. Army Corps of Engineers (Corps) has determined that this stream is not tributary to any waters of the U.S., and is considered to be an isolated inland surface water. Thus, when too much water flows in Stream A1, water will sheet flow across an existing vineyard located near the terminus of Stream A1 and on the west side of Highway 128.

Since Stream A1 is not tributary to any stream or waterway (as determined by the Corps), the capacity of this Stream to receive effluent for discharge is limited. All effluent discharge to Stream A1 would either percolate into the ground or evaporate. Effluent discharge from the Dry Creek WWTP to Stream A1 would be limited in volume, year-round, to the flow that would not cause sheet overflow onto the existing vineyard located near the terminus of Stream A1 and on the west side of Highway 128. It was noted that studies of Stream A1 by the Tribe have shown that the percolation and evapotranspiration capacity have estimated a maximum capacity of approximately 27,000 during the winter, and 104,000 gpd during the summer (URS, 2004). Background flows in Stream A1 were also calculated in that study to vary from near zero during the summer to up to 1 MGD during the winter.

SECTION 3 – REGULATORY COMPLIANCE ISSUES

This section discusses the regulatory considerations associated with the treatment, reuse, and disposal of wastewater generated by the Project, including:

- Proposed disposal methods including:
  - On-site land disposal by spray irrigation;
  - On-site reuse of recycled water for landscape irrigation, cooling water, and toilet flushing; and
  - Surface water discharge within Trust lands;
- Federal laws, and current water quality compliance issues;
- Provisions of current, local surface water discharge permits; and
- Anticipated effluent limits, receiving water limits, discharge provisions and prohibitions, and monitoring requirements for the proposed Project.

3.1 Dominant Issue

On-site reuse and land disposal by spray irrigation are the preferred dry season disposal alternatives for the Title 22 disinfected tertiary treated effluent. To the extent practical, disposal by these methods will be maximized throughout the year. However, during the wet season, additional disposal capacity is required. Surface water discharge is the preferred supplemental wet season disposal alternative for the Dry Creek WWTP.

The proposed receiving water for the surface water discharge is an unnamed ephemeral stream, referred to as Stream P1 in this document, which is tributary to the Russian River at a point south of the Project site. This proposed discharge location is located at 38°42'06"N and longitude 122°51'31"W (deg, min, sec), and is shown in **Figure 2-2**.

A secondary discharge is an unnamed ephemeral stream, referred to as Stream A1 in this document, which is not tributary to waters of the United States, and terminates in a roadside ditch alongside Highway 128. This proposed discharge location is located at latitude 38°42'19"N and longitude 122°51'35"W, and is also shown in **Figure 2-2**.

In support of the proposed wet season surface water discharge program, the Project will be applying for a NPDES permit, which allows discharges to surface water in accordance with the provisions of the Water Quality Control Plan for the North Coast Region (Basin Plan) and the Federal Clean Water Act. It is understood that the Basin Plan requirements do not apply to Tribal lands. However, the proposed limitations identified in this Section are consistent with the Basin Plan.

3.2 Regulatory Framework

The United States Environmental Protection Agency (USEPA) Region 9 will regulate the surface water discharge, and apply the applicable Federal regulations and standards. The predominant standard USEPA will apply is the Clean Water Act. In addition, the EPA may confer with the North Coast Regional Water Quality Control Board (RWQCB), Region One regarding the state and local regulations, including the Basin Plan.

This section describes the USEPA authority, the RWQCB Basin Plan, and the requirements of the Clean Water Act.

3.2.1 USEPA Authority (Tribal Lands in Trust)

The Federal Clean Water Act (CWA) established a nationwide permit program called the National Pollution Discharge Elimination System (NPDES). The NPDES permit program was established for the purpose of regulating and administering permits for all discharges to receiving waters. In this case, discharge to surface waters is proposed; therefore a NPDES permit will be required.

In some states, the USEPA has delegated the administration of the NPDES permit system to a state agency. In California, USEPA has authorized the State Water Resources Control Board (SWRCB) as the responsible agency for NPDES permits. The SWRCB has further delegated the responsibility for administration of NPDES permits to the various RWQCBs. In delegating the responsibility to the Regional Boards, the State has recognized the differences in water quality requirements within the various regions of the state.

The proposed discharge locations are within Tribal lands. For discharges to surface waters on Tribal lands in California, the USEPA has retained responsibility for issuing NPDES permits. As a result, this discharge is regulated by the USEPA.

3.2.2 Water Quality Control Plan for the North Coast Region (Basin Plan)

This section describes the beneficial uses and water quality objectives for the potential receiving waters identified in the RWQCB – Region One Basin Plan

Stream P1: The receiving water, Stream P1, is tributary to the Russian River. Thus, the existing and potential beneficial uses for Stream P1 are considered by the RWQCB to be the same as those for the Russian River. The North Coast RWQCB assigns existing and potential beneficial uses for the Russian River and its tributaries in the Basin Plan, which are listed in **Table 3-1**.

Table 3-1: Beneficial Uses for the Russian River

Existing Beneficial Uses		Potential Beneficial Uses	
MUN	Municipal and Domestic Supply	PRO	Industrial Process Supply
AGR	Agricultural Supply	POW	Hydropower
IND	Industrial Service Supply	SHELL	Shellfish Harvesting
GWR	Groundwater Recharge	AQUA	Aquaculture
FRSH	Freshwater Replenishment		
NAV	Navigation		
REC1	Water Contact Recreation		
REC2	Non-Water Contact Recreation		
COMM	Commercial or Sport Fishing		
WARM	Warm Freshwater Habitat		
COLD	Cold Freshwater Habitat		
WILD	Wildlife Habitat		

Existing Beneficial Uses		Potential Beneficial Uses	
RARE	Rare, Threatened, or Endangered Species		
MIGR	Migration of Aquatic Organisms		
SPWN	Spawning, Reproduction, and/or Early Development		

Source: Basin Plan, 2003 Rev., North Coast Region.

Existing beneficial uses are uses as they exist at the present time, while potential uses are uses that:

- May have existed prior to November 1975;
- Are attainable via future plans;
- May be classified as an existing use after future review; or
- Are listed as future water quality goals for possible use.

Furthermore, beneficial uses of waters of the State are uses that require protection against water quality degradation by any proposed discharge, and reflect the demands on those water resources. Water quality objectives for the Russian River are based on the identified beneficial uses.

Stream A1: Stream A1 is not tributary to any water body of the United States, as determined by the United States Army Corps of Engineers (ESA, 2004). Thus, the water quality objectives applicable to the Russian River are not applicable to Stream A1.

However, the Basin Plan also identifies specific water quality objectives for other water bodies to prevent the degradation of any existing water body. Specific water quality objectives identified for any new wastewater discharge, in addition to this overall policy, are included in the **Table 3-2**.

Table 3-2: Water Quality Objectives for Inland Surface Waters

Parameter	Description
Color	Water shall be free of coloration that causes a nuisance or adversely affects beneficial uses.
Taste & Odor	Water shall not contain taste or odor producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that causes nuisance or adversely affect beneficial uses.
Turbidity	Shall not be increased more than 20% above naturally occurring background levels.
Bacteria	In waters designated REC-1, the median fecal coliform concentration on a minimum of not less than five samples for any 30-day period shall not exceed 50 per 100 mL, nor shall more than ten percent of the total samples during any 30-day period exceed 400/100 mL. In waters designated SHELL, the fecal coliform concentration throughout the water column shall not exceed 43 per 100 mL for a 5-tube serial dilution, or 49 per 100 mL for a 3-tube serial dilution.
Temperature	At no time or place shall the temperature of any waters designated COLD or WARM be increased by more than five degrees Fahrenheit.
Chemical Constituents and Radioactivity	For waters designated MUN, chemical constituents and radionuclides shall not be present at levels prohibited by the drinking water standards set forth in Title 22 of the California Code of Regulations.

Parameter	Description
Other Parameters	The following are prohibited in concentrations that cause nuisance to or adversely affect beneficial uses: floating material, suspended material, suspended sediment, settleable material, oil and grease, biostimulatory substances. Discharges containing toxic substances, pesticides, chemical constituents, or radioactivity in concentrations that impact beneficial uses are prohibited.

Source: Basin Plan 2003 Rev. North Coast Region.

Any discharge by the Project to Streams A1 and P1 would be designed to comply with the beneficial uses of that water body and these water quality objectives. It is understood that the Basin Plan requirements do not apply to Tribal lands.

3.2.3 Federal Clean Water Act

Under Section 319 of the CWA, States, territories, and authorized Tribes are required, after coordinating input from all stakeholders on a watershed basis, to identify all water bodies that do not meet water quality standards after all point sources of pollution are equipped with the required minimum levels of control technology. The task involves:

- Identification of beneficial uses;
- Assessment of whether or not beneficial uses have been impaired; and
- Identification of the water quality stressor(s) believed to be the cause of the beneficial use impairment, if impairment is recognized.

Section 305(b) of the CWA requires the assembly and submittal to USEPA of a comprehensive analysis of the above elements (a Unified Watershed Assessment) every two years.

Section 303(d) of the CWA requires the States to list surface waters where beneficial uses have been identified in the 305(b) Report as impaired (the 303(d) list). Section 303(d) further requires the establishment of Total Maximum Daily Loads (TMDLs) for all stressors identified in the 305(b) report as contributing to an impairment of a beneficial use.

A TMDL is a numeric target that, when achieved, will result in attainment of water quality standards (non-impairment of beneficial uses). The TMDL includes allocations for all identified sources of the targeted water quality stressor within the watershed.

3.3 Water Quality Characterization of the Russian River

A characterization of the Russian River water quality was prepared utilizing multiple available sources, including:

1. Sample data collected by the Tribe from the receiving surface water Stream P1;
2. Laboratory data taken by the Russian River County Sanitation District (Russian River CSD) as required by their NPDES Permit No. CA0024058; and
3. Laboratory data collected by the Town of Windsor Wastewater Treatment, Reclamation, and Disposal Facility (Windsor WWTP) as required by their NPDES Permit No. CA0023345.

In addition, the Russian River at the Geyserville Hydrological Area is currently listed in the *2002 CWA Section for 303(d) List of Water Quality Limited Segment* (approved by the USEPA July 2003) for Sedimentation/Siltation and Temperature. The TMDL priority for Sediment/Siltation is medium, while the TMDL priority for Temperature is low.

3.3.1 Lab Data – Characterization of Proposed Receiving Waters

The primary unknown regulatory issue associated with the proposed wet season discharge to Stream P1 to the Russian River is the water quality of the Russian River at the confluence with Stream P1.

The Tribe is collecting monthly receiving water quality data downstream of the proposed discharge site on Stream P1. All grab samples are collected approximately 200 yards upstream from the intersection of Highway 128 on Stream P1. Collection of this data will help the USEPA evaluate background water quality, identify potential water quality restrictions, and understand the impacts of the proposed new discharge on the aquatic habitat. The parameters listed in **Table 3-3** were selected for sample analysis to help determine if the proposed surface water discharge would affect existing and proposed beneficial uses of the Russian River.

Table 3-3: Proposed Receiving Water Quality Baseline Monitoring Program

Parameter	Sample Frequency
pH	Monthly (lab)
Temperature	Monthly (lab)
TDS (mg/L)	Monthly (lab)
TSS (mg/L)	Monthly (lab)
Specific Conductance (umho/cm)	Monthly (lab)
Hardness (mg $CaCO_3$/L)	Monthly (lab)
Turbidity (NTU)	Monthly (lab)
Nitrate (mg-N/L)	Monthly (lab)
Nitrite (mg-N/L)	Monthly (lab)
Ammonia (mg-N/L)	Monthly (lab)
TKN (mg/L)	Monthly (lab)
Total Phosphorous (mg-P/L)	Monthly (lab)
Orthophosphate (mg-P/L)	Monthly (lab)
Alkalinity (mg $CaCO_3$/L)	Monthly (lab)
Carbonate Alkalinity (mg $CaCO_3$/L)	Monthly (lab)
Bicarbonate Alkalinity (mg $CaCO_3$/L)	Monthly (lab)
Hydroxide Alkalinity (mg $CaCO_3$/L)	Monthly (lab)
Total Coliform (MPN/100 mL)	Monthly (lab)
Fecal Coliform (MPN/100mL)	Monthly (lab)
Oil and Grease (mg/L)	Monthly (lab)

Two separate samples will be collected from each proposed receiving water and analyzed for Trace Metals and California Toxics Rule pollutants. There are 126 pollutants and approximately 40 Trace Metals that these two samples will be tested for, as identified in **Table 3-4**.

Table 3-4: California Toxics Rule and Trace Metals Laboratory Tests

Laboratory Test	Laboratory Analysis Method
Volatile Organics	EPA 624
Semivolatile Organics	EPA 625
Pesticides & PCBs	EPA 608
Polynuclear Aromatic Hydrocarbons	EPA 610
Organophosphorus Pesticides	EPA 614
Low Level Mercury	EPA 1631
Metals by EPA 6020/200.8	EPA 6020/200.8
Cyanide, total	EPA 335.2
TriButyl Tin	GCFPD
EPA 1613 2,3,7,8 TCDD (Dioxin)	EPA 1613
Asbestos TEM	TEM
Chromium, hexavalent (colorimetric)	EPA 7196

3.3.2 Analytical Results – Preliminary Water Quality Summary

To date, one receiving water quality sample has been collected from both Streams A1 and P1 and tested for all of the parameters and constituents identified in **Tables 3-3** and **3-4**. A complete list of this data is included as **Appendix C**. The Tribe is in the process of collecting additional samples to obtain at least six months of receiving water quality for all of the conventional parameters listed in **Table 3-3**, and two separate samples for all of the CTR and Trace Metal constituents identified in **Table 3-4**. The data below summarizes key issues identified by the existing data.

The completed sample of Stream A1 identified eight constituents at concentrations above the most stringent pertinent water quality criterion: Aluminum, Cadmium, Chromium, Copper, Iron, Lead, Nickel, and Zinc. These criteria included the National Toxics Rule, California Toxics Rule, USEPA criteria, the Basin Plan, and the California Department of Health Services Primary MCL. It should be noted that this sample was collected during the first flush of the stream. During the first flush, receiving water concentrations can be higher than normal, since the receiving water is receiving its first significant rainfall. This can result in increased amounts of non-point source pollution occurring in the receiving water.

In addition, three constituents in Stream P1 were present at concentrations above the most stringent pertinent water quality criterion: Aluminum, Hexavalent Chromium, and Copper. Though no specific criterion is identified for Hexavalent Chromium, this constituent is a known carcinogen, and is presented here for illustrative purposes.

A description of each of the constituents exceeding a water quality criteria is summarized in **Table 3-5**.

Table 3-5: Summary of Water Quality Criterion Exceedances – Priority Pollutants and Other Constituents

Parameter	Concentration (ug/L)	MDL (ug/L)	Reporting Limit (ug/L)	Water Quality Criterion (ug/L)
Stream A1				
Aluminum	21,000	30	50	1,000 (DHS)
Cadmium	1.0	0.11	0.50	0.77 (EPA)
Chromium	71	0.51	10	47 (CTR) 50 (Basin Plan)
Copper	110	1.6	10	6.4 (CTR) 8.1 (EPA)
Iron	30000	51	100	NA
Lead	86	0.69	3.0	1.6 (EPA, CTR) 50 (Basin Plan)
Nickel	53	1.3	10	37 (CTR)
Zinc	160	2.8	20	74 (EPA) 83 (CTR)
Stream P1				
Aluminum	4,300	30	50	1,000 (DHS)
Hexavalent Chromium	3.5	NA	0.50,	NA
Copper	13	1.6	10	6.4 (CTR) 8.1 (EPA)

Additionally, during December 2003 and January 2004, a sample was collected from both Streams A1 and P1. The location this sample was collected from is unknown, and may not be representative of the actual receiving water quality. Both data sets are included in **Appendix C**.

3.3.3 Lab Data – Russian River CSD and Windsor WWTP

In lieu of having a comprehensive summary of receiving water quality data for each of the two proposed receiving waters, available water quality data near the proposed Stream P1 and Russian River confluence was collected and summarized. This data was obtained from the monitoring results compiled by two nearby plants, the Russian River CSD and the Windsor WWTP. These plants are located approximately 16 and 18 miles downstream of the Stream P1 and Russian River confluence, respectively.

Available data for the Russian River CSD and for the Windsor WWTP are included in **Table 3-6** and **Table 3-7** respectively. This data spans between January 1996 and May 2004 for the Russian River CSD, and November 2001 through April 2004 for the Windsor WWTP. Average values of this data are presented in the tables. A complete list of this data can be found in **Appendix C**.

Table 3-6: Russian River CSD Receiving Water Quality Data

Parameter	Units	Upstream	Downstream
Hardness	mg CaCO3/L	109.7	108.1
Turbidity	NTU	36.3	35.4
Dissolved Oxygen	mg/L	10.3	9.9
pH	---	7.9	7.9

Notes:
1. The upstream sample location refers to Vacation Beach, which is approximately 1,000 feet upstream of the RRCSD discharge to the Russian River.
2. The downstream sample location refers to the Northwood Golf Club, which is approximately 300 feet downstream from the RRCSD discharge to the Russian River.
3. Samples represent an average of receiving water data collected between January 1996 and May 2004.

Table 3-7: Windsor WWTP Receiving Water Quality Data

Parameter	Units	Upstream	Downstream
Ammonia Nitrogen	mg/L	<0.2	<0.2
Unionized Ammonia	mg/L	<0.1	<0.1
Nitrate Nitrogen	mg/L	1.0	1.0
Organic Nitrogen	mg/L	1.5	1.0
Total Phosphate	mg/L	1.6	1.6
BOD_5	mg/L	3.1	2.9
Nonfilterable Residue	mg/L	28.4	28.0
Temperature	°C	14.1	13.8
Dissolved Oxygen	mg/L	9.4	9.7
pH	---	7.2	7.2

Notes:
1. The upstream sample location refers to the sample location upstream of the existing discharge at the control valve site at the intersection of Trenton-Healdsburg Road and Mark West Section Road
2. The downstream sample location refers to the sample location downstream of the existing discharge at the control valve site at the intersection of Trenton-Healdsburg Road and Mark West Section Road
3. Samples represent an average of receiving water data collected between November 2001 and April 2004.

3.3.4 Discussion

The proposed Dry Creek WWTP discharge is not expected to cause or contribute to any excursions from any existing water quality criteria or standards. The Tribe is and will continue to collect and present to USEPA additional receiving water quality data to supplement this information. Available water quality data for the Russian River near Stream P1 has been collected and summarized in this document.

The receiving waters at the two downstream plants, the Russian River CSD and the Windsor WWTP, do not appear to be in excess of any water quality criterion or standard for which numeric standards have been set. Initial reports showed excursions to water quality criteria for certain metals in Streams A1 and P1, as previously described. However, additional samples will be collected in order to confirm this impression.

3.4 Existing Dry Creek WWTP Effluent Water Quality

As mentioned previously, since construction activities at the Dry Creek WWTP were completed during December 2004 and startup activities are currently underway, actual operating data representative of the Dry Creek WWTP is not currently available. When operational data is available, it will be submitted to the USEPA in accordance with all permit requirements.

The reader is referred to **Table 2-3** for an example of effluent water quality for a similar SBR treatment plant.

3.5 Existing Local State Discharge Permits

The current NPDES permits for the previously mentioned Windsor WWTP and the Russian River CSD were reviewed to gain a sense of the types of operating requirements currently being imposed by the North Coast RWQCB. These plants are the two nearest and most applicable wastewater treatment plants to the Dry Creek WWTP. Both permits include surface water discharge to the Russian River or its tributaries, tertiary treatment, and seasonal discharge.

The types of permit conditions discussed below include:

- Effluent Limitations,
- Receiving Water Quality Limitations, and
- Waste Discharge Rate Limitations.

3.5.1 Effluent Limitations

For water intended for either reclamation or discharge to a surface water, the following effluent limitations were implemented by the RWQCB for the Windsor WWTP and Russian River CSD.

Table 3-8: Local NPDES Effluent Limitations for Reclamation and Discharge to Surface Waters

Constituent	Units	Daily Maximum	Weekly Average	Monthly Average
BOD (20°C, 5-day) (Windsor WWTP)	mg/L	20	15	10
BOD (20°C, 5-day) (RRCSD – discharge)	mg/L	--	15	10
BOD (20°C, 5-day) (RRCSD – reclamation)	mg/L	--	45	30
Total Suspended Solids (Windsor WWTP)	mg/L	20	15	10
Total Suspended Solids (RRCSD – reclamation)	mg/L	--	45	30
Total Suspended Solids (RRCSD – discharge)		--	15	10
Total Coliform[a]	MPN/100 ml	240	23	2.2
Chloroform (RRCSD)	µg/L	--	--	100
Dichlorobromomethane[4] (RRCSD)	µg/L	1.12	--	0.56

Notes:

1. Total Coliform Daily maximum refers to maximum for any sample. Total Coliform weekly mean refers to concentrations shall not exceed that value more than once in any 30-day period. Total coliform monthly mean concentrations refer to the seven-day median concentration.

2. Effluent limitations for mass loadings are excluded from this table, due to the differences in flows between those plants and the Dry Creek WWTP.
3. Sources are Orders No. R1-2003-0026 (Russian River CSD) and R1-2002-0013 (Windsor WWTP).
4. The Russian River CSD had an interim limitation of 32 ug/L for this parameter.

Chloroform and Dichlorobromomethane are included in the Russian River CSD permit and not the Windsor WWTP permit based on site specific monitoring for priority pollutants promulgated by the USEPA through the National Toxics Rule and California Toxics Rule. Russian River CSD effluent and ambient monitoring data was analyzed with a reasonable potential analysis, and the RWQCB determined that water quality based effluent limits for both constituents were appropriate. No parameters were included in the Windsor WWTP NPDES permit based on similar methodology.

Turbidity: Turbidity limitations also exist in the NPDES permits for the Windsor WWTP and the Russian River CSD (for reclamation use only). These permits mandate that the turbidity of the filtered wastewater shall not exceed the following limitations:

- An average of 2 NTU within a 24-hour period;
- 5 NTU more than 5 percent of the time within a 24-hour period; and
- 10 NTU at any time.

In addition, the effluent discharge shall not cause the turbidity of the receiving water to increase by more than twenty percent above naturally occurring background levels.

Temperature: The Russian River CSD NPDES permit simply states that the discharge will not alter the natural temperature of the receiving water. The Windsor WWTP discharge permit places specific limitations on the temperature range allowed in the receiving water, as summarized below.

- When the receiving water (temperature) is below 58°F, the discharge shall cause an increase of no more than 4°F in the receiving water, and shall not increase the temperature of the receiving water beyond 59°F. No instantaneous increase in the receiving water temperature shall exceed 4°F at any time;
- When the receiving water (temperature) is between 59°F and 67°F, the discharge shall cause an increase of no more than 1°F in the receiving water. No instantaneous increase in receiving water temperature shall exceed 1°F at any time; and
- When the receiving water (temperature) is above 68°F, the discharge shall not cause an increase in the temperature of the receiving water.

Other limitations relating to effluent water quality and not summarized in this section are described in the following section.

3.5.2 Receiving Water Limitations

The following limitations are included in current local state permits, typically to prevent nuisances and protect beneficial uses.

- If the ambient DO concentration in the receiving waters is less than 7.0 mg/L, then the receiving water limitation in current permits is that the discharge shall not depress the DO in the receiving waters below the existing ambient value.

- The discharge shall not cause the pH of the receiving waters to be depressed below 6.5 nor raised above 8.5. Within this range, the discharge shall not cause the pH of the receiving waters to change more than 0.5 units at any time from the naturally occurring pH. If the pH of the receiving water is less than 6.5, the discharge shall not cause a further depression in the pH of the receiving water. If the pH of the receiving water is greater than 8.5 the discharge shall not cause a further increase in the pH of the receiving water.
- Settleable solids shall not be present in a measurable amount in the effluent.
- The discharge shall not cause the receiving waters to contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water.
- The discharge shall not cause the receiving waters to contain floating materials, including solids, liquids, foams, and scum.
- The discharge shall not cause coloration of the receiving waters.
- The discharge shall not cause the receiving waters to contain taste or odor producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin.

Additional standard receiving water limitations are included in all NPDES permits for discharges to the Russian River or its tributaries. These limitations include numeric and narrative water quality objectives which are set forth in the Basin Plan, and are discussed in *Section 3.2.2*. A list of the potential receiving water limitations for the proposed Project is presented in *Section 3.6.1*.

3.5.3 Waste Discharge Rate Limitations

For the Russian River and it tributaries, the Basin Plan limits direct discharges of treated municipal wastewater to a flow rate that is a maximum of 1% of the receiving water flow rate, unless RWQCB grants an exception to the waste discharge rate limitation. Where practical, the receiving water flow rate of the receiving water is measured as close as possible to the permitted discharge point. However, in some cases, flow rate measurement infrastructure is not located at the permitted discharge point, and the receiving water flow rate measurements for implementation of the waste discharge flow rate limitation are made thousands of feet, or even miles, away from the permitted discharge point. Below are examples of wastewater treatment facilities which do not measure receiving water flow rate at the same location as their permitted discharge location.

Russian River CSD: The permitted discharge point is on the Russian River. The receiving water flow rate measurement location used to determine their allowable discharge is the USGS gauge No. 11-4670.00 at the Hacienda Bridge. This gauging station is approximately eight miles upstream from the point of discharge, but is the most representative of the flow rate in the Russian River at the point of discharge.

Windsor WWTP: The permitted discharge point is between the effluent storage pond system and Mark West Creek. The receiving water flow rate measurement location is governed by flow conditions in Mark West Creek measured at the Trenton-Healdsburg Bridge, and is limited to 1% of the natural flow in the creek minus the discharge flow of wastewater from the City of Santa Rosa's Laguna Subregional Wastewater Treatment Facility. This gauging station is approximately six miles downstream from the point of discharge.

Forestville CSD: The permitted discharge point is on Jones Creek approximately one half mile from the confluence of Jones Creek and Green Valley Creek. The receiving water flow rate measurement location used to determine the Forestville CSD allowable effluent discharge flow rate is located on Green Valley Creek at the Iron Horse Bridge, which is approximately one half mile upstream from the Jones Creek confluence, and approximately one linear stream mile away from the permitted discharge point.

Laguna Subregional Wastewater Facility: The main discharge locations are on the Laguna de Santa Rosa and on Santa Rosa Creek, at locations approximately 0.5 mile and 7 miles from the wastewater plant, respectively. The receiving water flow rate measurement location used to determine the allowable effluent discharge flow rate is located on the Russian River at the Hacienda Bridge, which is approximately eight miles downstream from the Santa Rosa Creek discharge point, and approximately 14 miles downstream from the Laguna de Santa Rosa discharge point.

3.6 Anticipated Project Wastewater Discharge Permit

The conditions expected in a NPDES discharge permit for the proposed Project were developed by considering federal regulations, the Basin Plan, other current local discharge permits, and the current regulatory climate. The greatest weight was placed on the most recently adopted local permits, and on permits involving discharges to the Russian River.

This section identifies anticipated effluent limitations, receiving water limitations, provisions and prohibitions, monitoring requirements, and water reclamation requirements.

3.6.1 Anticipated Effluent Water Quality Limitations

Based on the most recently adopted local permits and the requirements of federal regulations, the following effluent limitations are expected for the proposed wastewater disposal options.

Table 3-9: Anticipated Effluent Limitations for Reclaimed Water Intended for Unrestricted Use, Requiring Tertiary Treatment and Disinfection

Constituent	Units	Daily Maximum	Weekly Mean	Monthly Mean
BOD (20 deg C, 5-day)	mg/L	--	45	30
Total Suspended Solids	mg/L	--	45	30
Total Coliform	MPN/100 ml	2.2	7-day median	
		23	No more than one sample in any 30-day period	
		240	No sample	
Settleable Solids	mg/L	None		

Table 3-10: Anticipated Effluent Limitations for Surface Water Discharge

Constituent	Units	Daily Maximum	Weekly Mean	Monthly Mean
BOD (20 deg C, 5-day)	mg/L	20	15	10
Total Suspended Solids	mg/L	20	15	10
Turbidity	NTU	5[1]	-	2

Note:
1. It is expected that excursions will be allowed if less than 5% of the time in any 24-hour period, but not allowed at any time to exceed 10 NTU.

In addition, the Title 22 requirements for UV disinfection effectiveness and reliability are expected to be incorporated.

3.6.2 Anticipated Receiving Water Quality Limitations

Numerical receiving water quality limitations are likely to include the limitations listed in **Table 3-11**.

Table 3-11: Anticipated Receiving Water Limitations

Parameter	Receiving Water Limits
Dissolved Oxygen	The discharge shall not cause the DO concentration in the receiving waters to be depressed below 7.0 mg/L. If the ambient DO concentration in the receiving waters is less than 7.0 mg/L, then the discharge shall not depress the DO in the receiving waters below the existing ambient value.
pH	6.5 minimum, 8.5 maximum
Temperature	• When the receiving water is below 58°F, the discharge shall cause an increase of no more than 4°F in the receiving water, and shall not increase the temperature of the receiving water beyond 59°F. No instantaneous increase in receiving water temperature shall exceed 4°F at any time. • When the receiving water is between 59°F and 67°F, the discharge shall cause an increase of no more than 1°F in the receiving water. No instantaneous increase in receiving water temperature shall exceed 1°F at any time. • When the receiving water is above 68°F, the discharge shall not cause an increase in temperature of the receiving water.

In addition, the proposed discharge is likely to be subject to the following narrative receiving water limitations:

- The discharge shall not cause the turbidity of the receiving waters to increase by more than 20 percent above naturally occurring background levels.
- The discharge shall not cause the receiving waters to contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
- The discharge shall not cause the receiving waters to contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.
- The discharge shall not cause aesthetically undesirable discoloration of the receiving waters.
- The discharge shall not cause bottom deposits in the receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.

- The discharge shall not contain concentrations of bio-stimulants that promote objectionable aquatic or algal growths to the extent that such growths cause nuisance or adversely affect beneficial uses of the receiving waters.
- The discharge shall not cause the receiving waters to contain toxic substances in concentrations that are toxic to, degrade, or that produce detrimental physiological responses in humans or animals or cause acute or chronic toxicity in plants or aquatic life.
- The discharge must not cause bioaccumulation of pesticide, fungicide, wood treatment chemical, or other toxic pollutant concentrations in bottom sediments or aquatic life to levels that are harmful to human health.
- The discharge must not cause the receiving waters to contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water that cause nuisance or that otherwise adversely affect beneficial uses.

3.6.3 Anticipated Provisions and Prohibitions

The anticipated provisions and prohibitions for the Project's NPDES permit are presented in this Section.

Seasonal prohibition: For the Russian River and it tributaries, point source direct discharges of treated municipal wastewater are restricted to the period between October 1 and May 14. No known exceptions to this rule have been recently promulgated. It is expected that the Project's NPDES permit will include this restriction with regards to P1 discharge.

Maximization of reuse: The on-site water reclamation facilities will be operated to implement all reasonable alternatives for reclamation, and to limit the portion of facility effluent that is discharged to surface waters to the lowest percentage practicable.

Waste discharge flow restriction: For the Russian River and it tributaries, direct discharges of treated municipal wastewater are restricted to a flow rate that is a maximum of 1% of the Russian River flow rate.

The amount of effluent discharge allowed by the Basin Plan is typically limited to a percentage of the measured streamflow in the Russian River at the point of discharge. In all local discharge permits reviewed in this document, the existing USGS flow gauging station most representative of the flow in the receiving water was used for the purposes of complying with Basin Plan mandated limitations for flow. There are no existing gauging stations on either Stream A1 or P1. The nearest three USGS gauging stations are located at the following locations:

1. USGS gauging station #11463200 – 16 miles upstream near Cloverdale,
2. USGS gauging station #11463980 – 15 miles downstream near Healdsburg at Digger Bend, and
3. USGS gauging station #11464000 – 18 miles downstream near Healdsburg.

Gauging station #1463980, at Digger Bend, is the station closest to the Project site. However, historical data from this gauging station for February and March (wet season) are not available. Data for the next two closest gauging stations, gauging station #11463200, and gauging station #11464000, are available to estimate the flows near the confluence of Stream P1 and the Russian River.

A conservative approach to implementation of compliance with the Basin Plan discharge flow limitation would be to limit the discharge to P1 from the Dry Creek WWTP to 1% of the measured flow in the

Russian River at Cloverdale, the upstream gauging station. The location for this gauging station is shown in **Figure 2-3**.

If the USEPA grants the Tribe permission to monitor flow at the USGS gauging station at Cloverdale, it is anticipated that the Tribe will be able to comply with the 1% flow restriction without any allowances, although on-site effluent storage outside of the permitted discharge period will likely be required. If permission is not granted, it is not known how flow would be monitored, since there are no existing stream gauges with historical flow data at on this stream. Additional information would need to be obtained and presented.

3.6.4 Anticipated Monitoring Requirements

Based primarily on the Monitoring and Reporting Program (MRP) for the Windsor WWTP, routine monitoring frequency and type of sample collected for the Dry Creek WWTP influent will likely be as presented in **Table 3-12**.

Table 3-12: Anticipated Dry Creek WWTP Influent Monitoring Requirements

Parameter	Units	Type of Sample	Sampling Frequency
Flow (mean and peak)	mgd	Meter	Continuous
BOD (20°C, 5-day)	mg/L	8-hr Composite	Weekly
Non-filterable Residue	mg/L	8-hr Composite	Weekly

Based on the MRP for the Laguna Subregional Wastewater Facility, routine monitoring frequency and type of sample collected for the effluent will likely be as presented below in **Table 3-13**. All of these parameters would be sampled for only during the period which effluent is discharged to a surface water.

Table 3-13: Anticipated Dry Creek WWTP Effluent Monitoring Requirements

Parameter	Units	Type of Sample	Sampling Frequency
BOD (20°C, 5-day)	mg/L	8-hr Composite	Weekly
Total Suspended Solids	mg/L	8-hr Composite	Weekly
Settleable Solids	ml/L	Grab	Weekly
pH	pH Units	Grab	Daily
Total Coliform	MPN/100mL	Grab	Daily
UV Transmittance	Percent	Meter	Continuous
Operational UV Dose	mW-s/cm	Calculation	30-min Intervals
Chlorine Residual	mg/L	Meter	Continuous
Flow (Mean & Peak)	mgd	Meter	Continuous
Turbidity	NTU	Meter	Continuous
Priority Pollutants	Various	24-hr Composite	Annually

Based on the MRP for the Windsor WWTP, routine monitoring frequency and type of sample collected for the receiving water, upstream and downstream from the point of discharge, will likely be as presented in **Table 3-14**.

Table 3-14: Anticipated Receiving Water Monitoring Requirements

Parameter	Units	Type of Sample	Sampling Frequency
BOD (20°C, 5-day)	mg/L	Grab	Weekly
Suspended Solids	mg/L	Grab	Weekly
Settleable Solids	ml/L	Grab	Weekly
Dissolved Oxygen	mg/L	Grab	Daily
Hydrogen Ion	pH	Grab	Daily
Priority Pollutants	Various	Grab	Annually

All analytical methods would conform to the most applicable laboratory method identified either in Standard Methods or by the USEPA.

3.6.5 Anticipated Water Reclamation Requirements

It is expected that the NPDES permit will stipulate similar requirements as described in the water reclamation provisions of the California Code of Regulations, Title 22, Division 4, Chapter 3. It is understood that State regulations do not apply to Tribal lands.

It is expected that the disposal by land irrigation will be limited to agronomic rates as estimated by local evapotranspiration data, and in consultation with the rules and regulations required by the California Department of Health Services and regulated by the Indian Health Services.

SECTION 4 – REFERENCES

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APPENDIX A

USGS – Monthly Streamflow Data for Gauging Stations #11463200, #11463980, and #11464000.

Monthly Streamflow Statistics for the Nation

USGS 11463200 BIG SULPHUR C NR CLOVERDALE CA

Sonoma County, California
Hydrologic Unit Code 18010110
Latitude 38°49'34", Longitude 122°59'45" NAD27
Drainage area 85.5 square miles

YEAR	Monthly mean streamflow, in ft^3/s											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1957	ND	ND	ND	ND	ND	ND	18.6	8.22	51.4	186	49.8	292
1958	518	1,962	747	726	79.4	45.8	19.9	8.84	5.58	5.35	7.53	11.6
1959	447	697	98.5	45.8	21.9	11	4.23	3.13	11.2	4.94	4.15	6.82
1960	145	658	398	105	58.6	23.9	8.64	3.99	3.78	5.95	54.1	383
1961	205	397	299	126	58.7	25.2	7.67	5.04	4.16	4.43	123	189
1962	94	940	392	83.1	35.7	16.9	6.72	5.13	4.16	290	44.6	339
1963	391	586	330	686	175	54	22	11	8.78	17.5	279	60.1
1964	323	81.7	66.4	37.9	22.9	13.2	5.94	3.22	2.96	5.69	158	1,228
1965	995	155	75.2	437	84.5	28.3	14.3	8.18	5.96	6.11	166	274
1966	794	410	174	87.3	32.5	15.6	8.22	4.66	3.79	4.08	283	690
1967	769	268	433	449	121	67	16.4	11.9	8.2	11.4	18	142
1968	544	477	269	87.2	39.1	16.9	7.09	7.1	5.52	10.7	22.1	366
1969	1,395	1,176	348	187	62.5	29.2	11.7	7.17	5.15	8.46	11.9	834
1970	1,971	444	276	61.6	29.5	14.2	5.89	3.55	2.79	7.59	264	906
1971	472	86.2	288	125	47.1	22	8.85	5.92	4.36	4.9	12.2	87.9
1972	105	159	102	116	30.9	11.9	5.23	3.14	3.54	ND	ND	ND
1989	ND	ND	ND	ND	ND	ND	ND	ND	5.35	ND	24.9	13.6
1990	ND	ND	66.5	31.5	ND	ND	15.2	5.4	3.31	3.31	6.21	5.95
1991	5.66	ND	ND	ND	37.3	16.3	6.95	3.37	2.42	3.89	9.2	ND
1992	ND	ND	ND	ND	24.1	13.7	11	1.79	2.16	10.6	9.96	ND
1993	ND	ND	ND	ND	ND	79	21.6	9.64	5.8	6.73	12.3	ND
1994	ND	ND	76.5	40.6	25.3	9.76	3.17	1.52	1.83	2.73	33.5	ND
1995	ND	ND	ND	ND	ND	48	28.2	11.4	6.58	5.19	6.35	ND
1996	ND	ND	ND	ND	ND	42.3	18.6	6.94	5.2	6.69	ND	ND
1997	ND	ND	ND	62.3	17.6	10.6	5.04	2.06	2.53	4.97	ND	ND
1998	ND	ND	ND	ND	ND	ND	39	15.6	9.01	8.51	25.2	ND
1999	ND	ND	ND	ND	50.5	22.9	11.6	6.9	3.8	5.38	ND	36.3
2000	ND	ND	ND	ND	56.5	23.2	10.2	4.45	3.91	11.2	13	17.4
2001	ND	ND	ND	46	18.8	6.65	2.85	1.22	1.62	3.41	ND	ND
2002	ND	ND	ND	40	30.2	10.5	3.82	2.24	1.78	2.22	26.1	ND
2003	ND	ND	ND	ND	ND	33.2	14.8	7.62	4.85	ND	ND	ND
Average (cfs)	573.4	566.5	261.1	179.0	50.4	26.3	12.1	6.0	6.2	23.1	66.6	309.6
Average (MGD)	370.5	366.1	168.8	115.7	32.6	17.0	7.8	3.9	4.0	15.0	43.0	200.1
5% of Average (MGD)	18.53	18.30	8.44	5.78	1.63	0.85	0.39	0.19	0.20	0.75	2.15	10.00
1% of Average (MGD)	3.71	3.66	1.69	1.16	0.33	0.17	0.08	0.04	0.04	0.15	0.43	2.00

ND: No Data
Note: ND readings are not included in calculating average flows.

Monthly Streamflow Statistics for California

USGS 11463980 RUSSIAN R A DIGGER BEND NR HEALDSBURG CA

Sonoma County, California
Hydrologic Unit Code 18010110
Latitude 38°37'59", Longitude 122°51'16" NAD27
Drainage area 791 square miles

YEAR	Monthly mean streamflow, in ft^3/s											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1987	ND	ND	ND	ND	ND	ND	ND	ND	ND	170	187	ND
1988	ND	ND	ND	ND	ND	125	97.3	105	103	112	ND	ND
1989	ND	ND	ND	ND	ND	214	196	213	202	ND	ND	209
1990	ND	ND	ND	193	ND	ND	165	173	146	ND	ND	116
1991	97.3	ND	ND	ND	ND	145	149	162	164	164	135	ND
1992	ND	ND	ND	ND	ND	212	208	202	180	196	187	ND
1993	ND	ND	ND	ND	ND	ND	ND	208	173	ND	ND	ND
1994	ND	ND	ND	ND	186	112	109	126	162	102	ND	ND
1995	ND	ND	ND	ND	ND	ND	238	222	205	195	195	ND
1996	ND	ND	ND	ND	ND	ND	216	204	183	228	ND	ND
1997	ND	ND	ND	ND	ND	189	175	178	189	186	ND	ND
1998	ND	ND	ND	ND	ND	ND	ND	226	280	252	ND	ND
1999	ND	ND	ND	ND	ND	264	216	232	220	183	ND	ND
2000	ND	ND	ND	ND	ND	235	197	195	185	198	194	237
2001	ND	ND	ND	ND	188	117	97.2	96.7	153	137	ND	ND
2002	ND	ND	ND	ND	301	203	180	155	155	158	ND	ND
2003	ND	ND	ND	ND	ND	ND	242	218	187	ND	ND	ND
Average (cfs)	97.3	ND	ND	193	225	181.6	177.5	182.2	180.4	175.5	179.6	187.3
Average (MGD)	62.88	ND	ND	124.7	145.4	117.4	114.7	117.8	116.6	113.4	116.1	121.1
5% of Average (MGD)	3.14	ND	ND	6.24	7.27	5.87	5.74	5.89	5.83	5.67	5.80	6.05
1% of Average (MGD)	0.63	ND	ND	1.25	1.45	1.17	1.15	1.18	1.17	1.13	1.16	1.21

ND: No Data
Note: ND readings are not included in calculating average flows.

Monthly Streamflow Statistics for California

USGS 11464000 RUSSIAN R NR HEALDSBURG CA

Sonoma County, California
Hydrologic Unit Code 18010110
Latitude 38°36'48", Longitude 122°50'07" NAD27
Drainage area 793 square miles
Gage datum 77.01 feet above sea level NGVD29

YEAR	Monthly mean streamflow, in ft^3/s											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1939	ND	ND	ND	ND	ND	ND	ND	ND	ND	180	140	387
1940	4,527	9,205	4,276	1,925	452	199	149	108	174	187	270	5,342
1941	6,962	6,631	4,684	4,823	787	372	195	185	205	208	306	5,584
1942	4,672	7,746	1,392	2,874	957	414	194	132	128	146	478	2,070
1943	6,321	2,071	1,820	982	563	286	150	138	129	151	243	173
1944	761	2,094	2,525	546	406	274	142	128	127	161	945	1,660
1945	989	4,110	2,346	990	457	251	141	137	171	414	1,319	7,506
1946	2,990	1,335	1,054	783	332	179	115	112	117	142	486	806
1947	298	1,819	2,441	882	210	171	70.5	82.8	121	327	346	357
1948	1,479	716	1,980	4,201	1,232	412	136	138	167	182	221	692
1949	735	2,195	6,133	764	358	100	84.5	114	108	127	193	266
1950	2,352	3,368	1,500	983	491	143	109	98.4	151	563	2,050	5,269
1951	5,100	3,778	1,796	636	766	210	121	115	126	207	682	6,422
1952	7,670	4,345	3,433	954	548	325	201	243	202	196	199	5,217
1953	8,900	937	1,926	1,068	797	482	258	252	240	279	784	732
1954	4,945	3,551	2,720	2,538	657	224	152	189	278	311	770	2,039
1955	1,794	876	650	1,176	718	243	165	150	177	226	306	8,945
1956	9,712	7,121	1,860	706	548	214	148	144	174	269	304	184
1957	1,196	3,500	3,080	1,070	1,456	492	195	139	242	1,605	804	2,021
1958	4,335	14,610	4,668	5,487	655	403	215	175	196	246	247	141
1959	2,800	4,378	866	448	182	143	175	179	202	276	279	231
1960	698	4,755	3,177	1,081	557	232	194	181	228	238	496	2,279
1961	1,326	3,812	2,864	1,009	566	326	300	316	347	286	535	1,184
1962	740	6,595	3,642	616	249	151	163	185	183	1,369	576	2,046
1963	1,711	4,529	2,230	4,841	1,167	359	196	172	211	309	1,834	574
1964	2,810	734	580	333	161	161	197	178	175	176	1,028	8,712
1965	6,662	1,236	546	2,328	601	200	178	215	220	269	1,288	1,629
1966	5,457	3,323	1,590	651	355	157	185	204	205	242	1,612	3,607
1967	5,232	2,362	3,290	3,603	982	518	252	259	311	352	314	951
1968	3,574	3,605	2,484	493	180	172	205	229	182	198	272	4,113
1969	9,207	7,249	2,778	939	531	304	241	243	205	242	320	4,142
1970	13,669	3,308	1,797	388	166	202	233	256	181	175	1,086	6,370
1971	4,892	753	2,284	1,150	533	302	205	228	208	214	199	917
1972	1,160	1,487	1,159	686	369	211	205	227	232	325	1,236	1,927
1973	8,860	6,306	2,727	752	347	232	258	249	205	367	5,293	4,865

YEAR	Monthly mean streamflow, in ft^3/s											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1974	7,681	2,110	6,953	4,094	628	255	219	331	360	360	270	607
1975	866	7,224	6,773	1,259	605	268	207	225	265	346	303	428
1976	255	463	743	560	173	203	206	200	183	162	177	124
1977	90.9	58.7	146	55.7	85.1	81.3	80.5	85	67.4	33.7	418	2,151
1978	11,950	6,139	3,994	2,140	721	327	218	223	205	179	261	235
1979	1,701	4,241	2,355	796	645	180	222	208	189	313	1,505	2,738
1980	6,484	6,714	2,414	843	467	237	207	218	197	220	208	959
1981	2,843	2,034	1,694	605	245	159	234	216	192	252	3,824	6,046
1982	4,980	4,436	3,509	6,592	741	366	208	260	215	223	1,653	5,044
1983	6,227	8,270	11,810	3,484	1,638	441	284	244	254	239	3,809	8,044
1984	2,012	2,160	1,492	764	288	112	216	191	153	181	2,402	1,283
1985	646	1,792	1,345	699	221	226	217	193	200	183	353	1,102
1986	2,607	14,650	4,899	667	338	243	246	239	245	183	167	204
1987	570	1,519	2,607	443	228	143	161	162	147	170	194	2,448
1988	4,073	887	303	265	297	103	89.2	93.2	103	112	396	591
1989	1,003	362	4,799	1,049	362	187	175	199	192	316	225	204
1990	1,408	1,553	669	182	604	436	160	160	144	210	274	111
1991	93.8	144	5,302	863	348	139	139	151	146	150	122	203
1992	561	4,088	1,967	649	305	186	192	181	172	199	173	2,117
1993	8,686	5,168	1,670	1,181	707	672	235	194	171	348	232	857
1994	987	2,746	582	275	193	115	93.4	121	159	103	237	735
1995	14,490	2,205	10,150	1,826	1,480	382	229	204	190	168	172	2,237
1996	5,032	7,046	3,426	1,337	939	364	205	174	171	225	393	6,471
1997	10,270	1,637	797	419	277	178	158	160	179	181	967	1,531
1998	8,260	16,450	2,978	2,332	1,595	972	259	205	265	249	807	1,348
1999	1,529	7,221	3,807	2,054	519	261	210	232	199	177	336	388
2000	1,761	7,279	3,173	807	431	238	194	207	193	206	195	257
2001	787	3,336	1,918	270	178	108	94	102	159	135	1,052	5,057
2002	4,402	1,348	926	520	286	186	173	154	157	169	181	7,099
2003	4,050	1,508	1,800	3,071	2,080	393	281	211	185	ND	ND	ND
Average (cfs)	4076	4050	2770	1450	577.5	269.1	186.6	185.1	190.4	268.1	762	2500
Average (MGD)	2634	2618	1790	937.2	373.2	173.9	120.6	119.6	123	173.3	492.4	1615
5% of Average (MGD)	131.70	130.88	89.52	46.86	18.66	8.70	6.03	5.98	6.15	8.66	24.62	80.77
1% of Average (MGD)	26.34	26.18	17.90	9.37	3.73	1.74	1.21	1.20	1.23	1.73	4.92	16.15

ND: No Data

Note: ND readings are not included in calculating average flows.

APPENDIX B

Design Drawings for the Dry Creek WWTP
Sequencing Batch Reactor – Phase II Expansion (bound separately)

APPENDIX C

Russian River, Stream P1, and Stream A1 Receiving Water Quality Data

Stream A1 and P1 General Water Quality Data Parameters (10/20/04)

ANALYTE	Method	Reporting Limit	Stream A1	Stream P1
General Water Chemistry				
pH	EPA 150.1	2.00	7.14	7.62
TDS (mg/L)	EPA 160.1	10	280	270
TSS (mg/L)	EPA 160.2	20	210	50
Hardness (mg $CaCO_3$/L)	SM 2340B	4.6	310	190
Ammonia (mg-N/L)	EPA 350.3	0.10	0.20	0.085
TKN (mg/L)	EPA 351.2	0.50	0.66	0.26
Orthophosphate (mg-P/L)	EPA 365.3	0.05	ND	0.15
Total Coliform (MPN/100 mL)	SM 9221	2	1600	1600
Fecal Coliform (MPN/100mL)	SM 9221	2	1600	500
Oil and Grease (mg/L)	EPA 413.1	5	ND	ND

Notes:
ND = Not Detected
NA = Not Available
Stream A1 was sampled ~20-ft east of Hwy 128 on 10/20/04.
Stream P1 was sampled ~200-ft east of Hwy 128 on 10/20/04.

Stream A1 and P1 Water Quality Data Parameters (10/20/04)

CTR #	Analyte [b]	Method	Reporting Limit	Stream A1	Stream P1
Metals (ug/L)					
	Aluminum	EPA 200.8	1000.00	20000	4200
1	Antimony	EPA 200.8	5.00	0.28	1.1
2	Arsenic	EPA 206.2	5.00	3.3	1.5
	Barium	EPA 200.8	10.00	310	150
3	Beryllium	EPA 200.8	1.00	0.55	0.092
4	Cadmium	EPA 200.8	0.50	1	0.24
5	Chromium VI	EPA 7196A			
5b	Chromium	EPA 200.8	10.00	71	25
	Hexavalent Chromium	EPA 7199	0.50	ND	3.5
6	Copper	EPA 200.8	10.00	110	13
	Iron	EPA 200.8	300.00	1.0 x 10^5	5700
7	Lead	EPA 200.8	3.00	86	1.3
	Manganese	EPA 200.8	30.00	410	89
8	Mercury (ng/L)	EPA 245.1	0.20	0.035	ND
9	Nickel	EPA 200.8	10.00	53	30
10	Selenium	EPA 200.8	5.00	ND	11
11	Silver	EPA 200.8	1.00	0.3	ND
12	Thallium	EPA 200.8	1.00	ND	ND
13	Zinc	EPA 200.8	20.00	160	43
Volatiles (ug/L)					
41	1,1,1-Trichloroethane	EPA 8260B	2.00	ND	ND
37	1,1,2,2-Tetrachloroethane	EPA 8260B	0.50	ND	ND
42	1,1,2-Trichloroethane	EPA 8260B	0.50	ND	ND
	1,1,2-Trichloro-1,2,2-Trifluoroethane	EPA 8260B			
28	1,1-Dichloroethane	EPA 8260B	1.00	ND	ND
30	1,1-Dichloroethene	EPA 8260B	0.50	ND	ND
101	1,2,4-Trichlorobenzene	EPA 8260B	5.00	ND	ND
	1,2-Dibromo-3-chloropropane	EPA 8260B			
75	1,2-Dichlorobenzene	EPA 8260B	2.00	ND	ND
29	1,2-Dichloroethane	EPA 8260B	0.50	ND	ND
31	1,2-Dichloropropane	EPA 8260B	0.50	ND	ND
76	1,3-Dichlorobenzene	EPA 8260B	2.00	ND	ND
32	1,3-Dichloropropane	EPA 8260B			
77	1,4-Dichlorobenzene	EPA 8260B	2.00	ND	ND
25	2-Chloroethyl vinyl ether	EPA 502.2			
17	Acrolein (Propenal)	EPA 8260B	5.00	ND	ND
18	Acrylonitrile	EPA 8260B	2.00	ND	ND
19	Benzene	EPA 8260B	0.50	ND	ND
34	Bromomethane (Methyl bromide)	EPA 8260B	2.00	ND	ND
21	Carbon tetrachloride	EPA 8260B	0.50	ND	ND
22	Chlorobenzene	EPA 8260B	2.00	ND	ND
24	Chloroethane	EPA 8260B	2.00	ND	ND
35	Chloromethane (Methyl chloride)	EPA 8260B	2.00	0.19	0.23
	cis-1,2-Dichloroethene	EPA 8260B	0.50	ND	ND
36	Dichloromethane	EPA 8260B			
33	Ethylbenzene	EPA 8260B	2.00	ND	ND
	Ethylene dibromide	EPA 8260B			
89	Hexachlorobutadiene	EPA 8260B	1.00	ND	ND
	MTBE	EPA 8260B	3.00	ND	ND
	Naphthalene	EPA 8260B	10.00	ND	ND
	Styrene	EPA 8260B	0.50	ND	ND
38	Tetrachloroethene	EPA 8260B	0.50	ND	ND
39	Toluene	EPA 8260B	2.00	0.13	ND
40	trans-1,2-Dichloroethene	EPA 8260B	1.00	ND	ND
43	Trichloroethene	EPA 8260B	2.00	ND	ND
	Trichlorofluoromethane	EPA 8260B	5.00	ND	ND
44	Vinyl chloride	EPA 8260B	0.50	ND	ND
	Xylene (Total)	EPA 8260B			
Total Trihalomethanes (ug/L)					
27	Bromodichloromethane	EPA 8260B	0.50	ND	ND
20	Bromoform	EPA 8260B	2.00	ND	ND
26	Chloroform (trichloromethane)	EPA 8260B	0.50	ND	ND
23	Dibromochloromethane	EPA 8260B	0.50	ND	ND

CTR #	Analyte [b]	Method	Reporting Limit	Stream A1	Stream P1
Semi-Volatile Organics (ug/L)					
83	1,2-Diphenylhydrazine	EPA 8270			
55	2,4,6-Trichlorophenol	EPA 8270			
46	2,4-Dichlorophenol	EPA 8270			
47	2,4-Dimethylphenol	EPA 8270			
82	2,4-Dinitrotoluene	EPA 8270			
49	2,4-Dinitrophenol	EPA 8270			
73	2,6-Dinitrotoluene	EPA 8270			
71	2-Chloronaphthalene	EPA 8270			
45	2-Chlorophenol	EPA 8270			
48	2-Methyl-4,6-Dinitrophenol	EPA 8270C			
50	2-Nitrophenol	EPA 8270			
78	3,3-Dichlorobenzidine	EPA 8270			
69	4-Bromophenyl-phenylether	EPA 8270			
52	4-Chloro-3-methylphenol	EPA 8270			
72	4-Chlorophenyl-phenylether	EPA 8270			
51	4-Nitrophenol	EPA 8270			
	4,6-Dinitro-2-methylphenol	EPA 8270			
56	Acenaphthene - 2 METHODS	EPA 610	0.490	ND	ND
5	Acenaphthylene	EPA 610	0.960	ND	ND
58	Anthracene	EPA 610	0.049	ND	ND
59	Benzidine	EPA 8270	-		
60	Benzo(a)anthracene	EPA 610	0.049	ND	ND
62	Benzo(b)fluoranthene	EPA 610	0.049	ND	ND
64	Benzo(k)fluoranthene	EPA 610	0.049	ND	ND
61	Benzo(a)pyrene	EPA 610	0.049	ND	ND
63	Benzo(g,h,i)perylene	EPA 610	0.098	ND	ND
65	Bis(2-Chloroethoxy)methane	EPA 8270			
66	Bis(2-Chloroethyl) ether	EPA 8270			
67	Bis(2-chloroisopropyl)ether	EPA 8270			
68	Bis(2-Ethylhexyl)phthalate	EPA 8270			
70	Butylbenzylphthalate	EPA 8270			
73	Chrysene	EPA 610	0.049	ND	ND
74	Dibenzo(a,h)anthracene	EPA 610	0.098	ND	ND
79	Diethylphthalate	EPA 8270			
80	Dimethylphthalate	EPA 8270			
81	Di-n-butylphthalate	EPA 8270			
84	Di-n-octylphthalate	EPA 8270			
86	Fluoranthene	EPA 610	0.049	ND	ND
87	Fluorene	EPA 610	0.098	ND	ND
88	Hexachlorobenzene	EPA 8270			
90	Hexachlorocyclopentadiene	EPA 8270			
91	Hexachloroethane	EPA 8270			
92	Indeno(1,2,3-cd)pyrene	EPA 610	0.049	ND	ND
93	Isophorone	EPA 8270			
94	Napthalene	EPA 610	0.490	ND	ND
95	Nitrobenzene	EPA 8270			
96	N-Nitrosodimethylamine	EPA 8270			
97	N-Nitroso-di-n-propylamine	EPA 8270			
98	N-Nitrosodiphenylamine	EPA 8270			
53	Pentachlorophenol	EPA 8270			
99	Phenanthrene	EPA 610	0.049	ND	ND
54	Phenol	EPA 8270			
100	Pyrene	EPA 610	0.049	ND	ND
	Bis(2-ethylhexyl)adipate	EPA 8270			
PCB's (ug/L)					
	Arochlor 1016	EPA 8082			
	Arochlor 1221	EPA 8082			
	Arochlor 1232	EPA 8082			
	Arochlor 1242	EPA 8082			
	Arochlor 1248	EPA 8082			
	Arochlor 1254	EPA 8082			
	Arochlor 1260	EPA 8082			
Other Priority Pollutants					
15	Asbestos (MFL, >10 um)	EPA 600			
	Tributyltin (ug/L)	GC-FPD			
	Dibutyltin (ug/L)	GC-FPD			
	Monobutyltin (ug/L)	GC-FPD			
14	Cyanide (ug/L)	EPA 335.2	0.005	ND	ND
16	Dioxins (pg/L) [c]	EPA 1613			

CTR #	ANALYTE [b]	Method	Reporting Limit	Stream A1	Stream P1
Organochlorine Pesticides (ug/L)					
102	Aldrin	EPA 8081			
103	alpha-BHC	EPA 8081			
104	beta-BHC	EPA 8081			
106	delta-BHC	EPA 8081			
	Lindane	EPA 8081			
107	Chlordane	EPA 8081			
110	4,4-DDD	EPA 8081			
109	4,4-DDE	EPA 8081			
108	4,4-DDT	EPA 8081			
111	Dieldrin	EPA 8081			
112	Endosulfan I (alpha-Endosulfan)	EPA 8081			
113	Endosulfan II (beta-endosulfan)	EPA 8081			
114	Endosulfan Sulfate	EPA 8081			
115	Endrin	EPA 8081			
116	Endrin Aldehyde	EPA 8081			
117	Heptachlor	EPA 8081			
118	Heptachlor Epoxide	EPA 8081			
	Methoxychlor	EPA 8081			
126	Toxaphene	EPA 8081			
Other Pesticides (ug/L)					
	Alachlor	EPA 8270			
	Atrazine	EPA 8141A			
	Carbofuran	EPA 632			
	Chlorpyrifos (Dursban)	EPA 8141A			
	Diazinon	EPA 8141A			
	Molinate	EPA 8141A			
	Oxamyl	EPA 632			
	Simazine	EPA 8141A			
	Thiobencarb	EPA 8141A			
Chlorinated Acid Herbicides (ug/L)					
	2,4-D	EPA 8151A			
	Bentazon	EPA 8151A			
	Dalapon	EPA 8151A			
	Di(2-ethylhexyl)adipate	EPA 506			
	Dinoseb	EPA 8151A			
	Diquat	EPA 549.2			
	Endothal	EPA 548.1			
	Glyphosate	EPA 547			
	Pentachlorophenol	EPA 8151A			
	Picloram	EPA 8151A			
	Silvex (2,4,5-TP)	EPA 8151A			
Volatiles (ug/L)					
	Acetone	EPA 8260B			
	Bromobenzene	EPA 8260B			
	Bromochloromethane	EPA 8260B			
	2-Butanone	EPA 8260B			
	n-Bhylbenzene	EPA 8260B			
	sec-Butylbenzene	EPA 8260B			
	tert-Butylbenzene	EPA 8260B			
	Carbon disulfide	EPA 8260B			
	2-Chlorotoluene	EPA 8260B			
	4-Chlorotoluene	EPA 8260B			
	1,2-Dibromoethane (EDB)	EPA 8260B			
	Dibromomethane	EPA 8260B			
	Dichlorodifluoromethane	EPA 8260B			
	2,2-Dichloropropane	EPA 8260B			
	1,1-Dichloropropene	EPA 8260B			
	1,3-Dichloropropane	EPA 8260B			
	cis-1,3-Dichloropropene	EPA 8260B	0.50	ND	ND
	trans-1,3-Dichloropropene	EPA 8260B	0.50	ND	ND
	Freon 113	EPA 8260B	10.00	ND	ND
	2-Hexanone	EPA 8260B			
	Isopropylbenzene	EPA 8260B			
	p-Isopropyltoluene	EPA 8260B			
	Methylene chloride	EPA 8260B	2.00	ND	ND
	4-Methyl-2-pentanone	EPA 8260B			
	n-Propylbenzene	EPA 8260B			
	1,1,1,2-Tetrachloroethane	EPA 8260B			
	1,2,3-Trichlorobenzene	EPA 8260B			
	1,2,3-Trichloropropane	EPA 8260B			
	1,3,5-Trimethylbenzene	EPA 8260B			
	1,2,4-Trimethylbenzene	EPA 8260B			
	Vinyl acetate	EPA 8260B			
	m,p-Xylene	EPA 8260B	0.50	ND	ND
	o-Xylene	EPA 8260B	0.50	ND	ND

Notes:

[b] California Toxic Rule (CTR) constituent identification number

[c] Results reported as micrograms per liter, unless otherwise noted

[c] Total Dioxin concentration reported as equivalent TCDD concentration in picograms per liter

Stream A1 was sampled ~20-ft east of Hwy 128 on 10/20/04

Stream P1 was sampled ~200-ft east of Hwy 128 on 10/20/04

Russian River County Sanitation District Receiving Water Data*

		HARDNESS		pH		TURBIDITY		DISSOLVED OXYGEN	
DATE	RIVER FLOW	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM
	(mgd)	mg/L as CaCO3	mg/L as CaCO3			NTU	NTU	mg/l	mg/l
9-Jan-96	596	140	120	7.9	7.8	7.8	9.2	9.9	8.1
5-Feb-96	31008	76	74	7.6	7.6	146	150	8	8.5
13-Mar-96	6466	70	72	7.8	7.8	74	80	9.8	9.3
3-Apr-96	2739	84	82	7.8	7.8	51	51	9.4	8.8
1-May-96	634	110	110	8.1	8.1	8.8	6	8.6	9.1
2-Oct-96	110	110	100	8	8	7	5	8.8	8.6
6-Nov-96	393	110	98	8.3	8.2	3	3	10.8	10.3
4-Dec-96	327	110	110	8.1	8.1	2.8	3.4	10.5	5.2
8-Jan-97	8731	88	88	7.7	7.7	182	181	10.1	10.5
12-Feb-97	1099	120	110	8	8	25.6	26	9.6	9.5
4-Mar-97	502	120	110	8.3	8.3	11	12.1	11.7	12.1
2-Apr-97	259	110	110	8.1	8.2	5.7	5.8	10.3	13.9
7-May-97	253	110	110	8.1	8.3	4.5	4.9	8.7	7.5
1-Oct-97	149	98	100	7.7	7.7	5.9	3.8	8.1	7.7
5-Nov-97	216	94	94	7.2	7.8	4.6	4.4	9.2	7.2
10-Dec-97	2011	88	86	7.8	7.6	69	66	10.6	10.1
7-Jan-98	3294	93	87	7.3	7.9	91.8	93.8	11.3	11.2
4-Mar-98	3595	99	93	7.8	7.4	97.2	79.8	10.3	11.8
1-Apr-98	2793	96	94	7.7	7.8	125	58.5	10.4	9
6-Jan-99	2228	110	114	8.8	8.1	13.9	3.6		
3-Feb-99	1284	96	98	8.1	7.9	28.7	29.4		
14-Mar-99	2121	84	87	7.7	7.7	53.3	46.4		
5-May-99	576	118	121	8.7	8.4	5.8	6.1		
11-Jan-00	267	102	96	7.8	8	28.5	19.7		
9-Feb-00	1733	100	100	7.5	7.8	22	21		
1-Mar-00	9568	95	88	7.4	7.6	85.9	93.4		
5-Apr-00	545	126	120	8.4	8.1	3	3		
3-May-00	428	132	130	8.4	8.3	3.9	3.6		
25-Oct-00	109	106	108	8.1	7.9	3.5	1.3		
8-Nov-00	165	112	118	7.6	7.9	1.5	2.4		
13-Dec-00	205	108	110						
3-Jan-01		124	122	8.1	8.2	1.8	1.3		
7-Feb-01		124	126	8	8	8.4	6.4		
7-Mar-01	4472	88	88	7.6	7.6	59	58		
4-Apr-01	343	150	138	8.7	8.3	1.9	2.5		
2-May-01	259	136	134	8.5	8.3	1.7	1.9		
18-Oct-01		104	104	8.3	8.2	1.2	1.4		
8-Nov-01	78	108	108	7.8	8.1	2.4	2.4	11.4	11.4
5-Dec-01	3384	78	78	7.5	7.3	70.6	42.4		
2-Jan-02	32270			7.59	7.54	228	270	9.25	9.38
3-Jan-02	38470			7.83	7.81	227	264	9.06	9.46
9-Jan-02	9899	112	100	7.5	7.7	56.5	53.6	9.3	8.6
6-Feb-02	745	124	120	8	7.9	5.2	5.1	10.8	10.2
6-Mar-02	794	118	116	7.9	8	5.4	5.6	12.6	11.2
3-Apr-02	823	116	118	8	8.1	5.7	5	8.8	8.7
1-May-02	422	176	180	8.7	8.2	2.5	4.1	9.7	8.9
6-Nov-02	103	109	109	7.9	7.8	5.5	4.7	9.3	8.5
4-Dec-02	134	112	118	7.8	8.1	1.1	1.1	9.6	9.1
8-Jan-03	2488	105	105	7.5	7.6	40.9	41.1	9.7	8.6
5-Feb-03	1021	124	128	7.8	7.9	10.1	12.6	11	11.8
5-Mar-03	763	116	114	8.1	8	8	8.3	11	11.2
2-Apr-03	565	150	156	8.1	8	4.9	10.7	10.7	15
14-May-03	1178	128	130	7.6	7.5	14.8	17.7	9.1	9.7
12-Nov-03		122	124	7.9	8	2.9	2.5	13.5	13.4
10-Dec-03	3623	104	100	7.7	7.8	25.8	25.7	15.7	10.9
15-Jan-04	2606	112	120	7.5	7.1	32.5	19.8	14.4	13.8
4-Feb-04	6728	73	66	7.8	7.8	97.7	98.6	8.7	8.9
3-Mar-04	5348	86	82	7.7	7.7	40.7	42.2	9.7	9.6
7-Apr-04	527	126	126	8.3	8.3	3	3	12.8	11.1
4-May-04	255	122	124	8.1	8.3	3.2	2.4	8.4	8.6
Average	3601.8	109.7	108.1	7.9	7.9	36.3	35.4	10.3	9.9

Notes:

*Data was obtained from the RWQCB on 11/19/04 via e-mail

Blank cells indicate no data was available

Upstream refers to the sampling location at Vacation Beach, approximately 1,000-ft upstream of the wastewater treatment plant

Downstream refers to the sampling location adjacent to the Northwood Golf Club approximately 300-ft downstream of the point of discharge

Town of Windsor Wastewater Treatment, Reclamation, and Disposal Facility
Russian River Data

RUSSIAN RIVER DATA*																				
	AMMONIA NITROGEN		UNIONIZED AMMONIA		NITRATE NITROGEN		ORGANIC NITROGEN		TOTAL PHOSPHATE		BODS		NONFILTERABLE RESIDUE		DISSOLVED OXYGEN		HYDROGEN ION		TEMPERATURE	
DATE	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM	UPSTREAM	DOWNSTREAM
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	C	C
	grab	grab	calculation	calculation	grab	grab	grab	grab	grab	grab	grab	grab	grab	grab	grab	grab	grab	grab	grab	grab
Nov-01	0.2	0.2	0.01	0.01	0.2	0.2	1.1	0.8	2.9	3.1	4.5	4.4	11.3	11.7	8.3	8.9	7.18	7.2		
Dec-01	0.2	0.2	0.01	0.01	1.8	1.8	1.3	1.3	1.8	1.6	2.7	2.8	27.5	30.8	9.6	9.9	7.28			
Jan-02	0.2	0.2	0.01	0.01	0.5	0.7	1.4	1.4	1.3	1.4	2.2	2.0	56.0	34.0	10.0	10.2	7.22	7.27		
Feb-02	0.2	0.2	0.01	0.01	0.54	0.51	0.75	0.75	0.92	0.87	2.7	2.8	29	29.5	9.7	9.7	7.7	7.63	16	15
Mar-02	0.2	0.2	0.01	0.01	1.7	1.5	1.5	1.1	1.7	1.5	3.7	3.5	24.3	25.0	11.1	12.1	7.75	7.75	14	13
Nov-02	0.2	0.2	0.01	0.01	0.2	0.2	0.4	0.4	1.6	1.7	4.4	4.2	13.0	14.0	5.5.	5.4	6.72	6.74	16	15
Dec-02	0.2	0.2	0.01	0.01	1.1	1.3	0.75	0.75	1.4	1.8	3.0	3.0	45.7	31.7	9.6	9.9	6.96	6.91	12	11
Jan-03	0.2	0.2	0.01	0.01	1.2	0.9	0.4	0.4	1.9	1.7	2.5	2.5	23.0	23.3	11.4	11.0	6.99	6.99	14	14
Feb-03	0.2	0.2	0.01	0.01	0.78	0.8	6	0.4	1.4	1.6	2.1	2.4	20	21.5	11.1	10.6	7.22	7.35	14	14
Mar-03	0.2	0.2	0.01	0.01	1.0	1.0	0.4	0.4	1.5	1.6	2.4	2.4	22.5	24.5	9.9	10	7.27	7.34	15	16
Apr-03	0.2	0.2	0.01	0.01	0.49	0.4	0.25	0.75	1.0	1.0	2.5*	2.4	30.3	37.0	10.5	11.1	7.18	7.25	16	16
Dec-03	0.2	0.2	0.01	0.01	0.9	1.1	0.4	0.4	1.6	1.6	5.6	3.7	41.0	37.8	7.7	8.7	7.04	6.83	12	12
Jan-04	0.2	0.2	0.00	0.00	1.4	1.6	0.4	0.4	1.6	1.7	3.1	3.1	18.5	21.3	7.7	8.4	7.03	7.05	12	12
Feb-04											2.3	2.4	44.3	55.7	10.8	10.8	6.98	6.99	12.2	11.7
Mar-04	0.2	0.2	0.01	0.01	0.8	0.96	0.4	0.4	1.5	1.5	2.4	2.2	19.5	22.8	8.7	8.9	7.03	7.07	16	16
Average	0.2	0.2	<0.01	<0.01	1.0	1.0	1.5	1.0	1.6	1.6	3.1	2.9	28.4	28.0	9.4	9.7	7.2	7.2	14.1	13.8

Notes

*Data was received from the RWQCB by mail on December 2004

Blank cells indicate no data was available

Upstream refers to the sampling location at Trenton-Healdsburg Bridge

Downstream refers to monitoring location immediately downstream of the discharge point when stream flows allow safe sampling. If stream flows do not allow for safe sampling, sampling shall be conducted at the Wohler Road Bridge that crosses the Mark West Creek