

city of
Petaluma, California



water recycling

FACILITY AND RIVER ACCESS
IMPROVEMENTS

Volume 3
FINAL

Environmental Impact Report

State Clearing House #2001052089

July 2002



CITY OF PETALUMA, CALIFORNIA

**WATER RECYCLING FACILITY
AND RIVER ACCESS IMPROVEMENTS
FINAL ENVIRONMENTAL IMPACT
REPORT**

VOLUME 3

July 24, 2002

Prepared by Parsons

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1 INTRODUCTION

The Final EIR consists of the Draft EIR and Appendices in Volumes 1 and 2, and the Comments, Responses to Comments, and Replacement Pages for the Draft EIR in Volume 3.

The comments include written comments received during or shortly after the public review period and oral comments made at the two public hearings on May 13, and May 20, 2002. The Replacement Pages include changes to the Draft EIR made in response to written and oral comments as well as changes initiated by the EIR authors.

CERTIFICATION AND PROJECT SELECTION PROCESS

The Petaluma City Council will hold a meeting on August 5, 2002 (tentative date) at the Petaluma City Council Chambers, 11 English Street, to consider certification of the Final EIR. The meeting will start on or around 7:00 p.m. In order to certify the Final EIR, the Council must find that:

- 1) the Final EIR has been completed in compliance with CEQA; and
- 2) the Final EIR was presented to the decision making body of the lead agency and that the decision making body reviewed and considered the information contained in the Final EIR prior to selection of a Project (CEQA Guidelines Section 15090).

If the City certifies the Final EIR, the City will also consider approval of the Project at that time. At the time of project approval, the decision-making body, that is the Petaluma City Council, must consider the information presented in the Final EIR. The decision makers must balance the benefits of the project against its unavoidable environmental risks. If the benefits outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable." If the City Council makes such a decision, it must support the action by writing the specific reasons for approval; this is called a Statement of Overriding Considerations and it must be included in the record of project approval (CEQA Guidelines Section 15093).

PUBLIC INVOLVEMENT DURING THE FINAL EIR PHASE

The public comment period for the Draft EIR began on April 15, 2002 with the distribution of the Draft EIR by the City of Petaluma to public agencies and individuals who had expressed an interest. The formal public comment period closed on May 29, 2002. However, comments received after the close of the public comment period, through May 30, 2002, have been considered in the preparation of the Final EIR. On May 13, and May 20, 2002, public hearings on the Draft EIR were held before the Petaluma City Council.

The Notice of Availability of the Draft EIR was mailed on April 15, 2002 to various federal, state and local agencies and interest groups. In addition, the notice was published in the Petaluma Argus Courier and the Press Democrat. The Notice of Availability of the Final EIR

was mailed on July 19, 2002 to various federal, state and local agencies and interest groups. In addition the notice was published in the Petaluma Argus Courier and the Press Democrat.

Copies of the Draft EIR were distributed to federal and state agencies, local governments, elected officials, and libraries. Copies of the Draft EIR were made available at the City of Petaluma.

ANALYSIS OF PUBLIC RESPONSE

During the 45-day public comment period, the City of Petaluma received 14 comment letters, which included 167 comments on the Draft EIR. A total of 19 members of the public and City Council presented 64 comments during the public hearings. Every comment was counted regardless of whether it duplicated a comment made in a previous comment letter or at the public hearings. The comments made at the public hearing were summarized from notes taken during the hearings. The comment letters and associated comments were received from individuals, agencies, and organizations as shown in Table 1-1.

Table 1-1

Type of Commentor

Commentor	Letters		Comments	
	Number	Percentage	Number	Percentage
Federal Agencies	0	0	0	0
State Agencies	5	15	44	19
Regional Agencies	1	3	41	18
Local Agencies	1	3	1	<1
Individuals, Organizations	7	21	81	35
Public Hearing Speakers	19	58	64	28
Total	33	100	231	100

CONSIDERATION OF RECIRCULATION

If significant new information is added to an EIR after public review, the lead agency is required to recirculate the revised document (CEQA Guidelines Section 15088.5). "Significant new information" includes, for example, a new significant environmental impact or a substantial increase in the severity of an impact. New information is not considered significant unless the document is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the proponent has declined to implement. No new information has been

submitted to indicate a new significant impact or substantially more severe impact. Therefore, there is no need to recirculate a revised Draft EIR.

ORGANIZATION OF THE FINAL EIR

The Final EIR consists of five sections, which include the responses to comments, both written and oral, received on the Draft EIR, as well as other material which is related to the responses to comments. These five sections are:

Chapter 1 – Introduction. This chapter provides an introduction and summarizes the CEQA instructions to the lead agency for preparation of responses to substantive public comments on the Draft EIR.

Chapter 2 – Master Responses. This chapter includes Master Responses that address issues that were frequently cited in the comments on the Draft EIR.

Chapter 3 – Responses to Comments. Copies of the comment letters and the comments from the two public hearings, and the responses to comments are included in this chapter. All comments received during the comment period are responded to in this Chapter. The range of possible responses includes requiring specific mitigation measures, modifying alternatives, supplementing analyses, making factual corrections, and explaining why comments do not warrant further response.

Chapter 4 – Revisions by the EIR Authors. Editorial revisions to the Draft EIR made by the EIR authors are identified to correct typographical errors or internal inconsistencies within the document. Minor revisions to the Project Description and environmental analysis chapter are provided.

Chapter 5 – Replacement Pages. Replacement pages represent the edits to the Draft EIR caused by the response to comments. The pages have been designed for insertion into the Draft EIR making the revised Draft EIR a stand-alone document. Replacement pages are formatted in revision fashion: strikeouts indicate deleted text and underlines indicate additional text.

LIST OF COMMENTS RECEIVED

A list of the comments received is shown below in Tables 1-2 and 1-3. Table 1-2 lists comment letters received during the review period which are numbered from A to N; Table 1-3 lists oral comments received at the public hearing which are numbered from PH 1 to PH 32.

Table 1-2

Comment Letters Received on the Draft EIR

Letter	Agency/Organization	Last Name	First Name	Letter Date
State Agencies				
A	State Water Resources Control Board	Gouveia	Patricia	5/13/2002
B	California Historical Resources Information System	Thorne	K.	5/20/02
C	California Department of Toxic Substances Control	Cook	Barbara	5/22/02
D	California Department of Transportation	Finney	Jean	5/30/02
E	California Office of Planning and Research	Roberts	Terry	5/30/02
Regional Agencies				
F	California Regional Water Quality Control Board, San Francisco Bay Region	Barsamian	Loretta	5/29/02
Local Agencies				
G	Petaluma City Schools	Wong	Carl	5/22/02
Individuals				
H		Garvey	Terence	5/13/02
I		Brazil	Vasco	5/20/02
J	Sustainable Petaluma Network	Hess	Scott	5/20/02
K		Schell	Karen	5/20/02
L	Shollenberger Park	Dyer	Norris	5/21/02
M	Community Clean Water Institute	Sandler	Michael	5/22/02
N		Brazil	Vasco	5/2/9/02

Table 1-3

Oral Comments Received on the Draft EIR

Commentor	Agency/Organization	Last Name	First Name	Hearing Date
1	Petaluma City Council	Moynihan	Bryant	May 13, 2002
2	Petaluma City Council	Maguire	Matt	May 13, 2002
3	Petaluma City Council	Torliatt	Pamela	May 13, 2002
4	Petaluma City Council	Moynihan	Bryant	May 13, 2002
5	Petaluma City Council	Healy	Mike	May 13, 2002
6	Petaluma City Council	O'Brian	Mike	May 13, 2002
7	Petaluma City Council	Torliatt	Pamela	May 13, 2002
8	Petaluma City Council	Cader-Thompson	Janice	May 13, 2002
9		Garvey	Terence	May 13, 2002
10		Gold	Stan	May 13, 2002
11		Levin	Mark	May 13, 2002
12		Reilly Torres	Diane	May 13, 2002
13	Petaluma City Council	Torliatt	Pamela	May 13, 2002
14	Petaluma City Council	Thompson	Clark	May 13, 2002
15	Petaluma City Council	Maguire	Matt	May 13, 2002
16	Petaluma City Council	Thompson	Clark	May 13, 2002
17	Petaluma City Council	Cader-Thompson	Janice	May 13, 2002
18	Petaluma City Council	Torliatt	Pamela	May 13, 2002
19	Petaluma City Council	Thompson	Clark	May 13, 2002
20	Petaluma City Council	Moynihan	Bryant	May 13, 2002
21	Petaluma City Council	Cader-Thompson	Janice	May 13, 2002
22		Moore	Gerald	May 13, 2002
23		Rose	Jim	May 20, 2002
24		Yearsley	David	May 20, 2002
25		Cartright	Geoffrey	May 20, 2002
26		Tuttle Brown	Patricia	May 20, 2002
27		Brazil	Vasco	May 20, 2002
28		Gold	Stan	May 20, 2002
29		Keller	David	May 20, 2002
30	Petaluma City Council	Maguire	Matt	May 20, 2002
31	Petaluma City Council	Torliatt	Pamela	May 20, 2002
32	Petaluma City Council	O'Brien	Mike	May 20, 2002



2 MASTER RESPONSE

INTRODUCTION

Review of the comments made on the Draft EIR showed that some comments were made frequently, demonstrating a common concern that was widespread among both those submitting written comments and those speaking at the public hearing. To allow presentation of a response that addresses all aspects of these related comments, a Master Response has been prepared. This Master Response is intended to allow a well-integrated response addressing all facets of a particular issue, in lieu of piece-meal responses to each individual comment, which may not have portrayed the full complexity of the issue. The use of a Master Response is in no way intended to minimize the importance of the individual comments.

MASTER RESPONSE 1 – STATEMENTS OF OPINION FOR OR AGAINST THE PROJECT, A SPECIFIC PROJECT COMPONENT OR A PROJECT ALTERNATIVE

Comment Summary: In many cases, comments include an opinion regarding approval of the project, or which project alternative should be selected for implementation.

Response Summary: Comments regarding approval or implementation of a project alternative are not comments on the Draft EIR, but comments on approval of the project, a process that will occur after the EIR is complete.

A Final EIR need only respond to comments on the Draft EIR (CEQA Guidelines 15132). However, these recommendations for or against a particular project alternative are valuable input to the process of approving a project. These comment letters have been forwarded to the Petaluma City Council. If this Final EIR is certified as adequate, the Council will consider the recommendations in these comment letters as well as the information presented in the EIR, and make its decision regarding selection of a project.

3 RESPONSE TO COMMENTS

This chapter contains copies of the written comments received by the City through May 29, 2002 and the responses to these comments. It also contains summaries of the oral comments received at the public hearings on May 13, and May 20, 2002, and the responses to these comments.

Responses to comments are individually numbered in sequence corresponding to the numbering assigned to comments.

When changes to the Draft EIR are necessitated, the change is indicated by indented text. Text that has been added to the document is indicated in underline font, while text that has been deleted is indicated with ~~striketrough~~ font. Changes to text within a table have been lightly shaded to indicate the edits.





State Water Resources Control Board



Gray Davis
Governor

Winston H. Hickox
Secretary for
Environmental
Protection

Division of Clean Water Programs
1001 I Street • Sacramento, California 95814 • (916) 341-5700 FAX (916) 341-5707
Mailing Address: P.O. Box 944212 • Sacramento, California • 94244-2120
Internet Address: <http://www.swrcb.ca.gov>

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.swrcb.ca.gov.

MAY 13 2002

Mr. Michael Bun, Engineering Manager
City of Petaluma
Department of Water Resources and Conservation
11 English Street
Petaluma, CA 94952

Clean
5/29/02
e
RECEIVED
MAY 14 2002
STATE CLEARING HOUSE

Dear Mr. Bun:

DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR CITY OF PETALUMA (CITY), WATER RECYCLING FACILITY AND RIVER ACCESS IMPROVEMENTS -- STATE REVOLVING FUND (SRF) LOAN NO. (C-06-4693-110) STATE CLEARING HOUSE NO. (SCH# 2001052089)

A-1

Thank you for the opportunity to review the above document. We understand that the City will be seeking an SRF loan from the State Water Resources Control Board (SWRCB), Division of Clean Water Programs (Division) to assist in financing the proposed project. As a funding agency, the SWRCB will be a responsible agency pursuant to the California Environmental Quality Act (CEQA) and must consider the information in the environmental document prepared for the project when deciding whether to approve funding for the proposed project.

A-2

Please provide us with a copy of:

- (1) the Final EIR,
- (2) the resolution certifying the EIR and making CEQA findings, including the required Statement of Overriding Considerations for identified significant and unavoidable environmental impacts,
- (3) all comments received during the review period and your responses to those comments,
- (4) the adopted mitigation monitoring plan, and
- (5) the Notice of Determination filed with the Governor's Office of Planning and Research when they become available. In addition, we would appreciate notices of any hearing or meeting held regarding environmental review of the project.

A-3

The Division is required to consult directly with federal agencies responsible for implementing federal environmental laws and regulations for projects that involve an SRF loan, since it is partially funded by the U.S. Environmental Protection Agency. Accordingly, on May 9, 2002, copies of your environmental document were distributed to applicable federal agencies for a 45-day review period plus six days mailing time. The review period will end June 28, 2002. We will send you copies of any comments we receive during the review period for your response. It

Mr. Ban

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MAY 13 2001

- A-4 is important to note that SRF loan projects are subject to provisions of the Federal Endangered Species Act and must obtain a Section 7 clearance from the U.S. Fish and Wildlife Services prior to loan commitment.
- A-5 SRF projects must also comply with federal laws pertaining to cultural resources, particularly Section 106 of the National Historic Preservation Act. A copy of your document has been provided to the Division's Cultural Resources Officer, Ms. Cookie Hirn. She will consult with the State Historic Preservation Officer (SHPO) on your behalf at several points in the process. She will first consult with the SHPO to establish the project's Area of Potential Effects (APE). Please advise her if there will be any disturbance to areas other than Parcels A and B. Also please provide the original record search maps with site locations in the project vicinity. The
- A-6 draft EIR states that the Native American Heritage Commission and local historical societies were contacted, and that comments pertaining to cultural resources were received from interested parties during the scoping process; please provide copies of all correspondence. Additional submittals, including consultation with Native American individuals and groups and evaluations of identified cultural properties will most likely be necessary. Please contact Ms. Hirn at (916) 341-5690 regarding initiation of the Section 106 process.
- A-7 We appreciate your efforts to prepare a document that follows our environmental guidelines and meets our requirements for the SRF loan program.
- Following are our specific comments regarding the EIR:
- A-8 Introduction and Summary – Description of Existing System, the Project and Alternatives (pg. 1-2) – The document states River Access Improvements are at a conceptual level for design and environmental review. Please be advised that environmental clearance will only include that portion of the project covered by the EIR. Should the City be interested in funding for River Access Improvements, separate environmental documentation will need to be submitted for review by the Division.
- A-9 Public and Agency Involvement (pg. 1-3) – Please send the Division a copy of the Scoping Report (published August 2001) which contains comments received from the public and interested agencies.
- A-10 Mitigation Monitoring Program – BIO-1a Aquatic Species Protection Program (pg. 3-47) – Detail the best management practices that will be implemented to control erosion, sedimentation, and runoff of pollutants.
- A-11 BIO-1b; BIO 2a; BIO 2b; BIO 4; BIO 7 (pg. 3-48-54) – The document states that “prior to initiation of construction activities” surveys will be conducted timed to start after the certification of the EIR. As stated above, SRF loan projects are subject to provisions of the Federal Endangered Species Act and must obtain a Section 7 clearance from the U.S. Fish and Wildlife

Mr Ban

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MAY 13 2002

Services prior to loan commitment. Therefore, surveys should be conducted so that mitigation measures can be adequately outlined before environmental clearance can be obtained.

- A-12** Geology, Soils and Seismicity – IMPACT GS-5 (pg. 4.3-13) – The analysis refers to “standard erosion control measures”, a Storm Water Pollution Prevention Plan and an erosion and sediment control plan. Provide the detail that is incorporated in these measures and plans. The Division also suggests that these plans are mitigation measures and should be included in the mitigation-monitoring plan.
- A-13**
- A-14** Surface Water Quality – IMPACT WQ-C1 (pg. 4.5-39) – The document states that the establishment of TMDLs would not have an adverse effect on the project but could have implications for the City’s discharge to the area. However, plans for outfall replacement are described (pg. 2-16) and Figure 2-3 shows the outfall pipe extends to the Petaluma River. Please clarify how establishments of TMDLs for nutrients, sediments, and pathogens would not effect the project discharge.
- A-15** Hydrology – Impacts and Mitigation Measures (pg. 4.6-5) – This section evaluates the potential of the project to contribute to flooding which the document lists as less than significant. However, on page 4.1-4 a F2 floodplain overlay zone is cited along Ellis Creek and the bottom half of Parcel B. Please clarify how this does not impact flooding.
- A-16** Biological Resources – Recent Studies of the Area (pg. 4.8-1,2) – Send the Division a copy of the reconnaissance wetland and wildlife survey conducted on April 11, 2001, field visits on July 31, 2001 and February 19, 2002 and additional wetlands field studies conducted on February 28, 2002. Additionally, it is stated that conditions were too windy to adequately survey bird
- A-17** populations. Do you plan to conduct an additional bird survey when conditions are favorable?
- A-18** Aquatic Habitat Petaluma River, Marsh and Tributaries (pg. 4.8-9) – Please provide a copy and the date of the report of the recent collections near downtown Petaluma.
- A-19** Discussion of Species with Suitable Habitat in the Project Area – Point Reyes Bird’s Beak (pg. 4.8-28) – The document states that the April 11, 2001 surveys were too early to detect this species. Is another survey planned when conditions favor detection?
- A-20** Transportation and Circulation – Project Conditions (pg. 4.9-8) – The document describes a new access road from the adjacent Oakmead/Northbay Business Park that includes a bridge across Ellis Creek. It is unclear, however, if the point of connection to Cypress Drive is on or off of the project site and if it has been adequately addressed in the environmental analysis. Please clarify.
- A-21** IMPACT TR-2 and TR-3 (pg. 4.9-11) – The document states flagmen or temporary traffic signals will be implemented to ensure safe working conditions. This constitutes mitigation and should be listed in the mitigation-monitoring program to ensure compliance.

Mr. Ban

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A-22

Alternatives to the Proposed Project – Please note that since Parcel C was not part of the environmental analysis, specifically biological and cultural resources, if alternatives are chosen for the project that include this parcel, additional environmental analysis will be necessary.

If you have any questions regarding the environmental review of this project, please contact me at (916) 341-5667.

Sincerely,



Patricia Gouveia
Environmental Services Unit

Enclosure

cc: Mr. Rich Condit
San Francisco Bay Regional Water
Quality Control Board
2101 Webster Street, Suite 500
Oakland, CA 94612

State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044

**COMMENT LETTER A – STATE WATER RESOURCES CONTROL BOARD, DIVISION
OF CLEAN WATER PROGRAMS, PATRICIA GOUVEIA, ENVIRONMENTAL
SERVICES UNIT (MAY 13, 2002), RECEIVED MAY 15, 2002**

Response to Comment A-1

The City appreciates the Board's response to the Draft EIR and looks forward to working with the Board through the financing portion of the project.

Response to Comment A-2

The City will provide a copy of the Final EIR and the Resolution certifying the EIR and making CEQA findings, including the required Statement of Overriding Considerations as soon as they are available. All comments received during the review period and the responses to those comments will be included in the Final EIR. A copy of the adopted mitigation monitoring plan will be provided upon completion. A copy of the Notice of Determination filed with the Governor's Office of Planning and Research will be sent after filing. Prior notices of hearings and meeting regarding environmental review of the project are included in this response to comments. Notices for future meetings and hearings will be provided as they occur.

Response to Comment A-3

The City appreciates the Board's role in sending copies of the environmental document to applicable federal agencies and in forwarding any comments that are received.

Response to Comment A-4

The City is aware that a Section 7 clearance from the U.S. Fish and Wildlife Services is needed prior to loan commitment.

Response to Comment A-5

The project will not disturb areas other than Parcels A and B, except for a small landscaped area within the Oakmead Northbay Business Park where the new access road connects to the Cypress Drive cul-de-sac and a small area in Caltrans right-of-way just east of the East gate. The original record search maps with site locations in the project vicinity will be provided to Ms. Hirn.

Response to Comment A-6

Copies of correspondence with the Native American Heritage Commission and local historical societies are included in this response to comments. Thank you for the correct contact for initiating the Section 106 process. Copies of letters received during the scoping process are included in the Scoping Report, which has been forwarded to the Division on July 8, 2002. When the City has certified the EIR and approved a project, the City will contact Ms. Hirn regarding initiation of the Section 106 process.

**Water Recycling Facility Project
Public Scoping Meetings
City of Petaluma, California**

The City of Petaluma is proposing to replace the existing wastewater treatment facility with a new water recycling facility to be located adjacent the City's oxidation ponds at 4400 Lakeville Highway. The City is hosting two public scoping meetings to inform the public of the purpose of the project, the scope of the project, and to seek input from the public on potential environmental issues or concerns that should be addressed as the City prepares the Environmental Impact Report. The first meeting will be held on June 5, 2001. A second meeting, for those who cannot attend the meeting on June 5, will be held on June 19, 2001.

First Meeting

When: June 5, 2001, at 7:00 PM
Where: Petaluma Community Center
320 N. McDowell Blvd.
Petaluma, CA

Second Meeting

When: June 19, 2001, at 7:00 PM
Where: Petaluma Community Center
320 N. McDowell Blvd.
Petaluma, CA

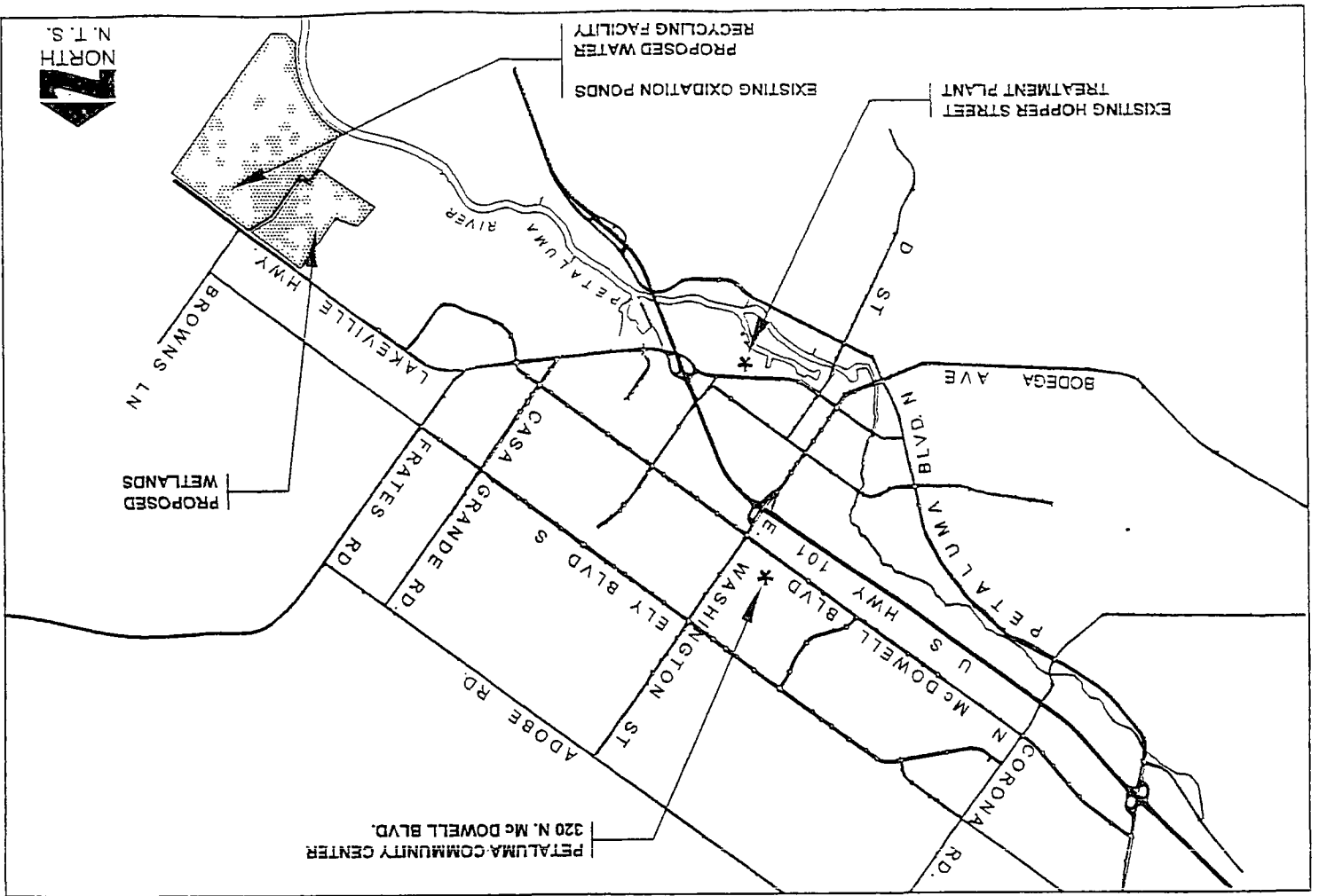
If you would like to submit written comments on the project, please do so by June 21, 2001 to:

Michael Ban
Department of Water Resources and Conservation
11 English Street
Petaluma, California 94952
Phone: (707)778-4487
Facsimile: (707)776-3635
E-mail: mban@ci.petaluma.ca.us.

The *Initial Study* and *Water Recycling Facility Project Report* are available for public review at the following locations:

Petaluma City Hall
Dept. of Water Resources
& Conservation
11 English Street, Petaluma

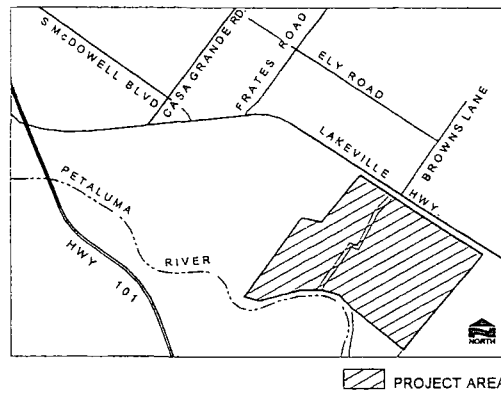
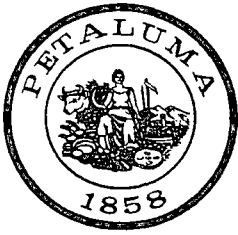
Petaluma Public Library
Reference Desk
100 Fairgrounds Drive, Petaluma



City of Petaluma
 Dept. of Water Resources & Conservation
 11 English Street
 Petaluma, CA 94952-2610

Notice of Public Scoping Meetings
 Water Recycling Facility Project

Notice of Public Hearings to be held on the Draft EIR for Water Recycling Facility and River Access Improvements



PROJECT DESCRIPTION

The City of Petaluma, California proposes to build a new Water Recycling Facility to treat the community's wastewater and replace the existing wastewater treatment facility. The preferred alternative evaluated in the Draft EIR is an extended aeration design with wetlands. This design includes a combination of biological and physical processes to remove organic material and pollutants from the wastewater. The facility would provide secondary treatment for an annual average flow of 8 mgd, up to 4 mgd of tertiary recycled water for urban reuse, biosolids treatment to meet EPA Class B requirements for beneficial reuse, and wetlands for algae removal and effluent polishing. The design also includes a number of public education and recreation features. The existing wastewater treatment facility at 950 Hopper Street would be decommissioned and demolished.

The City also proposes to build improvements related to river access, recreation and education about recycled water and wetlands. These improvements have been evaluated in the Draft EIR at a conceptual or program level.

PROJECT LOCATION

Decommissioning and demolition of the existing wastewater treatment facilities would occur at 950 Hopper Street. The new water recycling facility and public education and recreation features would be located in the 4000 block of Lakeville Highway.

DRAFT EIR

The City of Petaluma has completed the Draft EIR for the Water Recycling Facility and River Access Improvements (SCH No 2001052089). The 45-day public review period begins April 15. The public review period closes May 29, 2002, at 5:00 PM. Copies of the Draft EIR are available for review at the following locations: the Petaluma City Library and Petaluma City Hall, Department of Water Resources & Conservation. Copies can be purchased at the Department of Water Resources & Conservation for \$30.00.

SIGNIFICANT IMPACTS

Significant impacts have been identified in the following subject areas: agriculture.

COMMENTS

Please send written comments on the EIR to Michael Ban, Department of Water Resources & Conservation, 11 English Street, Petaluma, CA 94954. Comments must be received by 5:00 PM May 29, 2002.

PUBLIC HEARINGS

The City of Petaluma welcomes your input. You are invited to attend the following public hearings on the Draft EIR to be held by the Petaluma City Council:

- **May 13, 2002, at or shortly after 7:00 PM**
- **May 20, 2002, at or shortly after 7:00 PM**

All hearings will be held in the City Council Chambers, 11 English Street, Petaluma, California.

CITY CONTACT

If you have any questions, please contact Michael Ban at (707)778-4487.

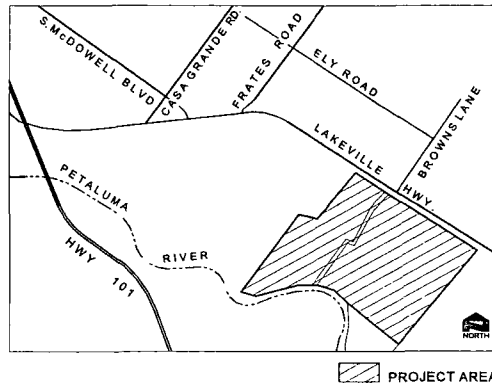
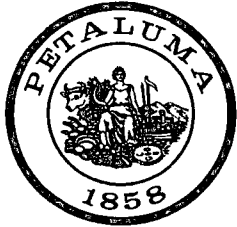
NOTICE DATE

April 15, 2002

PUBLISHED

Petaluma Argus Courier, The Press Democrat

Notice of Public Hearing to be held on the Final EIR for Water Recycling Facility and River Access Improvements



PROJECT DESCRIPTION

The City of Petaluma, California proposes to build a new Water Recycling Facility to treat the community's wastewater and replace the existing wastewater treatment facility. The preferred alternative evaluated in the Final EIR is an extended aeration design with wetlands. This design includes a combination of biological and physical processes to remove organic material and pollutants from the wastewater. The facility would provide secondary treatment for an annual average flow of 8 mgd, up to 4 mgd of tertiary recycled water for urban reuse, biosolids treatment to meet EPA Class B requirements for beneficial reuse, and wetlands for algae removal and effluent polishing. The design also includes a number of public education and recreation features. The existing wastewater treatment facility at 950 Hopper Street would be decommissioned and demolished.

The City also proposes to build improvements related to river access, recreation and education about recycled water and wetlands. These improvements have been evaluated in the Final EIR at a conceptual or program level.

PROJECT LOCATION

Decommissioning and demolition of the existing wastewater treatment facilities would occur at 950 Hopper Street. The new water recycling facility and public education and recreation features would be located in the 4000 block of Lakeville Highway.

FINAL EIR

The City of Petaluma has completed the Final EIR for the Water Recycling Facility and River Access Improvements. Copies of the Final EIR will be available for review starting July 25, 2002, at the following locations: the Petaluma City Library, 100 Fairgrounds Drive, Petaluma City Hall, Department of Water Resources & Conservation, 11 English Street; Petaluma Community Center, 320 N. McDowell Blvd.; Santa Rosa Jr. College, Petaluma Campus, 680 Sonoma Mountain Parkway. Copies can be purchased at the Department of Water Resources & Conservation, 11 English Street, Petaluma, California, for \$10.

SIGNIFICANT IMPACTS

Significant impacts have been identified in the following subject areas: agriculture

PUBLIC HEARING

The City of Petaluma welcomes your input. You are invited to attend the public hearing on the Final EIR to be held by the Petaluma City Council:

- **August 5, 2002, at or shortly after 7:00 PM**

The hearing will be held in the City Council Chambers, 11 English Street, Petaluma, California. At the hearing the City Council will consider certification of the Final EIR, adoption of the Mitigation Monitoring Program, adoption of a Statement of Overriding Conditions, and approval of the project.

CITY CONTACT

If you have any questions, please contact Michael Ban at (707)778-4487

PUBLISHED

Petaluma Argus Courier, The Press Democrat

PARSONS

Parsons Infrastructure & Technology Group Inc.

2233 Watt Avenue Suite 330 • Sacramento, California 95825 • (916) 483-0483 • Fax: (916) 483-3364 • www.parsons.com

April 13, 2001

Debbie Tredway-Pilas
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento CA 95814

RE: Petaluma WWTP

Dear Ms. Tredway-Pilas,

Parsons has been contracted by Carollo Engineers to prepare a cultural resources study for the above referenced project.

In bringing this proposed activity to your attention, Parsons would appreciate any background information you can provide regarding prehistoric, historic, and ethnographic land use. We are also interested in contemporary Native American values that may be present within or near the project area.

Please refer to the enclosed map for project location. The project is located on the Petaluma River U.S.G.S. topographic quadrangle.

Please contact me at my office if you have any comments or questions.

Sincerely,



Kelly Herdecker
Senior Planner
Cultural Resources Specialist

KH

enc: map



PARSONS

Parsons Infrastructure & Technology Group Inc.

2233 Watt Avenue, Suite 330 • Sacramento, California 95825 • (916) 483-0483 • Fax: (916) 483-3364 • www.parsons.com

April 17, 2001

Sonoma County Historical Society
P.O. Box 1373
Santa Rosa, CA 95402

RE: Petaluma WWTP

To Whom It May Concern:

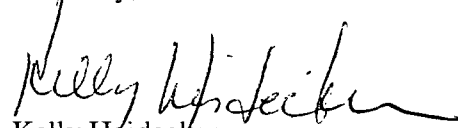
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Please refer to the enclosed map for project location. The project is located on the Petaluma River U.S.G.S. topographic quadrangle.

Please contact me at my office if you have any comments or questions.

Sincerely,



Kelly Heidecker
Senior Planner
Cultural Resources Specialist

KH

enc: map



PARSONS

Parsons Infrastructure & Technology Group Inc.

2233 Watt Avenue, Suite 330 • Sacramento California 95825 • (916) 483-0483 • Fax: (916) 483-3364 • www.parsons.com

April 17, 2001

Petaluma Historical Museum and Library
20 4th Street
Petaluma, CA 04052

RE: Petaluma WWTP

To Whom It May Concern:

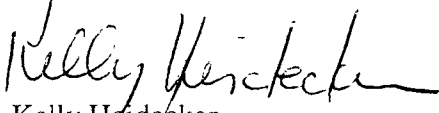
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Please refer to the enclosed map for project location. The project is located on the Petaluma River U.S.G.S. topographic quadrangle.

Please contact me at my office if you have any comments or questions.

Sincerely,



Kelly Heidecker
Senior Planner
Cultural Resources Specialist

KH

enc: map

Response to Comment A-7

The City of Petaluma will ensure that its environmental document meets the Board's guidelines as well as the requirements for the State Revolving Fund loan program.

Response to Comment A-8

Although the design of the river access improvements is at a conceptual level, environmental impacts of the improvements have been evaluated in the EIR.

Response to Comment A-9

The Scoping Report (published August 2001) with comments from the public and interested agencies was forwarded to the Division on July 8, 2002.

Response to Comment A-10

The following will be added to the EIR on page 4.8-56 under BIO-1a Aquatic Species Protection Program:

Best management practices shall be implemented to control erosion, sedimentation, and runoff of pollutants. As an appropriate example, best management practices are described in the *Caltrans Storm Water Quality Handbooks: Construction Site Best Management Practices Manual* (November 2000). Refer to Measure PD-8 for a potential list. These shall be implemented as necessary under the supervision of the construction manager. Detailed specifications shall be incorporated onto bid documents and construction drawings.

Response to Comment A-11

Pre-construction biological surveys will be conducted so that mitigation measures can be adequately outlined in order to obtain a Section 7 clearance from the U.S. Fish and Wildlife Service prior to receiving a loan commitment from the Board.

Response to Comment A-12

The following list of Best Management Practices taken from the *Caltrans Storm Water Quality Handbooks. Construction Site Best Management Practices Manual* (November 2000) is added to Measure PD-8, Construction Erosion and Spill Control Measures, as examples of types of measures that can be implemented to control erosion.

Measure PD-8, page 3-21, is changed as follows:

The City shall develop and implement measures designed to prevent significant construction impacts to water quality. Examples of possible measures include ~~revegetation of temporarily disturbed sites, development and implementation of a~~

Storm Water Pollution Prevention Plan, protection of waterways from toxic discharge, and concrete waste management. the following:

Construction Site Best Management Practices (BMPs)	
ID	BMP Name
Temporary Soil Stabilization	
SS-1	Scheduling
SS-2	Preservation of Existing Vegetation
SS-3	Hydraulic Mulch
SS-4	Hydroseeding
SS-5	Soil Binders
SS-6	Straw Mulch
SS-7	Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats
SS-8	Wood Mulching
SS-9	Earth Dikes/Drainage Swales & Ditches
SS-10	Outlet Protection/Velocity Dissipation Devices
SS-11	Slope Drains
Temporary Soil Stabilization	
SC-1	Silt Fence
SC-2	Desilting Basin
SC-3	Sediment Trap
SC-4	Check Dam
SC-5	Fiber Rolls
SC-6	Gravel Bag Berm
SC-7	Street Sweeping and Vacuuming
SC-8	Sandbag Barrier
SC-9	Straw Bale Barrier
SC-10	Storm Drain Inlet Protection
Wind Erosion Control	
WE-1	Wind Erosion Control
Tracking Control	
TC-1	Stabilized Construction Entrance/Exit
TC-2	Stabilized Construction Roadway
TC-3	Entrance/Outlet Tire Wash
Non-Storm Water Management	
NS-1	Water Conservation Practices
NS-2	Dewatering Operations

Construction Site Best Management Practices (BMPs)	
ID	BMP Name
NS-3	Paving and Grinding Operations
NS-4	Temporary Stream Crossing
NS-5	Clear Water Diversion
NS-6	Illicit Connection/Illegal Discharge Detection and Reporting
NS-7	Potable Water/Irrigation
NS-8	Vehicle and Equipment Cleaning
NS-9	Vehicle and Equipment Fueling
NS-10	Vehicle and Equipment Maintenance
Waste Management and Materials Pollution Control	
WM-1	Material Delivery and Storage
WM-2	Material Use
WM-3	Stockpile Management
WM-4	Spill Prevention and Control
WM-5	Solid Waste Management
WM-6	Hazardous Waste Management
WM-7	Contaminated Soil Management
WM-8	Concrete Waste Management
WM-9	Sanitary/Septic Waste Management
WM-10	Liquid Waste Management

Source: Caltrans 2000

Response to Comment A-13

Refer to Response to Comment A-12.

Response to Comment A-14

The comment refers to a statement in the cumulative impacts analysis section on pages 4.5-39. The EIR authors believe the commentor has mis-read the EIR, for it does not state that "establishment of TMDLs for nutrients, sediments, and pathogens would not effect the project discharge." The EIR states that promulgation of TMDLs "could have implications for the City's discharge to the area." The potential impact is not quantified in the EIR because the TMDL has not yet been promulgated.

Response to Comment A-15

The analysis reflected in Section 4.6 represents a greater level of detail than the mapping described on page 4.1-4. As explained in the analysis for Impact H-3 on pages 4.6-5 and 4.6-6, the 100-year flood plain is located below the 7-foot contour. Project facilities are either located above this elevation or the impact is less than 0.1 feet (the threshold of significance).

Response to Comment A-16

There is no record of the reconnaissance wetland and wildlife survey conducted on April 11, 2001, aside from that presented in the EIR. Results of the wetland field visits on July 31, 2001, February 19, 2002, and February 28, 2002 will be recorded in the Wetlands Delineation that is currently being completed. When complete, a copy will be sent to the Division.

Response to Comment A-17

Yes, additional bird surveys will be conducted prior to construction. Because surveys were incomplete, impacts to bird populations, as reflected in Impacts BIO-1 and BIO-2 are identified as significant.

Response to Comment A-18

The report referred to has been finalized. The EIR is revised as follows:

On Page 4.8-9:

In recent collections near downtown Petaluma, Fawcett (~~Report in prep.~~ Tetra Tech, 2001) found 17 fish species, ...

On Page 4.8-69 add the following reference:

Tetra Tech, Inc. 2001. Biological Monitoring and Recovery for Western Pond Turtle, Sacramento Splittail, and California Red-Legged Frog. Petaluma River Section 205 Flood Control Project. Final Report. Prepared for U.S. Army Corps of Engineers.

Response to Comment A-19

Refer to Response to Comment A-17.

Response to Comment A-20

The new access road connection to the cul-du-sac on Cypress Drive, is discussed in the Project Description on page 2-17 and shown in Volume 2, Appendix A, Figure ES-3. The connection is adjacent to the project site, in an open area, approximately 250 feet west of the Parcel A western boundary. There are no biological, wetlands, or cultural resources in the area, and so impacts were not specifically discussed.

The following changes are made in the EIR:

On page 2-8, under "Acquisition of Land and Annexation":

The City proposes to purchase 262 acres of land known as Parcels A and B, as shown on Figure 2-4. This land is currently unincorporated, and the City intends to annex the land at an undetermined time in the future. The City will also attempt to purchase an

easeement or fee title for the connection between the new access road on Parcel A and the cul-de-sac on Cypress Drive.

On page 4.8-3 under "Ornamental Landscape":

This community type is comprised primarily of eucalyptus (*Eucalyptus globulus*) stands, but also contains English ivy (*Hedera helix*) and other ornamental species including Lombardy poplars (*Populus nigra*) on the north side of the existing oxidation ponds. The two principal eucalyptus stands are located along the edge of the business park adjacent to Parcels A and B and along the western edge of the oxidation ponds. Lawn and small ornamental trees are in the area northwest of Parcel A where the new access road will connect to the cul-de-sac on Cypress Drive. Species observed included red-winged blackbird, California towhee (*Pipilo crissalis*), house finch, European starling (*Sturnus vulgaris*), Anna's hummingbird (*Calypte anna*), and Bullock's oriole (*Icterus bullockii*).

Response to Comment A-21

The following change is made to the Project Description, page 2-17 under Site Access:

- Construction safety. The City will use flagmen or temporary traffic signals on Lakeville Highway, when necessary.

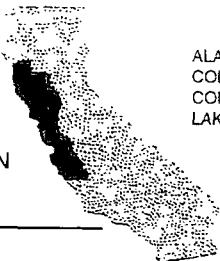
Response to Comment A-22

If alternatives are chosen for the project that include Parcel C, additional environmental analysis will be necessary.



origin -> File 9012-540.3
copy -> Pd G -> Person. 12A

CALIFORNIA
HISTORICAL
RESOURCES
INFORMATION
SYSTEM



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COLUSA
CONTRA COSTA
LAKE

MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO

SAN MATEO
SANTA CLARA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
1303 Maurice Avenue
Rohnert Park, California 94928-3609
Tel. 707.664.0880 • Fax: 707.664.0890
E-mail: nwic@sonoma.edu

20 May 2002

No 01-SO-142E

Mr Michael Ban
City of Petaluma
Department of Water Resources and Conservation
11 English Street
Petaluma, CA. 94952

MAY 22 2002

re: Petaluma Water Recycling Facility and River Access Improvements Draft EIR

Dear Mr. Ban:

Records at this office were reviewed to determine if this project could adversely affect historical resources. The review for possible historic buildings, however, was limited to references currently in our office. The Office of Historic Preservation has determined that any building or structure 45 years or older may be of historic value. Therefore, if the project area contains such properties they should be evaluated by an architectural historian prior to commencement of project activities. **Please note that use of the term historical resources includes both archaeological sites and historic buildings.**

- B-1 [XX The proposed project area contains or is adjacent to the archaeological site(s) (C-757) Surface evidence of this prehistoric-period site consists of large quantity of clam and mussel shells, charm stones and bones. Therefore, it is recommended that a professional archaeologist develop a project site treatment plan for this archaeological resource.
- B-2 [XX The proposed project area has the possibility of containing unrecorded archaeological site(s) within Parcel "C. A study is recommended prior to commencement of project activities in Parcel "C".
- B-3 [XX Research indicates the presence of one or more buildings or structures that may have historic significance. Therefore, it is recommended that an architectural historian record and evaluate the potentially important historic resources.
- B-4 [XX An unnumbered study, covering 60% of project area, identified one or more historical resources. It is recommended that a qualified archaeologist assess the status of the sites and provide project specific recommendations.
Study # _____, identified no historical resources. Further study for historical resources is not recommended.
- B-5 [XX The guidelines for implementation of the California Register of Historical Resources (Cal Register) criteria for evaluation of historical properties has been developed by the State Office of Historical Preservation. For the purposes of CEQA, all identified archaeological sites should be evaluated using the Cal Register criteria.
- B-6 [XX Our review is based on scientific information. In addition, we recommend you contact the local tribe(s) regarding traditional, cultural, and religious values.
- B-7 [XX Comments: Research found on a USGS Army Corp 1914 map, the presence of one or more buildings or structures that may have historical significance. Therefore, if the building or structures are still standing it is recommended that an architectural historian record and evaluate the potentially important historic resources.
- B-8 [If archaeological resources are encountered during the project, work in the immediate vicinity of the finds should be halted until a qualified archaeologist has evaluated the situation. If you have any questions please give us a call (707) 664-0880

Sincerely,

K. Thorne, for
Leigh Jordan
Coordinator

COMMENT LETTER B – CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM, K. THORNE, FOR LEIGH JORDAN, COORDINATOR (MAY 20, 2002), RECEIVED MAY 22, 2002.

Response to Comments B-1 and B-2

The project area is adjacent to Site C-757 which is located on Parcel C. Because the project includes ground disturbing activity along the boundary of Parcel C at the location of Site C-757, and there is a potential that Site C-757 extends subsurface into the area of ground disturbance on the City's property, evaluation of the portion of Site C-757 on the City's property should be completed before any ground disturbing activity takes place. The following changes are made in the EIR:

Under Impact CR-1, page 4.12-11, add at the top of the page:

Prehistoric site (C-757) is located on Parcel C adjacent to the south access road along the border of the oxidation ponds and may still exist subsurface on the oxidation pond property.

Under Measure PD-19, Protection of Historic and Archaeological Resources, on page 3-34:

In order to preserve cultural resources, the City shall perform subsurface testing, evaluation for significance, and/or recordation for the ~~three~~ four sites, when avoidance is not feasible. The Hopper Street facility, the communication facility, Site C-757 (to the extent it is located on City property), and the farm complex on Lakeville Highway shall be recorded, mapped, and photographed by a qualified professional architectural historian to Department of Parks and Recreation (DPR) standards on current DPR 523 series forms. The Hopper Street facility shall be evaluated for significance to the NRHP. All site records and evaluation documentation shall be submitted to the State Historic Preservation Office for Section 106 compliance prior to any construction activities on the site.

Response to Comment B-3

The communication facility on Parcel B and the farmhouse complex on Parcel A have been evaluated for historical significance by an architectural historian (Kelly Heidecker). These buildings were evaluated using significance criteria of the National Register of Historic Places and the California Register of Historic Resources. The properties were recommended as ineligible for listing in either register. These results are identified under Impact CR-1 on page 4.12-11 of the Draft EIR, and are recorded in more detail in a technical report to be submitted to the Northwest Information Center upon completion.

Response to Comment B-4

Historical resources are evaluated on page 4.12-11 of the Draft EIR. Project Description Measure PD-19, Protection of Historic and Archaeological Resources, requires a qualified archaeologist to assess the status of the sites and provide project specific recommendations.

Response to Comment B-5

Historic resources identified were evaluated according to standards and guidelines for significance and eligibility in both the California Register of Historic Places and the National Register of Historic Places. Also, Project Description Measure PD-19, Protection of Historic and Archaeological Resources, requires use of these standards.

Response to Comment B-6

The local Native American tribes and individuals have been contacted regarding this project and to date no comments have been received from any Native American tribes or individuals.

A letter requesting background information of prehistoric, historic and ethnographic land use, was sent to Debbie Pilas-Tredway of the Native American Heritage Commission on April 13, 2001.

Ms. Pilas-Tredway responded with a letter containing Native American individuals that may have knowledge or interests in the project. Each of these individuals was also sent a letter requesting any information they may have about historic, prehistoric or ethnographic land use within the project area. The individuals sent letters are: Grant Smith (Coast Miwok, Pomo), Kathleen Smith (Coast Miwok, Pomo), The Federated Indians of Graton Rancheria (Coast Miwok) and Tim Campbell, Cultural Resources Officer of the Federated Indians of Graton Rancheria.

Response to Comment B-7

The pedestrian survey of the property has identified no less than eight historic resources located within the proposed project area. Five buildings are associated with the residential ranch house, railroad grade, livestock ramp and World War II era radar facilities. Resources were evaluated by an architectural historian, but none appear to meet eligibility requirements of the National Register or the California Register. This recommendation requires concurrence by the California State Historic Preservation Officer.

Response to Comment B-8

If archeological resources are encountered during the project, work in the immediate vicinity of the finds will be halted until a qualified archaeologist has evaluated the situation as described in Measure PD-20, Protection of Previously Undiscovered Historic and Archaeological Resources.





Department of Toxic Substances Control

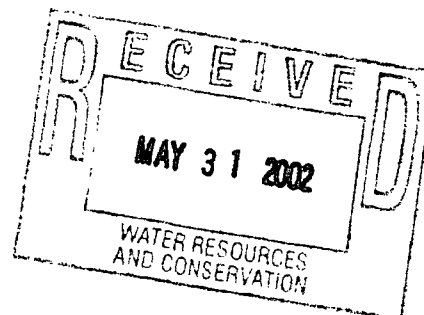
Edwin F. Lowry, Director
700 Heinz Avenue, Bldg F, Suite 200
Berkeley, California 94710-2721

Gray Davis
Governor

Winston H. Hickox
Secretary for
Environmental
Protection

May 22, 2002

Mr. Michael Ban
City of Petaluma
11 English Street
Petaluma, California 94952



Dear Mr. Ban:

C-1

Thank you for the opportunity to comment on the draft Environmental Impact Report (draft EIR, SCH # 2001052089) for the City of Petaluma Water Recycling Facility and River Access Improvement project. As you may be aware, the California Department of Toxic Substances Control (DTSC) oversees the cleanup of sites where hazardous substances have been released pursuant to the California Health and Safety Code, Division 20, Chapter 6.8. As a Resource Agency, DTSC is submitting comments to ensure that the environmental documentation prepared for this project to address the California Environmental Quality Act (CEQA) adequately addresses any remediation of hazardous substance releases that may be necessary.

C-2

Page 3-22, PD-9 DTSC recommends performing the Phase II Site Assessment as early as possible so that the potential impacts of remediation activities that may need to be performed as part of the project can be addressed in the final EIR.

C-3

Page 3-23 and 3-24, PD-10 and PD-11 Please note that hazardous substances releases to soil or groundwater may not be visually identifiable or detected with scent. Therefore, the site should be adequately characterized during the Phase II Site Assessment in order to accurately identify area where soil and/or groundwater remediation may be necessary.

C-4

Page 3-24, PD-11 Activities at the Hopper Street facility may require dewatering. An evaluation of the impacts of dewatering activities should also be performed. Dewatering activities can result in groundwater movement from areas which may not have otherwise impacted the project area. This issue may be relevant in light of the fact that a leaking underground storage tank was located on a facility adjacent to the Hopper Street facility. Contaminated groundwater, if present under the site or surrounding area, may be moved into unimpacted areas on the project site or under someone else's property, exacerbating the contaminant plume. Therefore, it is important to identify whether groundwater contamination is located at or near the site. This information

Mr. Michael Ban
May 24, 2002
Page 2

should then be considered in the analysis of dewatering efforts to determine if it is necessary to implement control measures to minimize the amount of water being extracted, in determining how to dispose of the extracted groundwater, and in determining how movement of groundwater may affect surrounding properties.

C-5

Page 4.2-5 This section notes that agricultural land will be converted to other uses. In such a case, a historical survey should be conducted to determine whether pesticides were applied on the land of interest. If so, soil and groundwater samples should be collected in order to determine the chemical levels and extent of pesticide contamination and what remediation measures, if any, will be necessary.

C-6

DTSC can assist your agency in overseeing characterization and cleanup activities through our Voluntary Cleanup Program. A fact sheet describing this program is enclosed. We are aware that projects such as this one are typically on a compressed schedule, and in an effort to use the available review time efficiently, we request that DTSC be included in any meetings where issues relevant to our statutory authority are discussed.

Please contact Homayune Atiqee of my staff at (510) 540-3816 if you have any questions or would like to schedule a meeting. Thank you in advance for your cooperation in this matter.

Sincerely,



Barbara J. Cook, P.E., Chief
Northern California - Coastal Cleanup
Operations Branch

Mr. Michael Ban
May 24, 2002
Page 3

Enclosures

cc: without enclosures

Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

Guenther Moskat
CEQA Tracking Center
Department of Toxic Substances Control
P.O. Box 806
Sacramento, California 95812-0806

California Environmental
Protection Agency



DEPARTMENT OF TOXIC SUBSTANCES CONTROL

The Voluntary Cleanup Program

In 1993, the California Environmental Protection Agency's Department of Toxic Substances Control (DTSC) introduced this streamlined program to protect human health and the environment, ensure investigation and cleanup is conducted in an environmentally sound manner and facilitate the reuse and redevelopment of these same properties. Using this program, corporations, real estate developers, other private parties, and local and state agencies entering into Voluntary Cleanup Program agreements will be able to restore properties quickly and efficiently, rather than having their projects compete for DTSC's limited resources with other lower-priority hazardous waste sites. This fact sheet describes how the Voluntary Cleanup Program works.

Prior to initiation of the Voluntary Cleanup Program, project proponents had few options for DTSC involvement in cleaning up low-priority sites. DTSC's statutory mandate is to identify, prioritize, investigate and cleanup sites where releases of hazardous substances have occurred. For years, the mandate meant that, if the site presented grave threat to public health or the environment, then it was listed on the State Superfund list and the parties responsible conducted the cleanup under an enforcement order, or DTSC used state funds to do so. Because of staff resource limitations, DTSC was unable to provide oversight at sites which posed lesser risk or had lower priority.

DTSC long ago recognized that no one's interests are served by leaving sites contaminated and unusable. The Voluntary Cleanup Program allows motivated parties who are able to fund the cleanup – and DTSC's oversight – to move ahead at their own speed to investigate and remediate their sites. DTSC has found that working cooperatively with willing and able project proponents is a more efficient and cost-effective approach to site investigation and cleanup. There are four steps to this process:

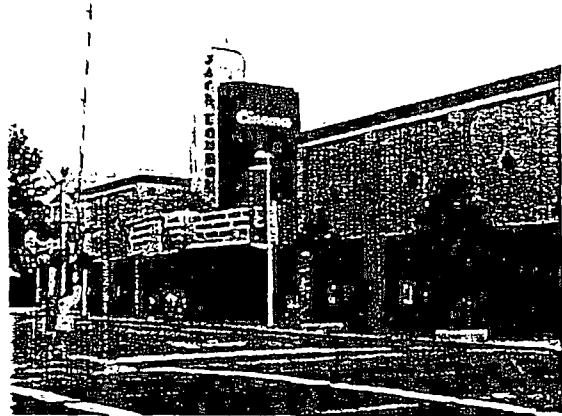
- ✓ Eligibility and Application
- ✓ Negotiating the Agreement
- ✓ Site Activities
- ✓ Certification and Property Restoration

The rest of this fact sheet describes those steps and gives DTSC contacts.

The Voluntary Cleanup Program

Step 1: Eligibility and Application

Most sites are eligible. The main exclusions are if the site is listed as a Federal or State Superfund site, is a military facility, or if it falls outside of DTSC's jurisdiction, as in the case where a site contains only leaking underground fuel tanks. Another possible limitation is if another agency currently has oversight, e.g. a county (for underground storage tanks). The current oversight agency must consent to transfer the cleanup responsibilities to DTSC before the proponent can enter into a Voluntary Cleanup Program agreement. Additionally, DTSC can enter into an agreement to work on a specified element of a cleanup (risk assessment or public participation, for example), if the primary oversight agency gives its consent. The standard application is attached to this fact sheet.



Jack London Square Theater, Oakland: Under the Voluntary Cleanup Program, a nine-screen theater was built atop a former Pacific Gas & Electric town gas site, creating a regional entertainment hub.

If neither of these exclusions apply, the proponent submits an application to DTSC, providing details about site conditions, proposed land use and potential community concerns. No fee is required to apply for the Voluntary Cleanup Program.

Step 2: Negotiating the Agreement

Once DTSC accepts the application, the proponent meets with experienced DTSC professionals to negotiate the agreement. The agreement can range from services for an initial site assessment, to oversight and certification of a full site cleanup, based on the proponent's financial and scheduling objectives.

The Voluntary Cleanup Program agreement specifies the estimated DTSC costs, project scheduling, and DTSC services provided. Because every project must meet the same legal and technical cleanup requirements as State Superfund sites, and because DTSC staff provide oversight, the proponent is assured that the project will be completed in an environmentally sound manner.



Romero Ranch, Santa Nella: A Voluntary Cleanup Agreement enabled the Nature Conservancy to use the land to preserve natural habitat and promote wildlife development rights.

August 1999

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
SITE MITIGATION STATEWIDE CLEANUP OPERATIONS



VOLUNTARY CLEANUP PROGRAM APPLICATION

The purpose of this application is to obtain information necessary to determine the eligibility of the site for acceptance into the Voluntary Cleanup Program. Please use additional pages, as necessary, to complete your responses

SECTION 1 PROPONENT INFORMATION

Proponent Name _____
Principal Contact Name _____ Phone () _____
Address _____ _____
Proponent's relationship to site _____ _____
Brief statement of why the proponent is interested in DTSC services related to site

SECTION 2 SITE INFORMATION

Is this site listed on Calsites? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, provide specific name and number as listed
Name of Site _____
Address _____ City _____ County _____ ZIP _____ <div style="text-align: right; font-size: small;">(Please attach a copy of an appropriate map page)</div>

SECTION 2 SITE INFORMATION (continued)

Current Owner

Name _____

Address _____

Phone () _____

Background: Previous Business Operations

Name _____

Type _____

Years of Operation _____

If known, list all previous businesses operating on this property

What hazardous substances/wastes have been associated with the site?

What environmental media is/was/may be contaminated?

- Soil Air Groundwater Surface water

Has sampling or other investigation been conducted? Yes No

Specify

If Yes, what hazardous substances have been detected and what were their maximum concentrations?

SECTION 2 SITE INFORMATION (continued)

Are any Federal, State or Local regulatory agencies currently involved with the site? Yes No
If Yes, state the involvement, and give contact names and telephone numbers

Agency	Involvement	Contact Name	Phone

What is the future proposed use of the site?

What oversight service is being requested of the Department?

- PEA RI/FS Removal Action Remedial Action RAP Certification
 Other (describe the proposed project)

Is there currently a potential of exposure of the community or workers to hazardous substances at the site?

- Yes No If Yes, explain

SECTION 3 COMMUNITY PROFILE INFORMATION

Describe the site property (include approximate size)

Describe the surrounding land use (including proximity to residential housing, schools, churches, etc.)

Describe the visibility of activities on the site to neighbors

SECTION 3 COMMUNITY PROFILE INFORMATION (continued)

What are the demographics of the community (e.g., socioeconomic level, ethnic composition, specific language considerations, etc.)?

Local Interest

Has there been any media coverage?

Past Public Involvement

Has there been any past public interest in the site as reflected by community meetings, ad hoc committees, workshops, fact sheets, newsletters, etc.?

Key Issues and Concerns

Have any specific concerns/issues been raised by the community regarding past operations or present activities at the site?

Are there any concerns/issues anticipated regarding site activities?

Are there any general environmental concerns/issues in the community relative to neighboring sites?

Key Contacts

Please attach a list of key contacts for this site, including: city manager; city planning department, county environmental health department, local elected officials; and any other community members interested in the site. (Please include addresses and phone numbers.)

SECTION 4 CERTIFICATION

The signatories below are authorized representatives of the Project Proponent and certify that the preceding information is true to the best of their knowledge.

Proponent Representative	Date	Title

In the agreement, DTSC retains its authority to take enforcement action, if, during the investigation or cleanup, it determines that the site presents a serious health threat, and proper and timely action is not otherwise being taken. The agreement also allows the project proponent to terminate the Voluntary Cleanup Program agreement with 30 days written notice if they are not satisfied that it is meeting their needs.

Step 3: Site Activities

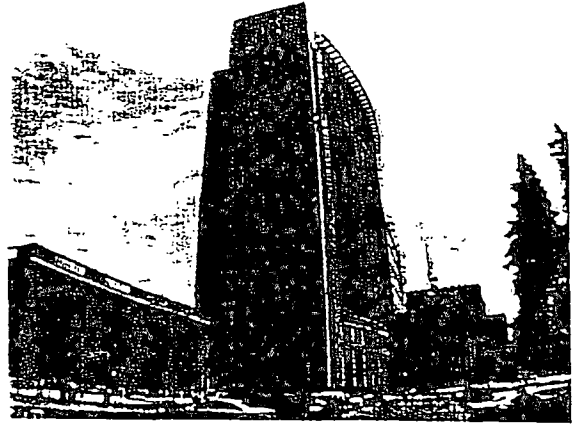
Prior to beginning any work, the proponent must have: signed the Voluntary Cleanup Program agreement; made the advance payment; and committed to paying all project costs, including those associated with DTSC's oversight. The project manager will track the project to make sure that DTSC is on schedule and within budget. DTSC will bill its costs quarterly so that large, unexpected balances should not occur.

Once the proponent and DTSC have entered into a Voluntary Cleanup Program agreement, initial site assessment, site investigation or cleanup activities may begin. The proponent will find that DTSC's staff includes experts in every vital area. The assigned project manager is either a highly qualified Hazardous Substances Scientist or Hazardous Substances Engineer. That project manager has the support of well-trained DTSC toxicologists, geologists, engineers, industrial hygienists, specialists in public participation, and other technical experts.

The project manager may call on any of these specialists to join the team, providing guidance, review, comment and, as necessary, approval of individual documents and other work products. That team will also coordinate with other agencies, as appropriate, and will offer assistance in complying with other laws as needed to complete the project.

Step 4: Certification and Property Restoration

When remediation is complete, DTSC will issue either a site certification of completion or a "No Further Action" letter, depending on the project circumstances. Either means that what was, "The Site," is now property that is ready for redevelopment or other reuse.



The new Federal Courthouse, Sacramento: The largest construction project in the city's history benefited from the Voluntary Cleanup Program when cleaning up a railyard site.

To learn more about the Voluntary Cleanup Program, contact the DTSC representative in the Regional office nearest you:



DTSC office locations

North Coast California
Lynn Nakashima / Janet Naito
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721
(510) 540-3839 / (510) 540-3833

Central California
Megan Cambridge
10151 Croydon Way, Suite 3
Sacramento, California 95827
(916) 255-3727

**Central California –
Fresno Satellite**
Tom Kovac
1515 Tollhouse Road
Clovis, California 93611
(209) 297-3939

**Southern California
(Glendale and Cypress)**
Rick Jones
1011 Grandview Avenue
Glendale, California 91201
(818) 551-2862

Additional information on the Voluntary Cleanup Program and other DTSC Brownfields initiatives is available on DTSC's internet web page.

<http://www.dtsc.ca.gov>

**COMMENT LETTER C – CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES
CONTROL, BARBARA J. COOK, P.E. (MAY 22, 2002), RECEIVED MAY 31,
2002**

Response to Comment C-1

The City appreciates the Department of Toxic Substances Control's interest and responsiveness in providing comments on the DEIR.

Response to Comment C-2

The City recognizes the importance of conducting the Phase II Site Assessment early in the project because of the potential impacts that contamination could have on health and safety, and on construction schedule and costs. As indicated in the Draft EIR, the Phase II Site Assessment will be performed after certification of the EIR and prior to the start of demolition of the Hopper Street facilities. This schedule will allow adequate time for the construction manager to evaluate the Phase II sampling results and to incorporate procedures, as needed, to address any soil or groundwater contamination issues in the project construction management plan.

Response to Comment C-3

A Phase II Site Assessment is proposed as part of the project (as indicated in Measure PD-9). It will be conducted according to generally accepted engineering practices and is expected to adequately characterize the site and identify any soil or groundwater contamination that might require remediation. However, given that all site investigations rely on the collection of discrete samples—limited in time and space—no site investigation can completely assure that all environmental contamination has been characterized. For this reason, visual monitoring for contamination during construction is included as part of the project (Measure PD-10). The visual survey is not intended to replace the Phase II Site Assessment.

Response to Comment C-4

Information in the case file at the Sonoma County Department of Health Services, Environmental Health Division indicates that diesel fuel was released to soil and groundwater from an underground storage tank at the Petaluma Corporation Yard at 840 Hopper Street. The file indicates that the effects of the leak were localized and remediated by excavating and disposing of contaminated soils. As part of a site investigation, five monitoring wells were installed on site. The last reported sampling event for the wells occurred on December 19, 1995 during which diesel was detected in one of the five wells at a concentration of 0.2 milligrams per liter (the other four wells were reported as "non-detect" for diesel). No other petroleum hydrocarbons or components of fuels (e.g., benzene, toluene, xylene, or ethylbenzene) were detected in the wells. Based on these results, the site was closed by the Sonoma County Environmental Health Division on November 12, 1996. The monitoring wells have subsequently been destroyed. Based on this information, it is unlikely that contamination from this site, if any remains, would be affected by dewatering during demolition.

Response to Comment C-5

Based on communication with persons familiar with the farming practices on Parcels A and B for the past 20 years, no pesticides have ever been applied to the property (Mike Ban, personal communication July 2002).

Response to Comment C-6

The City appreciates the DTSC's offer to assist with site characterization and cleanup. If soil or groundwater contamination is detected during the Phase II Site Assessment the DTSC will be notified and invited to attend relevant meetings.



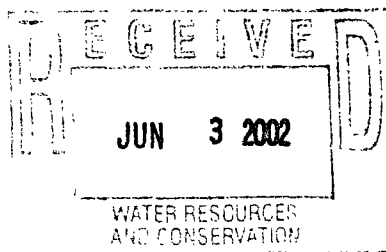
DEPARTMENT OF TRANSPORTATION

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



*Flex your power!
Be energy efficient!*

May 30, 2002



SON-116-37.64
SON116457
SCH# 2001052089

Mr. Michael Ban
City of Petaluma
11 English St.
Petaluma, CA 94952

Dear Mr. Ban:

Water Recycling Facility and River Access Improvements

- D-1 [Thank you for including the California Department of Transportation in the environmental review process for the above-referenced project. We have reviewed the Draft Environmental Impact Report, dated April 2002, and offer the following comments:
- D-2 [1. On Page 2-17, it is stated that "left turns out of the site at the east gate would be improved with the addition of a left turn bay." Please clarify the design and capacity specifications of this proposed improvement for site access.
- D-3 [2. In the discussion of site access on Page 2-17, it is also proposed that "a right-turn lane will be added to Lakeville Highway, for east-bound right-turns into the site, and an acceleration lane will be added for right turns out of the site, for east-bound traffic." The design of the right-turn lane, acceleration and deceleration lanes and tapers at both entrances must conform to the specifications in the Highway Design Manual. More detailed and technical comments will be made in the encroachment permit phase for this project.
- D-4 [3. On Page 4.9-10, the mitigation measure TR-1a states that "before 9:00 AM and after 4:00 PM, and after the new access road is constructed, construction workers shall be required to enter and exit Lakeville Highway at McDowell Boulevard." A prior traffic study (for Kaiser Building Addition) indicated that the northbound McDowell left-turn movement is currently at level of service (LOS) E, and would deteriorate to LOS F with that project. Please explain what impact the additional traffic generated by the construction vehicles will have on this turning movement, assuming that the vehicles will be making left-turns. Cumulative capacity impacts should also be considered in the operational analyses for this turning movement, and each developer should be asked to contribute "fair share" fees to mitigate capacity impacts at this intersection.
- D-5 [
- D-6 [
- D-7 [4. Please be advised that any work or traffic control measures proposed within the State right of way (ROW) will require an encroachment permit. To apply, a completed encroachment permit application, environmental documentation, and five (5) sets of plans, clearly indicating State ROW, need to be submitted to the following address:

Mr Michael Ban
May 30, 2002
Page 2

Sean Nozzari, District Office Chief
Office of Permits
California DOT, District 4
P.O. Box 23660
Oakland, CA 94623-0660

If you have any questions regarding this letter, please call David Cohen of my staff at (510) 622-5488.

Sincerely,



JEAN C. R. FINNEY
District Branch Chief
IGR/CEQA

COMMENT LETTER D – CALIFORNIA DEPARTMENT OF TRANSPORTATION, JEAN C. R. FINNEY, DISTRICT BRANCH CHIEF (MAY 30, 2002), RECEIVED JUNE 3, 2002.

Response to Comment D-1

The City appreciates the efforts of the Department of Transportation in providing responses to the Draft EIR.

Response to Comment D-2

The City considered two options for the East gate improvements, both of which include a left turn lane within the Facility for vehicles waiting to turn left onto Lakeville Highway. The two options are shown in Appendix D, Traffic Master Plan, see Figure 11. A more detailed design and capacity calculation for the left turn lane is not available at this time and will be provided in the construction plans and specifications. The alternatives are currently under review for right-of-way constraints. Alternative 2 is the preferred alternative.

Response to Comment D-3

The design of the right-turn lane, as well as the acceleration and deceleration lanes and tapers at both entrances, will conform to the specifications in the Highway Design Manual. The design details will be addressed as part of the encroachment permit application.

Improvements to existing drainage may be required to construct the right-turn acceleration lane. These include, but are not limited to, extension of the culvert and or storm drain to the edge of the right-of-way and relocation of the head wall and guard rail.

Response to Comment D-4

South McDowell Blvd. connects to Lakeville Highway at two locations. The easternmost intersection, sometimes called South Mc Dowell Blvd. extension, is controlled by a stop sign. The intersection is operating at a low level of service, either LOS D, based on the traffic counts conducted for the Project's Traffic Master Plan, or LOS E, based on the Kaiser-Permanente Clinic Traffic Impact Study (W-Trans 2002). Estimated trip distribution data show that the project will add only through movements to the intersection, causing approximately a 3-second additional delay in the PM peak hour, not a large enough impact to change the level of service. The cumulative analysis on page 4.9-15 of the Draft EIR indicates that the intersection will function at LOS F, with or without the project.

The westernmost intersection is a signalized intersection. It is the most direct route for westbound traffic from the site. Under Mitigation Measure TR-1a, the Contractor would direct his employees to utilize the western South McDowell Blvd./Lakeville Highway intersection for left-turn traffic. The signalized intersection is operating at LOS C, based on the Kaiser-Permanente Clinic Traffic Impact Study (W-Trans 2002), and addition of project trips is not expected to cause the level of service to deteriorate. This signalized intersection is clearly the best intersection along Lakeville Highway to direct project traffic to, because it is operating well

currently and will take traffic off the remainder of Lakeville Highway between the plant and the intersection.

Response to Comment D-5

Cumulative capacity impacts will be considered in the operational analyses for this turning movement.

Response to Comment D-6

The City will review the funding process for this aspect of road improvement and consider the option of requiring each developer to contribute "fair share" fees to mitigate capacity impacts at this intersection.

Response to Comment D-7

The City will submit an encroachment permit application for any work or traffic control measures proposed within the State right-of-way.



Governor's Office of Planning and Research
State Clearinghouse

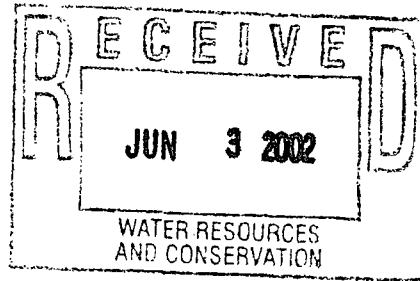


Gray Davis
GOVERNOR

Tal Finney
INTERIM DIRECTOR

May 30, 2002

Michael Ban
City of Petaluma
11 English Street
Petaluma, CA 94952



Subject: Petaluma Water Recycling Facility Project
SCH#: 2001052089

Dear Michael Ban:

The State Clearinghouse submitted the above named Supplemental EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on May 29, 2002, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

E-1

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency



10/20/05

**Document Details Report
State Clearinghouse Data Base**

SCH# 2001052089
Project Title Petaluma Water Recycling Facility Project
Lead Agency Petaluma, City of

Type SIR Supplemental EIR

Description This document has been prepared to evaluate potential impacts of the water recycling facility. The City proposes to demolish the existing facilities at 950 Hopper Street and construct new treatment facilities, capable of producing tertiary treated recycled water, at the existing oxidation pond site at 4400 Lakeville Highway. The proposed treatment process uses extended aeration and oxidation ponds. Algae removal is provided by a wetlands treatment system within the existing oxidation pond site. In addition, up to 45 acres on the adjacent Parcels, northwest of the existing oxidation ponds, will be developed into polishing wetlands. These wetlands will be returned to the secondary effluent and will be open for public access and education. The effluent from the polishing wetlands will be returned to the plant site for reuse or discharge. Also, the project includes a set of improvements titled River Access Improvements that will provide public recreational and educational amenities on the adjacent Parcels northwest of the existing oxidation ponds. These improvements have been formulated at a conceptual level and environmental review is also at a conceptual level.

Lead Agency Contact

Name Michael Ban
Agency City of Petaluma
Phone 707-778-4304 **Fax** 707-776-3635
email
Address 11 English Street
City Petaluma **State** CA **Zip** 94952

Project Location

County Sonoma
City Petaluma
Region
Cross Streets Lakeville Street & Hopper Street; Browns Lane & Lakeville Highway
Parcel No. 007-170-016,-022, -008, 068-010-023, -024, -025, -026,
Township 5N,4N, **Range** 7W,6W **Section** 31,1, **Base** Mt. Diab

Proximity to:

Highways 101, 116
Airports Petaluma Municipal Airport
Railways Northwestern Pacific
Waterways Petaluma River & Several Creeks
Schools
Land Use Public and Institutional (Hooper Street site and existing Lakeville site) & Land Extensive Agriculture (Proposed Lakeville Site for Wetlands). Light Industrial (Hooper Street site) & Agriculture, Diverse Agriculture and Land Extensive Agriculture (Lakeville site)

Project Issues Agricultural Land; Air Quality; Archaeologic-Historic; Geologic/Seismic; Forest Land/Fire Hazard; Water Quality; Landuse; Minerals; Noise; Public Services; Traffic/Circulation; Aesthetic/Visual; Flood Plain/Flooding; Schools/Universities; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Vegetation; Water Supply; Wetland/Riparian; Wildlife; Growth Inducing; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Boating and Waterways; Department of Fish and Game, Region 3, Department of Parks and Recreation; Department of Water Resources; Caltrans, Division of Aeronautics, Caltrans, District 4; Department of Health Services; State Water Resources Control Board, Clean Water Program; State Water Resources Control Board, Division of Water Rights; Regional Water Quality Control Board, Region 2; Department of Toxic Substances Control; Native American Heritage Commission; State Lands Commission; Other Agency(ies)

Note: Blanks in data fields result from insufficient information provided by lead agency.

Document Details Report
State Clearinghouse Data Base

Date Received 04/15/2002 *Start of Review* 04/15/2002 *End of Review* 05/29/2002

**COMMENT LETTER E – GOVERNOR’S OFFICE OF PLANNING AND RESEARCH,
STATE CLEARINGHOUSE, TERRY ROBERTS, DIRECTOR, STATE
CLEARINGHOUSE (MAY 30, 2002), RECEIVED JUNE 3, 2002**

Response to Comment E-1

The City appreciates the efforts of OPR in submitting the Draft EIR to selected state agencies for review and in forwarding their comments. These comments will be incorporated in the Final EIR, along with appropriate responses.



California Regional Water Quality Control Board

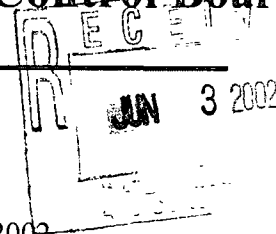
San Francisco Bay Region



Gray Davis
Governor

Winston H. Hickox
Secretary for
Environmental
Protection

Internet Address: <http://www.swrcb.ca.gov/rwqcb2>
1515 Clay Street, Suite 1400, Oakland, California 94612
Phone (510) 622-2300 • FAX (510) 622-2460



Date: May 29, 2002
File No. 2149.4006A (TY)

Mr. Michael Ban
City of Petaluma
11 English Street
Petaluma, CA 94952

VIA FAX (707) 776-3635

**Subject: Comments on the Water Recycling Facility and River Access Improvements
Draft Environmental Impact Report (EIR), City of Petaluma (City)**

Dear Mr. Ban:

F-1

This letter provides Board staff and our consultant, Tetra Tech, Inc.'s comments on the subject document dated April 12, 2002. The comments are focused only on the evaluation of surface water quality impacts and the monitoring and management of the wetlands.

REGIONAL BOARD STAFF'S COMMENTS

Evaluation of the Collection System

F-2

The EIR should address the adequacy of the collection system as part of the new treatment plant, and evaluate the collection system's performance and capacity to convey increased flow to the new treatment plant without causing overflows.

Consideration of Worst-Case Scenario

F-3

Several layers of conservatism are often applied when evaluating worst-case scenarios. In the EIR, when evaluating the impacts of the effluent to the receiving water, Board staff concurs with the use of a drought scenario ("low-flow"), however, it should be paired with the lowest ambient background concentration ("the river at its cleanest").

Monitoring and Management of the Polishing Wetlands

F-4

The proposed monitoring scheme for polishing wetlands should be based on the premise that the water quality will be good enough to protect the wildlife that use the wetlands and the downstream users, and the monitoring plan should be consistent with the Basin Plan and NPDES Program.

Board staff suggests that Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) be monitored after the polishing wetland in addition to prior to the polishing wetlands for

the purpose of the wetlands management. If the wetlands are designed properly, there will be a stretch of densely vegetated wetland before the final outfall, and this will filter out the algae and other BOD. However, it may also drop the Dissolved Oxygen (DO) in some extent due to the BOD in the effluent.

- F-5 Board staff supports the proposal to not monitor the coliform after the polishing wetlands under the condition that BOD and TSS are kept low. Board staff also concurs with the proposal to not re-chlorinate the effluent from the polishing wetlands due the potential high cost, since all the TSS will have to be removed prior to chlorination or else an exorbitant amount of chlorine will be needed. And it can cause a lot of additional problems due to halogenated by-products (trihalomethanes).
- F-6

F-7 The City should develop and implement an operation and maintenance (O&M) plan and a monitoring program consistent with the staff recommendations for Resolution 94-086 (Attachment 2) for both the treatment and polishing wetlands. The O&M plan is similar to the O&M plan for a wastewater treatment facility, but it is specialized for wetlands. The monitoring program should include the requirements in the NPDES permit, and also a plan to monitor sediment, flow pattern, and vectors.

The table below gives a summary of Board staff's suggestion on the monitoring scheme for the wetlands:

F-8

Constituent	Pre-PW		Comment	Sed	Post -PW		
	EIR	RB			EIR	RB	
CBOD	X	X				X	Monitor CBOD/BOD5 and/or TSS regularly... there may be a lot of algae in the ponds.
BOD5						X	
TSS	X	X				X	
Coliform	X	X					Coliform will be high due to bird feces
Metals		*	Monitor sediments >>	X	X	X	See Resolution 94-086 Staff Management Plan Recommendations.
Organics		*	Monitor sediments >>	X	X	X	
Temp					X	X	
pH		X	Monitor NH3/pH and/or toxicity before the wetlands.		X	X	
NH3		X			X	X	
Toxicity		X			X	X	
DO					X	X	It may be difficult to reach surface water DO levels because wetlands sometimes tend to have low DO.
Chlorine Res.					X	X	
Turbidity							
Color						X	Potential nuisance

PW- Polishing wetlands, Sed – Sediment, RB-Regional Board staff

March 15, 2002

F-9

TETRA TECH'S COMMENTS
See Attachment 1.

F-10

Please note:
In comment No.2, the reasonable potential analysis (RPA) may change when actual NPDES permit is issued, Board staff may use site-specific ambient background data, and the most recent effluent data set.

If you have any questions or comments regarding this matter, please contact Tong Yin at (510) 622-1008 or by email at ty@rb2.swrcb.ca.gov.

Sincerely,

Loretta K. Barsamian
Executive Officer

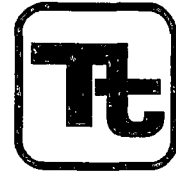


Shin-Roei Lee
Chief, NPDES Division

Enclosure

ATTACHMENT

1. Tetra Tech, Inc.'s Memo
2. Resolution 94-086, Policy on the Use of Wastewater to Create, Restore, and /or Enhance Wetlands, San Francisco Regional Water Quality Control Board



Tetra Tech, Inc.

MEMO

To: Tong Yin, Regional Water Quality Control Board

Date: May 29, 2002

From: Ron Rimelman and Ann-La Duca, Tetra Tech, Inc.

Re: Comments on City of Petaluma Draft Environmental Impact Report

F-11

The following represent Tetra Tech, Inc.'s comments on the City of Petaluma Draft Water Recycling Facility and River Access Improvements EIR. As you requested, we have focused only on the evaluation of surface water quality impacts. Overall, the EIR presents a detailed analysis of the impacts of the project and the proposed alternative provides a sound design to achieve the goals of increasing the capacity for secondary treatment of wastewater, reducing pollutant loadings to the river, and improving the riverfront area for public use.

F-12

Comment No. 1: While the EIR presents a detailed analysis of the proposed action and how it evolved, the discussion of alternatives is limited. It would be particularly helpful to understand the relative differences between the no project and proposed alternatives. While Chapter 5 of the EIR notes that selection of the no project alternative could lead to a building moratorium, there is no quantitative basis for determining the increase/decrease in pollutant loadings between the two options. It is possible that the enhanced system would actually reduce dry and/or wet season loadings despite the increased flow.

F-13

This would present an especially compelling argument for the project. As for other "action" alternatives, Chapter 5 should specifically address the exclusive use of UV disinfection. UV disinfection is generally considered more environmentally beneficial than chlorination. A relative cost/benefit analysis needs to be

F-14

provided. Similarly, Chapter 5 should discuss the costs/benefits of providing tertiary treatment for all of

F-15

the dry weather flow capacity, especially since the Petaluma River is listed as impaired for pathogens and other pollutants.

F-16

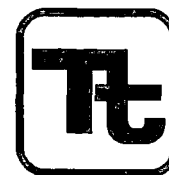
Comment No. 2: While the EIR process is somewhat different from the NPDES permitting process, the EIR should demonstrate that the discharge from the proposed action can meet technology- and water-quality based effluent limitations. Therefore, Tetra Tech developed an example of a "limited" reasonable

F-17

potential analysis (RPA) for the current City of Petaluma discharge (attached). The Board uses the results of the RPA in determining which pollutants require water quality-based effluent limitations in an NPDES permit.

F-18

The RPA is based on a number of data sources, including both effluent and receiving water data. Receiving water quality data for San Pablo Bay and the Petaluma River collected from 1993-1999 are presented in Table 4.5-1 of the EIR. The State Implementation Plan (SIP) requires the use of maximum concentrations in calculating effluent limitations. The maximum values for receiving water quality data presented in Table 4.5-1 are inconsistent with water quality data available through the San Francisco Regional Monitoring Program (RMP) (website: <http://www.sfei.org/rmp/rmpwater.htm>). The following table depicts the data discrepancies:



Tetra Tech, Inc.

Parameter	Table 4.5-1		RMP	
	San Pablo Bay (Max.)	Petaluma River (Max.)	San Pablo Bay (Max.)	Petaluma River (Max.)
Mercury (TR)	0.047		0.0881 (4/99)	
Arsenic (TR)	0.058	0.140	3.92 (8/97)	7.65 (7/98)
Cadmium (TR)	0.098	0.170	0.1414 (8/94)	0.19 (8/97)
Chromium (TR)	24.83	55.96	40.7 (4/99)	63.89 (7/98)
Copper (TR)	10.04		14.3 (4/99)	
Lead (TR)	4.410		6.46 (5/93)	
Nickel (TR)	22.90		30 (4/99)	
Silver (TR)	0.058		0.059 (4/99)	
Zinc (TR)	19.67	46.36	35 (4/99)	91.3 (7/98)
Ammonia	0.13	0.26	0.16 (2/00)	0.42 (2/98)
TSS	148.4		242 (4/99)	
Temperature	16.0	22.5	21.1 (7/98)	24.8 (7/98)

F-19

The EIR should be checked and modified, as appropriate, to address these inconsistencies. For background data in the RPA, Tetra Tech used the receiving water quality background data for the Petaluma River monitoring station provided by the RMP website. While the data collected in the vicinity of the discharge is useful, the amount of data available (2 months) preclude any long-term analysis of background water quality.

F-20

The applicable water quality criteria are the most stringent of the salt and fresh water criteria. A number of the metals criteria are hardness dependant. The Board typically uses the minimum hardness from the background RMP station to determine the hardness to be used in calculating criteria. This value could be lower than the 150 mg/l as CaCO₃ value used in the EIR.

F-21

F-22

Instantaneous maximum effluent data presented in 4.5-2 of the EIR was used in the RPA. Note that there are inconsistencies in the effluent data presented in Table 4.8-4 and Table 4.5-2 of the EIR. Tetra Tech assumes that these results should be same (for October 1997-2001) and the EIR should be modified to address the discrepancies.

F-23

The following constituents have reasonable potential (RP) based on the maximum effluent concentration exceeding the lowest applicable water quality criteria or objective: cadmium, chromium, copper, nickel, cyanide, and bis(2-ethylhexyl) phthalate. The following constituents have been detected in the effluent

F-24

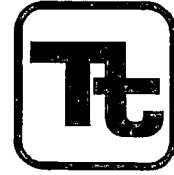
and have RP based on the maximum background concentration exceeding the lowest criteria or objective include: lead, mercury, and zinc.

F-25

For these constituents, the City should work with the Regional Board to identify the applicable water quality based effluent limitations and determine whether the proposed modifications to the wastewater treatment facility *are likely* to achieve compliance. Tetra Tech specifically acknowledges that the RPA

F-26

was performed based on existing effluent quality, which is likely to be worse than water quality after the proposed modifications. However, the EIR does not project future discharge quality and Tetra Tech does not currently have sufficient information to define expected discharge characteristics.



Tetra Tech, Inc.

- F-27** The following additional constituents have RP because the maximum background concentration exceeds the lowest criteria or objective: benzo(a)pyrene, benzo(b)fluoranthene, indeno (1,2,3,-cd) pyrene, chlordane, 4,4'-DDT, 4,4'-DDE, 4,4'-DDD, dieldrin, and heptachlor epoxide. Based on currently available information and demonstrated RP, the NPDES permit would include effluent limitations for these parameters. No effluent data have been collected to date for these constituents. The EIR should include, but not limited to, a mitigation measure to implement a source control program if these constituents are detected above the effluent limitations (see comment No. 4 below related to water quality-based mitigation measures).
- F-28**
- F-29** Comment No. 3: The City should reasonably ensure that the water quality based effluent limitations discussed under Comment 2 will be met by the modified facility. This could be done by: (1) providing a commitment to implement a source control program and (2) showing that the proposed system with upgrade and reclamation will reduce copper and nickel loadings.
- F-30** One additional note, the EIR generally refers to the proposed polishing wetlands as providing metals removal. It is Tetra Tech's experience that while some degree of metals removal is feasible with wetlands treatment, it is not always observed at the very low levels found in the current effluent from the oxidation ponds. If wetlands treatment is proposed to meet water quality-based effluent limitations, performance should be quantitatively documented based on other existing systems (e.g., the cited Sacramento project *if* the influent concentrations are comparable).
- F-31** Comment No. 4: The chromium and nickel mitigation measures in the EIR should be modified. It is the discharger's responsibility to ensure compliance with applicable water quality criteria at all times, regardless of the current permit requirements. If the analysis in the EIR shows that the City cannot currently meet water quality based effluent limitations, the City needs to immediately implement a source control program. Based on the RPA, this is the case for at least copper, nickel, and chromium.
- F-32** Furthermore, as discussed in the preceding two comments, the Discharger should then show that the new facility *will likely* meet projected water quality based effluent limitations. In addition, regardless of the
- F-33** criteria used, the mitigation trigger should be one confirmed exceedance rather than the three described in the EIR. The City can re-sample immediately after a detected exceedance to determine its validity.
- F-34** Finally, water quality-related monitoring and mitigation, where appropriate, need to begin immediately upon initiation of the discharge not "five years after completion of construction" as specified in Chapter 3 of the EIR.
- F-35** Similarly, the mitigation (source control) triggers for bis(2-ethylhexyl) phthalate, aldrin, dioxin/furan, acrolein, and acrylonitrile should also be based on water quality based effluent limitations, if developed for these parameters. One exceedance (after re-testing and confirmation) should prompt the City to consider mitigation measures and testing should begin immediately upon initiation of the discharge from the modified facility.
- F-36** Comment No. 5: The discharger has had difficulty in complying with current NPDES permit limits for total coliform based on Basin Plan requirements. The Petaluma River is listed as water quality impaired for pathogens. The analysis on Page 4.5-22 of the EIR addresses instream compliance with water quality criteria. However, the EIR should also show how the modified system will ensure consistent, future compliance with applicable bacteriological effluent limits.
- F-37** In addition, the Report of Waste Discharge (accompanying the EIR) only lists chronic toxicity test results from 1998-2000 (Report of Waste Discharge, Part E. NPDES form 2A, toxicity test data; EIR, Table 4.5-



Tetra Tech, Inc.

F-38 documents should be updated to include data from 2001-2002. These data show that the 3-sample median of 1 TUc toxicity trigger was exceeded in February 2001 and February 2002. Therefore, chronic toxicity has been identified in the effluent. The EIR should describe the likely sources of the observed toxicity and how they will be avoided with the proposed modifications.

F-39

F-40 Comment No. 6: The Petaluma River is currently listed as water quality impaired for nutrients. With the exception of discussing ammonia, the EIR does not address nutrient loadings from the wastewater treatment facility. The EIR needs to summarize: the current instream nutrient levels and impacts, to what degree the City is contributing to these effects, and the increase/decrease in loadings (and related instream effects) of the proposed facility modifications.

ATTACHMENT: Limited Reasonable Potential Analysis

Preliminary Draft RPA
City of Petaluma
Effluent Data from Table 4.5-2 (EIR)
Data Collected From RMP Station Petaluma River (1993-2000) as Background Data

Is it a RB2 facility (Y/N)?
Hardness (mg/L CaCO3) (3)
pH (6.0) (3)
Note: The values in blue are calculated.

Table with columns: # in CTR, PRIORITY POLLUTANTS, From Table 4-3, Freshwater, Salwater, CTR Water Quality Criteria (ug/L), Step 2, Step 3, MEC (ug/L). Rows include various pollutants like Acetonyl, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Zinc, Cyanide, Asbestos, PCDD, PCDF, Dioxin, Acrylonitrile, Benzene, Bromoform, Carbon Tetrachloride, Chlorobenzene, Chloroethane, Chloroethylene, Chloroform, Dichlorobromomethane, Dichlorodifluoromethane, Dichloroethane, Dichloroethylene, Dichloroethene, Dichloroethane, Dichloroethylene, Dichloropropane, Ethylbenzene, Methyl Bromide, Methyl Chloride, Methylene Chloride, Tetrachloroethane, Trichloroethylene, Trichloroethane, Trichloroethylene, Vinyl Chloride, Chlorophenol, Dichlorophenol, Dimethylphenol, Methyl-4-B-Dinitrophenol, 2,4-Dinitrophenol, 4-Nitrophenol, 3-Methyl-4-Chlorophenol.

Preliminary Draft RPA
 City of Petaluma
 Effluent Data from Table 4.5-2 (EIR)
 Data Collected From RMP Station Petaluma River (1993-2000) as Background Data

Is it a RB2 facility (Y/N)?
 Hardness (mg/L CaCO3) (3)
 pH (6 u) (3)
 Note: The values in blue are

# in CTR	PRIORITY POLLUTANTS	Step 4		Step 5		Step 6		Steps 7 & 8		Final Result ^a
		MEC vs. C	MEC vs. C	B (µg/L)	Maximum Ambient Background Concentration	B vs. C	7) Review other information in the SIP page 4. If information is unavailable or insufficient: B) the RWQCB shall establish interim monitoring requirements	Result	Reason	
1	Antimony	1. If MEC> or = C, effluent limitation is required; 2. If MEC<C, go to Step 5	MEC-C, go to Step 5	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
2	Arsenic	MEC-C, go to Step 5	MEC-C, go to Step 5	7.65	No RMP data, Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
3	Beryllium	MEC-C, go to Step 5	MEC-C, go to Step 5	0.19	No RMP data, Step 7	No ambient data, to Step 7	B<C, Step 7	No criteria	No criteria	
4	Cadmium	MEC-C, go to Step 5	MEC-C, go to Step 5	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	B<C, Step 7	No criteria	No criteria	
5	Chromium (III)	MEC-C, go to Step 5	MEC-C, go to Step 5	63.89	No RMP data, Step 7	No ambient data, to Step 7	B>C, Effluent Limit Required	Y	MEC>C, & B>C	
6	Chromium (VI) as total Cr	MEC-C, go to Step 5	MEC-C, go to Step 5	20.75	No RMP data, Step 7	No ambient data, to Step 7	B>C, Effluent Limit Required	Y	MEC>C, & B>C	
7	Copper	MEC-C, go to Step 5	MEC-C, go to Step 5	7.38	No RMP data, Step 7	No ambient data, to Step 7	B>C, Effluent Limit Required	Y	B>C	
8	Lead	MEC-C, go to Step 5	MEC-C, go to Step 5	0.126	No RMP data, Step 7	No ambient data, to Step 7	B>C, Effluent Limit Required	Y	B>C	
9	Mercury	MEC-C, go to Step 5	MEC-C, go to Step 5	41.3	No RMP data, Step 7	No ambient data, to Step 7	B>C, Effluent Limit Required	Y	MEC>C, & B>C	
10	Nickel	MEC-C, go to Step 5	MEC-C, go to Step 5	0.41	No RMP data, Step 7	No ambient data, to Step 7	B<C, Step 7	No criteria	No criteria	
11	Selenium	MEC-C, go to Step 5	MEC-C, go to Step 5	0.1397	No RMP data, Step 7	No ambient data, to Step 7	B<C, Step 7	No criteria	No criteria	
12	Thallium	MEC-C, go to Step 5	MEC-C, go to Step 5	91.3	No RMP data, Step 7	No ambient data, to Step 7	B>C, Effluent Limit Required	Y	B>C	
13	Zinc	MEC-C, go to Step 5	MEC-C, go to Step 5	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
14	Cyanide	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
15	Asbestos	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
16	2,3,7,8-TCDD (Dioxin)	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
17	Acrolein	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
18	Acrylonitrile	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
19	Benzene	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
20	Bromodimethylsilane	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
21	Carbon Tetrachloride	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
22	Chlorobenzene	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
23	Chlorobromomethane	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
24	Chloroethane	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
25	2-Chloroethyl Ether	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
26	Chloroform	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
27	Dichloromethane	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
28	1,1-Dichloroethane	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
29	1,2-Dichloroethane	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
30	1,1-Dichloroethylene	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
31	1,2-Dichloroethylene	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
32	1,3-Dichloropropylene	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
33	Ethylbenzene	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
34	Methyl Bromide	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
35	Methyl Chloride	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
36	Methylene Chloride	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
37	1,1,2,2-Tetrachloroethane	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
38	Tetrachloroethylene	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
39	Toluene	MEC-C, go to Step 5	MEC-C, go to Step 5	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
40	1,2-Trichloroethylene	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
41	1,1,1-Trichloroethane	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
42	1,1,2-Trichloroethane	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
43	Trichloroethylene	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
44	Vinyl Chloride	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
45	Chlorophenol	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
46	2,4-Dichlorophenol	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
47	2,4-Dimethylphenol	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
48	2-Methyl-4,6-Dinitrophenol	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
49	2,4-Dinitrophenol	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
50	2-Nitrophenol	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
51	4-Nitrophenol	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	
52	3-Methyl-4-Chlorophenol	No criteria	No criteria	No RMP data, Step 7	No ambient data, to Step 7	No ambient data, to Step 7	No criteria	No criteria	No criteria	

Preliminary Draft RPA
 City of Petaluma
 Effluent Data from Table 4.5-2 (EIR)
 Data Collected From RMP Station Petaluma River (1993-2000) as Background Data

# in CTR	PRIORITY POLLUTANTS	Step 4		Step 5	Step 6	Steps 7 & 8		Final Result ^a
		MEC vs. C		B (µg/L)	B vs. C	7) Review other information in the SIP page 4: If information is unavailable or insufficient: b) the RWQCB shall establish interim monitoring requirements.		
		1. If MEC> or =C, effluent limitation is required; 2. If MEC<C, go to Step 5		Maximum Ambient Background Concentration	If B>C, effluent limitation is required			Reason
53	Perchloroethanol	MEC<C, go to Step 5	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
54	Phenol	MEC<C, go to Step 5	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
55	2,4,6-Trichlorophenol	MEC<C, go to Step 5	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
56	Acenaphthene	No criteria	0.00069	B<C, Step 7	No criteria			No criteria
57	Acenaphthylene	No criteria	0.00102	B<C, Step 7	No criteria			No criteria
58	Anthracene	No criteria	0.0041	B<C, Step 7	No ambient data, to Step 7			No criteria
59	Benzo[a]anthracene	No criteria	0.02713	B<C, Step 7	No ambient data, to Step 7			No criteria
60	Benzo[b]fluoranthene	No criteria	0.051	B>C, Effluent Limit Required	B>C, Effluent Limit Required			Y
61	Benzo[b]pyrene	No criteria	0.068	B>C, Effluent Limit Required	B>C, Effluent Limit Required			Y
62	Benzo[k]fluoranthene	No criteria	0.024	B<C, Step 7	No criteria			No criteria
63	Benzo[k]pyrene	No criteria	0.022	B<C, Step 7	No criteria			No criteria
64	Benzo[e]fluoranthene	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
65	Bis(2-Chloroethoxy)Methane	MEC>C, Effluent Limit required	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
66	Bis(2-Chloroethyl)Ether	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
67	Bis(2-Chloroisopropyl)Ether	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
68	Bis(2-Ethoxyethyl)Ether	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
69	4-Ethoxyphenyl Phenyl Ether	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
70	Bis(2-Ethoxyethyl) Ether	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
71	2-Chloroethoxyethane	No criteria	0.02004	B<C, Step 7	No criteria			No criteria
72	4-Chlorophenyl Phenyl Ether	No criteria	0.0092	B<C, Step 7	No ambient data, to Step 7			N
73	Chrysene	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
74	Dibenz[a,h]anthracene	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
75	1,2-Dichlorobenzene	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
76	1,3-Dichlorobenzene	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
77	1,4-Dichlorobenzene	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
78	3,3'-Dichlorobenzidine	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
79	Diethyl Phthalate	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
80	Dimethyl Phthalate	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
81	Di-n-Butyl Phthalate	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
82	2,4-Dinitrochlorobenzene	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
83	2,6-Dinitrochlorobenzene	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
84	Di-n-Octyl Phthalate	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
85	1,2-Diphenylhydrazine	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
86	Fluorene	No criteria	0.06742	B<C, Step 7	No ambient data, to Step 7			N
87	Fluorene	No criteria	0.01166	B<C, Step 7	No ambient data, to Step 7			N
88	Hexachlorobenzene	No criteria	0.000168	B<C, Step 7	No ambient data, to Step 7			N
89	Hexachlorobutadiene	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
90	Hexachlorocyclopentadiene	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
91	Hexachloroethane	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			N
92	Indeno(1,2,3-cd)Pyrene	No criteria	0.075	B>C, Effluent Limit Required	B>C, Effluent Limit Required			Y
93	Isophthalate	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			B-C
94	Isophthalate	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			B-C
95	Nitrobenzene	No criteria	0.0032	No criteria	No criteria			No criteria
96	N-Nitrosodimethylamine	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
97	N-Nitrosodipropylamine	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
98	N-Nitrosophenylamine	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
99	Phenanthrene	No criteria	0.0245	No criteria	No criteria			No criteria
100	Pyrene	No criteria	0.09002	B<C, Step 7	No ambient data, to Step 7			No criteria
101	1,2,4-Trichlorobenzene	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
102	Acridin	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
103	alpha-BHC	MEC<C, go to Step 5	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
104	beta-BHC	MEC<C, go to Step 5	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
105	gamma-BHC	MEC<C, go to Step 5	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
106	delta-BHC	No criteria	No RMP data, Step 7	No RMP data, Step 7	No ambient data, to Step 7			No criteria
107	Chlordane	No criteria	0.000781	B>C, Effluent Limit Required	B>C, Effluent Limit Required			Y
108	4,4-DDT	No criteria	0.000665	B>C, Effluent Limit Required	B>C, Effluent Limit Required			Y
109	4,4'-DDE	No criteria	0.003178	B>C, Effluent Limit Required	B>C, Effluent Limit Required			Y
110	4,4'-DDD	No criteria	0.00263	B>C, Effluent Limit Required	B>C, Effluent Limit Required			Y

Preliminary Draft RPA
 City of Petaluma
 Effluent Data from Table 4.5-2 (EIR)
 Data Collected From RMP Station Petaluma River (1993-2000) as Background Data

# in CTR	PRIORITY POLLUTANTS	CTR Water Quality Criteria (ug/L)												Step 2		Step 3	
		Freshwater						Saltwater						All non-Detected?	Minimum Detection Limit	MEC (ug/L) Pollutant Concentration from the effluent	
		From Table 4-3 Deep Water (24-hr) ug/L		3-4) Freshwater 1-hr 24-hr ug/L ug/L		(from Table 3-3) Saltwater 4-day 1-hr 24-hr Max ug/L ug/L ug/L		Freshwater CMC (acute) (chronic) ug/L ug/L		Saltwater CMC (acute) (chronic) ug/L ug/L		Organisms only ug/L	Lowest (most stringent) Criteria (f) ug/L				Number of data points
111	Dieldrin														0		
112	alpha-Endosulfen														0		
113	beta-Endosulfen														0		
114	Endosulfen Sulfate														0		
115	Endrin														0		
116	Endrin Aldehyde														0		
117	Heptachlor														0		
118	Heptachlor Epoxide														0		
119, 120	PCBs sum (2)														0		
121	Toxaphene														0		
122	Trihalogen														0		

Notes

- (1) Reasonable Potential Analysis based on the lowest CTR criteria except for arsenic, cadmium, chromium, lead, mercury, nickel, silver and zinc (where the Best Plus water quality objectives apply)
 - (2) PCBs sum refers to sum of PCB 1016, 1221, 1332, 1342, 1348, 1254, and 1260
 - (3) Receiving body hardness = 109 mg/L as CaCO3 (minimum observed value); default pH = 7.8
- Bold see 303(d) listed pollutants**

Preliminary Draft RPA
 City of Petaluma
 Effluent Data from Table 4.5-2 (EIR)
 Data Collected From RMP Station Petaluma River (1993-2000) as Background Data

# in CTR	PRIORITY POLLUTANTS	Step 4		Step 5	Step 6	Steps 7 & 8		Final Result ^d	
		MEC vs. C	1. If MEC> or =C, effluent limitation is required. 2. If MEC<C, go to Step 5	B (μ g/L) Maximum Ambient Background Concentration	B vs. C	7) Review other information in the SIP page 4. If information is unavailable or insufficient, 8) the RWQCB shall establish interim monitoring requirements.	Result	Reason	
111	Dieldrin			0.000157	B>C, Effluent Limit Required	Y			
112	alpha-Endosulfan			0.000025	B<C, Step 7				
113	beta-Endosulfan			0.000016	B<C, Step 7				
114	Endosulfan Sulfate			0.000087	B<C, Step 7				
115	Endrin			0.00003	B<C, Step 7				
116	Endrin Aldehyde			No RMP data, Step 7	No ambient data, to Step 7				
117	Heptachlor			0.000016	B<C, Step 7				
118	Heptachlor Epoxide			0.000178	B>C, Effluent Limit Required	Y			
119-123	PCBs sum (2)			No RMP data, Step 7	No ambient data, to Step 7				
120	Toxaphene			No RMP data, Step 7	No ambient data, to Step 7				
	Triphenyl			No RMP data, Step 7	No ambient data, to Step 7				

Notes

- (1) Reasonable Potential Analysis basec and Zinc (Where the Basin Plan wate
- (2) PCBs sum refers to sum of PCB 101
- (3) Receiving body hardness = 108 mg/l

Bold see 303(g) listed pollutants

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

**POLICY ON THE USE OF WASTEWATER TO CREATE,
RESTORE, AND/OR ENHANCE WETLANDS**

Resolution 94-086 Staff Management Plan Recommendations

I. Introduction

Under Resolution 94-086, provision 11, dischargers applying for an exception to the Water Quality Control Plan waste discharge prohibition must submit a management plan to the Regional Board. The management plan should provide detailed information on how compliance with provisions 1 through 10 of the Resolution will be achieved. This management plan, in addition to providing the necessary information to the Regional Board, will serve as an "operations manual" for the discharger's use in managing the wetland. Attainment of project objectives specified in the management plan will later serve as indicators of the success of the project.

The management plan should be prepared in consultations with the staff of the Regional Board, the State Department of Fish and Game, the State Department of Health, local vector control agencies, the Soil Conservation Service, the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency, and the U.S. Army Corps of Engineers. Other relevant agencies or parties should be consulted as appropriate.

A proposed management plan must be submitted with the initial application for an exception under Resolution 94-086. The proposed management plan should be modified as needed as additional information becomes available through the pilot study, project planning, and design phases. A final management plan should be submitted prior to project construction. Any subsequent modifications to the management plan must be submitted to the Regional Board for approval by the Executive Officer.

In accordance with provision 11 of Resolution 94-086, the management plan must contain at least:

- A. A facility plan,
- B. An operations and maintenance plan,
- C. A monitoring program, and
- D. An assessment of anticipated water quality impacts, including a summary of results of any pilot work.

Recommendations follow for the topics to be included and/or considered in each of the sections of the management plan listed above. These recommendations are not intended to be comprehensive. At the time of application, the Regional Board will determine if more information is required.

II. Recommendations

A. FACILITY PLAN

The facility plan should be similar to that required for construction of a wastewater treatment facility. Provision 11.A of the Resolution specifies two subsets of requirements for the facility plan. The first subset of requirements are standard facility plan elements and include a description of 1) the treatment works prior to the discharge to the wetland; 2) the physical facilities to be provided in the wetland area; 3) the physical layout of the constructed wetland and all points of discharge to and from the wetland; 4) adjacent waters; 5) disposal alternatives (if any); and 6) how the land is to be committed to this use. Several guides for preparing these elements of a facility plan are available (see pages 7-8, references 4-7), and the procedures may be easily adapted to this application.

The second subset of provision 11.A requirements contains elements unique to development of a wastewater wetland and the establishment of a net environmental benefit. These requirements consist of a description of 1) project purpose; 2) project objectives; 3) site selection; 4) site sampling; 5) planning and design elements; and 6) wetland design criteria. Recommendations for each of the second set of elements follow:

1. Project Purpose

The purpose of the proposed wetland project should be described. If the purpose of the project is to obtain an exception to the waste discharge prohibition, the conditions leading to the need for this exception should be explained.

2. Project Objectives

Objectives established for the wetland project should be clearly stated in the management plan. They should include, at a minimum, a description of all new or enhanced beneficial uses which will comprise the net environmental benefit created by the project. Any desired, or "target" species (including wildfowl, shorebirds, fish, mammals, invertebrates, etc...), and the specific habitat requirements of these species, should also be listed and discussed.

3. Site Selection Factors

The site selection process should include a careful examination of all of the existing site features and conditions. The applicant should determine which agencies to contact in considering a wetland site. The following are examples of factors that should be considered when assessing the suitability of a site for the wetland:

- a. Substrate - Important properties include soil type, permeability, texture, salt and nutrient content, and pollutant concentration.
- b. Hydrology/Geomorphology - Issues which should be considered include source and supply of water, location within the watershed, ground water elevation and gradient, and existing surface water drainage patterns.
- c. Vegetation - In choosing a site, the applicant should consider *in situ* vegetation, and the desirable and undesirable vegetation that may colonize the wetland.

- d. Wildlife - Considerations should include the species which presently inhabit or visit the site, particularly the presence of endangered species.
- e. Landscape and Land Use - The location of the site within the surrounding landscape should be examined. What long-term land uses are planned for this area? Would the wetland be compatible with local land uses and beneficial uses of nearby water bodies, including existing wetlands? What is the potential for human or domestic animal disturbances?

4. Site Sampling and Analyses

Initial sampling and analyses of the site sediments, soils, surface waters and/or ground water may be necessary to determine whether pollutants are already present at the site. The extent of sampling and type of analyses should be determined by the past uses of the site. Assessment of current conditions and site-descriptive sampling such as soil type and vegetation type should also be conducted.

5. Planning and Design Elements

The following are examples of elements that should be considered throughout the wetland design process.

- a. Functions and Values - The necessary and desired functions and values of the wetland should be considered at the time the wetland is designed.
- b. Wetland Type - The type of wetland to be created should be described. Wetland types include tidal salt marsh, tidal freshwater marsh, brackish marsh, freshwater marsh, and riparian wetland. Wetlands may also be seasonal or permanent.
- c. Wetland Size - Adequate acreage will be needed to prevent formation of unplanned ponds in cases of large flows. Also, it is important that the applicant consider the proportion of treatment wetland versus the proportion of net environmental benefit wetland. This ratio will be examined by the Regional Board at the time the application is submitted for approval.
- d. Physical Elements - Physical elements include bank slope and height, channels, berms, tide gates, pumps, and other water control structures, maintenance access, and overall site elevations and gradients.
- e. Hydrology/Geomorphology - A good understanding of hydrology and geomorphology is critical in achieving goals associated with treatment and beneficial use attainment. The flow rate and capacity of the wetland should be designed to promote beneficial uses and/or treatment functions. Other factors to consider include drainage patterns, percolation rates, and the flow pattern through the system.
- f. Water Quality - Anticipated water quality, including wetland influent and effluent, should be considered in the plan and design of the wetland. Water quality objectives must be met in any portion of the wetland that is designated a water of the United States. Although portions of the wetland that are treatment-only will not be subject to water quality objectives, a conservative approach should be used in the management of substances that biomagnify in the food chain (e.g. mercury, selenium, and organic pollutants) with attainment of water quality objectives as the goal of best management

practices. A liner should be considered in portions of the wetland that do not meet water quality objectives as well as an active program to discourage wildlife.

- g. Vegetation - Vegetation goals should be established. The applicant must specify the how much wetland vegetation be from planted versus colonization from surrounding wetlands. The applicant should also determine how nuisance species will be controlled.
- h. Wildlife - Wildlife goals should be established, and species which are expected to use the wetland should be identified. If endangered species are already present at the site, design modifications may be necessary, as determined by consultation with the U.S. Fish and Wildlife Service.
- i. Vector Control - Vector control considerations should be discussed with the local vector control agency.

The management plan should contain maps of the proposed project. The maps should identify the treatment portion of the wetland and the portions where environmental benefits will be achieved.

6. Wetland Design Criteria

In order to better understand behavior of the wetland, future operators and regulators should be aware of the estimations and assumptions that were made during the design process. Therefore, it is recommended that all design values used in the design and construction be listed. Standard project design values that should be developed and listed in the facility plan include the initial and design years, design population, wastewater characteristics as prescribed in the NPDES permit established for the wetland, and hydraulic loading rates. Design values unique to wastewater wetlands - or which must be considered carefully in light of wetlands operations and functions - include operational water depth, calculated and measured (if available) detention times, and vegetation type, density and distribution.

B. OPERATIONS AND MAINTENANCE PLAN

Provision 11.B of the Resolution requires that the management plan include an operations and maintenance plan and contingency plans. The operations and maintenance plan should include a sequential listing of actions needed to ready the wetlands system and its personnel for operation once construction is completed. Matters such as staffing and training requirements, operations and maintenance procedures, contingency measures, reporting schedules, and laboratory testing should be considered in the plan. An operations and maintenance manual should be developed as a part of the plan. This manual should provide plant personnel with detailed instructions for assuring efficient operation and proper maintenance of all wetland components. Considerations that are unique to wastewater wetlands operation and maintenance, and which should be addressed in the operations and maintenance plan, are discussed below:

1. Vegetation Planting and Harvesting

The program for vegetation management should include a schedule for initial and follow-up plantings, the planting procedure to follow, and the criteria to determine whether a planting was successful. If vegetation harvesting will occur, a plan should be developed to identify the factors which will determine the necessity and frequency of harvesting, the harvesting procedures, and a program for disposal of harvested material. The impact of harvesting on

wildlife should be considered.

2. Channel and Bank Maintenance

A program for channel and bank maintenance in the wetland should include indicators for when maintenance is necessary, maintenance procedures, and a plan for disposal of any dredged material. If dredging or bank stabilization is necessary, the U.S. Army Corps of Engineers should be contacted to determine whether permitting is required under Section 404 of the Clean Water Act. The applicant should note that maintenance costs for sediment removal may be minimized if there is available land area for on-site disposal.

3. Pump and Gate Maintenance

A routine maintenance program should be developed for all mechanical devices necessary to the operation of the wetland. This program should ensure appropriate hydraulics are provided in order to maintain all wetland beneficial uses.

4. Vector Controls

A program for vector population monitoring and control should be developed with the local vector control agency and outlined in the management plan.

5. Contingency/Emergency Plans

- a. Project Objectives Not Achieved: Guidance should be developed for procedures to follow if the intended beneficial uses are not realized, desired habitats are not established, or the desired species are not colonizing or utilizing the wetland.
- b. Design Criteria Exceeded: The management plan should include measures for addressing temporary exceedences, as well as guidelines and options for addressing long-term or permanent exceedences. This includes cases where the wetland's storage or treatment capacity is exceeded due to unanticipated population growth or other factors.
- c. Nuisance Conditions: Guidance should be outlined in the management plan for procedures to determine nuisance conditions, their causes, and the remedial actions necessary.
- d. Toxicity Observed: A contingency plan should be developed in conjunction with the monitoring program in order to determine appropriate remedial actions if toxicity is determined to be present in wetland sediments or water.
- e. Treatment Plant Failure: A contingency plan for protection of wetland habitat and wildlife should be developed in case of system bypasses or treatment plant failures. This plan should consider situations whereby the bypass or failure might result in toxic, hazardous, and/or nuisance materials being introduced into the wetland. The Regional Board strongly recommends auxiliary storage basins in cases of these emergencies. Emergency procedures developed for the wetland system should be incorporated into the emergency procedures of the treatment plant.

C. MONITORING PROGRAM

1. Policy Monitoring Requirements

Provision 11.C of the Resolution requires that the management plan contain a detailed monitoring program for parameters such as pollutants, habitat diversity, wildlife use and vector populations. Provision 7 specifically requires demonstration in the form of detailed monitoring that pollutants and other substances transferred to the wetland do not harm wildlife due to direct toxicity or bioaccumulation in the food chain. The discharger must also demonstrate that the wetland does not create vector problems, nuisance, or promote avian botulism or other infectious diseases.

2. Monitoring Recommendations

Physical and chemical monitoring requirements will be based on the nature of the effluent discharged to the wetland. Biological monitoring requirements will be based on both the nature of the discharged effluent and habitat goals for the site. The discharger should anticipate the presence of any toxic substances (or substances that bioaccumulate) in the wastewater that may exceed safe levels. In addition to water quality monitoring and biological monitoring, sediment samples should also be taken. Substances to be monitored, monitoring frequencies, and report requirements will be determined at the time the NPDES permit is issued for the site. In all cases, the sampling protocol should be well defined and described in the management plan. Detailed information about recommended monitoring follows:

- a. Sediment - Sediments should be sampled periodically and analyzed for accumulation of metals, organics and other relevant constituents, with emphasis placed on sampling for the presence of toxic or bioaccumulative substances. Depth of sediments should be measured periodically to provide information for maintenance and operation of the wetland.
- b. Water Column - Water column sampling requirements will be determined in the NPDES permit. Recommended sampling includes analyses for color, dissolved oxygen, BOD, pH, chlorine, nutrients, toxicity, pollutants of concern, and other relevant constituents. These analyses can provide insight into the general health of the wetland system, and will permit timely adjustments of system operations to maximize benefits and reduce potential hazards.
- c. Flow Patterns - Occasional tracer studies are recommended to assess the effectiveness of the hydraulic design. Tracer studies can be used to identify and aid in the correction of unintended "short circuits" and "dead zones" in the wetland, in addition to providing estimates of residence times and turnover rates.
- d. Vegetation - Vegetation sampling should include both chemical and physical sampling. Chemical sampling of plants should be used to assess nutrient and pollutant uptake rates, and to assess potential food chain risks to wildlife. Physical sampling such as seasonal vegetation mapping can be used to assess the achievement of optimal beneficial uses, and in maintenance planning.
- e. Wildlife - Surveys of wildlife will help the discharger to determine the presence of target species and demonstrate that optimal beneficial uses are being achieved. Depending on the treatment plant effluent, toxicity testing and/or bioaccumulation studies may be necessary to verify that wildlife present in the wetland are not at risk. If it is determined

that there are hazards to wildlife present in the wetland, action must be taken to eliminate the hazards or to discourage wildlife use of the wetland.

- f. Vector Control - Periodic monitoring of mosquitoes and any other nuisance insects should be a component of the required vector control program. Monitoring details should be addressed in connection with the local vector control agency.

D. WATER QUALITY IMPACT ASSESSMENTS AND PILOT WORK

Provision 11.D of the Resolution requires that the management plan include a complete description of any pilot work completed or other data collected in order to assess water quality impacts and the design and function of the wastewater wetland. The assessment of water quality impacts should include a description of anticipated water quality throughout the wetland system, including the quality of wetland influent and effluent.

III. Resources

A. INFORMATION SOURCES

1. Agencies

All agencies consulted in determining requirements and objectives for the project should be listed in the management plan. Names and phone numbers of contacts should be provided where possible.

2. Regulatory Requirements

Copies of orders, policies, or other regulations that apply to the project should be included in the management plan.

3. Publications

Publications or guidance materials used in the development of the management plan should be listed and available for reference.

B. REFERENCES

Regional Board staff recommend the following sources for further information and explanation:

1. *Habitat Mitigation and Monitoring Proposal Guidelines*, San Francisco District Corps of Engineers, 1991.
2. *Constructed Wetlands and Aquatic Plant Systems for Municipal Wastewater Treatment*, EPA Design Manual, U.S. Environmental Protection Agency, EPA/625/1-88/022, 1988.
3. *Wetland Restoration, Enhancement, or Creation*, U.S. Department of Agriculture, SCS Engineering Field Handbook, Chapter 13, 1992.
4. *Policy For Implementing The State Revolving Fund For Construction Of Wastewater Treatment Facilities*, State Water Resources Control Board, California Environmental Protection Agency, 93-2 CWP, January 1993.

5. *Guidance for Preparing a Facility Plan*, U.S. Environmental Protection Agency, MCD-46, revised May 1975.
6. *Model Facility Plan for a Small Community*, a Supplement to "Guidance for Preparing a Facility Plan," U.S. Environmental Protection Agency, September 1975.
7. *Facility Planning 1981, Municipal Wastewater Treatment*, U.S. Environmental Protection Agency, 430/9-81-002 FRD-20, Washington, D.C., March 1981.
8. *Manual For Assessing Restored and Natural Coastal Wetlands, With Examples From Southern California*. Sea Grant Report No T-CSGCP-021. Pacific Estuarine Research Laboratory, La Jolla, CA, 1990.

COMMENT LETTER F – CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN FRANCISCO BAY REGION, LORETTA K. BARSAMIAN, EXECUTIVE OFFICER (MAY 29, 2002), RECEIVED MAY 29, 2002.

Response to Comment F-1

The City appreciates the efforts and responsiveness of the Board in providing comments from both staff and Tetra Tech, Inc.

Response to Comment F-2

Though proactive and preventative maintenance of the City's wastewater collection system is an important component of the City's approach to managing the community's wastewater, it is not a part of the objectives for the Water Recycling Facility project. The City of Petaluma continues to upgrade its wastewater collection system, but it is not a part of the project, is not dependent upon the project, nor is the project dependent upon such upgrades. The City would be pleased to provide information regarding its wastewater collection system to the Regional Board staff upon request.

Response to Comment F-3

The use of the lowest ambient background concentrations is, in most cases, a less conservative approach than using the median background concentration. Generally the higher the ambient background concentration, the more that the likely addition of wastewater will result in an exceedence of a water quality objective. The water quality impacts evaluation was conducted using a combination of conditions that, in the professional judgment of the EIR authors represented worst case conditions that could occur simultaneously, which is not necessarily the hypothetical worst-case. For some parameters, the most conservative estimate was used (drought scenario, most stringent of the water quality criteria, maximum effluent concentration) while for others a less conservative estimate was used (median ambient concentrations, 10th percentile hardness for hardness dependant criteria).

Use of the lowest ambient background concentration (generally a less conservative approach suggested by the commentor) for those constituents for which a significant impact was identified (nickel, chromium, and dioxin/furan congeners) would still result in a significant impact for these constituents and would not alter the conclusion of less than significant for other constituents. The ambient background concentration for dioxins/furan congeners is unknown, but even assuming a background concentration of zero, discharge of the maximum TEF-normalized concentration of one congener would still result in an exceedence of the evaluation criterion for 2,3,7,8-TCDD. Thus, using the lowest ambient background concentration as suggested by the Regional Board would not alter the conclusions of the EIR.

Response to Comment F-4 through F-8

The City is glad to discuss the details of the monitoring plan for polishing wetlands, but believes that the discussion is more appropriate as part of its application for a new NPDES permit for the Water Recycling Facility. The details of the monitoring plan are neither an evaluation of impacts

nor a suggestion for avoidance or reduction of impacts. Therefore the Regional Board's comments on monitoring details of the polishing wetlands are not addressed here. The City will prepare an Operations and Management plan as well as a detailed monitoring program when the NPDES permit requirements are determined.

A description of the proposed facility is included in the Carollo Engineers Predesign Report, TM No. 4. – Algae Removal Facilities, February 2002. A management plan for the wetlands will be prepared for review by the Regional Board and Marin/Sonoma County Mosquito and Vector Control District as permitting of the project progresses.

Response to Comment F-9

Refer to Responses to Comments F-11 through F-40.

Response to Comment F-10

The EIR authors agree and acknowledge that the Reasonable Potential Analysis may change when the actual NPDES permit is issued.

Response to Comment F-11

The EIR authors appreciate the comments regarding the adequacy of the EIR and the design of the new Water Recycling Facility.

Response to Comment F-12

Each of the "action" alternatives will increase the permitted average dry weather flow of the treatment facilities from 5.2 mgd to 6.7 mgd, allowing the population of the City of Petaluma and community of Penngrove to continue to grow in accordance with their adopted general plans. Under the No Project Alternative, no new NPDES permit would be issued, and population growth would be restricted. Therefore, the No Project Alternative is the same as the current conditions (which were used as the baseline for impact evaluation).

The EIR authors disagree with the statement that the comparison of alternatives is limited. The EIR presents a detailed analysis and comparison of the alternatives, particularly with respect to key criteria. Regarding a comparison of the surface water quality impacts between the No Project Alternative and the Project, please refer to Table 5-4 on page 5-17 of the Draft EIR. As shown in Table 5-4, the No Project Alternative would have a significant impact on surface water quality, whereas the Project's impact is less than significant after mitigation.

Response to Comment F-13

A cost benefit analysis comparing UV disinfection to sodium hypochlorite was completed in the original Project Report (Carollo Engineers, November 2000). Subsequently, it was determined that UV disinfection was not a feasible technology to meet a river discharge limit of 23 MPN reliably without filtration and therefore was not recommended for river discharge. Disinfection process alternatives were reviewed for tertiary recycled water process in the Predesign Report (Carollo Engineers, February 2002). UV disinfection was recommended for urban unrestricted

use recycled water. The UV disinfection will follow the tertiary filtration process for production of recycled water.

Response to Comment F-14

A cost/benefit analysis is outside the scope of the EIR.

Response to Comment F-15

The Project's treatment processes have been carefully selected in order to meet receiving water quality objectives (including pathogens) without the use of tertiary treatment, that is filters. Filters are not needed to meet receiving water quality objectives. The addition of filters for discharge would unnecessarily add financial burden of \$2 to 2.5 million in capital costs and \$150-300,000 in annual operations and maintenance costs to the project and the residents of Petaluma.

Response to Comments F-16 and F-17

The proposed facility will provide better treatment than the existing plant. The proposed treatment system is based on a blend of extended aeration secondary and oxidation pond effluents. The proposed extended aeration secondary clarifier treatment process is used extensively throughout the wastewater industry and will be designed to achieve a 30 mg/l BOD and 30 mg/l TSS limit. In addition, the oxidation ponds will receive higher quality secondary effluent than the current ponds which receive a blend of raw sewage, primary effluent and secondary effluent. This will improve pond effluent quality; plus the pond effluent will receive additional wetlands treatment for algae solids removal to meet a 30 mg/l TSS limit. The performance of the treatment wetlands is based on data from the City of Arcata, California wastewater treatment facility and other densely vegetated wetlands. Therefore, the proposed process will meet a more restrictive solids limit than the current 45 mg/l TSS limit.

In addition, the existing secondary treatment/pond system currently provides metals removal. The proposed system will provide a blend of pond and secondary effluent that will perform similar to the existing system. The performance of the polishing wetlands is based on documented wetland performance for wetlands with similar configurations.

The use of existing data as a measure of future plant performance is justified based on the improved treatment capacity provided in the new facility. Full secondary treatment is provided prior to river discharge or pond storage. In addition, nitrification will be provided by the secondary process. Therefore the effluent ammonia will be reduced from the current pond effluent.

Response to Comment F-18

The commentor states that the maximum values for receiving water quality data presented in Table 4.5-1 of the EIR are inconsistent with water quality data available through the Reasonable Potential Analysis.

There are several reasons for differences in the numbers.

- Data for summer-season samples (8/94, 8/97, 7/98) are not included in the EIR dataset, because discharges will not occur during that period.
- 2/00 data were not available when the draft Antidegradation report (from which the EIR derived the receiving water quality summary) was completed. However, the value for ammonia mentioned by the commentor does not change the conclusions in the EIR regarding un-ionized ammonia.
- 5/93 and 4/99 data (and only those two sample dates) were erroneously excluded from the summary. Table 4.5-1 is revised below to reflect the additional 5/93 and 4/99 data. In some cases, the median or minimum values were also changed with the addition of 5/93 and 4/99 data. However, none of these changes altered the conclusions in the EIR.
- Pages 4.5-5 through 4.5-7 are amended as follows:

Table 4.5-1

Receiving Water Quality

Constituent	Units	San Pablo Bay (BD20)			Petaluma River (BD15)			Petaluma River at Outfall (Self Monitoring C2B)			Petaluma River at Outfall (Special study)		
		Min	Median	Max	Min	Median	Max	Min	Mean	Max	Min	Mean	Max
Mercury (TR)	µg/L	0.004	0.009 0.010	0.0470 0.0881	0.013	0.046	0.126	0.0089			0.0142	0.018	
Mercury (D)	µg/L	0.000	0.001	0.003	0.001	0.002	0.035						
Selenium (TR)	µg/L	0.113 0.089	0.170	0.330	0.060	0.225	0.410						
Selenium (D)	µg/L	0.100	0.150	0.240	0.104	0.171	0.310						
Arsenic (TR)	µg/L	0.003	0.010 0.014	0.058	0.012	0.045	0.140						
Arsenic (D)	µg/L	1.190	1.430 1.420	1.950 2.33	1.830	2.240	3.280						
Cadmium (TR)	µg/L	0.026	0.040	0.098	0.049	0.092	0.170						
Cadmium (D)	µg/L	0.010	0.029	0.092	0.010	0.045	0.100						
Chromium (TR)	µg/L	2.580	4.50	24.83 40.7	4.570	39.59	55.96						
Chromium (D)	µg/L	0.110	0.195 0.190	2.470	0.130	0.310	8.790						

Table 4.5-1

Receiving Water Quality

Constituent	Units	San Pablo Bay (BD20)			Petaluma River (BD15)			Petaluma River at Outfall (Self Monitoring C2B)			Petaluma River at Outfall (Special study)		
		Min	Median	Max	Min	Median	Max	Min	Mean	Max	Min	Mean	Max
Copper (TR)	µg/L	2.200	4.100 4.787	10.04 14.3	2.860	11.04	20.75				5.27	7.6	11.5
Copper (D)	µg/L	1.200	1.550	2.540	2.200	3.349	4.770				2.14	5	10.6
Lead (TR)	µg/L	0.300	1.480 2.08	4.410 6.46	1.190	4.800	7.380						
Lead (D)	µg/L	0.002	0.021 0.017	0.253	0.007	0.015	0.991						
Nickel (TR)	µg/L	2.600	6.300 7.32	22.90 30.35	5.600	28.58	41.30				10.2	16.9	24.5
Nickel (D)	µg/L	1.000	1.630 1.57	3.730	1.700	6.505	37.40				5.06	11.6	26.8
Silver (TR)	µg/L	0.003	0.010 0.014	0.058 0.059	0.012	0.045	0.140						
Silver (D)	µg/L	0.001	0.002	0.005	0.001	0.003	0.012						
Zinc (TR)	µg/L	2.330	7.400 10.55	19.67 35.0	6.720	27.31	46.36						
Zinc (D)	µg/L	0.200	0.649 0.594	1.30	0.200	0.579	8.40						
Ammonia	mg/L as N	0.0	0.03	0.13	0.00-0.02	0.05	0.26				0.1	0.73	1.9
											0.3	0.675	1.1

Table 4.5-1

Receiving Water Quality

Constituent	Units	San Pablo Bay (BD20)			Petaluma River (BD15)			Petaluma River at Outfall (Self Monitoring C2B)			Petaluma River at Outfall (Special study)		
		Min	Median	Max	Min	Median	Max	Min	Mean	Max	Min	Mean	Max
Un-ionized ammonia	mg/L as N		0.06			0.11	0.42						
NO ₃	mg/L as N							0.0004	0.003	0.0072	0.002	0.00575	0.011
NO ₂	mg/L as N										0.07	0.10	0.16
PO ₄	mg/L as P										0.8	1.0	1.4
TSS	mg/L	7.2	34.2 62.7	148.4 242	32.0	217-211	414				28	60	120
Temperature	°C	10.3	12.7 12.9	16.0 18.0	11.4	14.4	22.5	6.1	12.4	19	12.8	15.4	19
pH	--	7.5	7.8	8.3	7.1	7.8	9.0	7	7.4	7.6	7.2	7.5	7.8
Salinity	ppt	0.5	6.6-8.1	22.9	0.3	5.3	22.3	0.2	10.8	38.0	0.7	5.6	15.4
Conductivity	µmhos/cm							338	16,800	59,400			
Hardness	mg/L							86	1661	4720	310	838	1600
DO	mg/L	0.8	9.5	10.6	1.4	8.1-8.4	10.2	5.0	7.2	9.4			

Response to Comment F-19

The EIR analysis did not rely on data collected in the vicinity of the discharge to formulate conclusions about potential impacts for the EIR. Constituents with numeric criteria were evaluated by comparing the maximum concentrations in effluent to the evaluation criteria. For those constituents that exceeded their evaluation criteria, further analysis was conducted to take into account receiving water concentrations. As stated in the EIR on page 4.5-21: "For this analysis, the initial receiving water concentrations are assumed to be the median concentrations found in San Pablo Bay at the mouth of the Petaluma River which are similar to the median concentrations at other stations in the receiving water." Thus data collected in the vicinity of the discharge were not relied on to formulate conclusions about potential impacts.

Response to Comment F-20

The most stringent of the salt and fresh water criteria was used for the water quality impacts analysis.

Response to Comment F-21

The water quality impacts evaluation was conducted using a combination of conditions that in the professional judgment of the EIR authors represented worst case conditions that could occur simultaneously, which is not necessarily the hypothetical worst-case. Using the minimum hardness in conjunction with maximum wastewater volume, maximum wastewater concentration, and the most restrictive criterion (fresh or saltwater, Basin Plan or CTR) results in conditions that are unlikely to occur.

Response to Comment F-22

As noted in the paragraph prior to Table 4.8-4 of the EIR: "The effluent concentrations in Table 4.8-4 differ from those in Table 4.5-2 in Section 4.5, because Table 4.8-4 reflects all discharge data for 1997 through 2001 whereas Table 4.5-2 reflects only October through May concentrations during river discharge."

Response to Comments F-23 through F-27 and F-29

Refer to Response to Comments F-16 and F-17.

Response to Comment F-28

Data for the listed constituents in Petaluma's effluent have been collected and are addressed in the EIR. See page 4.5-14 and Table 4.5-5.

Response to Comment F-30

Although wetlands treatment is likely to improve effluent quality, the more conservative approach of using current effluent quality without assuming any improvement through wetlands treatment was used to evaluate impacts. The use of existing data as a measure of future plant

performance is justified based on the improved treatment capacity provided in the new facility. Full secondary treatment is provided prior to river discharge or pond storage.

Response to Comment F-31

While evaluation of the existing discharge is important in relation to the current NPDES permit, the purpose of this EIR is to evaluate the proposed Water Recycling Facility. There is no need to determine whether or not current effluent meets water quality based effluent limitations in order to evaluate the environmental impacts of the proposed facility, nor is it the purpose of this EIR to establish a source control program for the current discharge situation.

Neither the City nor the EIR authors know, at this time, what effluent limits will be in place after project implementation. Depending on what data set the Regional Board uses for its Reasonable Potential Analysis and subsequent effluent limits, there might not be any effluent limits for copper, chromium, nickel, and dioxin/furan congeners. - Therefore, we chose to use promulgated water quality criteria as the trigger for implementing a source reduction program.

Response to Comment F-32

Refer to Response to Comments F-16 and F-17.

Response to Comment F-33

The *Technical Support Document for Water Quality-Based Toxics Control* (U.S. EPA, 1991) suggests a general rule for exceedence frequency of once per three years for toxic pollutant water quality criteria based on literature on ecosystem recovery from disturbance. Having a mitigation trigger of just one exceedence does not allow for the possibility of ecosystem recovery from disturbance. Having a mitigation trigger of three consecutive samples will enable determination of whether the problem is ongoing. The large investment in source control that would be necessary is only warranted after the problem is documented to be an ongoing, not an intermittent one.

Response to Comment F-34

Chapter 3 of the EIR states that the water quality related monitoring and mitigation will begin after certification of the EIR, not after five years as stated by the commentor.

Response to Comment F-35

Regarding the mitigation triggers for bis(2-ethylhexyl)phthalate, aldrin, dioxin/furan, acrolein, and acrylonitrile, refer to Response to Comment F-31.

Regarding the question of how many exceedences, refer to Response to Comment F-33.

Regarding when testing should begin, refer to Response to Comment F-34.

Response to Comment F-36

Compliance with Basin Plan requirements for total coliform bacteria is well within technical feasibility. The EIR is based on the assumption that the treatment plant will be designed and constructed appropriately. The NPDES permit and other enforcement mechanisms available to the Regional Board assure that the limits will be met. Relative to existing coliform in the effluent, during the spring turnover period, the existing facility can occasionally see higher peaks in effluent total coliform concentrations. This occurs because there is an incomplete nitrification process occurring in the ponds, which results in an artificially high chlorine demand. The byproducts of the incomplete nitrification process consume the chlorine, which reduces the amount of chlorine available to the coliform kill. The new facility design will alleviate this condition, because it provides complete rather than partial nitrification.

Response to Comments F-37 through F-39

The commentator is correct in that the 2001 toxicity data were inadvertently left out of the effluent summary. The 2002 data were not available at the time the report was written. Both the 2001 and 2002 data indicate chronic toxicity. An evaluation of the effluent data indicates that high ammonia concentrations are the likely cause of the apparent toxicity. The EIR is revised as follows:

Pages 4.5-8 through 4.5-9:

Table 4.5-2

Existing Effluent Quality^a (October-May, 1997-2001)
 (all values in µg/L unless noted)

Constituent	# samples	Min or Detection Limit	Median or 30-day Average	Instantaneous Max	Lowest of CTR ^b or Basin Plan Criteria
Conventional Constituents					
Chronic Toxicity (100/NOEL)	4-5	NA	1	1-1.2	1

Page 4.5-38:

Chronic toxicity was conducted ~~four~~ five times through 2001. In ~~all~~ four of the five tests, 100 percent wastewater produced no observed effect for both larval survival and larval growth tests. However, in 2001 and again in 2002 (2002 data recently received and not reported in Table 4.5-2) chronic toxicity was observed, with 100/NOEL greater than 1. During both these toxicity tests, effluent ammonia concentrations were elevated (10 to 14 mg-N/L during both tests). Although not promulgated for the State of California, the EPA has guidelines for ammonia toxicity that update Basin Plan objectives. The

concentrations of ammonia in the chronic toxicity tests exceeded the EPA's recommended chronic criterion for ammonia (fish early life stages present) and are the likely cause of the observed toxicity. However, with implementation of the project, ammonia toxicity is not expected to have a significant impact on the receiving waters for two reasons:

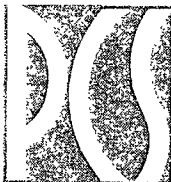
With the particular treatment processes being constructed as part of the project, final effluent discharged to the river is expected to have greatly reduced ammonia concentrations (less than 8 mg-N/L).

The toxicity tests evaluate toxicity in 100 percent wastewater although dilution will occur. Using mass balance calculations (maximum effluent concentration of 8 mg-N/L, median receiving water concentration of 0.11 mg-N/L and maximum percent wastewater of 33.4 percent), the predicted concentration of ammonia in the receiving water is 2.7 mg-N/L. With the usual temperature (13-14°C) and pH (7.8) conditions in the receiving water, the EPA chronic criterion for ammonia (fish early life stages present) is 3.2 mg-N/L so the discharges to the receiving water are not expected to exhibit ammonia toxicity.

Therefore, the impact of the project on acute and chronic toxicity in the receiving water is expected to be less than significant.

Response to Comment F-40

The environmental importance of nutrients is in their potential biostimulatory effect. The project impact on biostimulatory substances is discussed on page 4.5-35.

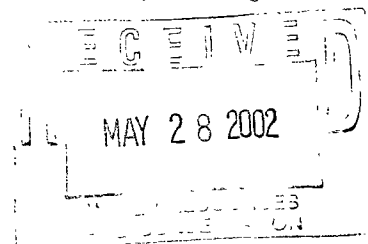


PETALUMA CITY SCHOOLS

PETALUMA CITY (ELEMENTARY) SCHOOL DISTRICT • PETALUMA JOINT UNION HIGH SCHOOL DISTRICT
200 Douglas Street, Petaluma, California 94952-2575 (707)778-4603 www.petalumacityschools.org

May 22, 2002

Michael Ban, Engineering Manager
Department of Water Resources
City of Petaluma
11 English Street
Petaluma, CA 94952



RE: Wastewater Treatment Facility and Wetlands Education Opportunities

G-1

On behalf of the students and staff of the Petaluma City School Districts, I applaud the action of the Petaluma City Council in their recent unanimous approval of the draft Environmental Report (EIR) for the wastewater recycling facilities. The quality of life in our community is immeasurably enhanced by the existence of the Petaluma River and the associated wetlands geography. The Petaluma Argus Courier quoted Council Member Pamela Torliatt in supporting the EIR for "the wetlands park concept for its environmental, educational, economic and recreational benefits". The mission of the Petaluma City School District includes a commitment to promote in all students individual growth and the development of global citizenship. Additionally, the Governing Board embraces the core value that students must value the importance of ecological, social, economic and political interdependence as a component of their formal K-12 education. The City Councils' support of the draft EIR reflects a priority to maintain the water treatment facility as a potential wetlands education site to be accessed by our teachers and students. As we continue to pursue high academic standards for our current students, it is important to be mindful of community opportunities for relevant application of knowledge in an environmentally responsible setting. Our District continues to value our positive educational relationship with local government and state agencies in support of "value added" teaching and learning for all.

Sincerely,

Carl Wong, Ed D.
Superintendent

cc: Governing Board Members
Superintendent's Cabinet
K-12 Principals

Michael Ban Letter.doc

CARL WONG, ED D., SUPERINTENDENT

BOARD OF TRUSTEES CHRISTINA KAUK, DEBORAH SLOAN, CAMILLE SAUVÉ, LOU STEINBERG, CAROLYN TENNYSON

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**COMMENT LETTER G – PETALUMA CITY SCHOOLS, CARL WONG, ED.D.,
SUPERINTENDENT, (MAY 22, 2002), RECEIVED MAY 28, 2002**

Response to Comment G-1

The City appreciates the interest in the proposed project and the appreciation expressed by the Petaluma City Schools. However, the support for the project is a statement of opinion regarding approval of the project, not the adequacy of the Draft EIR. Please Refer to Master Response 1, located in Chapter 2 of this document, regarding statements of opinion for or against the project.

83 Maria Drive
Petaluma, CA 94954
May 13, 2002

Mayor and City Council
City Hall
11 English Street
Petaluma, CA 94954

Re: EIR - Water Recycling Facility

Dear Mayor and Council,

H-1 A. The EIR does not present an important alternative, one mentioned many times earlier, that of sending waste waters to the Napa Salt Ponds. This offers substantial benefits, environmentally and financially. This does not preclude local wetlands where controlled experiments can be conducted to improve operations where flows and quality can be closely monitored.

H-2 It is baffling why a needed plant rises in cost from an earlier \$25 million to about \$80 million and still continues to send over half its effluent to the Petaluma River. This discharge, H-3 unless some wetlands such as the Napa ponds are available, will continue to send substantial nutrients to the River, Bay and Ocean. This discharge to the River occurs during the winter when, H-4 although diluted, the treatment is drastically reduced because of low temperatures and very high flows thru the plant. On page 4.5-1 under Surface Water Quality, Setting, a sentence reads, "To H-5 determine impact of increased effluent discharge to the Petaluma River - - -." This simply tells us we will not only continue discharge to the River with a more costly plant, but will increase it to almost 3700 AF (Page 4.5-4). The Napa pond alternative must be considered now, not later, at least with a verifiable preliminary estimate along with the environmental advantages of drastically H-6 reduced effluent flows to the River. The large amount of acreage of wetlands at the Napa ponds would allow sufficient treatment not only in summer, but in winter. A plan for disposal other than H-7 the river is needed now as a viable alternative.

H-8 B. On page 4.5-4 we find proposed dry weather flow will continue at about 5.2 MGD for 184 days which produces 2400 AF (2900 AF - 500AF evaporation) which is also the present amount of wastewater available during the dry season when water can be used for irrigation. Winter discharge to the River will be almost 3700 AF (6.8 MGDx3.0 AF/MGx181 Days).

H-9 Present reuse is as follows:
Ag land - 700 Acres x 3AF/Acre = 2100 AF
Adobe Creek Course - 100 Acres x 3 AF/Acre = 300 AF
2400 AF (also summer wastewater production)
Proposed use:
Adobe Creek - 100 Acres x 3AF/Acre = 300 AF
Rooster Run - 180 Acre x 3AF/Acre = 540 AF
840 AF (needed storage)

- H-10 The present 10 ponds have a capacity of 150 AF, but design calls for 6 ponds with a total storage of 900 AF. This would require the ponds to be practically emptied at the end of the dry season. This is not feasible. We need to have a mass flow diagram to determine if all this cost and effort will provide a plant that will give us sufficient recycled water without taking it from a less costly source, the farmers, to a more expensive disposal, urban reuse.
- H-11 At present, in spite of the figures indicating some wastewater is available, the fact is that the wastewater plant often runs out of available water at the end of the dry season even with 10 ponds. This also tells us the planned extension of delivery of 840 AF cannot be.
- H-12 C. On page 1-16, Impact and Mitigation Survey, PHS-1, it notes "No mitigation is necessary." Spray irrigation should not be done when wind carried mist can expose humans or dwellings to such spray. Viruses and other constituents can get in the lungs and Public Health will likely back up those who object. Very few people want to breathe in treated wastewater. Some mitigating actions are necessary.
- H-13 D. A number of omissions and editorial corrects are noted:
 1. On page 2-8 the decommissioning of the Hopper Street is discussed. We all need to know the hazards involved and the cost of this project. The decommissioning is part of the wastewater treatment project and should not be treated as a short paragraph. The unexpected increases in the flood control projects and the wastewater treatment have provided us a harsh lesson and require us to avoid any additional financial surprises.
- H-14 2. Page 2-13 contains a discussion on storage of recycled water. These appear to be open ponds. Unless these are completely emptied each time, a distinct possibility exists that algae will seed fresh inflows and contaminate the treated effluent.
- H-15 3. Page 4.4-3 indicates location of monitoring wells. Added wells are needed to the SE and SW closer to the river and another either close to or on adjoining properties.
- H-16 4. On page 4.8-43 under Effluent Quality, "Wastewater discharged to the created wetlands and the river will be secondary treated wastewater and will be essentially the same as current effluent quality or better. Is this true during winter storms? If so, how do you know?"
- H-17 5. In Appendix B the writing ends in mid sentence. How much of the statement is missing?
- H-18 6. Appendix D Contains work done by DKS, consultants. They should spell the lead engineers name correctly.
- H-19 7. The Table of Contents should keep all items for a Volume I under the designation for that Volume and not squeeze the Volume II in the middle.

Terence M. Garvey
 Terence M. Garvey

wweir

COMMENT LETTER H – TERENCE M. GARVEY (MAY 13, 2002)

Response to Comment H-1

The potential for recycled water to rehabilitate the Napa salt ponds is not a form of treatment, but of disposal of recycled water, and therefore does not meet the City's objectives for the Water Recycling Facility, which are focused solely on treatment.

Response to Comment H-2

Comments regarding cost are not comments on the adequacy of the EIR. Project objectives focus on treatment and do not include changes in recycled water disposal methods.

Response to Comment H-3

The impact of nutrients on the receiving waters was described on page 4.5-35 of the EIR under Biostimulatory Substances. In addition, as described on page 2-14 of the EIR Project Description, polishing wetlands are a part of the preferred alternative. These wetlands, located adjacent to the existing oxidation ponds, are expected to provide further reduction of metals, nutrients and organics. It should be noted that any wastewater that is released into the Cargill Salt Ponds will eventually reach the Napa River and be discharged into the Bay and Ocean as well.

Response to Comment H-4

The wastewater treatment facility will be designed to treat all influent wastewater in accordance with the City of Petaluma's NPDES permit. This includes winter flows.

Response to Comment H-5

The comment is correct that discharge is expected to increase, because the capacity of the Water Recycling Facility will increase from 5.2 mgd to 6.7 mgd, average dry weather flow.

Response to Comment H-6

This is not a comment on the adequacy of the EIR. Discharge through the Napa salt ponds or any other means, is a function of disposal, not treatment. The City's objectives for the Water Recycling Facility focus on treatment and do not include objectives relative to the disposal of recycled water.

Response to Comment H-7

Refer to Response to Comment H-2.

Response to Comments H-8 through H-10

Present river discharge currently averages 7 mgd and will continue at this level for the proposed project. River discharge flows will receive complete secondary treatment during the entire

discharge period. Current pond operation requires that several ponds remain nearly full for treatment. Current pond volumes and usable volumes were reviewed in the Predesign Report. The future system does not require the ponds for treatment; therefore, the usable volume of the ponds increases for the proposed Water Recycling Facility (Predesign Report, Carollo Engineers, February 2002, pg. 9A-10).

The Project proposed in the Draft EIR does not preclude the City of Petaluma from providing recycled water for agricultural irrigation. The Water Recycling Facility will produce secondary and tertiary recycled water, both of which are suitable for agricultural irrigation.

Response to Comment H-11

The amount of usable storage contained in the existing wastewater treatment facility is similar to the amount of usable storage contained in the Project. Though the existing wastewater treatment facility has more oxidation ponds, the amount of usable storage contained in the existing oxidation ponds is reduced by the location of the transfer structures and the need to preserve the treatment capability of the oxidation ponds during the dry weather months.

Response to Comment H-12

Spray irrigation is not a part of this project.

Response to Comment H-13

The range of potential hazards associated with the decommissioning of the Hopper Street plant has been identified in Impact PHS-2 on pages 4.7-8 and 4.7-9 of the Draft EIR. A preliminary cost estimate conducted by the City in 1995 estimated it would cost approximately \$1.4 million to decommission the Hopper Street plant. Escalating this cost to 2008 dollars, which is when decommissioning is anticipated to occur, places this cost at approximately \$1.8 million. This cost estimate will continue to be refined and updated as the ultimate use of the Hopper Street site is determined.

Response to Comment H-14

The recycled water reservoirs will be designed to provide 1 to 2 days of hydraulic detention time. They can be operated from nearly full to empty and will minimize algae growth.

Response to Comment H-15

The proposed new monitoring well is down gradient from the polishing wetlands. The gradient appears to be uniformly flowing toward the river, and no lateral movement of the groundwater has been observed. Therefore a monitoring well directly down gradient from the ponds should have the highest probability of detecting impact, should any occur.

Response to Comment H-16

The plant effluent will meet secondary treatment requirements at all times. Currently the ponds provide secondary treatment. In the future, effluent from the new facility will be a blend of

secondary effluent from the plant and treated secondary effluent stored in the ponds. It is expected that water quality will improve, but to be conservative, the water quality evaluation used existing effluent water quality values.

Response to Comment H-17

The EIR authors apologize for the missing pages that were inadvertently left out of Appendix B, Inundation Analysis. The missing pages of the report have been included in Chapter 5 of this Final EIR.

Response to Comment H-18

The comment is correct; Carollo Engineers' name was misspelled on the title page for Appendix D, Traffic Master Plan.

Response to Comment H-19

The EIR authors appreciate the opinion regarding the formatting of the table of contents, but have decided not to revise it, as it is functional the way it is.



5-20-80

Greetings Mr. Mayor, City Council, and Mr. City Manager.

I first wish to preface my testimony here tonight with a request. Which is for you to allow me to exercise my first amendment right, to inform this governing body my views on the issue being discussed, without being requested to summarize, should I be in disagreement with the Council's views and goals.

Secondly, as usual I am looking out for the sewer ratepayers interests and at the same time the significant effect your Extended Aeration Plant at the Lakeville Highway site poses to the environment if built.

To back up my position of a fault at project site I wish to enter as testimony exhibit A. Which is a geologic map produced by Harding-Lawson Associates, dated 7-12-79.

This map indicates that the Tolay fault goes directly under pond 1 and most likely 4-5 & 9. This geologic map was produced to evaluate West Creek as a possible dam site for a County reclamation plan. This site was rejected for suitability.

The Corvallis EIR claims that the proposed facilities do not intersect any known active fault as defined by the West-Prule earthquake fault zone act and mapping by the Division of Mines and Geology.

When the City of Petaluma requested needed legislative remedy, he produced that Petaluma Creek be declared a river and the tide stop coming down river. The Tolay fault is still present at the site. The report that the Tolay fault parallels the project site is from old DMG mapping that is incorrect, as told to me at ranch site by a DMG Senior Geologist.

The earthquake we had last Monday night should be a seismic wake up call that City Council should not ignore. It enforced my position that the existing oxidation pond site is the wrong place to spend probably well over \$100,000,000 - without some insurance that it will not be an environmental disaster waiting to happen and at tremendous cost to your ratepayers.

You should find out now what needs to be done to prevent major quake damage from a fault under the existing ponds, this will be your insurance. Sequefaction Protection, PD-3 pg 3-16 and Seismic Design to Resist

1-5 Ground Shaking PD-4, pg 3-17, will only be done on the
 new part of the facility. Using Sonoma County building
 codes which incorporate the seismic design of Zone 4 pro-
 1-6 visions of the 1997 Universal Building Code. Does this
 County seismic code provide seismic protection when a
 fault is under the project. If not, why build it at this
 site? Imagine a major 7.0 mag quake that causes 5 or 6 mg
 1-7 d of untreated sewage flow into the so called Petaluma
 River for months from major quake damage and then the
 cost to reconstruct would be phenomenal. It is of im-
 1-8 terest to note that at the old plant at Hopper Street has
 piles under most of the structure. Reference Phase I EIR
 assessment dated 3-94 by Baseline Environmental Consul-
 tant.

To repudiate a claim by Corolla I wish to enter as test-
 among exhibits Band C. B is a 2 page damage claim of \$2,400
 against the City of Petaluma, for forage loss caused from
 seepage from oxidation ponds for years 1979-80 and 81. Copy
 of this damage claim, went to 4 City Departments for review
 1-9 Exhibit C is a letter to me from Insurance Agent acting as an
 agent of the City, stating that the \$2,400. is payment for
 loss of forage due to seepage from oxidation ponds to the
 1-10 ~~land property. In fact, the forage loss was paid for by the
 paragraph it stated "there is no evidence that the ex-
 isting wastewater treatment ponds are leaking into the
 groundwater according to a 1995 study conducted by Brown
 and Caldwell (1996). I would like to know the well depth when
 family purchased this ranch in 1950. It had a dug well
 about 30' from the line fence. The land side of the pond 2
 level is possibly 40' from the fence line. Historically this
 well would be full to the top during the wet season. It
 would drop 25' during the dry season. Since 1979 the well
 is full year round. If the ponds do not leak the well
 water table would still fluctuate. The well was used
 for stock watering by the previous tenant. I believe
 the ponds went on line in 1978. Sewer ponds with new
 1-11 sewage should not leak. This leaking issue has not been prop-
 erly addressed in your EIR.~~

I-12

Currently the fact that the existing oxidation ponds were built without benefit of Division of Safety of State seismic standards and an area quake fault line was omitted. It is inconceivable that the Agency that professes to protect the environment would approve this EIR as written and give the City the money to build the proposed project, and not require, the City first adhere to DOSD seismic safety standards. Should this City Council proceed to

I-13

approve this Facility EIR as written, after the 45 day public comment period expires. It is my belief that this EIR Facility Project issues will be an election issue come November. For it does appear that the ratepayers are again getting the shaft. The issue of the Tolay Fault

I-14

being under the oxidation ponds should have been raised at the start of the project evaluation process and not at the end of the process, the EIR.

I-15

PS In middle of pg 2, after "Brazil property". This was the first payment for seepage damage, with more to follow, was verbatimly added to testimony.

Vasco

COMMENT LETTER I – VASCO BRAZIL (MAY 20, 2002)

The comment letter references several exhibits. The exhibits have not been submitted to the City. On July 1, 2002, a letter was sent to Mr. Brazil asking him to submit the referenced exhibits, but none have been received as of July 23, 2002.

Response to Comment I-1

The City appreciates all comments on the Draft EIR. All comments will be reviewed, regardless of the length, and responses offered in this Final EIR.

Response to Comment I-2

The affect of the project on sewage rates is not within the scope of an EIR. The comment does not address the adequacy of the Draft EIR.

Response to Comment I-3

The commentor noted that the Tolay fault was located on a different alignment than shown in the Draft EIR. The commentor references a map, Exhibit A dated 7/12/79 that indicates the fault goes directly under pond 1 and most likely pond 4, 5 and 9. The commentor has not included Exhibit A map with the comment letter. The authors of the EIR did research maps originating during the 1970's. Since that time, more recent maps from the U.S. Geologic Survey (USGS, 1999) and California Department of Mines and Geology (CDMG 1996) have been published indicating that the fault passes approximately one-half mile east of the project site, as shown on Figure 4.3-1 of the Draft EIR.

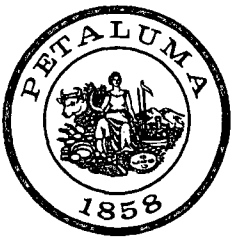
The Tolay fault has been considered an inactive fault since 1982. As noted on page 4.3-2 of the Draft EIR, although the fault has had significant movement in the last two million years, the fault was removed from the Alquist-Priolo earthquake fault zone in 1982 for lack of evidence of movement in the last 11,000 years.

Response to Comment I-4

The Tolay fault is not considered active and is not located under the Ponds at the Lakeville site. Please see Response to Comment I-3.

Response to Comment I-5

The commentor is correct in the statement that Liquefaction Protection, Measure PD-3, and Seismic Design to Resist Ground Shaking, Measure PD-4, will be required for all new water recycling facilities.



CITY OF PETALUMA

POST OFFICE BOX 61
PETALUMA, CA 94953-0061

E. Clark Thompson
Mayor

Janice Cader-Thompson
Michael Healy
Matt Maguire
Bryant Moynihan
Mike O'Brien
Pamela Torliatt
Councilmembers

July 1, 2002

Vasco Brazil
4551 Lakeville Highway
Petaluma, California 94954

RE: Exhibits to Letters on Draft EIR

Dear Mr. Brazil,

We are in receipt of your comment letters dated May 20, 2002 and May 29, 2002, on the Draft EIR for the Water Recycling Facility and River Access Improvements. The comment letter of May 20, 2002, references several exhibits. As you know, we are not in receipt of the referenced exhibits.

It would be greatly appreciated if you could send me a copy of the referenced exhibits. Enclosed is a self addressed and stamped envelope for your convenience.

Please call me if you have any questions.

Sincerely,

Michael J. Ban, P.E.
Engineering Manager

Enclosure – self addressed and stamped envelope

xc: Patricia Collins – Parsons HBA
File 9012 – 540.3

*Water Resources &
Conservation
11 English Street
Petaluma, CA 94952*

*Phone (707) 778-4487
Fax (707) 776-3635*

E-Mail mban@ci.petaluma.ca.us

Response to Comment I-6

The Tolay fault is not considered active and is not located under the ponds at the Lakeville site. Please see Response to Comment I-3.

Response to Comment I-7

The Tolay fault is not considered active and is not located under the Ponds at the Lakeville site. Please see Response to Comment I-3.

Response to Comment I-8

This is not a comment on the adequacy of the Draft EIR. The Project Engineer would like to note, however, that any new water recycling facilities located in Pond 10 will be pile supported.

Response to Comment I-9

Payments by the City to the commentor in the 1980's are not germane to the evaluation of potential impacts from the new Wastewater Recycling Facility. An EIR is required to evaluate the changes caused by the Project relative to existing conditions only. As the EIR indicates under Impacts GW-1 and GW-2, on pages 4.4-6 and 4.4-7, impacts of new facilities are less than significant relative to both groundwater quality and mounding.

Based on the ongoing geotechnical investigation for the Water Recycling Facility, groundwater in both dry weather and wet weather has a relatively gradual gradient toward the river and no evidence of lateral movement. Previous groundwater sampling reported in the EIR (B&C 1995) indicated "no evidence" that "any of the ponds are leaking." Their report also recommended monitoring. The addition of a down gradient well and post construction groundwater monitoring recommended in the EIR will provide the recommended monitoring.

Response to Comment I-10

The City has no information about the depth of the well on the commentor's property.

Response to Comment I-11

Groundwater levels seem to fluctuate 2 or 3 feet between wet weather and dry weather, although they seem consistent from on-site to off-site. We have limited groundwater data and certainly no historic data. A hand dug well may or may not provide an accurate picture of groundwater elevation. Refer to Response to Comment I-9.

Response to Comment I-12

The Division of Safety of Dams standards are not applicable to dams or projects of this small size. However, the Sonoma County Code does apply, and it incorporates the seismic standards for embankments included in 1997 Uniform Building Code. These codes will be adhered to for all new developments and project structures. In addition, the following phrase regarding the Tolay fault in the comment is incorrect: "... an area quake fault line was omitted." There was no

omission; knowledge of the Tolay fault advanced in recent decades and the alignment is now known to pass approximately one-half mile east of the project site, as shown on Figure 4.3-1 of the Draft EIR.

Response to Comment I-13

This comment does not address the adequacy of the Draft EIR.

Response to Comment I-14

The Tolay fault passes approximately one-half mile east of the project site, as shown on Figure 4.3-1 of the Draft EIR, and not under the oxidation ponds. Please refer to Response to Comment I-3.

Response to Comment I-15

This comment does not address the adequacy of the EIR. There was no Exhibit B attached to the comment letter.



Sustainable Petaluma Network
100 Union Street • Petaluma, CA 94952 • 707.765.0580
www.SustainablePetaluma.Net

5-20-02

Dear City Manager, Council, and Staff,

As spokesperson for the Sustainable Petaluma Network, I would like to convey the overall interest of our members in the new Wetlands Park project in conjunction with the new Water Treatment/Recycling Plant.

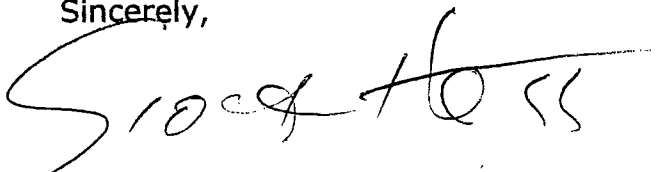
We encourage you to adopt the park plan that has been put forth by Patricia Johanson, with full River walk along the levee with the necessary bridge. This River walk is a spectacular and rare opportunity to get close to the wetlands while making the journey along the life of the River. There aren't many chances like this in the Petaluma River Watershed.

J-1

We also encourage you to retain the plan for the docks as they would encourage involvement with the river and park via kayak, canoe, and small boats.

Human beings have been interacting with this River/Marsh system for thousands of years, with their main settlement being Olompali across the waters to the West. Only recently have we tended to become physically separated from the wild systems that support our culture and economy. The Wetlands Park, in its full design, will be a chance to reclaim that connection.

Sincerely,



Scott Hess

**COMMENT LETTER J – SCOTT HESS, SUSTAINABLE PETALUMA NETWORK (MAY
20, 2002)**

Response to Comment J-1

The City appreciates the interest and encouragement expressed. Please refer to Master Response 1, located in Chapter 2 of this document, regarding statements of opinion for or against the project.

May 20, 2002

Dear City of Petaluma; Council Members,

The wastewater treatment facility with the wetlands project is at the forefront of my thoughts right now. I look forward to the day when we can walk amongst the marshes and enjoy the influence the wildlife there has on our spirits, much as we do at Schollenberger and Helen Putnam Park. Creating places like this is a very important part of our lives here in Petaluma, even more so when they can coexist with something practical, like the wastewater treatment plant.

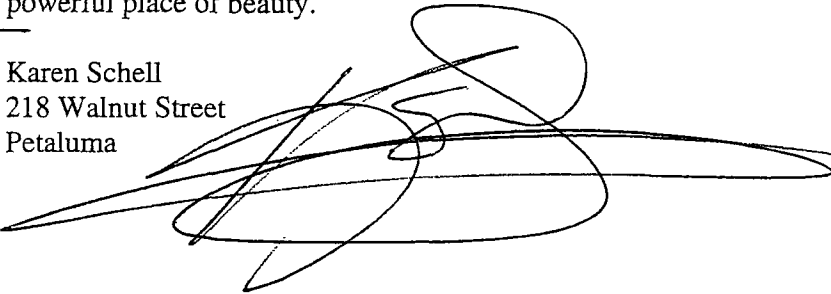
K-1

I want to be sure that the original vision of the project is kept intact throughout the EIR process, and beyond, including the levy trails and the docks and all the paths that connect in the places they were originally envisioned to be. Without these connections, the possibility for maximum enjoyment and future connectivity is compromised.

Additionally, I urge the council to use the designated funding and buy the land, do whatever it takes, so that we can move forward with the project.

My support is totally behind you as you proceed to give our community the gift of this powerful place of beauty.

Karen Schell
218 Walnut Street
Petaluma

A large, stylized handwritten signature in black ink, overlapping the typed name and address.

COMMENT LETTER K – KAREN SCHELL (MAY 20, 2002)

Response to Comment K-1

Please refer to Master Response 1, located in Chapter 2 of this document, regarding statements of opinion for or against the project.

original → EIR 7/12/02 5400
copy → Petaluma, CA 94954

May 21, 2002

Michael Ban
Department of Water Resources and
Conservation
11 English Street
Petaluma, CA 94952
Subject: WRF EIR



Green Heron- Shollenberger Park, Petaluma

Dear Mr. Ban:

Michael, it seems amazing that almost a year has passed since my June 15, 2001 letter on the WRF project. I'm pleased with the draft EIR, and the progress it reflects. Now there is a clear acknowledgement of the superiority of polishing wetlands on Gray's Ranch to enhance reduction of metals, nutrients and organics in treated water. Also, the elements of a wetlands park, conceptualized on Pages 2-14 & 2-16 in the EIR, would provide aesthetic, recreational and educational opportunities for Petaluma citizens, and draw visitors to the city

With little effort, my friends and I have already obtained many signatures of support for the park (estimated 1300 to-date), for as much as Shollenberger is used/loved by everyone, a larger park is obviously desired. With the imminent completion of the one-mile Petaluma River Shoreline Trail from the Marina to Shollenberger Park, and the potential of three to four more miles of trail on Parcels A & B, (including the levee trail between Shollenberger and the old communications building on B) a trail loop of some seven to eight miles would be available. The 80-car parking lot on Parcel A, would also help reduce stress on Shollenberger's lot.

Interest shown in the wetlands park from various environmental and civil organizations should lead to an augmentation of city funds for property purchase and park amenities. I understand the Audubon Society is also intrigued by the project's potential, expressing interest in an education center in the area (possibly even at the Petaluma Marina).

This letter is not soliciting a response, but meant to remind you of what may be an once-in-a-lifetime opportunity to create a premiere wetlands park complex in our city, at the same time improving the quality of our recycled water. People at Shollenberger tell me it is the *only real park in the city*, but they are constantly asking me how the plans for the "expansion" are going. This public support should encourage you. I believe the draft EIR is on the right track with this project and am pleased to hear of its approval by the Council.

Sincerely,

Norris (Bob) Dyer, Docent, Shollenberger Park
1708 Granada Court, Petaluma, 94954

RECEIVED

MAY 23 2002

L-1

**COMMENT LETTER L – NORRIS DYER, DOCENT, SHOLLENBERGER PARK (MAY
21, 2002)**

Response to Comments L-1

The City appreciates the statement in support of the Draft EIR. Please refer to Master Response 1, located in Chapter 2 of this document, regarding statements of opinion for or against the project.



Community Clean Water Institute

PO Box 1082 Occidental CA 95465 • 707 874-3803 • www.ccwi.org • info@ccwi.org

original → File 9012-54/0.3
copy → Pet. Coll., Parsons

May 22, 2002

Michael Ban
Department of Water Resources & Conservation
11 English Street
Petaluma, CA 94954

Re: City of Petaluma Water Recycling Facility EIR

Dear Mr. Ban,

M-1

As Program Coordinator of a non-profit organization which promotes clean water and public health in Sonoma County, and as a resident of Petaluma, I would like to make the following comments for the City's review of the EIR for the City of Petaluma Water Recycling Facility. I commend the City for taking an approach, proven by the City of

M-2

Arcata and many other cities, which uses the natural biological processes of water purification in a wetland as an intrinsic part of water treatment. The overall plan looks as if the conversion to wetland-assisted water treatment will not only work better and be cost-effective, but also improve the environment by creating habitat and wetlands where historic natural wetlands once existed. The project looks to be a sound investment which will enhance rather than diminish the natural surroundings, while providing important services to the city's residents. The inclusion of public access to the park is a vital

M-3

component to the project. Public access will serve to educate the citizens of Petaluma and the surrounding area to become better stewards of wetlands, help them better understand the natural processes of water use and re-use, and benefit the local economy through increased tourism, using nature as the ultimate tourist attraction. The path to Shollenberger Park would connect this project to a larger wetlands and educational park, allowing visitors to see how people and nature can co-exist to mutual benefit.

Sincerely,

Michael Sandler
Michael Sandler
Program Coordinator
Community Clean Water Institute
P.O. Box 1082
Occidental, CA 95465

Home: 108 Fair Street
Petaluma, CA 94952

**COMMENT LETTER M – MICHAEL SANDLER, COMMUNITY CLEAN WATER
INSTITUTE (MAY 22, 2002)**

Response to Comment M-1, M-2 and M-3

Please refer to Master Response 1, located in Chapter 2 of this document, regarding statements of opinion for or against the project.

May 29, 02

To Whom It May Concern;

I wish to enter the following additional comments as testimony regarding the Petaluma Wastewater Recycling Draft EIR dated 4-04, by Colollo Engineers, Volumes I and II.

Land Use Impacts LU-1 and 2; The project will be inconsistent with the County General Plan use map, city industrial use, County CEQA and PA. The project zoning use will change from agricultural use to Industrial-Educational and limited ag use. This will cause ag problems from public access to land used by ag for ag uses. This is significant. Is not the urban recycling of produced title 22 wastewater the objective of this city project?

LU-4. It would be more appropriate for the city to upgrade and expand the Kopper Street site that is zoned industrial than use up more ag land in production. Will the city replace the production land from Parcel A and B with like land not already in ag production?

LU-5. The existing ponds removed a minimum of 300 acres of productive ag land in 1972. Another 150 acres more or less will be eliminated now from Parcels A and B. It is stated that future expansion could eliminate the balance of A and B land from limited ag production. Is this not significant? Leaving the 293 acre parcel in ag production is more compatible with the

Oakmead Business Park, than making it part of the treatment facility. Demolition of the Kopper Street plants is actually not beneficial. First, most of the Kopper Street structures were built over piles for seismic stability, the existing ponds have no piles for seismic stability. Second, the Kopper Street plants are not on the Tolay fault line as is the existing ponds.

Third, the ponds also polish the effluent removing nutrients

Fourth, there are other things that can be done with the existing ponds related to algae reduction that would negate the need for the wetlands and the need for Parcel A and B.

This has serious and significant impacts, which is safer environmentally and cheaper, a new plant on a fault with no piles on an old plant with seismic stability, not on a fault.

and could be expanded and upgraded! This was not considered during alternative evaluations. Give me a sensible reason now?

N-11

FU-6, Creating wetlands and habitat, educational and recreational uses, are all part of the package for converting non-urban land for urban uses. Is it not?

N-12

FU-7, Which would be more appealing visually looking at Parcel A and B towards the Petaluma River seasonally at stewardship changes that occur with ag use. A 12' chainlink fence with some quick growing trees to hide the fence, a paved road inside the chainlink fence that leads to a very high bridge adjacent to the Lakeville Highway bridge that spans Ellis Creek. There will be some mounds of dirt, the wetland wall an 80 car parking lot some walking trails and litter that people forget about. Now doesn't that sound appealing???

N-13

FU-C1, I believe I have addressed some already, read on, for more.

N-14

Agriculture Impacts AG-1 The city and the county both have objectives and policies in their respective General Plans to preserve ag lands. The city also urges the county to discourage non-agricultural land uses in the rural area. They enforce compliance with their own ag land protection plan by taking 290 acres of rural ag land to use for a non ag use, an educational wetlands for the public. Evidently having an educational wetlands is more important than preserving ag land in spite of a General Plan and provisions.

N-15

AG-C1: Every time an ag land use is changed, another ag operator has to look for another land source to replace the product he or she just lost. (pasture - hay - etc) This will then increase his or her costs to operate, since usually the new land with the replacement resource will be at a greater distance. This relates to all ag land use types and products. This definitely is a cumulative impact. What is the answer?

Geology, Soils, Seismicity: GS-2: Why does Corollo claim that the Tolay Fault parallels the existing pond site by 1/2 mile, when it does not. It appears to pass under 5 of the 10 ponds. Exhibit A 5-20-02 Testimony. Corollo also states that

N-16

Today has significant movement within the last 2 million years and is not considered active, CDMG 1996. This was a timely report by CDMG. For during this same year the City certified the Final EIR allowing private treatment plants to be built on and in the existing ponds. This in sure resolved some existing force majeure issues. What about now? Did the

N-17

The Alquist-Priolo earth quake Act of 1982, corresponds to when earthquake seismic stability of the existing ponds was taken from the DOSD by legislated remedy and jurisdiction was given to the City Engineers. Would it not be proper that the DOSD be allowed to ascertain the degree of seismic stability needed before building a treatment plant for treating raw sewage.

N-18

G5-3: Much of the silt deposits from Ellis Creek overflows (Q2 and Qmf) were used to construct the pond levees. This made existing grade elevations closer to (Qmf) at levee base. I have seen bottom of pond 2 empty. The ground elevation on land side of levee toe, is higher the pond bottom elevation of levee inside toe of water side of levee. This only increased the liquefaction factor for more damage. PD-3 does nothing for the existing ponds seismic stability improvement. Why do you want to do a project if you do not want to do it right for the environment and the ratepayer?

N-19

G5-4: PD 4 applies to the new facility at a specific area, not the the entire pond system. When was the pond stability evaluation done and by whom and using what quake measurment - ~~side~~.

N-20

G5-C1: What would the cumulative impacts to the Petaluma River eco system from multiple pond failures that allowed 5.2 mgd of untreated sewage to enter the river for a long period of time during no discharge period?

N-21

Groundwater: G5-1: Since there is 1 drinking water well within 1/4 mile of pond site, the main issue is do they leak. I maintain they do. Exhibit B and C testimony 5-20-02 and our dug well water table elevation history pre and post ponds. My concern is that after construction of new facility at pond site, all primary treatment will occur at ponds site. Corrolls describes levee construction features for stability, corrosives

- and struts swell resistance, this would indicate the ponds leak below the levees thru the layers of 2 m f. Unless the bottoms of the three extended aeration lagoons, pond 1 and pond 4 have leak proof bottoms seepage will continue. Your after mitigation is still significant. Only
- N-22 trespass of title 22 water from the new facility would be considered legal, maybe. Why is phosphate not tested for in
- N-23 monitoring mitigation and why was owner of drinking water
- N-24 well not identified? I don't want a not required answer for
- N-25 The question first part.
- N-26 GW-1: If I was the drinking well owner I would not be satisfied with the drinking well mitigation. What happens if the 3 mitigation measures fail?
- N-27 GW-2: If mounding is what you now call seepage, the mounding from the ponds that exists on North side of ponds 1 and 2 year round is not Title 22 quality. Why is no mitigation necessary?
- N-28 Surface Water Impacts: WA-C1: Related to the TMDL standards Corolla mentioned. Will these loading standards relate to or affect the existing 800 acre mostly hillside irrigation? Will these TMDL loading standards address the downstream erosion from increased winter runoff from summer irrigated hillside irrigation? Are the TMDL standards being based on the Petaluma River being a tidal dead end water channel or as a river?
- N-29 Hydrology H-C1: Refer to WA-C1 for erosion and flooding on tributaries to the Petaluma River, such as Ellis Creek at Lakeville Highway.
- N-30 Biological Resources: What is the 1985 NWI? Will fishing be allowed to the public from trails adjacent to the river and winter duck hunting using boat ramps as access mode to site? If fishing and hunting allowed how and who will enforce compliance of hunting and fishing law?
- N-31
- N-32 Transportation and Circulation: As a 51 year resident of Lakeville I have my view of the Corolla construction & visitor traffic only such. Your concern is only of crossings at LH and Mc Dowell, Pine View and LH, LH and Frates Rd and the West and East pond entrances. What about the residents of 2 more miles of LH and and 10 more miles of Lakeville Road, Lakeville Road does not have the shoulder that LH has, how construction and

worser traffic will not all come off of Highway 101. The thousands of birddeas will not all come up on Highway 101. Now will silage trucks haul silage from the thousands of acres off of Lakeville Rd to dairies, when they can't find your so called traffic gap. There is an inherent problem of finding a gap in both directions at the same time. Soon I will not be able to cross LH with my tractor pulling a 16' trailer which takes 12 seconds. Most cars travel 240' in 3 to 4 seconds. About a year and a half back, it was common for west bound traffic to come to a complete stop half way to Wheat Creek for 5 minute periods due to a red signal light at Trated Road. Your construction and birddeas traffic will make it happen again, before Petaluma grows to 70,000 Population buildout. Why have you not considered the ng residents of LH and LR?

Air Quality: Most of the year winds are from the west to east, especially PM. In winter storms bring some south winds and east winds. Currently the ponds have a smell all the time, at different levels, light moderate or make a maggot gag. It will be worse during construction, then get real bad after new facility is built. At Hopper Street I believe you are getting into a can of worms related to air quality, noise and contamination.

Post script...

The Hopper Street plants evaluation to demolish and not worthy for expansion and upgrade started in early 1988. The City asked EOS now USF to evaluate the CIP needed for O and M and expansion of the Hopper Street Plants. In late 1988, EOS proposed to design, build, own and operate a new treatment plant at ponds site. This first evaluation it can honestly be said was not done by a neutral party. In 1989 EOS prepared a Facilities Review, which again concluded that modifying the Hopper Street facility would not be cost effective. I have toured the Hopper Street Plant twice, yes the concrete has some surface cracks, that are consistent with its age. However I saw only 1 building I would demolish. In the mean time the bad rap has continued about the Hopper Street Plant to protect egos, not rate payers.

COMMENT LETTER N – VASCO BRAZIL (MAY 29, 2002)

The comment letter references several exhibits, but the exhibits have not been submitted to the City.

Response to Comment N-1

The City appreciates the commentor's interest in providing additional comments on the Draft EIR.

Response to Comment N-2

The Water Recycling Facility and River Access Improvements are public uses, not industrial uses, and are consistent with agricultural zoning and General Plan land use designations, as expressed in the general plan and zoning ordinance category descriptions. There are several objectives for this project, including the development of an economically and ecologically sustainable water recycling facility to accommodate growth anticipated by the City's General Plan, and the production of tertiary recycled water in accordance with California Title 22.

Response to Comment N-3

This comment is an opinion regarding adoption of a project alternative. Please refer to Master Response 1.

Response to Comment N-4

No, the City will not attempt to mitigate agricultural impacts by attempting to create additional agricultural land in a different location. This mitigation measure was considered but rejected as infeasible, as any land which is not currently in production is likely in that condition for a good reason. A different mitigation measure, AG-1 Maintain Maximum Acreage of Agricultural Production, has been recommended, however, which reduces impacts to agricultural land to the extent feasible.

Response to Comment N-5

The comment agrees with the conclusion of the Draft EIR, wherein impact AG-1 concludes that the impact upon agricultural land is significant, both before and after mitigation.

Response to Comment N-6

The Draft EIR concludes in Impact LU-5 on page 4.1-8, that the project is compatible with the adjacent Business Park use, in that the Water Recycling Facility is in the same location as the existing oxidation ponds, and the new development on Parcels A and B is open to the public, recreational in nature, and uses only disinfected secondary treated recycled water.

Response to Comments N-7 through N-9

The City of Petaluma has carefully evaluated several alternatives, including Alternative 4 – Hopper Street, which includes treatment facilities at the Hopper Street site, and several alternatives for algae removal. Alternative 4 – Hopper Street and the Preferred Alternative - Extended Aeration with Wetlands both qualify as the Environmentally Superior Alternative.

Impact LU-5 in the Draft EIR concludes that decommissioning of the Hopper Street Plant is beneficial, because it furthers the goal of the Petaluma General Plan to extend Caulfield Lane. This beneficial impact is not a comparison of the proposed project to the alternative of expanding and upgrading the Hopper Street site. To the extent the commentor is expressing a preference for adoption of the Hopper Street Alternative, please refer to Master Response 1.

The Tolay fault does not lie under the existing oxidation ponds at the Lakeville site. Recent maps from the U.S. Geologic Survey (USGS, 1999) and California Department of Mines and Geology (CDMG 1996) show the fault passing approximately one-half mile east of the project site, as shown on Figure 4.3-1 of the Draft EIR. Therefore, the EIR found both Alternatives to have a less-than-significant impacts after mitigation relative to earthquake safety.

Response to Comment N-10

The EIR authors do not agree that the Hopper Street site is safer or environmentally superior to the Lakeville Highway site, as discussed in Response to Comments N-7 through N-9. However, the following excerpt regarding the environmentally superior alternative, can found on page 1-12 of the Draft EIR.

Alternative 4, Hopper Street, and the proposed project, Extended Aeration, would have similar levels of environmental impacts and therefore both qualify as the Environmentally Superior Alternative.

The preliminary cost estimate on page 5-12 of the Draft EIR identifies the total annualized cost (plus annual operation and maintenance cost) of the preferred project at \$10.2 million with wetlands and Alternative 4, Hopper Street at \$11.9 million. The commentor is incorrect that the Hopper Street Alternative costs less.

Response to Comment N-11

Impact LU-6 on page 4.1-9 of the Draft EIR evaluates whether the project converts non-urban land to urban uses, and finds that the water recycling and recreational improvements are related to habitat creation and agriculture, not to urban developed land, and therefore, finds this impact to be less than significant.

Response to Comment N-12

Impact VR-5 on pages 4.13-15 and -16 of the Draft EIR evaluates the impact of the improvements on Parcels A and B on views from Lakeville Highway, Shollenberger Park, and the Petaluma River. On page 4.13-8, there is a visual simulation of the wetlands, trails, and new access road on Parcels A and B taken from Lakeville Highway at the corner of the Oakmead

Northbay Business Park. Chain link fences along Lakeville Highway will not be required; the access road is at grade through the parcels until it reaches Ellis Creek at the boundary of the existing oxidation pond site; and the pond berms are at such a distance that they will not obstruct views. Therefore, the proposed improvements on Parcels A and B were not found to have significant visual impacts on the traveling public along Lakeville Highway.

Response to Comment N-13

No specific comment on Impact LU-C1, cumulative land use impacts, is made, therefore no response is offered.

Response to Comment N-14

The impact of converting the agricultural land on Parcels A and B to a non-agricultural use is considered a significant impact, as identified in Impact AG-1 on pages 4.2-5 and -6 of the Draft EIR. If the City decides to implement the project, a statement of overriding considerations should be adopted, explaining why the polishing wetlands and public educational and recreational facilities were adopted as part of the project despite their significant impact on farmland.

Response to Comment N-15

The commentor is correct that the loss of agricultural land is a significant cumulative impact. The Draft EIR identifies this impact as AG-C1 on page 4.2-6 and-7 of the Draft EIR.

Response to Comment N-16

The commentor noted that the Tolay fault was located on a different alignment than shown in the Draft EIR. The commentor's referenced map (dated July 12, 1979) shows the fault going directly under pond 1 and most likely pond 4, 5 and 9. However, more recent mapping from the U.S. Geologic Survey (USGS, 1999) and California Department of Mines and Geology (CDMG 1996) has repositioned the fault to approximately one-half mile east of the project site, as shown on Figure 4.3-1 of the Draft EIR. These references were used to determine the location of the Tolay fault and are considered to be a more accurate representation of the actual fault geology beneath the surface.

The Tolay fault has been considered an inactive fault since 1982. As noted on page 4.3-2 of the Draft EIR, although the fault has had significant movement in the last two million years, the fault was removed from the Alquist-Priolo earthquake fault zone in 1982 for lack of evidence of movement in the last 11,000 years.

Response to Comment N-17

It is not within the scope of this EIR to redefine the state legislation that determines the responsibilities of state and local agencies relative to earthquake safety.

Response to Comment N-18

The Lakeville Highway site is located in a zone identified as high liquefaction potential (refer to Figure 4.3-4 on page 4.3-11 of the Draft EIR), however based on ongoing geotechnical site investigations (including over 20 borings up to 60 feet in depth), liquefaction could only occur in some small areas of the site. A thin sand lens was encountered at a great depth (30-35 feet) and presents only a minor risk from liquefaction. The existing oxidation pond levees are relatively flat (4:1 slope) and remain stable during an earthquake according to the post-liquefaction analysis.

New improvements on the site will be subject to Measure PD-3 requiring specific construction methods to counteract the site's susceptibility to liquefaction.

Response to Comment N-19

Refer to Response to Comment N-18.

Response to Comment N-20

Although highly unlikely, if an earthquake, or other natural or man-made disaster, were to cause raw sewage flows to enter the Petaluma River, substantial contamination of the River water quality would occur, most likely for several weeks, until the damage could be repaired. However, if a large enough earthquake were to occur such that wastewater management systems throughout the region were impacted, it is very likely that roads, communication systems, structures, and industrial processes would also be impacted, all of which could result in the degradation of the Petaluma River and other consequences. Each of the alternatives analyzed for sewage treatment are located along the Petaluma River, and would have similar risks of water quality degradation in the case of a massive disaster.

Response to Comments N-21 and N-22

Please refer to Response to Comment I-9.

Response to Comment N-23

Groundwater was not analyzed for the presence of phosphate, because phosphate is not an indicator of the presence of wastewater. Phosphate is not an indicator of the presence of wastewater because phosphorus in water (including wastewater) adsorbs to soil instead of remaining dissolved in water.

Response to Comment N-24

The owner of the drinking water well is not germane to identification or mitigation of the environmental impact.

Response to Comment N-25

Refer to Response to Comment N-23.

Response to Comment N-26

The mitigation measures proposed for the drinking water well have been successful for other well systems, and there is no indication that they would not be feasible and successful at this location. Each of the three listed options could be successful, so if one method becomes undesirable from some reason, two backup measures are available to fulfill the mitigation obligations.

Response to Comment N-27

Please refer to Response to Comment I-9.

Response to Comment N-28

The TMDL mentioned has not yet been formulated or published, and it is beyond the scope of this EIR to project its impact upon agricultural lands.

Response to Comment N-29

This is not a comment regarding the adequacy of the Draft EIR.

Response to Comment N-30

The 1985 NWI is the National Wetlands Inventory from the U.S. Fish and Wildlife Service published in 1985. The NWI produces information on the characteristics, extent, and status of the Nation's wetlands and deepwater habitats. In 1982, the NWI produced the first comprehensive and statistically valid estimate of the status of the Nation's wetlands and wetland losses. Regulatory agencies use the maps to help in advanced wetland identification procedures, and to determine wetland values and mitigation requirements.

Response to Comment N-31

The City appreciates the comment, however no decision has yet been made regarding hunting or fishing using facilities on Parcels A or B. These issues will be decided during the course of design, and if these recreational uses were adopted, suitable enforcement of hunting and fishing regulations would need to be provided for.

Response to Comment N-32

Trip generation projections for the project are shown in Table 4.9-4 of the Draft EIR on Page 4.9-9, and estimate 250 trips per day, including 200 trips per day for visitors. There is no reliable methodology for estimating visitor trips to such a facility, but the EIR authors believe that 200 trips a day is a conservative estimate, and that trip generation will likely be substantially less on average. The impact of these trips has been evaluated at the intersection of Lakeville Highway and Browns Lane. Although Browns Lane is not a driveway, it serves very few homes and can reasonably be used to identify traffic impacts for individual driveways in the vicinity. The impact evaluation at Browns Lane shows that the Level of Service for the turning movement with the longest delay does not change due to either construction or operation of the project. The

Level of Service is currently D in the AM peak hour and E in the PM peak hour. Addition of project traffic does not change this level of service, and therefore, the impact was found to be less than significant. The addition of 125 vehicles throughout the day on Lakeville Highway, distributed in both a northwest and southeast direction, is not expected to create substantial changes in the functioning of a roadway which currently carries approximately 23,000 vehicles on an average day (Caltrans, 2001).

Response to Comment N-33

The comment's assessment of wind direction is consistent with the wind rose provided in Figure 4.10-1 on page 4.10-2 of the Draft EIR. Potential odors from the new facility are evaluated at length in Impact AQ-5 on pages 4.10-14 through -17. Because of the odor control methods and structures included in the design of the new facility as required by Measure PD-16, Odor Control, odor impacts are not expected to become significantly worse than the existing conditions.

Response to Comment N-34

The EIR authors agree that odors are likely to be more of a problem for the Hopper Street Alternative because of the site's proximity to residences and other urban uses.

Response to Comment N-35

This is not a comment on the adequacy of the Draft EIR.



PUBLIC HEARING COMMENT 1 – BRYANT MOYNIHAN, MAY 13, 2002

Response to Comment PH 1-1

Comment Summary: Why aren't the significant impacts to agriculture discussed in the Land Use Section of the Draft EIR?

Impacts regarding agriculture are discussed in two sections of the EIR:

- Impacts relative to agricultural General Plan categories and zoning, and compatibility of land uses is discussed in the Land Use section. These impacts are found to be less than significant.
- Impacts relative to loss of agricultural land are evaluated in the Agriculture Section and are found to be significant even with mitigation.

PUBLIC HEARING COMMENT 2 – MATT MAGUIRE, MAY 13, 2002

Response to Comment PH 2-1

Comment Summary: Are the impacts caused by the construction of meanders of Ellis Creek discussed?

The impacts of all the river access improvements, including restoration of meanders along Ellis Creek, as described on pages 2-18 and 2-19 of the Project Description, are discussed in Chapter 4 of the Draft EIR, Environmental Analysis.

Response to Comment PH 2-2

Comment Summary: The EIR needs to discuss the quality of the agricultural land on parcels A and B discussed in the Final EIR.

The Agriculture section discusses the classification of Parcels A and B as Farmland of Local Importance. The Soils Survey indicates that soils on Parcel A are relatively productive (Class II) whereas soils on Parcel B are poor (Class IV). The following information is inserted into the EIR:

On page 4.2-3 prior to the Williamson act paragraph:

Resource Conservation Service Soil Capability Classification

Soils on Parcel A are primarily Clear Lake clay; soils on Parcel B are primarily Reyes silty clay. Clear Lake clay is a Class II productivity soil and Reyes silty clay is Class IV.

Capability Unit IIs-5 (CeA Clear Lake clay)

In this unit are soils of the Clear Lake series and the land type "Alluvial land, clayey". Some of these soils are moderately well drained and others are drained and on the edge of basins. Slopes are drained and on the edge of basins. Slopes generally are less than 2 percent, but along the edge of the larger basins they are less than 1 percent. The surface layer is clay loam to silty clay, and wide cracks form as it dries. The Clear Lake soils are more than 60 inches deep. They have thick layers of fine gravel at a depth below 20 to 40 inches in places.

The total available water capacity varies in Alluvial land, clayey, and is 8 to 10 inches in Clear Lake soils. Infiltration is rapid, and moisture is absorbed rapidly until the cracks in the surface close; after that infiltration is slow or very slow. Fertility varies.

The soils and land type in this unit are better suited to field and forage crops and to certain row crops than to other crops. They are also suited to prunes, pears, and grapes.

Alluvial land, clayey, and Clear Lake soils are slow to warm in spring. Crops on them generally respond to nitrogen fertilizer. Preparing a seedbed is difficult because hard clods form unless the soils are worked at the right moisture content. Returning all crop residue to the soil helps to improve tilth and structure.

Capability Unit IVw-9 (RmA – Reyes silty clay)

Reyes silty clay, 0 to 2 percent slopes, is the only soil in this unit. This poorly drained soils is in low areas, where the surface is undulating and irregular. Generally layers of peat that range from thin to thick occur throughout the profile. In places small stringers or organic material extend from the surface to a depth of several feet. Erosion is not a hazard.

Reaction in the lower layers of this soil and in unreclaimed areas is pH 4 to 5.5. In places where the soil is drained and reclaimed and the soil is cultivated and allowed to dry and oxidize, reaction is pH 3.5 to 5.0. Some salt is in the soil in places, but fresh water from winter rains reduces or neutralizes the harmful effects of excess salt. Fertility is moderate. Runoff and permeability are slow. The water table generally is within a few feet of the surface.

This soils is suited only to small grains and forage plants that tolerate salts and acidity. The chief crop generally is oats grown for hay, though occasionally the oats are threshed for grain. This soil is fairly well suited to narrow-leaf trefoil. Growth of safflower is fair.

If this soil is drained, care is needed to reduce the water table only to the minimum depth suitable for shallow-rooted crops. This soil is difficult to rewet once it dries.

PUBLIC HEARING COMMENT 3 – PAMELA TORLIATT, MAY 13, 2002

Response to Comment PH 3-1

Comment Summary: Where is the nearest well exactly? Whose property is the well on?

The nearest well is across Lakeville Highway, just west of Ellis Creek, on the Matteri property.

Response to Comment PH 3-2

Comment Summary: Is the Draft EIR a supplemental EIR or a subsequent EIR? What is the difference? Is this a stand-alone document, or will more environmental analysis be needed for any part of the project?

The document is a Subsequent EIR. It is not based on an earlier document, as is a Supplemental EIR. This is a stand-alone document that covers the entire project as now designed.

Response to Comment PH 3-3

Comment Summary: Has anyone sent a letter to the County regarding the City's intent of replacing the agricultural land on Parcel A and B? They are in the process of updating their General Plan. A letter should be sent to the County so that it can be part of the General Plan record.

A letter regarding the proposed use of the property was sent by the City of Petaluma to the County of Sonoma Permit and Resource Management Department on May 20, 2002.

Response to Comment PH 3-4

Comment Summary: How many gallons of tertiary-treated wastewater are the polishing wetlands designed to handle? Did we cover the impacts of expansion in the Draft EIR? How long does the additional environmental review take if the Council decides to expand the treatment beyond 4 mgd?

Polishing wetlands will treat disinfected secondary and pond effluent blend, not tertiary effluent. The polishing wetland treatment design capacity is 8 mgd.

Tertiary treatment effluent will be used for urban reclamation only. The tertiary treatment facilities evaluated in the EIR are designed to process 4 mgd, although the design can be easily expanded to include an additional 4 mgd. It is likely that the expansion could be approved through the preparation of a CEQA Addendum, which could take as little as 2 weeks.

Response to Comment PH 3-5

Comment Summary: It is unclear if the Draft EIR is covering one project or two. What does the entire project include? How do we move forward as one project?

The Draft EIR is covering one project. The project includes all the elements in the Project Description, including the river access improvements. The river access improvements are discussed in each of the environmental analysis sections.

PUBLIC HEARING COMMENT 4 – BRYANT MOYNIHAN, MAY 13, 2002

Response to Comment PH 4-1

Comment Summary: The river access improvements are discussed on page 2-18. It appears that it is a separate project from the wastewater expansion. Please clarify that it is one project.

For the purposes of environmental review, the Water Recycling Facility and the River Access Improvements are considered one project. When the time comes for implementation, it will be the City's discretion whether to implement the water recycling facility and river access improvements as one phase or as separate phases.

PUBLIC HEARING COMMENT 5 – MIKE HEALY, MAY 13, 2002

Response to Comment PH 5-1

Comment Summary: Do Parcels A and B need to be annexed? What is happening with the annexation process of Parcels A and B? What will happen if the property owners do not agree with the annexation? Will the project still go forward? Is annexation included in the EIR?

Annexation is included in the project description and is evaluated in the Draft EIR. Annexation of the parcels will be at the discretion of the City of Petaluma, if and when the City purchases the parcels.

PUBLIC HEARING COMMENT 6 – MIKE O'BRIAN, MAY 13, 2002

Response to Comment PH 6-1

Comment Summary: What is the scope of the EIR? Is it correct that the EIR covers a larger project than we will likely build, so that if we scale back the project we will still be covered and no new EIR will need to be completed?

The scope of the EIR is the project as described in the Project Description. If the project is scaled back, it is covered by the EIR, and no new document will be needed.

PUBLIC HEARING COMMENT 7 – PAMELA TORLIATT, MAY 13, 2002

Response to Comment PH-7-1

Comment Summary: What is happening with the land acquisition, appraisal process?

Property value information is expected from the appraiser on June 30, 2002.

PUBLIC HEARING COMMENT 8 – JANICE CADER-THOMPSON, MAY 13, 2002

Response to Comment PH 8-1

Comment Summary: Has Caltrans evaluated the project?

Caltrans received a copy of the Initial Study and the Draft EIR. They have submitted comments on the Draft EIR; refer to Letter D.

PUBLIC HEARING COMMENT 9 – TERENCE GARVEY, MAY 13, 2002

Response to Comment PH 9

Comment Summary: I am reading my comment letter, which was submitted in writing.

Please refer to Responses to Comment Letter H.

PUBLIC HEARING COMMENT 10 – STAN GOLD, MAY 13, 2002

Response to Comment PH 10-1

Comment Summary: I support the resolution of January 7th and have a concern regarding the lack of information between the Council and the public. An example is that the Council authorized the Preferred Alternative, but the annexation process is just getting underway now – five months later. I recommend that staff issue a monthly progress report that would be available to the public. This should be an open process.

This is a comment on the communication between the City and the public, but not a comment on the adequacy of the Draft EIR.

PUBLIC HEARING COMMENT 11 – MARK LEVIN, MAY 13, 2002

Response to Comment PH 11-1

Comment Summary: I am the owner of two parcels with several commercial buildings in the Northbay/Oakmead business park. I am concerned about the odors that will be emitted from the treatment plant and wetlands. The treatment plant on Anderson Drive in San Rafael smells badly. I would like additional analysis done on the potential odors in order to fully understand the impacts. I think they are a significant impact. The EIR air quality section says impacts are unknown. Residential uses will be affected by the smells also. More study is needed.

The business park is to the north-northwest of the project site, the opposite direction of the primary wind flow. There are very short durations that the winds will blow from the project towards the business park. Further, to be impacted by the project, an upset condition has to occur creating conditions for odors to be omitted. Controls are built into the plant to reduce the

duration of upset conditions. Therefore, it is very unlikely that the commercial area will be downwind when odors are generated.

In order to avoid or reduce potential odors, the City has adopted a number of design measures into the project description. Measure PD-16 describes that the design will include odor control to reduce the potential for odor complaints. The plant headworks, solids treatment and handling process areas will include odor control. Because of these additional controls, odor problems at the oxidation pond site are expected to decrease relative to existing conditions.

PUBLIC HEARING COMMENT 12 – DIANE REILLY TORRES, MAY 13, 2002

Response to Comment PH 12-1

Comment Summary: Will the SOLA wells be affected?

The City of Petaluma is not aware of any wells owned by Sola Optical located within ¼ mile of the site.

Response to Comment PH 12-2

Comment Summary: Ponds? When the ponds are cleaned out, what steps are being taken to ensure mosquitoes will not be a problem?

It is not clear from the question whether the commentor is referring to mosquito problems in the dewatered pond or mosquito problems in the location that receives the water from the ponds. In the first case, the dewatered pond will not support mosquito larvae. In the second case, the water recycling facility and river access improvement will be subject to requirements of the Marin/Sonoma Mosquito and Vector Control District and the Vector Biology and Control Branch of the California Department of Health Services which are responsible for overseeing the mosquito prevention programs within the project area. Page 4.7-10 of the EIR discusses impacts of the project on potential exposure of the public to disease vectors (i.e., mosquitoes).

Response to Comment PH 12-3

Comment Summary: How will rates be affected?

This is not a comment on the adequacy of the EIR.

Response to Comment PH 12-4

Comment Summary: Are the requirements of the Regional Water Quality Control Board met?

The City of Petaluma will need Waste Discharge Orders from the Regional Water Quality Control Board, and will comply with these requirements.

PUBLIC HEARING COMMENT 13 – PAMELA TORLIATT, MAY 13, 2002

Response to Comment PH 13-1

Comment Summary: What is the process for decommissioning Hopper Street? Have soil samples been taken at Hopper Street? Is decommissioning part of the EIR?

Soil samples have not been taken; that will occur as one of the mitigation measures at the time the Hopper Street facility is decommissioned. Decommissioning is part of the project description and has been evaluated in the EIR.

Response to Comment PH 13-2

Comment Summary: A stakeholders meeting with staff should occur once a month.

This is a comment on communications between the City Council and staff and not on the adequacy of the Draft EIR.

Response to Comment PH 13-3

Comment Summary: Is the project on the agenda with the Open Space District?

This is not a comment on the Draft EIR.

Response to Comment PH 13-4

Comment Summary: Regarding the odor issues, we need to address existing odors and where the odors are coming from. The existing ponds on the river may create objectionable odors when the tide goes out

The sources of odor from the existing facility ponds as well as the processes for controlling odor are discussed in the Air Quality section of the Draft EIR. The potential for odor impacts from the new facilities is also addressed in the Air Quality section.

The existing oxidation ponds treat secondary, primary, and raw effluent. Oxidation ponds for the proposed treatment facility would primarily treat secondary effluent, reducing the potential for substantial odors. The new project will enable more control of the water flow to the ponds, and therefore fewer periods of potential for odor. The current wetlands do occasionally smell during low tide; this is a feature of a wetlands type area.

PUBLIC HEARING COMMENT 14 – CLARK THOMPSON, MAY 13, 2002

Response to Comment PH 14-1

Comment Summary: There are odors at the site now. The slough smells.

The EIR Air Quality section acknowledges that the existing ponds, as well as agricultural activities and the slough, have the potential to create objectionable odors as part of the existing

conditions. This is one of the reasons that odors from the Water Recycling Facility are expected to decrease relative to today's odors.

PUBLIC HEARING COMMENT 15 – MATT MAGUIRE, MAY 13, 2002

Response to Comment PH 15-1

Comment Summary: We need a periodic progress report, it does not have to be monthly but maybe quarterly.

This comment addresses a communication issue between the Council and planning staff and is not a comment on the adequacy of the Draft EIR.

Response to Comment PH 15-2

Comment Summary: Please add the quality of the agricultural production on Parcels A and B.

Refer to Response to Comment PH 2-2.

PUBLIC HEARING COMMENT 16 – CLARK THOMPSON, MAY 13, 2002

Comment Summary: A monthly update is a good idea. A quarterly stakeholders meeting should take place for the Council and the public.

This comment addresses a communication issue between the Council and planning staff and is not a comment on the adequacy of the Draft EIR.

PUBLIC HEARING COMMENT 17 – JANICE CADER-THOMPSON, MAY 13, 2002

Response to Comment PH 17-1

Comment Summary: I would like to move forward with a letter to Supervisor Kerns and the Open Space District regarding the plans for Parcels A and B.

This comment addressed communications between the City of Petaluma and other public agencies and does not address the adequacy of the Draft EIR.

PUBLIC HEARING COMMENT 18 – PAMELA TORLIATT, MAY 13, 2002

Response to Comment PH 18-1

Comment Summary: The Board of Supervisors might like to see us send the water to the Napa salt ponds, but we should keep control of it. We should reuse our wastewater within the City, as it could offset potable water supplies.

Disposal options are not part of the project objectives for the Water Recycling Facility.

PUBLIC HEARING COMMENT 19 – CLARK THOMPSON, MAY 13, 2002

Response to Comment PH 19-1

Comment Summary: It would be good to meet with the Board of Supervisors on this issue.

This comment addressed communications between the City of Petaluma and other public agencies and does not address the adequacy of the Draft EIR.

PUBLIC HEARING COMMENT 20 – BRYANT MOYNIHAN, MAY 13, 2002

Response to Comment PH 20-1

Comment Summary: Having attended a tour of the Napa salt pond project area, sending the wastewater to the salt ponds would possibly allow zero discharge to the Petaluma River for 20 years. I support the federal funding which would be good for ratepayers.

The disposal of wastewater at the Napa salt ponds is not an alternative considered in this Draft EIR because it is an option for disposal of treated wastewater, rather than treatment of wastewater. The project objectives focus on development of alternatives for treatment by building a new Water Recycling Facility.

PUBLIC HEARING COMMENT 21 – JANICE CADER-THOMPSON, MAY 13, 2002

Response to Comment PH 21-1

Comment Summary: What will it cost to construct the pipeline for the wastewater to the salt ponds? The Geysers project cost twice the estimate.

Design and cost estimating for the Napa salt pond disposal option is not part of the scope of the Draft EIR. The salt pond project is not consistent with the project objectives.

Response to Comment PH 21-2

Comment Summary: Can the polishing wetlands be used for storage? How many gallons can they hold? How long could you store wastewater in the ponds?

The polishing wetlands do not provide additional storage. The treatment wetlands provide 2 to 3 feet of additional storage (70 to 105 acre-feet of storage).

PUBLIC HEARING COMMENT 22 – GERALD MOORE, MAY 20, 2002

Response to Comment PH 22-1

Comment Summary: It is a good EIR document; very thorough. I appreciate inclusion of the polishing wetlands and wetlands park and improvements in the lower wetlands area. I hope the

Council will support the park. Mitigation for the loss of agriculture on Parcels A and B is not necessary; the remaining crop will go for wildlife food.

The City appreciates the comments on the Draft EIR's thoroughness. Please refer to Master Response 1 regarding statements of opinion for or against this project or adoption of a particular mitigation measure.

PUBLIC HEARING COMMENT 23 – JIM ROSE, MAY 20, 2002

Response to Comment PH 23-1

Comment Summary: I commend the thorough analysis of the EIR and the good technologies proposed. I appreciate that Petaluma will be utilizing its unique river resources. I would be enthusiastic about a partnership to create educational opportunities with the JC and Petaluma city schools.

The City appreciates the comments on the Draft EIR's thoroughness. Please refer to Master Response 1 regarding statements of opinion for or against this project.

PUBLIC HEARING COMMENT 24 – DAVID YEARSLEY, MAY 20, 2002

Response to Comment PH-24-1

Comment Summary: I am very pleased with EIR, and give compliments to the team that produced it. I do not want the Council to reduce any of the amenities; the trail along the river is wonderful. I appreciate diverse habitat with ecostructure for many species, and support creating islands in the marshes for increasing diversity. The document shows lots of vision – I hope it is approved in its entirety.

The City appreciates the comments on the quality of the Draft EIR. Please refer to Master Response 1 regarding statements of opinion for or against this project.

PUBLIC HEARING COMMENT 25 – GEOFFREY CARTRIGHT, MAY 20, 2002

Response to Comment PH 25-1

Comment Summary: If the Sonoma County Water Agency wants to acquire Petaluma's water rights, including those to recycled water, what would Petaluma lose?

The use of water by the Sonoma County Water Agency is not within the scope of this project and therefore was not analyzed in the Draft EIR.

PUBLIC HEARING COMMENT 26 – PATRICIA TUTTLE BROWN, CHAIRPERSON OF BICYCLE COMMITTEE, MAY 20, 2002

Response to Comment PH 26-1

Comment Summary: I favor the EIR, especially the public access components. I think the levee should continue all around Parcel B along the River. Many valuable educational opportunities are being offered. I support a modest path (without vehicular use) so that people can be with the plants and experience nature. I support a bridge over the levee breach in order to maintain a continuous path, and believe habitat areas on concrete islands are important to go with an educational component.

Please refer to Master Response 1 regarding statements of opinion for or against this project.

Response to Comment PH 26-2

Comment Summary: I think the educational resource center should be in the farmhouse to promote indigenous farm architecture and have watchman's quarters for protection of early morning users. Use of the farmhouse would be better than building a new building.

The City appreciates the comments about use of the farmhouse. Please refer to Master Response 1 regarding statements of opinion for or against this project or portions of the project.

PUBLIC HEARING COMMENT 27 – VASCO BRAZIL, MAY 20, 2002

Response to Comment PH 27-1

Comment Summary: There are two corrections in the EIR: Lakeville Highway does not go all the way to Highway 37, it becomes Lakeville Road, and one page is missing from the Appendix. I request my 1st Amendment right to speak to the City Council about my views even if I am in disagreement. I am looking after the interests of ratepayers as well as those of the environment

The EIR authors appreciate the correction. The following changes are made in the EIR:

Under Setting, on page 4.9-1:

The Lakeville site is located on Lakeville Highway, State Route 116, in Petaluma, California. Lakeville Highway extends from ~~is an 11-mile highway connecting State Route 37 to~~ Highway 101 in Sonoma County to the southeast, where it becomes Lakeville Road before joining Highway 37. Lakeville Highway is a 2-lane highway with a speed limit of 55 mph that widens to a 4-lane highway west of Pine View Way reducing the speed limit to 45 mph. Lakeville Highway is a designated truck route where trucks constitute 8.9% of traffic volumes.

The City appreciates the commentor's diligence in providing comments and will respond to each of them.

Response to Comment PH-27-2

Comment Summary: I wish to make the Council aware of a Harding Lawson earthquake map dated 7/12/79 which shows an earthquake fault under several existing ponds in the wastewater treatment facility. The current EIR claims no active faults are under the project, but how could this be since according to the Harding Lawson report the Tolay fault goes under the existing ponds?

Refer to Response to Comment I-3.

Response to Comment PH 27-3

Comment Summary: The existing oxidation pond site is not a good place to spend \$100 million to construct a new site. The earthquake-related mitigation measures are only being required on new construction, but do not address fault under existing ponds.

Refer to Response to Comment I-3.

Response to Comment PH 27-4

Comment Summary: I wish to draw the Council's attention to Exhibits B and C. Exhibit B is a two-page damage claim for seepage from the ponds. Exhibit C is a letter from an insurance company with a check for \$2,400 for loss of agricultural crops, so there must be leakage. An old well 30 feet from the fence is now always full, even though it wasn't prior to the ponds being built. Why is this so, if the ponds don't leak?

Refer to Response to Comment I-9.

Response to Comment PH 27-5

Comment Summary: The existing ponds were built without use of DSOD seismic safety standards and ignore the fault. The ratepayers are being ignored, the Tolay fault problem should have identified at the beginning of the process, not now. The EIR is inadequate.

Refer to Response to Comment I-3 and I-12.

PUBLIC HEARING COMMENT 28 – STAN GOLD, MAY 20, 2002

Response to Comment PH 28-1

Comment Summary: I commend the EIR for thoroughness. I have hardly come across a document that does not have organized opposition, but this one doesn't. I attribute this to the fact that it offers something for everyone. It has an educational component as well as appealing to business because of the increase in traffic that will come to downtown and the City because of increased tax revenue. I encourage the Council to keep all the amenities.

The City appreciates the comments on the thoroughness of the EIR. Please refer to Master Response 1 regarding statements of opinion for or against this project.

PUBLIC HEARING COMMENT 29 – DAVID KELLER, MAY 20, 2002

Response to Comment PH 29-1

Comment Summary: I wish to thank the team for bringing the Draft EIR this far. I think it helps move wastewater treatment into the 21st century and move treatment technology toward zero discharge; and I appreciate the polishing wetlands.

The City appreciates the comments on the quality of the EIR. Please refer to Master Response 1 regarding statements of opinion for or against this project.

Response to Comment PH 29-2

Comment Summary: The runoff from the parking lot needs to be addressed. I want runoff from parking lots and streets to be addressed citywide.

The EIR authors agree that runoff from parking lots and streets needs to be addressed. The following changes are made:

Under Table 4.5-4 on page 4.5-13:

Table 4.5-4

Evaluation Criteria with Point of Significance – Surface Water Quality

Evaluation Criteria	As Measured by	Point of Significance	Justification
1. Will the project discharge cause numeric-based criteria to be exceeded?	Concentration	Varies	U.S EPA (California Toxics Rule) criteria; Basin Plan criteria
2. Will the project discharge cause narrative-based criteria to be exceeded?	Varies	Varies	Basin Plan narrative criteria
3. Will the project construction result in a substantial degradation of surface runoff quality?	Compliance with local and state storm water quality regulations requiring implementation of effective Best Management Practices	Any failure to implement effective, reasonable and appropriate measures	State of California General NPDES Permits for Discharges of Storm Water Associated with Construction and Industrial Activities. CEQA Checklist

Under Impact WQ-3, on page 4.5-38:

WQ-3: Will the project construction result in a substantial degradation of surface runoff quality?

Water Recycling Facility and River Access Improvements - Less than Significant

Construction activities, particularly the proposed polishing wetlands and filtration/disinfection facilities that will be located at the Lakeville Highway site that is near Ellis Creek have the potential to cause discharge of pollutants to waterways through erosion and accidental spills. In addition, replacement of the outfall and levee stabilization have the potential to cause temporary sediment disturbance during construction in the Petaluma River. Runoff from parking lots and streets during operation of the project also has the potential of contributing contaminants to stormwater runoff entering Ellis Creek and the Petaluma River. Measure PD-8, Construction Erosion and Spill Control Measures, adopted as part of this project, requires the City develop and implement measures designed to prevent significant construction and operational impacts to water quality. With implementation of this measure, impacts will be reduced to less than significant.

Under Table 3-2, on page 3-7:

Table 3-2

Mitigation Monitoring Checklist

Mitigation Measure Measures Included in the Project	Implementing Agency	Monitoring Agency	Status	Comments
PD-1 Uniform Relocation Assistance	City of Petaluma	City of Petaluma		
PD-2 Purchase Locally Grown or Inspected Plants	Design Engineer	City of Petaluma		
PD-3 Liquefaction Protection	Design Engineer	City of Petaluma		
PD-4 Seismic Design to Resist Ground Shaking	Design Engineer	City of Petaluma		
PD-5 Standard Engineering Methods for Expansive Soils	Design Engineer	City of Petaluma		
PD-6 Standard Engineering Methods for Corrosive Soils	Design Engineer	City of Petaluma		
PD-7 Groundwater Monitoring and Management	City of Petaluma	City of Petaluma		
PD-8 Construction -Erosion, Stormwater Runoff, and Spill Control Measures	Construction Manager and Design Engineer	City of Petaluma & San Francisco Bay RWCB		

Under PD-8, page 3-21:

PD-8 Construction Erosion, Stormwater Runoff, and Spill Control Measures

Description: The City shall develop and implement measures designed to prevent significant ~~construction~~—impacts to water quality. Examples of possible measures include revegetation of temporarily disturbed sites, development and implementation of a Storm Water Pollution Prevention Plan, protection of waterways from toxic discharge, and concrete waste management.

In addition, stormwater runoff from the new water recycling facilities shall be diverted into the wastewater treatment system. Stormwater runoff from the visitors parking lot on Parcel A, if paved, shall be treated either by diversion into the wastewater treatment system or installation of an oil and grease separator at the bottom of the lot.

Construction within the Petaluma River or the lower portions of Ellis Creek shall be performed from a barge and with divers when appropriate. Excavation underwater shall be done with pressurized water.

Lead Agency: City of Petaluma Water Resources and Conservation Department

Implementing Agency: Construction Manager and Design Engineer

Timing: **Start:** Prior to start of construction

Complete: Upon completion of construction

Monitoring Agency: City of Petaluma and San Francisco Bay Regional Water Quality Control Board

Validation: Storm Water Pollution Prevention Plan

Under Measures Included in the Project Design on Page 2-8:

PD-8 ~~Construction~~ Erosion, Stormwater Runoff, and Spill Control Measures

Response to Comment PH 29-3

Comment Summary: The public will invest in education, recreation, tourism, wildlife habitat, and environmental protection through this project. It ought to be paid for through the utility rates; it would be if it were a privately-operated plant. It is a multi-purpose facility with long-term rewards.

An analysis of funding sources for the project are not part of the scope of the EIR.

Response to Comment PH 29-4

Comment Summary: I think public access as a full circuit trail is important. Information from the S.F. Bay trail shows that human activity on a wildlife trail does not impair the habitat.

Please refer to Master Response 1 regarding statements of opinion for or against this project.

PUBLIC HEARING COMMENT 30 – MATT MAGUIRE, MAY 20, 2002

Response to Comment PH 30-1

Comment Summary: The City has sent a letter to Pete Parkinson at County PRMD asking them to incorporate Parcels A and B in their General Plan Update to be consistent with the polishing wetlands and river improvements.

This comment is not a comment on the adequacy of the draft EIR.

PUBLIC HEARING COMMENT 31 – PAMELA TORLIATT, MAY 20, 2002

Response to Comment PH 31-1

Comment Summary: Are there current problems with the Matteri well? Will there be monitoring of the well on the Matteri property?

The nearest well is across Lakeville Highway on the Matteri property. It will be monitored before and after construction to determine if there are any changes that are deemed deleterious to public health. The City of Petaluma is not aware if there are any current problems with the well.

Response to Comment PH 31-2

Comment Summary: Will any more EIR work be needed to carry out the levee stabilization on Parcel B and the two pedestrian bridges?

No, the EIR covers these components of the project, so long as the design does not change.

Response to Comment PH 31-3

Comment Summary: Since the exact size and location of the path that will facilitate interaction with wildlife is not determined, will the eventual choice require more environmental analysis?

An analysis of the maximum environmental impacts of the path have been included in the EIR. An eventual choice will not require more environmental analysis unless there is a relocation of the path.

Response to Comment PH 31-4

Comment Summary: We now need the money to acquire Parcels A and B; let's make sure it is included in the budget.

A discussion of funding for the project is outside the scope of the Draft EIR.

PUBLIC HEARING COMMENT 32 – MIKE O'BRIEN, MAY 20, 2002

Response to Comment PH 32-1

Comment Summary. We need to answer the questions regarding the earthquake fault. The project engineers are directed to find out if there is an active fault, what was the magnitude of the last earthquake and what information does the USGS have on it.

Refer to Response to Comment I-3. The Tolay Fault has not been active in recent history and the magnitude of the last earthquake on it is unknown.

4 REVISIONS BY THE EIR AUTHORS

The following changes to the Draft EIR were generated by the EIR authors because of typographical errors, clarification of wording, correction of references, or minor additions to the Project Description and evaluation. None of these changes constitute new information leading to new significant impacts or substantial increases in the severity of significant impacts.

Insert as the second paragraph under Solids Handling on Page 2-12

Anaerobic digestion is an alternative to aerobic digestion. Anaerobic digestion facilities would consist of three covered tanks: two 15 ft. in diameter and one 55 ft. in diameter. A digester control building will be included. Digester gas produced in the process would be used in boilers to heat the sludge. The process has the following advantages: solids quantity for disposal is reduced 35 percent, odors are completely contained, and energy usage and operating costs are reduced by 80 percent. Anaerobic digestion facilities will be located in Pond No. 4 in the same location as the aerobic digesters.

Insert as the last sentence under Administration Buildings on page 2-14:

Administration Building #2 may be postponed to a future phase.

Insert under the second bullet of Site Access on page 2-17:

- Improvements to the existing east gate entrance. A right-turn lane will be added to Lakeville Highway, for east-bound right turns into the site, and an acceleration lane will be added for right turns out of the site, for east-bound traffic. Left turns out of the site at the east gate would may be improved with the addition of a left turn bay. The eastbound turn lane will require drainage improvements within the right-of-way, and a retaining wall relocated to the edge of the right-of-way.

Insert at the end of the first paragraph under River Access Improvements on page 2-18:

The river access improvements are designed in concept, as shown in Figure 2-7, however project level design has not yet occurred. These improvements are therefore evaluated at a conceptual or program level. Some of these improvements may be postponed to a future phase.

Correct Table 4.8-6 on page 4.8-59:

Table 4.8-6

Project Impacts to Sensitive Habitats (Acres)

Structure or Activity	Riparian Forest		Marsh and Aquatic (Wetlands and Waters of the U.S.) ¹		Cropland	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Water Recycling Facility						
Ellis Creek Bridge	0.19	0.13	0.03	0.02	0	0
Fill at headworks	0	0	0	0.1	0	0
North road, including culvert	0	0	0.2	0.2	0	0
East road	0	0	0.3	0 0.20	0	0
Wastewater pipelines	0.03	0	1.6	0	2	0
Polishing wetlands, access roads and parking lot	0	0	0	0	25	45
Roads and trails to the Petaluma River	0	0	0	0	0	0
Construction staging areas	0	0	0	0	15	0
Outfall	0	0	0.8	0	0	0
Subtotal	0.22	0.13	2.93	0.32 0.52	42	45
River Access Improvements						
Restoration of Ellis Creek and creation of habitat	0.03	0	1.0	0	0	1.0
2 docks	0	0	0	<0.01	0	0
Levee stabilization	0	0	0	.15	0	0
Retrofit radar antenna structures	0	0	0	.04	0	0
Boardwalk trail to Ellis Creek	0	0	0	<0.01	0	0
Subtotal	0.03	0	1.00	0.21	0	1.0
Total	0.25	0.13	3.93	0.53 0.73	42	46

Correct text under Impact BIO-4 on page 4.8-60:

The site also includes several different kinds of marsh, wetlands, and aquatic habitats; project impacts are 3.93 acres of temporary and ~~0.53~~ 0.73 acres of permanent fill or disturbance.

Correct text under Impact BIO-7 on page 4.8-62:

The Water Recycling Facility will cause up to 2.93 acres of temporary and ~~0.32~~ 0.52 acres of permanent fill or disturbance to jurisdictional wetlands or waters of the U.S.

Insert under Project Conditions on page 4.9-8:

In addition, the following improvements are proposed:

- Lakeville Highway will be widened to accommodate a new acceleration and deceleration lane
- The East Gate will allow right ~~and left~~ turn in and out; a left turn bay may be added

Insert under Impact VR-3 on page 4.13-12:

Both the City and County designate Lakeville Highway as a Scenic Corridor, and travelers along the highway currently have high-quality views of agricultural lands. The existing facilities are currently obscured to southeast-bound travelers due to the lower elevation of the roadway relative to the site, and dense stands of eucalyptus and poplar trees. The new facilities will be partially visible from portions of Lakeville Highway, see Figure 4.13-7 for the visual simulation of the administration buildings. If Administrative Building #2 is delayed, the Solids Handling Building in Pond #4 may be visible at approximately the same height as the Administration Building. Aerobic or anaerobic digestion tanks, also in Pond #4 would be obscured by the Solids Handling Building.

On page 4.13-15:

Measure PD-19 21, Landscaping Design, adopted as part of this project will require the City to provide landscaping to screen views of the site from northwest-bound Lakeville Highway and residents east of the highway.

On page 4.13-16:

Measure PD-19 21, Landscaping Design, adopted as part of this project will require the City to provide landscaping to screen views of the site from northwest-bound Lakeville Highway and residents east of the highway.

Correct text in Table 5-4 on page 5-18:

TABLE 5-4

Alternative Impact Comparison

Impact	Project	No Project	1-Advanced Facultative Ponds	2-Aerated Lagoons	3-Primary Clarifiers/Ponds	4-Hopper Street
<p>BIO-7. Will the project or alternatives cause loss of wetlands or waters of the U.S.?</p>	<p>Less than Significant after mitigation. Impacts would be 2.93 acres of temporary and 0.73 acres of permanent disturbance or loss.</p>	<p>No impact</p>	<p>Less than Significant after mitigation. Impacts would be 2.93 acres of temporary and 0.73 acres of permanent disturbance or loss, plus likely loss of substantial wetlands acres on Parcel C.</p>	<p>Less than Significant after mitigation. Impacts would be 2.93 acres of temporary and 0.73 acres of permanent disturbance or loss, plus likely loss of some wetlands acres on Parcel C.</p>	<p>Less than Significant after mitigation. Impacts would be 2.93 acres of temporary and 0.73 acres of permanent disturbance or loss, plus likely loss of substantial wetlands acres on Parcel C.</p>	<p>Less than Significant after mitigation. Impacts would be 2.93 acres of temporary and 0.73 acres of permanent disturbance or loss.</p>

5 REPLACEMENT PAGES

INTRODUCTION

This volume contains the replacement pages to be inserted into the Draft EIR in response to comments.

Textual edits associated with the replacement pages are primarily related to specific agency and public comments made on the Draft EIR. In addition, there are edits that were made as result of section author review.

ORGANIZATION

The replacement pages are presented by section, as they would appear in the Draft EIR. Text that has been added to the document is indicated in underline font, while text that has been deleted is indicated with ~~striketrough~~ font. The headers and footers are in the same format as the Draft EIR, but have been modified to indicate the new date which reflects the release of the Final EIR. If the addition of new text resulted in additional pages, these new pages are numbered with a lower case letter (i.e., Page 4.9-15a, Page 4.9-15b). Changes to text within a table have been lightly shaded to highlight the edits.



- PD-1 Uniform Relocation Assistance
- PD-2 Purchase Locally Grown or Inspected Plants
- PD-3 Liquefaction Protection
- PD-4 Seismic Design to Resist Ground Shaking
- PD-5 Standard Engineering Methods for Expansive Soils
- PD-6 Standard Engineering Methods for Corrosive Soils
- PD-7 Groundwater Monitoring and Management
- PD-8 ~~Construction~~ Erosion, Stormwater Runoff, and Spill Control Measures
- PD-9 Conduct Phase II Site Assessment at Hopper Street to Assess the Potential for Contamination beneath the Sludge Lagoons
- PD-10 Monitor Soil and Groundwater During Construction for Evidence of Hazardous Waste at Hopper Street
- PD-11 Containerize and Test Suspect Soil and Groundwater Prior to Disposal at Hopper Street
- PD-12 Inspect and Test for Lead-based Paint and Asbestos Containing Materials (ACM) in any Buildings at 950 Hopper Street that will be demolished
- PD-13 Mosquito Prevention
- PD-14 Construction Air Quality Controls
- PD-15 Permitting and Control of Toxic Air Contaminants
- PD-16 Odor Control
- PD-17 Construction Noise Mitigation Measures
- PD-18 Operational Noise Mitigation Measures
- PD-19 Protection of Historic and Archaeological Resources
- PD-20 Protection of Previously Undiscovered Historic and Archaeological Resources
- PD-21 Landscaping Design
- PD-22 Lighting Design
- PD-23 Fire Protection

Acquisition of Land and Annexation

The City proposes to purchase 262 acres of land known as Parcels A and B, as shown on Figure 2-4. This land is currently unincorporated, and the City intends to annex the land at an undetermined time in the future. The City will also attempt to purchase an easement or fee title for the connection between the new access road on Parcel A and the cul-de-sac on Cypress Drive.

Discharge

The plant's permitted discharge capacity will be increased from an average dry weather flow of 5.2 mgd to 6.7 mgd.

Demolition of Hopper Street Facility

After the new facility is operational, the Hopper Street plant will be demolished. Future uses of this site are not included in this project and, therefore, requirements for site decommissioning have not been prepared. These can be identified once the City has decided on a future use. The existing pond influent pump station will remain on site.

Oxidation Ponds

Oxidation ponds provide both storage and biological treatment using oxygen supplied primarily from algae. The oxidation ponds also provide significant metals reduction. In the future, the oxidation ponds will primarily store secondary-treated effluent to meet the discharge prohibition and balance the recycled water program. In addition, the oxidation ponds will provide treatment for wet weather peak flow and polishing of the effluent flow for metals during the river discharge season. The storage volume provided by the oxidation ponds is sufficient for effluent management based on the monthly water balance. The berm will be raised from elevation 20 feet to 23.5 feet around the Extended Aeration Basins No. 1, 2 and 3.

Algae Removal

Algae, which is generated in the oxidation ponds as part of the treatment process, will need to be removed in order to meet discharge and reuse requirements. Algae removal can be provided by either a wetlands treatment system or dissolved air flotation (DAF) thickeners. These two options for algae removal were evaluated as subalternatives in the project report and the predesign report. The wetlands alternative was selected as the preferred alternative. The DAF alternative is discussed in the Alternatives section - Chapter 5.

Wetlands can be designed to remove algae if dense vegetation is provided. The densely vegetated treatment wetlands system would consist of approximately 25 to 30 acres in the existing oxidation Ponds No. 9 and 10 (see Figure 2-4). These ponds will contain secondary-treated water that has not been disinfected, and they will not be open for general public access. This wetlands system is not to be confused with the polishing wetlands proposed on Parcels A and B.

Solids Handling

Solids handling provides for treatment and handling of the solids generated in secondary treatment (waste-activated sludge). The solids treatment will include thickening, aerobic digestion, and dewatering. Thickening of the solids will reduce the size of digestion facilities and improve the process stability. Digestion provides a reduction in volatile solids content of the sludge and therefore a reduction in the odors from solids storage. Aerobic digestion will be in a three-stage process with the first stage in a concrete tank and the following two stages in lined, earthen lagoons. Dewatering provides for removal of water from the sludge prior to hauling off-site for reuse or disposal. All solids handling facilities will be located in Pond No. 4, as shown in Figure 2-4. Odor control facilities will be provided for the thickening and dewatering facilities.

Anaerobic digestion is an alternative to aerobic digestion. Anaerobic digestion facilities would consist of three covered tanks: two 15 ft. in diameter and one 55 ft. in diameter. A digester control building will be included. Digester gas produced in the process would be used in boilers to heat the sludge. The process

has the following advantages: solids quantity for disposal is reduced 35 percent, odors are completely contained, and energy usage and operating costs are reduced by 80 percent. Anaerobic digestion facilities will be located in Pond No. 4 in the same location as the aerobic digesters.

Tertiary Filtration

Tertiary treatment includes chemical and physical treatment, i.e. filtration, to remove solids or organics remaining after secondary treatment. The goal of the

Figure 2-4 for the location of the reservoirs. A recycled water pump station will be located adjacent to the reservoir.

Administration Buildings

Three new buildings for administration, operation, maintenance and the laboratory will be included in the project. The area around them will include landscaping and demonstration gardens. See Figure 2-6 for the conceptual landscape plans. Landscaping includes revegetation of the existing poplar trees with columnar maple or a similar species; the poplars currently serve as a visual buffer between Lakeville Highway and the oxidation ponds. A drinking water pipeline will be brought out to the Project site for the new administration and operations buildings and for public access features (i.e., restrooms) at the polishing wetlands. The pipeline will be laid along the shoulder of the new access road from the business park, across Parcel A and will hang under the bridge across Ellis Creek into the plant site. Administration Building #2 may be postponed to a future phase.

Polishing Wetlands

Up to 45 acres of land adjacent to the existing oxidation ponds (Parcels A and B), as shown on Figure 2-4, will be developed into polishing wetlands. These wetlands will treat disinfected secondary effluent and will be open for public access and education. The polishing wetlands will provide further reduction of metals, nutrients and organics. The effluent from the polishing wetlands will be returned to the plant site for reuse or discharge. The polishing wetlands will be constructed above the 7-foot elevation to avoid any impacts to existing jurisdictional wetlands in addition to being above the 100-year floodplain zone. Signage will be included around the polishing wetlands to meet Title 22 requirements. Facilities on Parcel A and B will provide a buffer between the existing business park and the Water Recycling Facility.

The polishing wetlands will have public education, recreation and landscape features, as shown in Figure 2-4, including:

- Trees planted along new access road and outer wetland cell berms to provide buffer.
- Agricultural fields between wetland cell berms and the business park as habitat with host plants for butterflies.
- Trails around the polishing wetlands, trails along the existing berms down to the old communications building and trails to the Petaluma River on existing road ways and trails.
- A trail link to Shollenberger Park with native plantings along the trail.

Site Access

Currently, there are two entrances into the Lakeville site from Lakeville Highway (State Route 116): east gate and west gate. Due to the speed and volume of traffic on Lakeville Highway, the site will require improved site access and includes the following:

- A new access road through the Oakmead/Northbay Business Park. A new road will be built from the cul-de-sac off Cypress Drive and proceed across Parcels A and B to the polishing wetlands and then the treatment plant. This access will be primarily for staff and public. The road will require a bridge across Ellis Creek near Pond No. 1, as shown in Figure 2-4. The bank on the east side of Ellis Creek is lower than the west side. The construction of the bridge will involve fill on the east side of the bank up to elevation 23.5 feet. The fill will extend from the existing road at the west corner of Pond No. 1 to the perimeter of the stream bank. There will be a 3:1 slope at the edges of the fill covered with rip-rap and other erosion protection features.
- Improvements to the existing east gate entrance. A right-turn lane will be added to Lakeville Highway, for east-bound right turns into the site, and an acceleration lane will be added for right turns out of the site, for east-bound traffic. Left turns out of the site at the east gate ~~would~~ may be improved with the addition of a left turn bay. The eastbound turn lane will require drainage improvements within the right-of-way, and a retaining wall relocated to the edge of the right-of-way.
- In-plant road improvements. Two in-plant roadways will be improved for the project. The east road section will be increased to handle truck traffic. The north road will be widened and the road section improved to provide a safer roadway for daily use. The north road improvements will also include a box culvert across the drainage swale to connect the west and east side of the plant.
- Construction safety. The City will use flagmen or temporary traffic signals on Lakeville Highway, when necessary.

Staging Area and Construction Zones

There will be a fenced staging area located on Parcel A adjacent to the farmhouse. The staging area will be approximately 15 acres and will have a 100-foot setback from Ellis Creek. There will be temporary construction zones established around the following construction areas:

- North access road improvements. There will be a 10 foot wide temporary construction zone on the northern side of the existing road.
- A temporary construction zone will be established around the polishing wetlands and access road.

Construction and Operation Schedule

Construction is expected to start in late 2003 with operation in early 2007.

Cost

The Water Recycling Facility cost is estimated at \$85.1 million. Annual operating costs are estimated at \$4.9 million.¹

River Access Improvements

The river access improvements are designed in concept, as shown in Figure 2-7, however project level design has not yet occurred. These improvements are therefore evaluated at a conceptual or program level. Some of these improvements may be postponed to a future phase.

- Restoration on Ellis Creek and creation of habitat including (the numbers in parentheses correspond to the legend on Figure 2-7):
 - Creation of seasonal ponds (for red-legged frogs) (7).
 - Planting of riparian vegetation species.
 - Development of more diverse creek structure: riffles, runs, pools, or sinuosity (meanders).
 - Creation / placement of in-stream habitat features, e.g. woody debris, overhanging cover, or drop structures/plunge pools.
 - Biotechnical bank stabilization projects.
- Two pedestrian bridges; each approximately a 100-foot span to bridge the levee breaches along the Petaluma River (20).
- A dock on the Petaluma River, near the bridges, to accommodate boat access (approximately 5 ft wide by 50 ft. west into the River and 75 ft long south along the River) (21).
- Levee stabilization is proposed along the Petaluma River on Parcel B to prevent further erosion and widening of the levee breaches (18).
- Retrofit four existing concrete structures (old radar antenna structures) located in tidal mudflats to provide wildlife habitat/use (24).
- A retrofit of the existing abandoned naval radio building to provide public viewing access to the existing tidal wetlands (22).

¹ Construction costs are based on December 2004 dollars (mid-pt. of construction) using a San Francisco ENR Construction cost index of 7925. Costs include engineering, legal, administration, and construction contingency. Costs do not include Hopper Street Plant demolition, land acquisition, levee stabilization, easements, or right of way. Operation and maintenance estimate includes equipment replacement, chemical use, power, labor, solids handling, and wetlands maintenance based on December 2004 dollars.

Table 3-2

Mitigation Monitoring Checklist

Mitigation Measure Measures Included in the Project	Implementing Agency	Monitoring Agency	Status	Comments
PD-1 Uniform Relocation Assistance	City of Petaluma	City of Petaluma		
PD-2 Purchase Locally Grown or Inspected Plants	Design Engineer	City of Petaluma		
PD-3 Liquefaction Protection	Design Engineer	City of Petaluma		
PD-4 Seismic Design to Resist Ground Shaking	Design Engineer	City of Petaluma		
PD-5 Standard Engineering Methods for Expansive Soils	Design Engineer	City of Petaluma		
PD-6 Standard Engineering Methods for Corrosive Soils	Design Engineer	City of Petaluma		
PD-7 Groundwater Monitoring and Management	City of Petaluma	City of Petaluma		
PD-8 Construction Erosion, Stormwater Runoff, and Spill Control Measures	Construction Manager and <u>Design Engineer</u>	City of Petaluma & San Francisco Bay RWCB		
PD-9 Conduct Phase II Site Assessment at Hopper Street to Assess the Potential for Contamination beneath the Sludge Lagoons	City of Petaluma	City of Petaluma		
PD-10 Monitor Soil and Groundwater During Demolition/ Construction for Evidence of Hazardous Waste at Hopper Street	Construction Manager	City of Petaluma		
PD-11 Test Suspected and Properly Dispose of Soils and Groundwater at Hopper Street	City of Petaluma	City of Petaluma		

PD-8 Construction Erosion, Stormwater Runoff, and Spill Control Measures

Description: The City shall develop and implement measures designed to prevent significant construction impacts to water quality. Examples of possible measures include ~~revegetation of temporarily disturbed sites, development and implementation of a Storm Water Pollution Prevention Plan, protection of waterways from toxic discharge, and concrete waste management.~~ the following:

Construction Site Best Management Practices (BMPs)	
ID	BMP Name
Temporary Soil Stabilization	
SS-1	Scheduling
SS-2	Preservation of Existing Vegetation
SS-3	Hydraulic Mulch
SS-4	Hydroseeding
SS-5	Soil Binders
SS-6	Straw Mulch
SS-7	Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats
SS-8	Wood Mulching
SS-9	Earth Dikes/Drainage Swales & Ditches
SS-10	Outlet Protection/Velocity Dissipation Devices
SS-11	Slope Drains
Temporary Soil Stabilization	
SC-1	Silt Fence
SC-2	Desilting Basin
SC-3	Sediment Trap
SC-4	Check Dam
SC-5	Fiber Rolls
SC-6	Gravel Bag Berm
SC-7	Street Sweeping and Vacuuming
SC-8	Sandbag Barrier
SC-9	Straw Bale Barrier
SC-10	Storm Drain Inlet Protection
Wind Erosion Control	
WE-1	Wind Erosion Control
Tracking Control	
TC-1	Stabilized Construction Entrance/Exit

Construction Site Best Management Practices (BMPs)	
ID	BMP Name
TC-2	Stabilized Construction Roadway
TC-3	Entrance/Outlet Tire Wash
Non-Storm Water Management	
NS-1	Water Conservation Practices
NS-2	Dewatering Operations
NS-3	Paving and Grinding Operations
NS-4	Temporary Stream Crossing
NS-5	Clear Water Diversion
NS-6	Illicit Connection/Illegal Discharge Detection and Reporting
NS-7	Potable Water/Irrigation
NS-8	Vehicle and Equipment Cleaning
NS-9	Vehicle and Equipment Fueling
NS-10	Vehicle and Equipment Maintenance
Waste Management and Materials Pollution Control	
WM-1	Material Delivery and Storage
WM-2	Material Use
WM-3	Stockpile Management
WM-4	Spill Prevention and Control
WM-5	Solid Waste Management
WM-6	Hazardous Waste Management
WM-7	Contaminated Soil Management
WM-8	Concrete Waste Management
WM-9	Sanitary/Septic Waste Management
WM-10	Liquid Waste Management

Source: Caltrans 2000

In addition, stormwater runoff from the existing oxidation pond site shall be diverted into the wastewater treatment system. Stormwater runoff from the visitors parking lot on Parcel A shall be treated either by diversion into the wastewater treatment system or installation of an oil and grease separator at the bottom of the lot.

Construction within the Petaluma River or the lower portions of Ellis Creek shall be performed from a barge and with divers when appropriate. Excavation underwater shall be done with pressurized water.

Lead Agency: City of Petaluma Water Resources and Conservation Department

Implementing Agency: Construction Manager and Design Engineer

Timing: **Start:** Prior to start of construction
Complete: Upon completion of construction

Monitoring Agency: City of Petaluma and San Francisco Bay Regional Water Quality Control Board

Validation: Storm Water Pollution Prevention Plan

PD-19 Protection of Historic and Archaeological Resources

Description: In order to preserve cultural resources, the City shall perform subsurface testing, evaluation for significance, and/or recordation for the ~~three~~four sites, when avoidance is not feasible. The Hopper Street facility, the communication facility, Site C-757 (to the extent it is located on City property), and the farm complex on Lakeville Highway shall be recorded, mapped, and photographed by a qualified professional architectural historian to Department of Parks and Recreation (DPR) standards on current DPR 523 series forms. The Hopper Street facility shall be evaluated for significance to the NRHP. All site records and evaluation documentation shall be submitted to the State Historic Preservation Office for Section 106 compliance prior to any construction activities on the site.

Lead Agency: City of Petaluma Water Resources and Conservation Department

Implementing Agency: City of Petaluma

Timing: **Start:** Upon certification of the EIR
Completion: Prior to construction

Monitoring Agency: City of Petaluma

Validation: Recordation for the ~~three~~ four sites

that the primary use of the land may create agricultural “nuisance” situations, such as flies, noise, odors, and spraying of chemicals.

AR-4c: Protect agricultural operations by establishing a buffer between the agricultural land use and the residential use at the urban fringe adjacent to an agricultural land use category. Buffers shall generally be defined as a physical separation of 100 to 200 feet and/or may be a topographic feature, a substantial tree stand, water course or similar feature. In some circumstances a landscaped berm may provide the buffer. The buffer shall occur on the parcel for which a permit is sought and shall favor protection of the maximum amount of farmable land.

AR-4d: Apply the provisions of the “Right to Farm” Ordinance to all lands designated within agricultural land use categories.

California Department of Conservation

The California Department of Conservation’s Farmland Mapping and Monitoring Program produces maps and statistical data used for analyzing impacts on California’s agricultural resources (California Department of Conservation, 1992). The agricultural lands in California are categorized by soil quality and irrigation status, then depicted on a map by symbol. The agricultural categories range from Prime Farmland (the best) to Grazing Land.

Although the local agencies do not differentiate between different *types* of agricultural land and feel that loss of any agricultural land is significant, the California Mapping and Monitoring Program does categorize the lands. Appendix G of the CEQA Guidelines states that a significant impact would occur if Prime Farmland were converted to a nonagricultural use. The state farmland mapping program designates the oxidation pond site at Lakeville Highway as “D-Urban and Built-up Land”, which is defined as land containing man-made structures or the infrastructure required for development (e.g., sewage treatment facilities). Parcels A and B, northwest of the oxidation ponds, are designated “L-Farmland of Local Importance”, which is defined as land of importance to the local agricultural economy as determined by each county’s board of supervisors and a local advisory committee. Specifically, this designation includes the hay producing areas of the Petaluma Valley.

Resource Conservation Service Soil Capability Classification

Soils on Parcel A are primarily Clear Lake clay; soils on Parcel B are primarily Reyes silty clay. Clear Lake clay is a Class II productivity soil and Reyes silty clay is Class IV.

Capability Unit IIs-5 (CeA - Clear Lake clay)

In this unit are soils of the Clear Lake series and the land type "Alluvial land, clayey". Some of these soils are moderately well drained and others are drained and on the edge of basins. Slopes are drained and on the edge of basins. Slopes generally are less than 2 percent, but along the edge of the larger basins they are less than 1 percent. The surface layer is clay loam to silty clay, and wide cracks form as it dries. The Clear Lake soils are more than 60 inches deep. They have thick layers of fine gravel at a depth below 20 to 40 inches in places.

The total available water capacity varies in Alluvial land, clayey, and is 8 to 10 inches in Clear Lake soils. Infiltration is rapid, and moisture is absorbed rapidly until the cracks in the surface close; after that infiltration is slow or very slow. Fertility varies.

The soils and land type in this unit are better suited to field and forage crops and to certain row crops than to other crops. They are also suited to prunes, pears, and grapes.

Alluvial land, clayey, and Clear Lake soils are slow to warm in spring. Crops on them generally respond to nitrogen fertilizer. Preparing a seedbed is difficult because hard clods form unless the soils are worked at the right moisture content. Returning all crop residue to the soil helps to improve tilth and structure.

Capability Unit IVw-9 (RmA - Reyes silty clay)

Reyes silty clay, 0 to 2 percent slopes, is the only soil in this unit. This poorly drained soils is in low areas, where the surface is undulating and irregular. Generally layers of peat that range from thin to thick occur throughout the profile. In places small stringers or organic material extend from the surface to a depth of several feet. Erosion is not a hazard.

Reaction in the lower layers of this soil and in unreclaimed areas is pH 4 to 5.5. In places where the soil is drained and reclaimed and the soil is cultivated and allowed to dry and oxidize, reaction is pH 3.5 to 5.0. Some salt is in the soil in places, but fresh water from winter rains reduces or neutralizes the harmful effects of excess salt. Fertility is moderate. Runoff and permeability are slow. The water table generally is within a few feet of the surface.

This soils is suited only to small grains and forage plants that tolerate salts and acidity. The chief crop generally is oats grown for hay, though occasionally the oats are threshed for grain. This soil is fairly well suited to narrow-leaf trefoil. Growth of safflower is fair.

If this soil is drained, care is needed to reduce the water table only to the minimum depth suitable for shallow-rooted crops. This soil is difficult to rewet once it dries.

Williamson Act (Land Conservation Act of 1965)

Some of the agricultural lands in Sonoma County are contracted under the Williamson Act. The contracts lower property taxes on lands that are kept in agricultural use. The property owner enters into an agreement with the county or city and pledges to restrict a determined amount of land to agricultural use only. In return, the county or city agrees to assess the price of the restricted land based on the actual use instead of its potential value assuming full development. This lowers the property tax amount considerably.

To be eligible, the land in question must be: "designated by a city or county as agricultural preserve; scenic highway corridor, or wildlife habitat area, or it must be

Table 4.5-1

Receiving Water Quality

Constituent	Units	San Pablo Bay (BD20)				Petaluma River (BD15)				Petaluma River at Outfall (Self Monitoring C2B)			Petaluma River at Outfall (Special study)		
		Min	Median	Max		Min	Median	Max		Min	Mean	Max	Min	Mean	Max
Total Chloro-danes	µg/L	6.1E-05	1.9E-04	3.4E-04		5.4E-05	2.7E-04	7.8E-04							
Total DDTs	µg/L	2.4E-04	6.6E-04	2.4E-03		7.5E-04	1.2E-03	6.8E-03							
Diazinon	µg/L	1.0E-06	4.4E-03	3.1E-02		1.0E-06	6.1E-03	1.4E-02							
Dieldrin	µg/L	1.0E-06	8.0E-05	2.4E-04		1.0E-06	6.4E-05	1.6E-04							
PCBs	µg/L	1.4E-04	3.7E-04	1.5E-03		1.7E-04	4.7E-04	1.4E-03							
PAHs	µg/L	0.0065	0.033	0.090		0.030	0.080	0.505							
Mercury (TR)	µg/L	0.004	0.010	0.0470		0.013	0.046	0.126				0.0089	0.0142	0.018	
Mercury (D)	µg/L	0.000	0.001	0.003		0.001	0.002	0.035							
Selenium (TR)	µg/L	0.089	0.170	0.330		0.060	0.225	0.410							
Selenium (D)	µg/L	0.100	0.150	0.240		0.104	0.171	0.310							
Arsenic (TR)	µg/L	0.003	0.014	0.058		0.012	0.045	0.140							
Arsenic (D)	µg/L	1.190	1.420	1.950		1.830	2.240	3.280							
Cadmium (TR)	µg/L	0.026	0.040	0.098		0.049	0.092	0.170							

Table 4.5-1

Receiving Water Quality

Constituent	Units	San Pablo Bay (BD20)			Petaluma River (BD15)			Petaluma River at Outfall (Self Monitoring C2B)			Petaluma River at Outfall (Special study)		
		Min	Median	Max	Min	Median	Max	Min	Mean	Max	Min	Mean	Max
Cadmium (D)	µg/L	0.010	0.029	0.092	0.010	0.045	0.100						
Chromium (TR)	µg/L	2.580	4.50	24.83 40.7	4.570	39.59	55.96						
Chromium (D)	µg/L	0.110	0.195 0.190	2.470	0.130	0.310	8.790						
Copper (TR)	µg/L	2.200	4.100 4.787	14.3 14.3	2.860	11.04	20.75				5.27	7.6	11.5
Copper (D)	µg/L	1.200	1.550	2.540	2.200	3.349	4.770				2.14	5	10.6
Lead (TR)	µg/L	0.300	1.480 2.08	6.46 6.46	1.190	4.800	7.380						
Lead (D)	µg/L	0.002	0.021 0.017	0.253	0.007	0.015	0.991						
Nickel (TR)	µg/L	2.600	6.300 7.32	30.35 30.35	5.600	28.58	41.30				10.2	16.9	24.5
Nickel (D)	µg/L	1.000	1.630 1.57	3.730	1.700	6.505	37.40				5.06	11.6	26.8
Silver (TR)	µg/L	0.003	0.010 0.014	0.059 0.059	0.012	0.045	0.140						
Silver (D)	µg/L	0.001	0.002	0.004 0.005	0.001	0.003	0.012						

Table 4.5-1

Receiving Water Quality

Constituent	Units	San Pablo Bay (BD20)				Petaluma River (BD15)				Petaluma River at Outfall (Self Monitoring C2B)			Petaluma River at Outfall (Special study)		
		Min	Median	Max		Min	Median	Max		Min	Mean	Max	Min	Mean	Max
Zinc (TR)	µg/L	2.330	7.400 10.55	19.67 35.0		6.720	27.31	46.36							
Zinc (D)	µg/L	0.200	0.649 0.594	1.30		0.200	0.579	8.40							
Ammonia	mg/L as N	0.0	0.03 0.06	0.13		0.00 0.02	0.05 0.11	0.26 0.42	0.1	0.73	1.9	0.3	0.675	1.1	
Un-ionized ammonia	mg/L as N					0.0004				0.003	0.0072	0.002	0.00575	0.011	
NO ₃	mg/L as N											0.9	1.2	1.5	
NO ₂	mg/L as N											0.07	0.10	0.16	
PO ₄	mg/L as P											0.8	1.0	1.4	
TSS	mg/L	7.2	34.2 62.7	148.4 242		32.0	217 211	414				28	60	120	
Temperature	°C	10.3	12.7 12.9	16.0 18.0		11.4	14.4	22.5	6.1	12.4	19	12.8	15.4	19	
pH	--	7.5	7.8	8.3		7.1	7.8	9.0	7	7.4	7.6	7.2	7.5	7.8	
Salinity	Ppt	0.5	6.6 8.1	22.9		0.3	5.3	22.3	0.2	10.8	38.0	0.7	5.6	15.4	

Table 4.5-1

Receiving Water Quality

Constituent	Units	San Pablo Bay (BD20)			Petaluma River (BD15)			Petaluma River at Outfall (Self Monitoring C2B)			Petaluma River at Outfall (Special study)		
		Min	Median	Max	Min	Median	Max	Min	Mean	Max	Min	Mean	Max
Conductivity	µmhos/cm							338	16,800	59,400			
Hardness	mg/L							86	1661	4720	310	838	0160
DO	mg/L	0.8	9.5	10.6	1.4	8.1 8.4	10.2	5.0	7.2	9.4			
Chl-a	µg/L	0.6	6.9	32.5	2.2	11.3	106.3	0.4	10.5	45.7	<5	28.8	120
Turbidity	NTU							24.8	95.1	220			
Secchi depth	inches							1	7.2	12.5			
Total coliform bacteria								22	797 (median = 500)	>1600			

Table 4.5-2

Existing Effluent Quality^a (October-May, 1997-2001)
(all values in µg/L unless noted)

Constituent	# samples	Min or Detection Limit	Median or 30-day Average	Instantaneous Max	Lowest of CTR ^b or Basin Plan Criteria
Conventional Constituents					
Ammonia-N (mg/L)	26	1.6	8.7	17	NA
Un-ionized ammonia-N (mg/L)	25	0.0085	0.030	0.15	0.025 (median) 0.16 (maximum)
Total Coliform Bacteria (MPN/100 ml)	508	<2	2 ^c	>1600	240 (median) ^d 10,000 (maximum)
TSS (mg/L)	332	5	28 ^c	77.4	NA
BOD ₅ (mg/L)	297	6.6	16.0 ^c	40.3	NA
pH	664	6.6	7.4 ^c	8.5	≥6.5 and ≤8.5
Conductivity (µmhos/cm)	18	307	1,025 ^c	1,177	NA
Hardness (mg/L)	26	154	174 median 182 average	250	NA
DO (mg/L)	659	0.6	5.4 ^c	0.6 (min)	≥5.0
Oil and Grease (mg/L)	25	2	5.0	14.9	NA
Chl- <i>a</i>	24	8.8	220	745	NA
Cyanide	31	<3	<3	17	1.0
Acute Toxicity - minnow (% survival)	26	95	100	100	Median >90% or >70% 10% of the time
Acute Toxicity - stickleback (% survival)	13	40	100	100	Median >90% or >70% 10% of the time
Chronic Toxicity (100/NOEL)	4-5	NA	1	1-1.2	1
Chlorine residual (#hrs>0)	26	0.0	0.0	4.3	NA
Detected Organic Compounds					
Total dioxin compounds	2	0.000078	0.0000088	0.0000099	NA ^c
1,2,3,4,6,7,8-HeptaCDD (pg/L)	3	ND	2.72 (0.027) ^f	4.6 (0.046) ^g	0.014
OctaCDD (pg/L)	3	ND	16.9 (0.0017) ^f	41 (0.0041) ^g	0.014
1,2,3,4,7,8-HexaCDF (pg/L)	3	ND	ND (0.00) ^f	0.991 (0.099) ^g	0.014
1,2,3,4,6,7,8-HeptaCDF (pg/L)	3	ND	1.5 (0.015) ^f	2.1 (0.021) ^g	0.014
OctaCDF (pg/L)	3	ND	3.77 (0.00038) ^f	5 (0.0005) ^g	0.014
Bis(2-ethylhexyl)phthalate	14	<5	<5	8	5.9

project and is the basis for the water quality impacts evaluation presented here. It was determined that the criteria were met for a simple analysis.

City of Petaluma General Plan

The River Element of the City's General Plan includes the following objective:

River Element Objective

- h) Improve the quality of the water in the Petaluma River.

EVALUATION CRITERIA WITH POINT OF SIGNIFICANCE

Table 4.5-4

Evaluation Criteria with Point of Significance – Surface Water Quality

Evaluation Criteria	As Measured by	Point of Significance	Justification
1. Will the project discharge cause numeric-based criteria to be exceeded?	Concentration	Varies	U S. EPA (California Toxics Rule) criteria; Basin Plan criteria
2. Will the project discharge cause narrative-based criteria to be exceeded?	Varies	Varies	Basin Plan narrative criteria
3. Will the project construction result in a substantial degradation of surface runoff quality?	Compliance with local and state storm water quality regulations requiring implementation of effective Best Management Practices	Any failure to implement effective, reasonable and appropriate measures	State of California General NPDES Permits for Discharges of Storm Water Associated with Construction and Industrial Activities. CEQA Checklist

Source: Parsons, 2002

Numeric Criteria

Numeric criteria are based on the California Toxics Rule and the Basin Plan. The California Toxics Rule and Basin Plan numeric criteria for the protection of aquatic organisms have both saltwater and fresh water criteria. Since the Petaluma River is estuarine, the lowest of the salt water or freshwater criteria for the protection of aquatic life was used to evaluate impacts (as stipulated in the California Toxics Rule). In addition, organisms in the receiving water will be exposed to wastewater for varying lengths of time. For this reason, the chronic criteria (criterion continuous concentration in the California Toxics Rule and 4-day average criteria in the Basin Plan) were used where available since these are more stringent than acute criteria. The lowest

Analysis: *Toxicity – Less than Significant.* Acute toxicity in Petaluma's effluent is tested for monthly during the discharge season as part of Petaluma's NPDES permit. Since 1997, the median acute toxicity was 100 percent survival for both minnows and sticklebacks. The minimum survival for minnows was 95 percent. The minimum survival for sticklebacks was 40 percent, but that occurred in only one case (8 percent of the time) (personal communication, McCord 2002). The next lowest survival for sticklebacks was 80 percent. Therefore greater than 70 percent survival occurred more than 10 percent of the time. Chronic toxicity was conducted ~~four~~ five times through 2001. In all four of the five tests, 100 percent wastewater produced no observed effect for both larval survival and larval growth tests. However, in 2001 and again in 2002 (2002 data recently received and not reported in Table 4.5-2) chronic toxicity was observed, with 100/NOEL greater than 1. During both these toxicity tests, effluent ammonia concentrations were elevated (10 to 14 mg-N/L during both tests). Although not promulgated for the State of California, the EPA has guidelines for ammonia toxicity that update Basin Plan objectives. The concentrations of ammonia in the chronic toxicity tests exceeded the EPA's recommended chronic criterion for ammonia (fish early life stages present) and are the likely cause of the observed toxicity. However, with implementation of the project, ammonia toxicity is not expected to have a significant impact on the receiving waters for two reasons:

With the particular treatment processes being constructed as part of the project, final effluent discharged to the river is expected to have greatly reduced ammonia concentrations (less than 8 mg-N/L).

The toxicity tests evaluate toxicity in 100 percent wastewater although dilution will occur. Using mass balance calculations (maximum effluent concentration of 8 mg-N/L, median receiving water concentration of 0.11 mg-N/L and maximum percent wastewater of 33.4 percent), the predicted concentration of ammonia in the receiving water is 2.7 mg-N/L. With the usual temperature (13-14 °C) and pH (7.8) conditions in the receiving water, the EPA chronic criterion for ammonia (fish early life stages present) is 3.2 mg-N/L so the discharges to the receiving water are not expected to exhibit ammonia toxicity.

Therefore, the impact of the project on acute and chronic toxicity in the receiving water is expected to be less than significant.

Mitigation: No mitigation is needed.

Analysis: *Turbidity – Less than Significant.* Turbidity in aquatic systems results primarily from suspended sediment and planktonic algae. Therefore, the impact of the project on turbidity is covered under sediment and biostimulation objectives.

Mitigation: No mitigation is needed.

Analysis: *River Access Improvements – No Impact*

These improvements have no discharge component and therefore have no impact

Mitigation: No mitigation is necessary.

IMPACT: WQ-3: Will the project construction result in a substantial degradation of surface runoff quality?

Analysis: *Water Recycling Facility and River Access Improvements - Less than Significant*

Construction activities, particularly the proposed polishing wetlands and filtration/disinfection facilities that will be located at the Lakeville Highway site that is near Ellis Creek have the potential to cause discharge of pollutants to waterways through erosion and accidental spills. In addition, replacement of the outfall and levee stabilization has the potential to cause temporary sediment disturbance during construction in the Petaluma River. Runoff from parking lots and streets during operation of the project also has the potential of contributing contaminants to stormwater runoff entering Ellis Creek and the Petaluma River. Measure PD-9, Construction Erosion and Spill Control Measures, adopted as part of this project, requires the City develop and implement measures designed to prevent significant construction and operational impacts to water quality. With implementation of this measure, impacts will be reduced to less than significant.

Mitigation: No mitigation is necessary.

CUMULATIVE IMPACTS

IMPACT: WQ-C1: Will the project have a cumulative potential to cause numeric or narrative-based criteria to be exceeded?

Analysis: *Water Recycling Facility and River Access Improvements - Less than Significant*

rustica), red-winged blackbird (*Agelaius phoeniceus*), savanna sparrow (*Passerculus sandwichensis*), mallard (*Anas platyrhynchos*) with young; and western meadowlark (*Sturnella neglecta*). Three long-billed curlews (*Numenius americanus*) were observed in flight over this community.

Parcel C appears to be plowed and therefore is agricultural. However, marsh is also apparent on the site as determined from 1999 aerial photography.

Table 4.8-1

Plant Community/Wildlife Habitat Relationship System Habitat Type Comparison

Plant Community	Corresponding CWHR Habitat
Agricultural	Cropland
Ornamental Landscape	Eucalyptus
Ruderal/Disturbed	Urban
Coastal Brackish Marsh (including Aquatic)	Saline Emergent Wetland and Aquatic
Black Cottonwood Riparian Forest	Valley Foothill Riparian

Source: Holland (1986); Mayer and Laudenslayer, Jr. (1988)

Coastal Brackish Marsh

Small channels are interspersed throughout the agricultural lands of Parcels A and B and are lined by cattails (*Typha latifolia*) and tules (*Scirpus californicus*). Species observed in these channels included song sparrow, cinnamon teal (*Anas cyanoptera*), and red-winged blackbird. Dominant plant species include saltgrass (*Distichlis spicata*) and alkali heath (*Frankenia salina*) with scattered pickleweed (*Salicornia virginiana*). Several ditches or canals drain the agricultural areas. These are vegetated with annual semaphore grass (*Pleuropogon californicus*), Douglas meadowfoam (*Limnanthes douglasii* ssp. *douglasii*), and in the wettest portions, flowering quillwort (*Lilaea scilloides*). Parcel C may contain marsh habitat. Evidence for the occurrence of this vegetation type was taken from the February 11, 1999 color aerial photograph of the site (Pacific Aerial Surveys 1999).

Ornamental Landscape

This community type is comprised primarily of eucalyptus (*Eucalyptus globulus*) stands, but also contains English ivy (*Hedera helix*) and other ornamental species including Lombardy poplars (*Populus nigra*) on the north side of the existing oxidation ponds. The two principal eucalyptus stands are located along the edge of the business park adjacent to Parcels A and B and along the western edge of the oxidation ponds. Lawn and small ornamental trees are in the area northwest of Parcel A where the new access road will

connect to the cul-de-sac on Cypress Drive. Species observed included red-winged blackbird, California towhee (*Pipilo crissalis*), house finch, European starling (*Sturnus vulgaris*), Anna's hummingbird (*Calypte anna*), and Bullock's oriole (*Icterus bullockii*)

therefore qualifies not only as "waters" but also as "wetlands" since, by definition, wetlands are vegetated. The Corps takes jurisdiction over the OHWM of creeks or drainages that are either navigable waters of the U.S., or tributary to navigable waters. The Petaluma River is a navigable water of the U.S. and Ellis Creek is a tributary to the Petaluma River.

Nonjurisdictional wetland habitats include the vegetated irrigation canals within the plowed hayfields that were excavated on dry land and do not connect to a water of the U.S. Upland habitats consist of annual grasslands and plowed agricultural fields.

Jurisdictional areas are preliminary and subject to review and modification by the regulatory branch of the Corps.

Aquatic Habitat

Information on aquatic habitat and fisheries resources in and near the project site was obtained from sources including the Brown and Caldwell and Jones and Stokes (1995) Revised Draft EIR, the Petaluma General Plan (1997), the Initial Study for this project (Parsons HBA 2001), Moyle et al (1995), Jennings and Hayes (1994), Leidy (1984), USFWS (1998), CNDDDB records (2000), Fawcett (2001), and discussions with Bill Cox (CDFG) and Don Hankins (USFWS).

Petaluma River, Marsh and Tributaries

The Petaluma River is a shallow, 18-mile long tidal estuary draining a watershed of approximately 126 square miles. Because of an excessive sediment load from tributaries and surrounding land uses, the river is regularly dredged and intensively managed to maintain channel capacity, provide adequate clearance for commercial and recreational navigation, and limit flooding of urban and rural residential areas. Most of the tributaries are small, seasonal streams draining small, highly modified watersheds. Only two tributaries, Adobe Creek and San Antonio Creek, are presently known to irregularly support runs of anadromous salmonids (personal communication Bill Cox, CDFG and Pete Adams, NMFS; February 2002). However, as a tidal estuary and as part of the San Pablo Bay estuary, the Petaluma River and Marsh support a variety of aquatic species on a regular, seasonal, or occasional basis, including a number of special-status species. In the previous Draft EIR (Brown and Caldwell 1995), 25 fish species found in the Petaluma River are listed, about half of which are natives (Table 3F-1). In recent collections near downtown Petaluma, Fawcett (~~Report in prep.~~ Tetra Tech, 2001) found 17 fish species, including three species not listed in the 1995 report.

Ellis Creek, the tributary adjacent to the existing oxidation ponds, is a third-order (i.e., the main stem is connected to at least two smaller branches, each of which is joined by smaller branching tributaries) seasonal stream that has been highly degraded by agricultural activities (dams, diversions, dairy wastes, loss of riparian corridor, erosion) over a long period of time. Most of the main stem dries completely each summer. However, at least one small reach (above the confluence with Higgins Creek) has a mature riparian canopy and maintains water in pools throughout the dry season, and there may be similar remnants on private lands further upstream. Downstream from Lakeville Highway (adjacent to the oxidation ponds), the straightened channel has a well

- Any ground-disturbing construction activity in Ellis Creek (i.e., in the bank or bed of the channel) shall be 1) conducted when no or low freshwater flow from upstream into the work area (which will potentially be tidal at the time of construction) is occurring to avoid downstream transport of sediment and impacts on any migrating salmonid fish, or other rare aquatic species; and 2) conducted between coffer dams around which any tidal or stream flow shall be routed. Prior to coffer dam installation, a qualified biologist shall seine the area between the dams and the area within 25 feet of the dams to determine if sensitive species are present. If sensitive species are present, they should be relocated in consultation with NMFS, USFWS and DFG consistent with federal and State regulations.
- Facilities shall be located and constructed using methods that minimize the loss of existing riparian vegetation. Unavoidable loss of riparian vegetation shall be mitigated by planting sufficient riparian vegetation of like species so as to compensate for the loss.
- A 20-foot buffer zone from the top of the bank of Ellis Creek shall be established, where feasible, and fenced during construction.
- If aquatic habitat must be removed, create or restore like habitat on site at a compensatory ratio of 2:1 (2 acres of restored habitat for every 1 acre impacted) or as required by the Corps of Engineers. Identify opportunities to improve current habitat conditions within Ellis Creek and implement, where feasible. Cropped upland is available as mitigation sites for salt marsh, freshwater marsh, or stream impacts. Shollenberger Park also has sites available for mitigation for river habitat impacts.
- Best management practices shall be implemented to control erosion, sedimentation, and runoff of pollutants. As an appropriate example, best management practices are described in the Caltrans Storm Water Quality Handbooks. Construction Site Best Management Practices Manual (November 2000). Refer to Measure PD-8 for a potential list. These shall be implemented as necessary under the supervision of the construction manager. Detailed specifications shall be incorporated onto bid documents and construction drawings.
- Construction and grading activities that would affect Ellis Creek, or upland areas that might erode into the creek, shall be restricted to the dry season.

Mitigation: **BIO-1b. Rare, Threatened and Endangered Plant Protection Program**

A qualified biologist shall be retained to conduct floristically-based surveys for special-status plants in accordance with the CDFG's "Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities" prior to initiation of construction activities. The purpose of these

surveys will be to locate and identify any special-status plants that may occur in the proposed construction zone.

If special-status plants are located during the surveys, exclusionary buffer zones (recommend a minimum 30-foot buffer, where feasible) shall be established around each population site. Mesh fencing shall be installed at the boundary of the exclusionary buffer zone prior to initiation of construction activities.

Table 4.8-6

Project Impacts to Sensitive Habitats (Acres)

Structure or Activity	Riparian Forest		Marsh and Aquatic (Wetlands and Waters of the U.S.) ¹		Cropland	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Water Recycling Facility						
Ellis Creek Bridge	0.19	0.13	0.03	0.02	0	0
Fill at headworks	0	0	0	0.1	0	0
North road, including culvert	0	0	0.2	0.2	0	0
East road	0	0	0.3	0 0.20	0	0
Wastewater pipelines	0.03	0	1.6	0	2	0
Polishing wetlands, access roads and parking lot	0	0	0	0	25	45
Roads and trails to the Petaluma River	0	0	0	0	0	0
Construction staging areas	0	0	0	0	15	0
Outfall	0	0	0.8	0	0	0
Subtotal	0.22	0.13	2.93	0.32 0.52	42	45
River Access Improvements						
Restoration of Ellis Creek and creation of habitat	0.03	0	1.0	0	0	1.0
2 docks	0	0	0	<0.01	0	0
Levee stabilization	0	0	0	.15	0	0
Retrofit radar antenna structures	0	0	0	.04	0	0
Boardwalk trail to Ellis Creek	0	0	0	<0.01	0	0
Subtotal	0.03	0	1.00	0.21	0	1.0
Total	0.25	0.13	3.93	0.53 0.73	42	46

Source: Parsons 2002

¹ Please note that the Marsh and Aquatic Habitat columns include waters of the U.S. which are not vegetated and in some cases are not included in impact calculations or mitigation requirements.

Permanent loss of wildlife habitat is very small and does not meet the threshold of significance set at 10 percent of the habitat in the region. Therefore, impacts are found to be less than significant. In addition, the wildlife habitat currently provided by agriculture will be replaced with wildlife habitat provided by wetlands. These wetlands will continue to support nesting and foraging activities of wildlife populations.

Mitigation: No mitigation is necessary.

IMPACT: BIO-4: Will the project cause a permanent loss of sensitive native plant communities?

Analysis: *Water Recycling Facility and River Access Improvements - Significant*

Sensitive riparian habitat (including intermittent aquatic habitat) occurs at the site of the proposed Ellis Creek Bridge; project impacts are 0.25 acres of temporary and 0.13 acres of permanent disturbance. The site also includes several different kinds of marsh, wetlands, and aquatic habitats; project impacts are 3.93 acres of temporary and ~~0.53~~ 0.73 acres of permanent fill or disturbance. See Impact BIO-7 for a discussion of wetland impacts.

Mitigation: **BIO-4: Prepare a Riparian Census and Conceptual Riparian Mitigation Plan**

A qualified biologist shall conduct a census of all riparian woody vegetation from the top-of-bank and/or drip-line of the tree or shrub canopy within the project area of the proposed Ellis Creek bridge and approaches. The census will take place within the staked and flagged areas of the site where ground disturbance will take place. The census will include identification of riparian tree and shrub species, counts of stems, and diameter at breast height for those stems greater than 24-inches in diameter within the construction footprint. The City will prepare a Riparian Mitigation and Monitoring Plan to include a planting palette, a conceptual planting plan, performance criteria, and procedures for maintenance and monitoring. The plan will be written in sufficient detail for a CDFG 1603 Streambed Alteration Agreement. Mitigation will be on site, if possible, at a ratio of 2:1, namely 2 acres of riparian forest for every acre impacted by the construction of the proposed Ellis Creek Bridge. Mitigation sites will be preserved in perpetuity.

After
Mitigation: *Less than Significant*

Replacement of lost riparian vegetation on site will reduce the impacts of the project on sensitive riparian wildlife habitat to less than significant. Land is available within the project area for compensatory creation of riparian habitats.

Analysis: *River Access Improvements – Significant*

Docks proposed in the Petaluma River and Ellis Creek will permanently effect approximately 75 feet and 10 feet of streambed respectively. A permanent loss of aquatic habitat will occur in the Petaluma River from levee stabilization over approximately 1,300 linear feet.

Mitigation: **BIO-1a. Aquatic Species Protection Program**

After

Mitigation: *Less than Significant*

Mitigation Measure BIO-1a will require avoidance of impacts to aquatic habitat where feasible, and compensation for any loss if necessary. Compensation will consist of restoration or creation of habitat on site in kind at a ratio of 2:1 or at the ratio prescribed by the Corps of Engineers. This will reduce impacts to aquatic habitats to less than significant. Land is available within the project area or at Shollenberger Park for compensatory creation of riparian, wetlands or river habitats.

IMPACT: BIO-7: Will the Project destroy wetlands or other waters of the U.S.?

Analysis: *Water Recycling Facility - Significant*

The Water Recycling Facility will cause up to 2.93 acres of temporary and ~~0.32~~ 0.52 acres of permanent fill or disturbance to jurisdictional wetlands or waters of the U.S. Even though the project will create polishing wetlands that will be used as habitat, the wetlands will be managed for wastewater treatment as well as habitat, and therefore will not qualify as mitigation for lost wetlands.

Analysis: *River Access Improvements – Significant*

The River Access Improvements will cause up to 1.0 acre of temporary and 0.21 acres of permanent fill or disturbance to wetlands or waters of the U.S.

Mitigation: **BIO-7. Create or Restore Wetlands and Waters of the U.S.**

The City shall prepare a Conceptual Wetland Mitigation and Monitoring Plan that requires revegetation of temporary impacts to wetlands and compensatory creation of wetlands for permanent impacts. The Plan shall include a planting palette, a conceptual planting plan, performance criteria, and procedures for maintenance and monitoring. Mitigation will be on site and in kind, if possible.

Compensatory mitigation for permanent impacts shall be provided at a ratio of 2:1, that is, 2 acres of wetland habitat created for every acre filled, or at the ratio prescribed by the Corps of Engineers.

After

Mitigation: *Less than Significant*

The Conceptual Wetland Mitigation and Monitoring Plan will provide for revegetation of temporary impacts and compensatory mitigation of permanent impacts, thereby reducing impacts to a less-than-significant level. Land is

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4.9 TRANSPORTATION AND CIRCULATION

This section identifies potential project impacts to transportation and circulation during project and cumulative conditions. Analysis includes evaluation of intersections adjacent to the project site and project entrances, safety issues, and potential impacts during construction.

SETTING

The Lakeville site is located on Lakeville Highway, State Route 116, in Petaluma, California. Lakeville Highway ~~extends from is an 11-mile highway connecting State Route 37 to Highway 101 in Sonoma County to the southeast, where it becomes Lakeville Road before joining Highway 37.~~ Lakeville Highway is a 2-lane highway with a speed limit of 55 mph that widens to a 4-lane highway west of Pine View Way reducing the speed limit to 45 mph. Lakeville Highway is a designated truck route where trucks constitute 8.9% of traffic volumes.

The Lakeville site has two existing entrances along Lakeville Highway, the West Gate and the East Gate as illustrated in Figure 4.9-1. At the West Gate, the entrance is 12 feet wide at the gate and 110 feet wide where the entrance meets Lakeville Highway. The sight distance along Lakeville Highway to the west is 565 feet and to the east is unlimited. The East Gate entrance is 13.5 feet wide at the gate and 80 feet wide where the entrance meets Lakeville Highway.

Along Lakeville Highway, a total of 20 accidents were reported near the project site within a three-year period according to Caltrans' records, as cited in Traffic Master Plan Draft Report for the Water Recycling Facility Project (see Appendix D). Many of these accidents were caused from the drivers' failure to yield at unsignalized intersections.

The three unsignalized study intersections analyzed for this project are as follows:

- Lakeville Highway and McDowell Boulevard
- Lakeville Highway and Pine View Way
- Lakeville Highway and Browns Lane

The level of service for these intersections was analyzed using the Highway Capacity Manual (HCM) 2000 Methodology. Level of service (LOS) is both a quantitative and qualitative description of an intersection's operation, ranging from LOS A, or free-flow conditions, to LOS F, or highly congested conditions. LOS B and C signify stable conditions with acceptable delays. LOS D is typically considered acceptable for peak hour in urban areas. LOS E is approaching capacity. The correlation between average stopped vehicular delay and level of service for signalized and unsignalized intersections are shown in Table 4.9-1. For unsignalized intersections, the HCM methodology rates the level of service on the movement with the highest delay at the intersection. The lane geometry for each of these intersections is on Figure 4.9-2.

approximately 30 feet long will be used for various construction activities. The truck with the attached trailer will have a turning radius of approximately 55 feet and the single unit truck will have a turning radius less than 50 feet. No improvements are proposed at the West Gate. However, the existing East Gate entrance into the site will be improved to handle truck access. Trucks traveling inbound to the construction site will travel on US 101 and junction eastbound onto Lakeville Highway and turn right into the East Gate. The hours of construction are anticipated to be from 7 AM to 6 PM with most activities from 8 AM to 5 PM.

A construction staging area is proposed on Parcel A. Typical equipment such as graders, compactors, excavators, cranes, forklifts, trucks, concrete mix trucks, and other specialty vehicles will be stored at the construction staging area or on-site. Parking for construction workers will also be at the staging area or on-site. No parking will be allowed on Lakeville highway.

Project Conditions

Due to the amount of traffic on Lakeville Highway during the commute periods, the expansion of the Lakeville site requires a new site access road from the adjacent Oakmead/Northbay Business Park. The new access road runs across Parcels A and B and will be the primary access for staff and the public. It includes a bridge across Ellis Creek. Chemical deliveries and sludge hauling trucks would continue to enter through the existing East Gate.

In addition, the following improvements are proposed:

- Lakeville Highway will be widened to accommodate a new acceleration and deceleration lane
- The East Gate will allow right ~~and~~ left turn in and out; a left turn bay may be added
- The West Gate will allow right turn in and out
- A frontage road inside the facility will connect the two gates

Project traffic volumes are identified in Table 4.9-4. A total of 28 trucks per month from May – October and 35 trucks per month from November – April will be used for the new expansion. Visitor traffic is estimated to be up to 100 vehicles or 200 trips per day.

Prehistoric site (C-757 is located on Parcel C adjacent to the south access road along the border of the oxidation ponds and may still exist subsurface on the oxidation pond property.

The communication facility on Parcel B maintains integrity of location, design and setting, however, the materials and workmanship, as well as the association, that conveyed the feeling of a communication facility have been removed. While the location and structure itself are still distinguishable, the site lacks the overall integrity to warrant listing on the National Register of Historic Places (NRHP) or the California Register of Historic Resources (CRHR).

The farmhouse located on Parcel A does not appear eligible for listing in the NRHP or the CRHR as it is not associated with the lives of persons significant in our past (criteria b and 2 respectively), does not embody the distinctive characteristics of a type, period, or method of construction (criteria c and 3), and is not likely to yield information important to prehistory or history (criteria d and 4). Although the farm complex is associated with a significant period in Petaluma's history (e.g., poultry ranching) it is not the last remaining or best preserved example of this history and therefore is not likely to be eligible under criteria a and 1 of the NRHP and CRHR respectively. However, although development has begun to encroach within the vicinity of the farmhouse, the setting remains primarily that of a rural/agricultural landscape with little apparent alteration to the immediate viewshed. Lakeville Highway remains a two-lane transportation route and the views both to the north (foothills), and to the south (pasture/wetlands) have changed little since the farmhouse was constructed. The farmhouse, outbuildings and landscaping contained within the one-acre parcel are associated with the life of a well-known local citizen, and continue to retain a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association with the historic rural/agricultural character of Petaluma and Sonoma County. Therefore, although the dwelling is not eligible to the federal and state registers, the one-acre site constitutes a cultural landscape with ties to the agricultural heritage of the local community. Destruction or removal of the farmhouse and its immediate setting would contribute to the cumulative loss of character and charm that has historically been a trademark of Petaluma.

As part of the project description, the City will implement PD-19, Protection of Historic and Archaeological Resources, in order to mitigate the potential impacts. The preferred mitigation to preserve cultural resources is avoidance of the sites. If avoidance is not a feasible alternative, subsurface testing, evaluation for significance, and/or recordation will be completed for the Hopper Street facility, the communication facility, and the farm complex on Lakeville Highway.

Mitigation: No mitigation is necessary.

IMPACT: CR-2: Will the Project disturb unknown archaeological resources?

Analysis: *Water Recycling Facility and River Access Improvements – Less than Significant*

The results of archival research indicates that there is a moderate likelihood of encountering subsurface archaeological resources within Parcels A and B. This impact is potentially significant. With the implementation of PD-20, Protection of Previously Undiscovered Historic and Archaeological Resources, work shall

IMPACTS AND MITIGATION MEASURES

IMPACT: **VR-1: Will the project be inconsistent with the Sonoma County Open Space Element regarding Community Separators seen from public viewpoints?**

Analysis: *Water Recycling Facility and River Access Improvements – No Impact*

Neither the Lakeville site nor the Hopper Street site are within a designated Community Separator, and therefore do not have any impact upon the implementation of these General Plan policies.

Mitigation: No mitigation is necessary.

IMPACT: **VR-2: Will the project be inconsistent with the Sonoma County Open Space Element regarding Scenic Landscape Units seen from public viewpoints?**

Analysis: *Water Recycling Facility and River Access Improvements – No Impact*

The nearest scenic landscape unit identified by Sonoma County is the hills south of Petaluma, and the Open Space Element contains policies for protecting those views. The project is not located in the hills and, as stated above, is at ground level, with relatively low structures. Thus, no views of either major or minor scenic landscape units are impacted.

Mitigation: No mitigation is necessary.

IMPACT: **VR-3: Will the project be inconsistent with the Sonoma County Open Space Element or Petaluma General Plan regarding Scenic Corridors?**

Analysis: *Water Recycling Facility and River Access Improvements – Less than Significant*

Both the City and County designate Lakeville Highway as a Scenic Corridor, and travelers along the highway currently have high-quality views of agricultural lands. The existing facilities are currently obscured to southeast-bound travelers due to the lower elevation of the roadway relative to the site, and dense stands of eucalyptus and poplar trees. The new facilities will be partially visible from portions of Lakeville Highway, see Figure 4.13-7 for the visual simulation of the administration buildings. If Administrative Building #2 is delayed, the Solids Handling Building in Pond #4 may be visible at approximately the same height as the Administration Building. Aerobic or anaerobic digestion tanks, also in Pond #4 would be obscured by the Solids Handling Building. For northwest-bound travelers, the existing facilities are visible due to the elevation of the road above the surrounding lands, and the absence of dense screening vegetation on the southern side of the site. The existing oxidation ponds and buildings are industrial-type structures set within a relatively intact agricultural landscape. Construction of the new facilities at the Lakeville site will add additional structures and the constructed wetlands on Parcels A and B would convert current agricultural lands to wetlands. Fencing and road improvements associated with

the wetlands could reduce the visual quality of views along Lakeville Highway.
See Figure 4.13-8 for the visual simulation of the polishing wetlands.

Measure PD-19 21, Landscaping Design, adopted as part of this project will require the City to provide landscaping to screen views of the site from northwest-bound Lakeville Highway and residents east of the highway.

Because the farmhouse will be retained in approximately the same condition as existing, the project has no impact upon views of the structure and surroundings.

Mitigation: No mitigation is necessary.

IMPACT: VR-4: Will the project be inconsistent with minimum building setbacks for structures along Sonoma County designated scenic corridors?

Analysis: *Water Recycling Facility and River Access Improvements – No Impact*

The Sonoma County General plan has a policy requiring a 200-foot minimum building setback from the center of the highway for structures along Sonoma County-designated scenic corridors. The project plan specifies a 200-foot landscaped buffer for the facilities to be constructed at the Lakeville site. Thus, the proposed project would be consistent with this Sonoma County General Plan policy.

Mitigation: No mitigation is necessary.

IMPACT: VR-5: Will the project cause an adverse effect on foreground or middle-ground views from a high volume travelway, recreation use area, or other public use area?

Analysis: *Water Recycling Facility and River Access Improvements – Less than Significant*

As discussed above the existing facilities are visible to northwest-bound travelers on Lakeville Highway, which can be considered a high volume travelway and the City's main entry point from the southeast.

The Hopper Street site is not visible from a high volume travelway or public use area.

Portions of the polishing wetlands on Parcel A, together with the parking area, levee stabilization, bridges, and Petaluma River dock, may be visible from Shollenberger Park. Small portions of project facilities at the oxidation pond site may also be visible from certain parts of the Park. Most of the project facilities will be about a mile away from the Park, too far from the Park to affect views adversely. Some improvements, such as the bridges and Petaluma River dock will be clearly visible from Shollenberger Park or from boat traffic on Petaluma River. Both improvements are river-related and for recreational use; although visible they will not provide a strong contrast with other man-made river-related improvements in the area, such as the surrounding levees, radar structure, train bridge, etc. This impact is considered to be less than significant.

Measure PD-19-21, Landscaping Design, adopted as part of this project, will require the City to provide landscaping to screen views of the site from northwest-bound Lakeville Highway.

Mitigation: No mitigation is necessary.

IMPACT: VR-6: Will the project cause an adverse effect on foreground views from one or more private residences?

Analysis: *Water Recycling Facility and River Access Improvements – Less than Significant*

The nearest private residences to the project site are two or three houses associated with surrounding agricultural operations, northeast from Lakeville Highway 1,000 to 2,000 feet from the eastern boundary of the existing oxidation ponds, and are elevated slightly above them. Any changes on Parcels A and B and at the existing pond site would be potentially visible from these residences. However, since these homes are at the far edge of the foreground view, the new facilities would not provide strong visual contrast or obstruction when compared to the existing site with its wastewater treatment facilities as viewed from that distance. Conversion of agricultural lands to wetlands will not block views nor provide a major visual contrast and is not considered a significant impact. Measure PD-19, Landscaping Design, adopted as part of this project, will require the City to provide landscaping to screen views of the site from northwest-bound Lakeville Highway.

The Hopper Street site is not visible from private residences.

Mitigation: No mitigation is necessary.

IMPACT: VR-7: Will the project create a new light source?

Analysis: *Water Recycling Facility and River Access Improvements – Less than Significant*

The new administration and maintenance buildings at the Lakeville site will be lighted to accommodate normal office operations, the treatment facilities will be illuminated for operation and maintenance, and the parking lot on Parcel A and B will be illuminated for safety. These activities will introduce new light sources to the area, visible to both travelers and residents to the northeast. Lighting impacts to nearby residences are considered a significant impact. Demolition of the Hopper Street site would not entail new light and glare sources. Measure PD-21, Lighting Design, adopted as part of this project, requires the City to design lighting for the administration and maintenance buildings, treatment facilities and parking areas to utilize shielded, low-intensity light sources.

Mitigation: No mitigation is necessary.

TABLE 5-4

Alternative Impact Comparison

Impact	Project	No Project	1-Advanced Facultative Ponds	2-Aerated Lagoons	3-Primary Clarifiers/Ponds	4-Hopper Street
WQ-1, 2. Will discharge from the project or alternatives exceed criteria for surface water quality?	Less than Significant after mitigation.	Significant. With growth of the population, as projected in the adopted general plans of Petaluma and the County of Sonoma for Penngrove, water quality criteria will be exceeded.	Less than Significant after mitigation.	Less than Significant after mitigation.	Less than Significant after mitigation.	Less than Significant after mitigation.
BIO-7. Will the project or alternatives cause loss of wetlands or waters of the U.S.?	Less than Significant after mitigation. Impacts would be 2.93 acres of temporary and 0.73 acres of permanent disturbance or loss.	No impact	Less than Significant after mitigation. Impacts would be 2.93 acres of temporary and 0.73 acres of permanent disturbance or loss, plus likely loss of substantial wetlands acres on Parcel C.	Less than Significant after mitigation. Impacts would be 2.93 acres of temporary and 0.73 acres of permanent disturbance or loss, plus likely loss of some wetlands acres on Parcel C.	Less than Significant after mitigation. Impacts would be 2.93 acres of temporary and 0.73 acres of permanent disturbance or loss, plus likely loss of substantial wetlands acres on Parcel C.	Less than Significant after mitigation. Impacts would be 2.93 acres of temporary and 0.73 acres of permanent disturbance or loss.

Insert the following four pages into Appendix B, Inundation Analysis.



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HYPOTHETICAL FAILURE SCENARIO

An assumption used in the hypothetical failure scenario was that the berms surrounding the oxidation ponds located above bay mud deposits would simultaneously fail during a catastrophic seismic event and that the berms surrounding the ponds located above the more stable alluvial deposits would remain intact. Logs of soil borings completed during previous investigations at the facility identified bay mud deposits beneath Ponds 7, 8, 9 and 10 (*HLA, 1995* and *Moore and Taber, 1971, 1981*). Discharges from these four ponds were chosen for the analysis.

It was assumed that the berm failure scenario would be initiated by water seeping through a transverse crack caused by seismic activity. Erosion of the berm materials surrounding the initial seepage location would increase and a trapezoidal breach would begin to develop. The width and depth of the breach would increase until the breach eroded to the pond bottom elevation and the pond water volume is depleted. Other failure mechanisms such as long term progressive failure of a single pond berm are feasible and were considered for the analysis. The simultaneous failure of the containment berms located above bay mud deposits during a seismic event was chosen for the analysis since this type of failure would generate the most significant flood wave and impact the largest downstream area.

DAMBRK MODEL DESCRIPTION

The analysis was conducted using the National Weather Service (NWS) DAMBRK Dam Breach Wave Analysis model (*Fread, 1988*). The DAMBRK model allows the user to model both the temporal and geometric characteristics of the formation of the breach. An outflow hydrograph is computed on the basis of a breach of a chosen shape and formation time, considering such variables as pond storage depletion and possible upstream inflows to the pond or reservoir. A dynamic routing technique is used to determine changes to the flood wave generated by the breach as the wave advances downstream. Attenuation of the flood peak due to off-channel storage in overbank areas and frictional resistance is calculated, and the peak flow travel time, the peak flow water surface elevation, and other flow characteristics are computed at each input cross section of the downstream topography.

DAMBRK MODEL INPUT

The analysis modeled the catastrophic failure of the total pond storage volume contained in Ponds 7, 8, 9, and 10 (Table 1). The total pond storage volume of all four ponds was input into the DAMBRK model as a single large pond. The failure of all four ponds simultaneously as modeled by the single large pond is a worst-case scenario and will eliminate any attenuation of the flood wave caused by the failure of each pond individually.

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feet) multiplied by the flow velocity (in feet per second) never exceeded 6 at any cross section (the criteria established by the OES standards) (*OES, 1991*). Therefore, failure of the ponds during the assumed catastrophic seismic event will not result in a flood wave that exceeds the OES criteria for danger to human life (*OES, 1991*).


APPLICATION OF THE ANALYSIS RESULTS

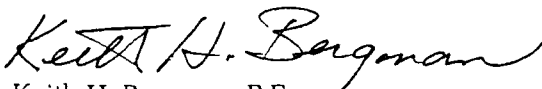
The OES guidelines state that under certain conditions OES may waive the requirements for the preparation of an inundation map (*OES, 1991*). These conditions include areas where the impact of a potential failure in terms of death or personal injury and the procedures for evacuation can be developed without the benefit of an inundation map. The guidelines also state that the inundation boundary resulting from the failure of a dam or an impoundment need be delineated only for areas where the product of the flow velocity and flow depth exceed the human life criteria of 6. For the Petaluma wastewater treatment facility oxidation ponds the DAMBRK model analysis of the failure of the total storage volume contained in Ponds 7, 8, 9, and 10 did not generate flow characteristics that exceeded the criterion at any of the ten cross-section locations downstream of the facility. This analysis shows that the failure of these ponds will not present a danger to human life according to the OES criterion and that preparation and submittal of an inundation map are not required.

Please call if you have questions regarding this analysis.

Yours very truly,

HARDING LAWSON ASSOCIATES


Jay Mosley
Senior Hydrologist


Keith H. Bergman, P.E.
Civil Engineer



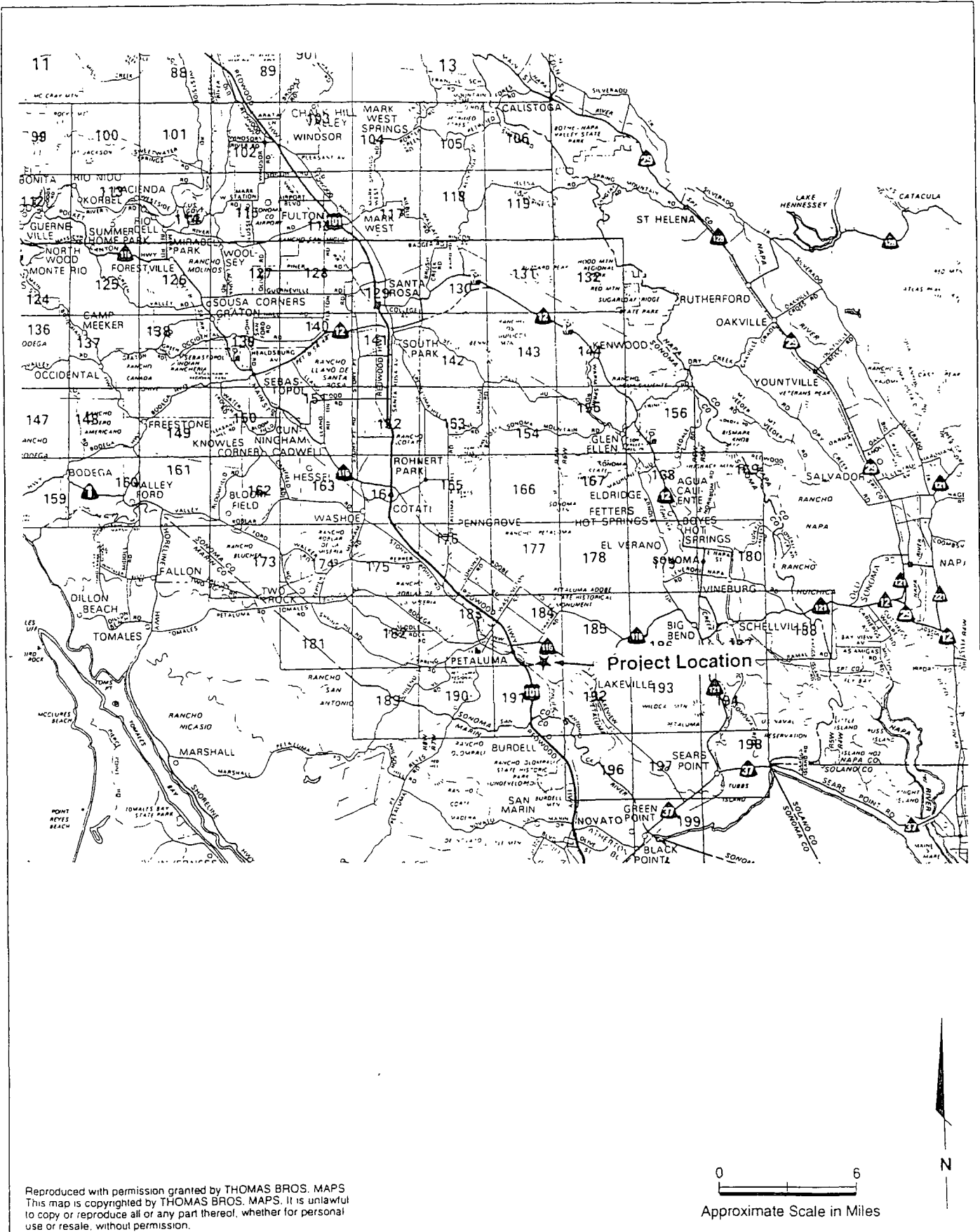
JM/KHB/GAH:mb/MH45741.ltr-M

Attachments: Table 1 - Available Pond Storage
Table 2 - DAMBRK Output Summary
Plate 1 - Location Plan
Plate 2 - Cross-Section Location Map
DAMBRK model input file
DAMBRK model output

**Table 1. Available Pond Storage
Wastewater Treatment Oxidation Ponds
City of Petaluma
Petaluma, California**

Oxidation Pond Number	Minimum Berm Elevation (feet above msl)	Maximum Pond Bottom Elevation (feet above msl)	Maximum Water Elevation (feet above msl)	Pond Surface Area (acres)	Pond Storage Volume (acre-feet)
1	20	10	17.5	10.9	58.2
2	19	9.5	16.5	17	90.1
3	17	6.5	15	17	98.6
4	17	6	14.5	17	98.6
5	15.5	4	13.5	16.9	98.3
6	15.5	3.5	13	17	98.1
7	14	1	12	15.6	86.3
8	14	2.5	11.5	16.9	87.9
9	12.5	2	10.5	17	64.6
10	11.5	3.5	7.4	16.5	26.4

msl Mean sea level.



Harding Lawson Associates
 Engineering and
 Environmental Services

Location Map
 Inundation Analysis
 Wastewater Treatment Oxidation Ponds
 City of Petaluma
 Petaluma, California

PLATE

1

DRAWN DJP	JOB NUMBER 34232 001	APPROVED	DATE 5/96	REVISED DATE
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6 REFERENCES

California Department of Transportation. 2002. *Caltrans Storm Water Quality Handbooks: Construction Site Best Management Practices Manual*. November 2002.

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