14 LIST OF PREPARERS

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Richard P. Shanahan	WHWD Counsel

15 LIST OF ACRONYMS

AIPS	advanced integrated pond system
ARB	California Air Resources Board
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CCC	Central California Information Center
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFCP	California Farmland Conservancy Program
CFR	Code of Federal Regulations
cfs	cubic feet per second
CHRIS	California Historical Resources Information System
CRHR	California Register of Historic Resources
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CSUS	California State University Stanislaus
CWA	Clean Water Act
DGSP	Diablo Grande Specific Plan
DHS	California Department of Health Services
DOF	California Department of Finance
DWR	California Department of Water Resources
EIR	Environmental Impact Report
ESA	Federal Endangered Species Act
°F	degree Fahrenheit
FEMA	Federal Emergency Management Agency
gpd	gallons per day
GPS	Global Positioning System

HAP	hazardous air pollutant
HCP	Habitat Conservation Plan
I-5	Interstate 5
IHRMP	University of California's Integrated Hardwood Management Program
kW	kilowatt
LAFCO	Local Agency Foundation Commission
mcl	maximum contaminant levels
mgd	million gallons per day
mph	miles per hour
mpn	most probable number
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NCCP	Natural Community Conservation Plan
NFIP	National Flood Insurance Program
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO_2	nitrogen dioxide
NO_X	oxides of nitrogen
NOAA	National Oceanographic and Atmospheric Administration
NOP	Notice of Preparation (of an EIR)
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
O_3	ozone
OHWM	Ordinary High Water Mark
PM	particulate matter
$PM_{2.5}$	fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less
PM_{10}	fine particulate matter with an aerodynamic diameter of 10 micrometers or less
ppm	part per million
RHND	Regional Housing Needs Assessment
ROG	reactive organic gases

RWQCB	Central Valley Regional Water Quality Control Board
SCGP	Stanislaus County General Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLDMWA	San Luis Delta-Mendota Water Authority
SO_2	sulfur dioxide
StanCOG	Stanislaus Council of Governments
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TDS	total dissolved solids
TMDL	Total Maximum Daily Load
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
USDA	U.S. Department of Agriculture
U.S. EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geologic Survey
VMT	vehicle miles traveled
VOC	volatile organic compound
WDR	Waste Discharge Requirements
WHWD	Western Hills Water District
WWMP	Wastewater Master Plan

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17 RESPONSE TO COMMENTS

17.1 INTRODUCTION

The Draft Environmental Impact Report (DEIR) for the Patterson Wastewater Master Plan and Diablo Grande Sewer Line was circulated for public review from June 25 through August 11, 2003. Written comments were accepted through the end of the public review period. Section 15132 of the State CEQA Guidelines requires a Final EIR (FEIR) to include:

- The DEIR or a revision of the DEIR.
- Comments and recommendations received on the DEIR either verbatim or in summary.
- A list of persons, organizations, and public agencies commenting on the DEIR.
- The responses of the Lead Agency to significant environmental points raised in the review and consultation process.
- Any other information added by the Lead Agency.

The DEIR is included in Chapters 1 through 16 of this Final EIR. One comment warranted modification of the text of the DEIR (see Comment and Response B-1). In this case, the additions are shown in underline (underline). The text changes resulting from this comment have been incorporated into the original DEIR as text, as indicated in the response. The text changes result in insignificant modifications to the original DEIR text.

The list of commenters is included as Table 17-1 in Section 17.2 of this FEIR. Photocopies of the comment letters received on the DEIR are included in Section 17.3 of this FEIR. Each letter is followed by the City's responses to significant environmental points raised by the commenters.

17.2 LIST OF COMMENTERS

The following Table 17-1 contains a list of commentors on the Proposed Draft Environmental Impact Report for the proposed Patterson Wastewater Master Plan and Diablo Grande Sewer Line project. The comments are identified by a letter-number code that corresponds to the response to that comment. This list represents all written comments received during the comment period. Copies of the comment letters and responses to the comments are provided in Section 17.3.

Table 17-1 Written Comments			
Letter Code	**Commenter**	**Comment Date**	**Comment Number**
A	Fran Sutton-Berardi, Executive Officer Stanislaus Local Agency Formation Commission	July 17, 2003	A-1
B	JoAnne Kipps, Senior Engineer California Regional Water Quality Control Board	August 8, 2003	B-1 B-2 B-3 B-4 B-5
C	Erik Vink, Assistant Director, California Department of Conservation, Division of Land Resource Protection	August 5, 2003	C-1 C-2 C-3
D	W. Richard Jantz, Deputy Chief Executive Officer Stanislaus County	August 11, 2003	D-1
E	Tom Dumas, Chief, Office of Intermodal Planning California Department of Transportation	August 6, 2003	E-1 E-2 E-3 E-4
F	W. Richard Jantz, Deputy Executive Officer, Stanislaus County	August 20, 2003	F-1 F-2 F-3 F-4 F-5 F-6 F-7 F-8 F-9 F-10
G	Laurie Barton, Deputy Executive Director Stanislaus Council of Governments	August 20, 2003	G-1 G-2

17.3 COMMENTS AND RESPONSES TO ENVIRONMENTAL ISSUES

This section of the EIR contains comment letters received during the 45-day public review period for the *Patterson Wastewater Master Plan and Diablo Grande Sewer Line Draft EIR*, which ended on August 11, 2003. In conformance with State CEQA Guidelines Section 15088(a), written responses to comments on environmental issues received from reviewers of the DEIR were prepared. State CEQA Guidelines Section 15088(b) provides that "...written response[s] shall describe the disposition of significant environmental issues raised ..."

Each comment letter is reproduced in it entirety and is followed by the response(s) to the letter. Where a commenter has provided multiple comments, each comment is indicated by brackets and an identifying letter/number notation in the margin of the comment letter.

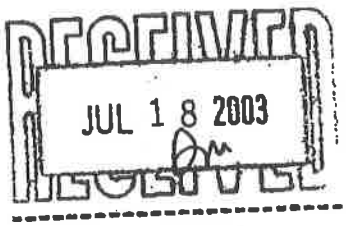
One comment warranted modification of the text of the DEIR (see Comment and Response B-1). In this case, the additions are shown in underline (underline). The text changes resulting from this comment have been incorporated into the original DEIR as text, as indicated in the response. The text changes result in insignificant modifications to the original DEIR text.

LAFCO

S T A N I S L A
LOCAL AGENCY FORMATION COMM
1010 TENTH STREET, 3rd Floor MODESTO, CALIF
PHONE: (209) 525-7660

A

July 17, 2003



Mr. Rod Simpson
City of Patterson
33 So. Del Puerto Avenue
Patterson, CA 95363

SUBJECT: Draft Environmental Impact Report for the Patterson Wastewater Master Plan and Diablo Grande Sewer Line (SCH No. 2003042070)

Dear Mr. Simpson:

Thank you for the opportunity to review the above Draft Environmental Impact Report (EIR). The following comments are provided for your consideration and a response in the Final EIR document. The Draft EIR includes the following information:

- The project description includes the City of Patterson's intent to provide sewer service to the entire Phase One development of Diablo Grande.
- As described on Page 1-1, Phase One of Diablo Grande is an approved planned residential and resort community consisting of approximately 2,100 residences, six golf courses, a resort hotel and conference center, a Town Center, a research campus, commercial centers, open space and agricultural uses. Two golf courses, including a club house, two small shacks, and two restrooms are currently operating at Diablo Grande. At full build-out, Diablo Grande (Phase One) is currently projected to generate about 710,000 gpd of wastewater.
- According to the information put forth on page 2-13, the Western Hills Water District, which provides sewer service to the Diablo Grande development, has acquired WDRs from the RWQCB for construction of a 200,000 gpd wastewater treatment facility (Order #R5-2002-0011). In addition, the letter dated May 21, 2003 from the California Regional Water Quality Control Board indicates that the Western Hills Water District has a permit (Order #R5-2003-0019) which regulates a package treatment facility that temporarily serves development within the Diablo Grande Specific Plan Area and its discharge of up to 0.4 mgd disinfected secondary-treated effluent to a lined storage reservoir and 30 acres of fodder crops.

Government Code Section 56133 at Subdivision(a) provides that:

> "A city or district may provide new or extended services by contract or agreement outside its jurisdictional boundaries only if it first requests and receives written approval from the commission in the affected county."

A-1

Subdivision(e) provides an exception to this requirement, but only if the level of service to be provided under contract is consistent with the level of service being provided or contemplated by the existing service provider, as follows:

> " (e) This section does not apply to contracts or agreements solely involving two or more public agencies where the public service to be provided is an alternative to, or substitute for, public services already being provided by an existing public service provider and where the level of service to be provided is consistent with the level of service contemplated by the existing service provider."

A-1 cont'd

The Final EIR should discuss the implications of Government Code Section 56133 as it relates to the proposed project and either: (1) provide an explanation of why the proposal is exempt from LAFCO approval under Subdivision(e); or (2) if the exemption does not apply, include LAFCO as a Responsible Agency for compliance with Government Code Section 56133 before wastewater service can be extended by the City of Patterson.

I am looking forward to reviewing the Final EIR. If you have any questions regarding the above comments, please call me at your earliest convenience.

Sincerely,

Fran Sutton-Berardi
Executive Officer

FSB:dh

(I:\LAFCO\Simpson-EIR Ptsn Wstwtr-Sewer Ltr.wpd)

LETTER
A
RESPONSE

Fran Sutton-Berardi, Executive Officer
Stanislaus Local Agency Formation Commission
July 17, 2003

A-1 The Stanislaus Local Agency Formation Commission (LAFCO) comment inquires about the effect and applicability of Government Code §56133 concerning extraterritorial services and the nature and scope of sewer service to be provided by the City of Patterson (City) and Western Hills Water District (District). Section 56133 generally requires LAFCO approval of "new or extended services by contract or agreement outside its jurisdictional boundaries," unless the contract or agreement is exempt under §56133(e). The City and District have considered the applicability of §56133, and have concluded that the proposed wastewater treatment and disposal project described in the EIR does not require LAFCO approval. Consequently, LAFCO was not identified as a CEQA responsible agency.

As correctly noted in the LAFCO comment letter, the District provides sewer service to the Diablo Grande development, which is within the District boundaries. Under the proposed project, the District will continue to provide sewer service to the area. The project does not involve a transfer or change of the principal sewer service responsibility. Rather, the project and the agreement between the District and City involve a plan for the City to treat and dispose of the wastewater from the District. The District will continue to operate and maintain the local sewer collection system, bill and collect payments from the District sewer service customers, regulate new connections to the sewer system, and be responsible for the extension of the sewer collection system facilities to meet the needs of new development. Under the proposed plan with the City, the District will collect wastewater from its service area and deliver it to the City, to treat and dispose of the wastewater at an expanded City wastewater treatment plant.

The LAFCO letter suggests that the project involves the extension of sewer service by the City within the District. However, as explained above, the City

continued ...

will not be providing local sewer service. Rather, the project provides for the District to continue as the sewer service provider and for the City to assume responsibility for one component of the District's sewer service by treating and disposing of the wastewater.

Section 56133 only applies to "new or extended services." The particular service addressed by the LAFCO comment is sewer service. From the District perspective, the sewer service is not new or extended because under the project the District would continue to provide sewer service to existing and new development within its boundaries. Regarding the City, its sewer service is not being extended into Diablo Grande because the District will remain as the sewer service provider. Consequently, the agreement does not involve "new or extended service" by the City or District.

Section 56133 would apply only if City wastewater treatment and disposal are characterized as a "service" separate and distinct from sewer service generally. Government Code §56074 defines "service" for purposes of the Cortese-Knox-Hertzberg Local Government Reorganization Act. The definition authorizes a local agency formation commission to establish different "services" through LAFCO regulations. However, the City and District are not aware of any Stanislaus LAFCO regulation that establishes wastewater treatment and disposal as a "service" separate from sewer service generally.

Nevertheless, even if §56133 did apply, the project and wastewater treatment and disposal plan would be exempt under §56133(e). Section 56133 "does not apply to contracts or agreements solely involving two or more public agencies where the public service to be provided is an alternative to, or substitute for, public services already being provided by an existing public service provider and where the level of service to be provided is consistent with the level of service contemplated by the existing service provider." (Section 56133(e).) In order for this exemption to apply, three criteria must be satisfied: (1) there must

continued ...

be an agreement solely involving two or more public agencies; (2) the agreement must involve a public service to be provided as an alternative to, or substitute for, an existing service; and (3) the level of service to be provided under the agreement must be consistent with the level of service contemplated by the existing service provider.

All three elements are satisfied by the agreement between the City and District. First, the City-District agreement on wastewater treatment and disposal solely involves two public agencies. Second, the agreement provides for the City to assume wastewater treatment and disposal responsibility as an alternative to the District's ongoing operation and maintenance of the existing District wastewater treatment plant or a new or expanded District plant. Third, for both the City and District, the sewer service levels of service will be consistent with current and contemplated levels of service. For the City, it will continue to operate and maintain the expanded wastewater treatment plant consistent with applicable federal and state laws and permit requirements. The EIR also demonstrates that with the expanded plant and additional treatment of wastewater from the District, the City plant will also remain adequate for all of the contemplated sewer service needs of the City residents and property owners. For the District, it will continue to provide local sewer service to its customers and new development consistent with its current and planned practices. The wastewater treatment and disposal capacity provided through the agreement with the City equals or exceeds the wastewater treatment and disposal that would have been provided pursuant to a new or expanded District plant.

In summary, LAFCO approval under §56133 is not required because (1) the project and agreement do not involve "new or extended services" by either the City or District within scope of §56133, and (2) §56133 does not apply to the wastewater treatment and disposal agreement between the City and District, which provides an alternative to a District wastewater treatment plant and no change in the District or City levels of sewer service.

California Regional Water Quality Control Board
Central Valley Region
Robert Schneider, Chair

Winston H. Hickox
Secretary for Environmental Protection

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B

8 August 2003

Mr. Rod Simpson
Planning Director
City of Patterson
33 South Del Puerto Avenue
Patterson, CA 95363

CITY OF PATTERSON WASTEWATER MASTER PLAN AND DIABLO GRANDE SEWER LINE DRAFT EIR (SCH#2003042070), STANISLAUS COUNTY

We reviewed *City of Patterson Wastewater Master Plan and Diablo Grande Sewer Line Draft Environmental Impact Report (draft EIR),* received 10 July 2003 and prepared by the City of Patterson. The draft EIR describes a project comprised of the necessary improvements to the City's wastewater treatment facility (WWTF) and collection system to accommodate future sewage flows to 3.15 mgd. The draft EIR also describes the construction of a gravity sewer truck line to serve development within the Diablo Grande Specific Plan Area. The existing WWTF consists of an oxidation ditch and an advanced integrated pond system (AIPS). In general, oxidation ditch treatment technology provides higher removals of organics and nutrients than AIPS. The City originally proposed to expand the WWTF by adding another AIPS but after consulting with Regional Board staff on the matter, revised its report of waste discharge to replace the proposed additional AIPS with an oxidation ditch. While the draft EIR includes the proposed oxidation ditches as a project alternative, it selects AIPS technology as the preferred alternative for the WWTF expansion project. B-1

Regional Board letter dated 21 May 2003, commenting on the project's notice of preparation to prepare an EIR, recommended the EIR identify and evaluate potential adverse water quality impacts as a result of continued operation of the existing WWTF in addition to the City's proposed WWTF expansion. The letter further recommended the EIR specifically identify and discuss what mitigation measure(s) the City will implement to reduce identified adverse impacts to less than significant levels. The City's draft EIR did not fully address the above comments. B-2

The draft EIR indicates that, because the existing WWTF does not impact groundwater, the proposed expanded WWTF would not impact groundwater. The draft EIR also indicates, in general, that the water quality impacts resulting from the proposed AIPS would be similar to an oxidation ditch. We do not concur with these statements. Water quality concerns regarding the potential groundwater and surface water impacts as a result, in part, of the City's reliance on effluent percolation for disposal are documented in the enclosed Regional Board letters dated 11 April 2003 and 11 July 2003. Many of the water quality concerns discussed in the 11 April 2003 letter were resolved, in part, by the City selecting oxidation ditch technology in lieu of the AIPS in the WWTF expansion project. Selection of oxidation B-3

ditch technology, which generates a higher quality effluent, will mitigate some of the adverse impacts to water quality resulting from the City's reliance on percolation for effluent disposal. B-3 (cont'd)

The following measures will, at a minimum, be necessary to mitigate the expansion project's potential to degrade surface and groundwater quality, and will be proposed as part of waste discharge requirements for this project:

1. Sealing all treatment ponds and sludge handling facilities to permeabilities reflective of best practicable treatment and control (BPTC), and
2. Implementing and operating at optimum levels treatment technology that is reflective of BPTC for organic and solids removal (e.g., effluent concentrations of 5-day biochemical oxygen demand and total suspended solids not exceeding 20 mg/L each), and
3. Implementing treatment technology that is reflective of BPTC for nitrogen (e.g., effluent concentrations of total nitrogen not exceeding 8 mg/L).

B-4

Because selection of the AIPS alternative will not consistently generate an effluent of the quality described above, we recommend the EIR identify the preferred alternative an WWTF expansion utilizing oxidation ditch treatment technology. B-5

We request a copy of the final adopted EIR.

If you have questions regarding the matter above, please contact Alexis R. Phillips-Dowell at (559) 445-5500.

Jo Anne Kipps

JO ANNE KIPPS
Senior Engineer
RCE No. 49278

Enclosures: Regional Board letters dated 11 April 2003 and 11 July 2003 regarding the City's Report of Waste Discharge

cc w/ enclosures: State Clearinghouse, Sacramento
Mr. Scott Goebl, Project Manager, EDAW, Sacramento

cc w/out enclosures: Mr. Ignacio Lopez, Director, Department of Public Works, Fresno
Mr. Robert Godwin, Project Manager, Lee & Ro, Inc., Rancho Cordova
Mr. Steven G. Tanaka, Wallace Swanson International, San Luis Obispo

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California Regional Water Quality Control Board

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11 July 2003

Mr. Ignacio Lopez, Director
City of Patterson Department of Public Works
33 South Del Puerto Avenue
Patterson, CA 95363

COMPLETE REPORT OF WASTE DISCHARGE, CITY OF PATTERSON WWTF, STANISLAUS COUNTY

We reviewed the supplemental information to the Report of Waste Discharge (RWD), received 10 June 2003 and prepared on your behalf by Mr. Robert Owen Godwin, P.E. (RCE #48045) of Lee & Ro, Inc. The supplemental information was submitted in response to Regional Board letter dated 11 April 2003 and includes a general technical report describing the proposed design of the wastewater treatment facility (WWTF) expansion project, with appendices consisting of (a) WWTF preliminary design criteria and site plan, (b) a monitoring well installation report, (c) an evaluation of the influence of the San Joaquin River on groundwater quality, (d) copies of pages referenced from the technical documents, and (e) the feasibility of water recycling.

Waste Discharge Requirements Order No. 5-00-146 (WDRs) currently regulates the WWTF and its discharge of up to 1.3 million gallons per day (mgd) to 12 evaporation/percolation ponds encompassing 80 acres. The WWTF currently utilizes two separate wastewater treatment processes: an oxidation ditch activated sludge system and a 3-treatment cell advanced integrated pond system (AIPS).

The original RWD dated 5 May 2003 describes the City's proposal to construct three additional AIPS systems in two phases. In general, Regional Board letter dated 11 April 2003 indicated that the discharge as proposed (an AIPS system) would likely not be protective of groundwater, given evidence that the percolation of wastewater from the WWTF's existing ponds has adversely impacted groundwater quality. The RWD now proposes to construct a WWTF that will optimize nitrogen removal using an activated sludge system in the form of oxidation ditches in lieu of the AIPS. The RWD proposes the phased construction of oxidation ditches to provide a total flow increase of 3.15 mgd by 2008. The oxidations ditches will be designed to produce an effluent total nitrogen concentration of 10 mg/L. The RWD also proposes further treatment of sludge in aerobic digesters proceeded by a coagulant chemical to thicken the sludge that will be pumped to the sludge drying beds for further dewatering. The proposed sludge drying beds will be contained in a reinforced concrete structure with a 40-mil HDPE liner beneath it. The drying beds will also utilize slotted plastic tiles to enhance dewatering. The RWD also proposes over the next five years evaluation and upgrades to the existing WWTF as necessary to mitigate adverse impacts to water quality from the WWTF and its discharge to land to levels consistent with Regional Board plans and policies.

The 11 April 2003 Regional Board letter specifically requested information regarding (1) surrounding land uses, (2) technical documents cited in the RWD, (3) the sources and quality of the water supply, (4) the feasibility of recycling WWTF effluent. Also requested were a technical report that includes (a) a description of the extent to which the San Joaquin River is influencing groundwater, (b) how the City intends to mitigate impacts from the WWTF to be consistent with the Regional Board plans and policies, (c) an evaluation of the existing oxidation ditch, (d) discussion of how the permeability of the existing AIPS treatment ponds will be determined, (e) a technical evaluation of the groundwater impacts from the proposed sludge facilities, and (f) cost estimates for sludge handling facilities.

Many of the above issues were addressed by the City changing its method of treatment and sludge disposal. The City's proposed project and accompanying time schedule appear appropriate. We appreciate the City's efforts to address staff's comments. However, we would like to clarify some of the issues noted in the RWD. Summaries of portions of the RWD are in italics with Regional Board staff's comments below.

> *Staff recommended a 7 mg/L total nitrogen effluent concentration. The supplemental RWD indicates that the City's consultants do not believe a 7 mg/L concentrations can be achieved on a regular basis using solely biological treatment. The supplemental RWD proposes a higher limit of 10 mg/L.*

The proposed design criteria of 10 mg/L appears reasonable; however, the City may need to incorporate additional management practices to further mitigate adverse groundwater impacts from the discharge, such as intermittent application of effluent to the evaporation/percolation ponds for additional removal of organics and nutrients.

> *The RWD includes a monitoring well installation work plan in Appendix B. The City proposes to construct four additional monitoring wells including a monitoring well upgradient of the existing two upgradient monitoring wells, and three wells surrounding the additional evaporation/percolation ponds across the street from Olive Avenue.*

The installation work plan is incomplete, as it does not contain the information specified in the enclosed *Standard Monitoring Well Provisions for WDRs*. Additionally, while the proposed wells will provide additional information regarding background groundwater water quality and the future impacts from the new evaporation/percolation ponds, it may be necessary to include additional wells or revise the proposed well locations to include monitoring wells downgradient of major treatment units which have the potential to leach waste constituents in a manner that may impact groundwater, such as the existing AIPS and future sludge drying bed.

> *The supplemental RWD describes the existing AIPS having a 12-inch thick clay liner in the primary and secondary ponds to provide an impermeable barrier of $1x10^{-6}$ cm/sec. It indicates that Board's staff recommendation of 6×10^{-7} cm/sec with a total leakage of less than 550 gal/acre/day is not merited, but indicates that the City is willing at this time to comply with Board staff opinion. It cites and includes a copy of pages from an EPA's Design Manual for Stabilization Ponds indicating that wastewater ponds did not cause any appreciable increase in groundwater concentrations for nitrogen, phosphorus or fecal coloform over background groundwater levels.*

The City indicates that it will comply with this recommended permeability and will complete a time schedule for determining the existing AIPS permeability and, if deemed necessary, make appropriate improvements. Regional Board files contain groundwater quality data from existing treatment-pond WWTFs in the San Joaquin Valley showing pollution for the same or similar constituents named above. It is necessary to evaluate the site-specific conditions (e.g., depth to groundwater, integrity of existing pond liners, strength of wastewater being treated, etc.) to determine what criteria are protective. In general, because concentrations of waste constituents in groundwater exceeds water quality objectives and due to the shallow occurrence of groundwater, it is staff's professional judgment that the lower permeability rate is necessary to protect groundwater quality.

> *The supplemental RWD proposes plastic media sludge drying beds entirely contained in a reinforced concrete structure. A 40-mil HDPE liner will be installed beneath each drying bed structure.*

The overall design concept appears reasonable. However, the design schematics (M-502) included in the supplemental RWD do not include or specify the location of the HDPE liner or show that the sludge beds will be comply contained. There is also concern regarding the potential leakage from drainage and conveyance pipes. Although the pipes show that they will be contained in concrete as they pass under the sludge bed concrete footings, the remaining will be buried in what appears to be native soils. It is unclear from the supplemental RWD how potential leaks from the piping will be detected or collected to prevent leaking and the resultant leachate from impacting groundwater. The sludge drying bed design must incorporate the means by which the City intends to monitor (e.g., lysimeters, monitoring wells, etc.) their effectiveness in preventing further groundwater degradation.

> *The supplemental RWD contains an Evaluation of the Influence of the San Joaquin River on Groundwater Salinity in the Areas of the WWTF (hereafter Evaluation). The Evaluation concludes that the decrease in groundwater salinity attributed in previous reports to dilution by the WWTF effluent disposal in the WWTF's evaporation/percolation ponds cannot be explained by dilution of the groundwater with San Joaquin River water.*

We do not concur with this assessment at this time. Figures 4 and 5 of the Evaluation compare water elevations and conductivity of 25°C (EC) of the San Joaquin River with the elevations and total dissolved solids (TDS) of the groundwater in downgradient groundwater monitoring wells. The figures appear to show a delayed response in the reaction between the quality of the groundwater and the San Joaquin River after peak river flow events. To adequately determine the extent to which, if any, the San Joaquin River is changing the quality of groundwater, groundwater monitoring wells should be monitored at least monthly for elevation and EC. The resulting data will clarify changes in groundwater quality as a result of the River's influence. Additionally, the City's proposal to install additional monitoring wells will also provide useful information in this regard. The overall assessment that the discharge is not adversely impacting area groundwater quality, but improving the quality by diluting existing poor quality background water with higher quality effluent, is likely not the case.

The RWD contains sufficient information for staff to draft tentative WDRs for Regional Board consideration; therefore the RWD appears complete. However, to further assess the City's proposed project, we request the City submit the following by **2 September 2003**:

1. A technical report that includes (a) revised sludge drying bed specifications with details of the synthetic liner placement, (b) a discussion of how the sludge beds will be maintained and managed to prevent leakage in the leachate collection system (e.g., routine hydrostatic testing of conveyance pipes, etc.) and (c) a proposed leakage detection system (e.g., lysimeters, monitoring wells, etc.) to determine the performance of the sludge drying beds as a protective liner.

2. A revised groundwater work plan that contains all the information specified in the enclosed *Standard Monitoring Well Provisions For WDRs,* as well as, proposes a sufficient number of groundwater monitoring wells downgradient of major treatment units.

If you have questions regarding the matter above, please contact Alexis R. Phillips-Dowell at (559) 445-5500.

Jo Anne Kipps

JO ANNE KIPPS
Senior Engineer
RCE No. 49278

Enclosure: *Standard Monitoring Well Provisions for WDRs*

cc: Mr. Joel Cockrell, Paterson WWTF, Patterson
Mr. Robert Godwin, Project Manager, Lee & Ro, Inc., Rancho Cordova
Mr. Steven G. Tanaka, Wallace Swanson International, San Luis Obispo

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California Regional Water Quality Control Board

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11 April 2003

Mr. Ignacio Lopez, Director
City of Patterson Department of Public Works
33 South Del Puerto Avenue
Patterson, CA 95363

INCOMPLETE REPORT OF WASTE DISCHARGE, CITY OF PATTERSON WWTF, STANISLAUS COUNTY

We reviewed *Report of Waste Discharge City of Patterson Wastewater Treatment Plant Expansion* (RWD), received 12 March 2003, in support of a flow increase and material change in the City of Patterson wastewater treatment facility (WWTF). The RWD was submitted and prepared on the City's behalf by Mr. Robert Owen Godwin, P.E. (RCE #48045) of Lee & Ro, Inc. The RWD consists of a complete State Form 200 and the following supplements: (1) *Report of Waste Discharge City of Patterson Wastewater Treatment Plan expansion Phase I Construction 2003-2004 and Phase II Construction 2007-2008*; (2) *Geotechnical Investigation Patterson Wastewater Treatment Plant Expansion* (dated 24 August 1999); (3) *Geotechnical Investigation Patterson Wastewater Treatment Plan (North Expansion)*; (4) *Report of Background Groundwater Quality Study and Evaluation of Future Impacts due to Anticipated Development within the City of Patterson Wastewater Service Area*; (5) Letter from Wallace Swanson International (received by this office on 27 March 2003) providing additional technical information regarding the AIPS; and (6) *Final Environmental Impact Report, West Patterson Projects.*

Waste Discharge Requirements Order No. 5-00-146 (WDRs) currently regulates the WWTF and its discharge of up to 1.3 million gallons per day (mgd) to12 ponds encompassing 80 acres. The WWTF currently utilizes two separate wastewater treatment processes: an oxidation ditch activated sludge system and a 3-treatment cell advanced integrated pond system (AIPS).

In general, the RWD describes the City's proposal to construct three additional AIPS systems in two phases. Phase 1 includes the construction of two AIPS system with rated design capacities of 0.5 mgd and 0.75 mgd for a total WWTF flow increase to 2.75 mgd by 2004. Phase II consists of construction of one additional 0.5 mgd AIPS for an ultimate WWTF flow increase to 3.15 mgd by 2008. The RWD indicates that the City has purchased 120 acres, a portion of which it proposes to construct additional effluent disposal ponds.

Effluent Quality. The RWD summarizes the effluent quality for each of the existing treatment systems. In 2002, oxidation ditch effluent quality for 5-day biochemical oxygen demand at 20°C (BOD), total

suspended solids (TSS) and nitrate (as N) ranged from non-detect to 8 mg/L, non-detect to 69 mg/L, and 4.8 to 16 mg/L (as N), respectively. The AIPS effluent quality for the same constituents ranged from 21 to 74 mg/L, 30 to 93 mg/L, and non-detect to 3.1 mg/L (as N), respectively. While most of the total nitrogen in oxidation ditch effluent is expected to be in the nitrate form, AIPS effluent nitrogen is expected to be a combination of organic nitrogen, ammonia, and nitrate. Similar oxidation ditch systems in the Region are capable of generating a higher quality of effluent than that evident at the City's WWTF (e.g., BOD and TSS concentrations not exceeding 20 mg/L each and nitrogen less than 7 mg/L). The City should increase efforts at optimizing oxidation ditch treatment to improve effluent quality.

The RWD characterizes AIPS systems as having an average BOD removal efficiency of approximately 80 percent, resulting in an effluent concentration of about 45 mg/L. The RWD also indicates that the AIPS system has the capability to remove about 40 percent of the total nitrogen, resulting in typical domestic effluent total nitrogen concentrations ranging from 15 to 24 mg/L (as N). Such systems will likely not achieve total nitrogen concentrations that will be protective of shallow groundwater quality when percolation is the effluent disposal method of choice.

Groundwater Conditions. Groundwater in the WWTF vicinity occurs approximately 20 to 40 feet below ground surface (bgs) and flows generally to the southeast towards to San Joaquin River. The City monitors groundwater quality in five monitoring wells (MW-1 through MW-5) for various constituents. The RWD includes the results of a "background" groundwater quality study within the newly purchased 120-acre parcel. As part of this study, groundwater samples were collected from 20-30 feet bgs at six (B-1 through B-6) different locations using a direct-push sampling devise (hydropunch).

Groundwater monitoring data from the City's monitoring wells for 2003 show groundwater nitrate (as N) ranging from less than 0.58 mg/L to 23 mg/L (upgradient, MW-1), total dissolved solids (TDS) ranging from 1,120 to 2,360 (upgradient well, MW-2), manganese ranging from less than 0.02 to 0.56 mg/L (downgradient, MW-4) and total organic carbon (TOC) ranging from 1.5 to 2.2 mg/L (downgradient, MW-4). The background study groundwater samples show concentrations for nitrate (as N) ranging from 1.1 to 18.29 mg/L (approximately 2,000 feet from the WWTF's ponds, B-6), TDS ranging from 980 to 2,800 mg/L (B-6), iron ranging from less than 0.1 to 0.38 mg/L (approximately 200 feet from the WWTF's ponds, B-3), manganese ranging from 0.14 to 1.3 mg/L (B-6), and TOC ranging from less than 2 to 4 mg/L (approximately 3,000 feet from the WWTF's ponds, B-4). Water quality objectives, as identified in the *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin, Fourth Edition,* for nitrate (as N), iron, and manganese, are 10 mg/L, 0.3 mg/L, and 0.05 mg/L, respectively. Groundwater passing through the City's monitoring wells contains concentrations of these constituents in excess of these water quality objectives.

The interpretation of groundwater monitoring data collected to date is complicated by the WWTF's proximity to the San Joaquin River. The discharge and the San Joaquin River influence the quality of groundwater passing through existing downgradient groundwater monitoring wells. The RWD indicate that the discharge is not adversely impacting area groundwater quality, but improving the quality by diluting existing poor quality background water with higher quality effluent. It is more likely that the dilution effects evidence in downgradient monitoring wells is the result of the River's influence on area groundwater.

Regional Board letter, dated 15 November 2002, commented on the City's draft EIR for a portion of the City's expansion. The letter recommended the City investigate the quality of the San Joaquin River and what impacts, if any, the discharge has on the River. The response to this issue in the final EIR (Volume II, page C&R.F-12 and 13) indicates that it is unlikely that the discharge is impacting the River because the concentrations in the River of some constituents typical of WWTF effluent (ammonia and phosphorus) have declined over several decades. The RWD indicates that the discharge's impact on the River is insignificant and states, "The inflow rate under current conditions is approximately 1.24 cubic feet per miles (cfs/mi), which is less than the average groundwater inflow rate of 2.0 cfs/mi estimated for the 19-mile stretch of the San Joaquin River in a previous study[1]." The RWD also indicates that the ultimate proposed increase in discharge flow will increase inflow to the River to 3.35 cfs/mi, but this increase groundwater inflow will have no significant effect on the quality of the groundwater inflow. The San Joaquin River has been identified as a Water Quality Limited Segment under section 303(d) of the Clean Water Act. Some pollutants for which the San Joaquin River is impaired include salinity constituents. Regional Board staff is developing a total maximum daily load for salt for the San Joaquin River. The City's indirect discharge of salt to the river should be deemed significant until determined otherwise. An analysis of historical data for River stage, flow, and quality can determine the extent to which the River influences the quality of groundwater passing through downgradient wells.

Currently, WWTF's disposal ponds exhibit a percolation rate of up to 30 feet of per year based on an average percolation rate of 0.04 inch/hour. This rate of effluent percolation is likely causing groundwater to mound underneath disposal ponds. It appears that existing background monitoring wells (less than 500 feet from disposal ponds), as well as some of the hydropunch samples, are showing the impacts from the discharge due to mounding and the hydrogoelogic conditions of the site. These wells are therefore not likely reflective of "natural" background groundwater quality. In addition, the existing presence of TOC in groundwater influenced by the discharge indicates insufficient attenuation of decomposable waste constituents in soils underlying the disposal ponds.

Data submitted to date indicates that the current discharge appears to be causing or contributing to increased concentrations in groundwater of nitrate, organic carbon, and salt. Installation of monitoring wells in the disposal pond area and further upgradient beyond the influence of the discharge will provide additional information to evaluate the discharge's impact on receiving water quality.

AIPS Treatment Ponds. The RWD indicates the City proposes to reduce groundwater impacts from the AIPS systems by lining the first two treatment cells of each AIP using a Bentomat® CL geosynthetic clay liner (GCL) with a minimum of 12 inches of cover soil. According to the company's specifications, this type of liner has a reported permeability of 5×10^{-10} cm/sec. A GCL liner is primarily used in combination with a geosynthetic membrane. It is unclear whether the proposed design, installation and operation of the liner will adequately protective of underlying groundwater quality. The RWD also indicates that the existing AIPS has a one-foot clay liner but does not disclose its permeability or include plans and an implementation schedule for its lining. Based on best professional judgment, the maximum seepage rate from municipal wastewater ponds is 550 gallons per acre per day (6×10^{-7} cm/sec). The RWD should include additional clarification regarding the liner design and if the existing AIPS meets this criteria. The City may propose liners with a higher permeability, but the RWD justify that a higher

[1] Phillips, D.P., Bear, S., and Gilliom, R.J., 1991, *Quantity and Quality of Ground-Water Inflow to the San Joaquin River, California:* U.S., Geological Survey Water-Resources Investigations Report 91-4019

permeability rate will be adequately protective of groundwater quality. This justification must include for both liner alternatives cost estimates and evaluations of the relative groundwater impacts of each

Sludge Handling. The RWD describes the proposed construction of two sludge stabilization basins to contain and treat the oxidation ditch sludge. The RWD proposes lining the sludge handling facilities using GCL with compacted clay beneath it and gunite material above it to enable heavy equipment to access the basins when they are drained for sludge removal. The RWD refers to a Bentomat® CL with a reported permeability of 5×10^{-10} cm/sec. The design, as proposed, appears reasonable. However, the quality of groundwater underlying the WWTF and its disposal ponds already contains nitrate and other waste constituents in concentrations exceeding water quality objectives. Therefore, there is no assimilative capacity remaining in groundwater to accommodate the leachate from the proposed sludge handling facility. In this instance, best practicable treatment and control for sludge is either mechanical sludge dewatering or containment of sludge handling and drying facilities in a manner comparable to the prescriptive standards set forth in Title 27, CCR, section 20380 et seq. The RWD must provide for Regional Board consideration cost estimates (capital and annual operation) for (1) its preferred alternative, (2) mechanical dewatering, and (3) Title 27 equivalent containment. The RWD must also provide a technical evaluation of the groundwater impacts from the City's preferred alternative.

Water Recycling. Regional Board plans and policies encourage recycling of domestic wastewater whenever feasible. The RWD indicates that the City will investigate plans for recycling after the completion of the Phase I expansion. The RWD should include a detailed plan of how the City intends to proceed with this investigation, including a proposed implementation schedule.

CEQA. The RWD indicates that the California Environmental Quality Act (CEQA) was satisfied for an additional 0.5 mgd of WWTF discharge flow. It is anticipated that CEQA will be satisfied for the remaining flow increase in July 2003. The final EIR certified for the City's 0.5 mgd flow increase and attached to the RWD includes the City's response to Regional Board comments on the draft EIR. In general, the response indicates that the Regional Board, as the lead regulatory agency for these types of facilities, will require the City implement appropriate measures to ensure the discharge reflects best practicable treatment and control and is protective of water quality. Please be advised that the Regional Board cannot authorize the increase in discharge flow beyond 0.5 mgd until CEQA has been satisfied for the entire increase in discharge flow.

Antidegradation and Best Practicable Treatment and Control. As we indicated during our January 2003 meeting, the City must submit information in its RWD that demonstrates — through presentation and analysis of site-specific information — that the WWTF and its discharges will:

1. Not degrade the quality of groundwater beneath the site; ***or***
2. Cause degradation, ***but***:
    a. The degradation will not exceed applicable water quality goals;
    b. Best Practicable Treatment and Control (BPTC) will be employed;
    c. The degradation is consistent with maximum benefit to the people of the State; ***and***
    d. The degradation will not unreasonably affect the beneficial uses of the groundwater.

In part because groundwater affected by the discharge contains waste constituents in concentrations exceeding water quality objectives, tentative WDRs for Regional Board consideration would, if adopted, require the City to reduce the discharge's impact on underlying groundwater by:

1. Sealing all treatment ponds and sludge handling facilities to permeabilities reflective of best practicable treatment and control (BPTC), and

2. Provided percolation remains the effluent disposal method of choice, implementing and operating at optimum levels treatment technology that is reflective of BPTC for organic removal (e.g., technology capable of generating effluent characterized by BOD and TSS concentrations not exceeding 20 mg/L each), and

3. Implementing BPTC for nitrogen removal by:

   (a) reducing effluent total nitrogen concentrations (e.g., to at least less than 7 mg/L) prior to disposal ponds, and/or

   (b) providing sealed ponds for winter storage and recycling effluent on crops at reasonable agronomic rates and in a manner that complies with Statewide recycling criteria in Title 22, California Code of Regulations (CCR), section 60301 et seq.

Information Needs. To complete the RWD, please provide the following information:

1. A brief narrative describing the land uses within the immediate WWTF vicinity, with descriptions of existing or historical sources of waste constituents (e.g., septic tanks, industrial wastewater land application sites, confined animal facilities, etc.) that may be impacting groundwater quality, as appropriate.

2. Copies of pages cited in the RWD from Phillips, D.P., Bear, S,, and Gilliom, R.J., 1991, *Quantity and Quality of Ground-Water Inflow to the San Joaquin River, California:* U.S., Geological Survey Water-Resources Investigations Report 91-4019.

3. Identification of source of water supply (e.g., wells) and characterization of source water quality for, at a minimum, Title 22 drinking water constituents (e.g., a copy of the City's most recent Annual Water Supply Report submitted to the California Department of Health Services).

4. Additional discussion of the feasibility of recycling WWTF effluent or a discussion of proposed tasks and time schedule for determining the feasibility of recycling.

5. A technical report prepared and certified by a California Registered civil engineer describing:

   a. An evaluation of the extent to which the San Joaquin River is influencing the quality of groundwater in the WWTF vicinity. To complete this evaluation, an analysis should be performed of (A) data on the stage (river elevation) and salinity of the San Joaquin River near Patterson (obtainable from the Department of Water Resources' California Data Exchange Center (CDEC) website) and (B) data on the elevation and quality of groundwater in downgradient monitoring wells. This analysis should be able to discern the extent to which improved groundwater quality in downgradient wells is correlated with periods of high river stage (when the quality of water in the river is expected to be higher than during periods of low flow). Supporting data for this evaluation must be appropriately referenced and summarized (e.g., tabulated).

   b. The measures the City intends to implement to mitigate impacts from the WWTF and its discharge to levels consistent with Regional Board plans and policies. These include best

practicable treatment and control measures necessary to ensure the discharge does not cause or contribute to groundwater containing waste constituents (e.g., nitrate, salinity constituents, bacteria, etc.) in concentrations exceeding water quality objectives.

c. An evaluation of the existing oxidation ditch treatment performance and an identification of measures that can be implemented to optimize treatment (i.e., to generate an effluent with BOD and TSS concentrations not exceeding 20 mg/L each and total nitrogen not exceeding 8 mg/L).

d. The permeability of the existing AIPS treatment ponds, including a discussion of how permeability was determined and supporting data and calculations. If the permeability is determined to exceed $6x10^{-7}$ cm/sec (i.e., 550 gallons/day/acre), plans and an implementation schedule for decreasing the permeability to $6x10^{-7}$ cm/sec or a technical discussion why a higher permeability is adequately protective of groundwater quality.

e. A technical evaluation of the groundwater impacts from the proposed sludge facilities.

f. Cost estimates for sludge handling facilities (a) as proposed, (b) employing mechanical dewatering, and (c) employing containment equivalent to Title 27 prescriptive standards. Estimates for all three alternatives shall identify capital and operational costs and be expressed as the average incremental increase in the average sewage utility bill for residential users.

Information submitted pursuant to the above must comply with the certification requirements of General Reporting Requirement B.3 of Standard Provision and Reporting Requirements (dated 1 March 1991).

If you have questions regarding the matter above, please contact Alexis R. Phillips-Dowell at (559) 445-5500.

Jo Anne Kipps

JO ANNE KIPPS
Senior Engineer
RCE No. 49278

cc: Mr. Joel Cockrell, Paterson WWTF, Patterson
Mr. Robert Godwin, Project Manager, Lee & Ro, Inc., Rancho Cordova
Mr. Steven G. Tanaka, Wallace Swanson International, San Luis Obispo

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N15 / STANISLAUS COUNTY / PATTERSON, CITY OF / PATTERSON WASTE TRT FACILITY / 5B50NC00002

LETTER
B
RESPONSE

JoAnne Kipps, Senior Engineer
California Regional Water Quality Control Board
August 8, 2003

B-1 As discussed on pages 1-7 and 13-2 of the DEIR, the consultations with RWQCB staff occurred during preparation of the DEIR. The City chose to evaluate the oxidation ditch system as an Activated Sludge Alternative to the proposed advanced integrated pond system (AIPS) project. The Activated Sludge Alternative was evaluated at a level of detail sufficient for the City Council to approve the oxidation ditch process, if desired. The commenter is correct that the City has now selected the Activated Sludge Alternative as the proposed project. Pages 1-4 and 2-17 have been revised to include the following text clarifying the City's selection of treatment methods.

> During preparation of this EIR, the City of Patterson submitted a Report of Waste Discharge (RWD) to the Regional Water Quality Control Board (RWQCB) to request authorization for expansion of the City's wastewater treatment facilities. During the subsequent consultation process, the RWQCB requested the City to consider expanding their wastewater treatment capacity using an activated sludge treatment process rather than an advanced integrated pond system (AIPS) process. In response to the RWQCB's request, the City evaluated the environmental effects of an Activated Sludge Alternative at a level of detail sufficient for the City Council to approve this alternative, if desired. The City has now selected the Activated Sludge Alternative as the proposed project. The following text describes the AIPS treatment system proposed by the City in the DEIR. The Activated Sludge Alternative is described in detail in Section 13.2.1 (Page 13-5) of this EIR, and is fully evaluated in Section 13.2.2 of this EIR.

B-2 Chapter 9 (Water Quality and Surface Hydrology) of the DEIR addresses water quality impacts associated with operation of the existing WWTP, and also analyzes potential adverse water quality impacts resulting from the proposed WWTP expansion. This analysis addresses effects on groundwater quality and

continued ...

the surface water quality of the San Joaquin River. Because no significant water quality impacts were identified by the EIR, no mitigation measures were recommended to reduce impacts to a less-than-significant level.

The City is aware that the effluent of the existing AIPS at the WWTP does not consistently meet the current WDR discharge specifications for 5-day biochemical oxygen demand (BOD_5). During the time that the City was considering an AIPS treatment system for its proposed plant expansion (i.e., during preparation of the DEIR), the City's intention was to design and construct a system that would meet all WDR discharge specifications, including limitations for BOD_5. Feasible design features to effectively reduce BOD_5 include methods to facilitate oxygen transfer (e.g., a high ratio of pond surface area to volume, mechanical aeration). The details of these features would have been developed in the design and permitting phase of the project. As discussed in Response to Comment B-1, however, the City has now selected oxidation ditch technology as the proposed treatment system. The proposed oxidation ditch system would include BPTCs, as discussed further in Response to Comment B-4.

B-3 As discussed in Response to Comment B-2 above, Chapter 9 (Water Quality and Surface Hydrology) of the DEIR addresses water quality impacts associated with operation of the existing WWTP, and also analyzes potential adverse water quality impacts resulting from the proposed WWTP expansion. This analysis addresses effects on groundwater quality and the surface water quality of the San Joaquin River. No significant water quality impacts were identified by the EIR.

The RWQCB's July 11, 2003 letter raises issues about the influence of the San Joaquin River on groundwater salinity near the WWTP. The RWQCB's April 11, 2003 letter raises an issue about organic carbon in the groundwater. These

continued ...

comments, however, represent RWQCB staff's interpretation of the data, and is not evidence that the project would result in a significant water quality impact.

B-4 The commenter provides a list of three measures that the commenter states will, at a minimum, be necessary to mitigate the project's potential to degrade water quality. The commenter states that these measures will be proposed by the RWQCB staff as part of the waste discharge requirements for this project.

1. Sealing all treatment ponds and sludge handling facilities to permeabilities reflective of best practicable treatment and control (BPTC). The City is no longer considering or proposing the use of new treatment pond systems. Therefore, the sealing of treatment ponds would not be required. The City intends to comply with this measure for sludge-handling facilities. As described in the Activated Sludge Alternative (Page 13-5 of this EIR), the Activated Sludge handling facilities (i.e., aerobic digesters and sludge drying beds) are proposed for the new and existing activated sludge treatment systems. These facilities will be constructed from reinforced concrete and all sludge slurry will be transported in pressure-rated and tested pipes. A secondary liner system consisting of a leak tested 40-mil thick high-density polyethylene liner will be placed below the sludge drying beds. Waste activated sludge from the existing and new activated sludge treatment systems will be aerobically digested. The design of the secondary containment system will be submitted to the RWQCB for review and comment during the permitting phase of the project.

2. Implementing and operating at optimum levels treatment technology that is reflective of BPTC for organic and solids removal (e.g. effluent concentrations of 5-day biological oxygen demand and total suspended solids not exceeding 20 mg/L each). The City is proposing to treat all additional wastewater flows using an activated sludge process. This process will provide an average effluent limitation (as opposed to an absolute

continued ...

limitation) of less than 20 mg/L of both 5-day biological oxygen demand and total suspended solids. The City's existing oxidation ditch effluent meets this standard. Because the City's existing facility does not cause significant adverse impacts to water quality, the proposed facility would also have a less-than-significant impact on water quality.

3. Implementing treatment technology that is reflective of BPTC for nitrogen (e.g. effluent concentrations of total nitrogen not exceeding 8 mg/L). All future activated sludge treatment systems are proposed to utilize a combination of biological nitrification and denitrification. This process is expected to result in average total nitrogen levels below the MCL of 10 mg/L. The City will attempt to achieve average nitrogen levels of below 8 mg/L. Achieving 8 mg/L, however, may prove difficult because this limit approaches the maximum reduction that can be obtained with biological treatment. The City will work with the RWQCB in good faith during the permitting phase of the project to develop a mutually agreeable limit for total nitrogen. An average total nitrogen limit of 10 mg/L would not result in significant water quality impacts. Rather, it would be consistent with the MCL, and would help continue the WWTP's apparent dilution of groundwater nitrogen concentrations from upgradient sources (see Pages 9-11, 9-13, and 9-25 of the EIR for a discussion of groundwater nitrogen dilution).

B-5 As discussed in Response to Comment B-1, the City has now selected the Activated Sludge Alternative (i.e., oxidation ditch technology) as the proposed project and the EIR has been modified to discuss the City's selection of this alternative.

C

DEPARTMENT OF CONSERVATION
STATE OF CALIFORNIA

DIVISION OF
LAND RESOURCE
PROTECTION

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CALIFORNIA
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GRAY DAVIS
GOVERNOR

RECEIVED
AUG 11 2003

August 5, 2003

Mr. Rod Simpson, Planning Director
City of Patterson
33 S. Del Puerto Avenue
P.O. Box 667
Patterson, CA 95363

Subject: Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project Draft Environmental Impact Report (DEIR) - SCH# 2003042070, Stanislaus County

Dear Mr. Simpson:

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the DEIR for the referenced project. The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's impacts on Williamson Act contracts and agricultural land.

Project Description

The proposed project is the expansion of the City of Patterson's (City) wastewater collection system to serve planned City growth, including projects described in the West Patterson Projects Environmental Impact Report (EIR) and the Diablo Grande project in west Stanislaus County. The proposal represents a first phase wastewater treatment plant expansion that includes conversion of 125 acres of Prime Farmland under Williamson Act contracts for percolation ponds. Construction of additional ponds for General Plan build-out would convert up to 275 acres of Prime Farmland under contract.

Conversion of agricultural land is determined to be a significant impact, as is the termination of Williamson Act contracts. Cumulative impacts to agricultural resources are considered significant, and the project is considered growth-inducing. Proposed mitigation for these impacts is the City's consideration of contributing to the California Farmland Conservancy Fund (CFCF) and compliance with contract termination procedures.

Mitigation Measures

Mitigation 5-1 states that the City is considering contribution to the CFCF in an amount that would reflect the then-current value of an agricultural conservation easement on comparable Prime agricultural land of equal size in the project vicinity as that converted and a 10 percent increment for administration. However, if the cost is considered prohibitive, the mitigation would be considered infeasible and would not be implemented. This may not be adequate mitigation according to CEQA. Mitigation should be specific, measurable actions that lessen adverse impacts, not further studies. As stated in the Department's May 16, 2003 comments on this project's Notice of Preparation, mitigation for the West Patterson Projects contains specific requirements for contribution to the CFCF. As recommended in its previous comments, the Department again recommends that the City require this specific mitigation for this project and state the requirement in the Final EIR (FEIR). The mitigation is feasible and has been used by lead agencies for projects in the San Joaquin Valley. Given the significance of agriculture in Stanislaus County and the surrounding region and the significance of the agricultural impacts of this project, the mitigation should be implemented. C-1

Mitigation 5-2 states that the City will follow applicable Government Code requirements for acquisition of land under Williamson Act contract. However, compliance with statutory requirements is generally not considered mitigation under CEQA. Compliance with the Williamson Act is required as is compliance with any law or regulation. It is the impact of prematurely terminating the enforceable contract restriction that protects agricultural use of the land that must be mitigated. This reinforces the need for the City to require Mitigation 5-1 if not add to it. C-2

Williamson Act Land

The Department is concerned that the City may misunderstand the requirements for terminating a Williamson Act contract under public agency acquisition provisions. DEIR section 5.2.2, page 5-5, states the following: "Section 51295 of the Government Code allows for contract cancellation when a public agency acquires land for a public improvement project. Under this circumstance, the Williamson Act contract becomes null and void on completion of the notification procedure."

As stated in the Department's comments of May 16, in addition to other requirements, the public agency must meet requirements of eminent domain law for acquisition by eminent domain or in lieu of eminent domain in order to void the contract (Government Code §51295). Otherwise, use of the property remains restricted by terms of the contract. Completion of the notification procedure does not void the contract. The Department does not provide counsel regarding eminent domain law but encourages the City to obtain legal counsel for this purpose. C-3

Thank you for the opportunity to comment on this DEIR. Pursuant to Public Resources Code §21092.5(a), the Department looks forward to receiving your response and a copy of the FEIR. If you have questions on our comments or require technical assistance or information on agricultural land conservation, please contact Bob Blanford at 801 K Street, MS 13-71, Sacramento, California 95814; or, phone (916) 327-2145.

Sincerely,

Erik Vink
Assistant Director

cc: Phillip Crimmins, Project Analyst
State Clearinghouse

West Stanislaus Resource Conservation District
220 N. El Circulo
Patterson, CA 95363

LETTER
C
RESPONSE

Erik Vink, Assistant Director
California Department of Conservation
Division of Land Resource Protection
August 5, 2003

C-1 EIR Mitigation Measure 5-1 (Page 5-10) states that the City is considering contribution to the California Farmland Conservancy Fund (CFCF), and is researching the cost of the contribution to determine whether implementing the measure would be economically feasible for the City's project. Mitigation Measure 5-1 also discloses that if the measure is determined to be infeasible, it would not be implemented. Section 5.5 of the EIR (Level of Significance After Mitigation; Page 5-12) states that Mitigation Measure 5-1 would encourage the preservation of prime farmland in Stanislaus County, but would not reduce farmland conversion impacts to a less-than-significant level because a net loss of farmland would still result. The EIR then concludes that Impact 5-1 (Conversion of Farmland to Non-Agricultural Uses) would, therefore, remain significant and unavoidable.

Mitigation Measure 5-1 is a specific, measurable action because it clearly describes the specific action proposed by the City (i.e., contribution to the CFCF) and provides measurable details about the formula the City would use to calculate the dollar amount(s) of the contribution(s). Mitigation Measure 5-1 does not include or suggest further technical study. Rather, the measure states that the City is researching the cost of the fund contribution to determine whether implementing the measure would be economically feasible for the City's project. Section 15126.4 of the State CEQA Guidelines states, "an EIR shall describe feasible measures which could minimize significant adverse impacts...." Section 15364 of the State CEQA Guidelines defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors" (underline added). While the mitigation measure appears to be feasible, actual feasibility is a decision made by the lead agency (i.e., the City) in its deliberations over whether to approve the project. The EIR merely

continued ...

suggests there may be a question of feasibility based on cost, but cannot forecast what lead agency decision makers (i.e., City Council) will determine.

C-2 Impacts 5-1, 5-3, 5-4, and 5-6 adequately analyze temporary and permanent conversion of farmland to non-agricultural uses, and Mitigation Measures 5-1, 5-3, 5-4, and 5-6 were included in the EIR to address impacts related to farmland conversion. Impacts 5-2 and 5-5, however, address a different type of impact: potential conflicts with existing zoning for agricultural use or a Williamson Act Contract. Impacts 5-2 and 5-5 correctly conclude that the project would convert Williamson Act land. This would clearly conflict with one or more Williamson Act contract(s), and would result in a significant impact. EIR Mitigation Measure 5-2 (Page 5-10) requires the City to follow applicable Williamson Act cancellation and notification procedures for farm parcels under Williamson Act contracts that would be converted to percolation ponds. Cancellation of Williamson Act contracts using proper procedures, as required in Mitigation Measures 5-2 and 5-5, would eliminate the conflict and reduce this impact to a less-than-significant level. However, this does not alter the conclusion of impact significance with respect to agricultural land conversion.

C-3 The City will follow all applicable laws and regulations required for proper Williamson Act contract cancellation prior to cancellation of any such contracts.

Stanislaus County
Striving to be the Best

CHIEF EXECUTIVE
Reagan
Chief Execu
1010 10TH Street, Suite 6800, Modesto,
PO Box 3404, Modesto, CA 9

Patricia Hill Thomas
Assistant Executive Office
Phone: 209.525.6333 Fax: 209.544.622

D

August 11, 2003

To: **George Lambert, City Manager**

From: **Richard Jantz, Deputy Chief Executive Officer**

Re: **Patterson Wastewater Master Plan and Diablo Grande Sewer Line Draft EIR**

Thank you for the opportunity to comment on the **Patterson Wastewater Master Plan and Diablo Grande Sewer Line Draft EIR.** However, neither Stanislaus County Department of Planning and Community Development nor our Environmental Review Committee received copies of the document until Thursday, August 7, 2003. Apparently, based on discussions with your staff, the copies intended for the County Planning Department were sent to the City of Modesto Planning Department by mistake. Please be advised that Stanislaus County will be forwarding additional comments to you after our Environmental Review Committee meets on Wednesday, August 20, 2003. D-1

For future reference, please forward all City of Patterson environmental and CEQA notifications to:

Kirk Ford, Deputy Director
Stanislaus County Department of Planning and Community Development
1010 10th Street, Suite 3400
Modesto, California 95354

And to

Raul Mendez
Stanislaus County Chief Executive Office
Environmental Review Committee
1010 10th Street, Suite 6800
Modesto, California 95354

Please call me at (209)525-6333, or Kirk Ford at (209)525-6330 if you have any questions. Thank you.

LETTER
D
RESPONSE

W. Richard Jantz, Deputy Chief Executive Officer
Stanislaus County
August 11, 2003

D-1 This comment is noted. The City has since received the County's comment letter, which is included herein as comment letter "F".

E

DEPARTMENT OF TRANSPORTATION
P.O. BOX 2048 (1976 E. CHARTER WAY)
STOCKTON, CA 95201
TTY: California Relay Service (800) 735-2929
PHONE (209) 941-1921
FAX (209) 948-7194

Allan 8.8.03

August 6, 2003

RECEIVED
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STATE CLEARING HOUSE

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10-STA-33-PM 12.571
Draft EIR
Patterson Wastewater Master Plan
And Diablo Grande Sewer Line
SCH # 2003042070

Mr. Brian Grattidge
State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

Dear Mr. Grattidge:

Thank you for the opportunity to review the Patterson Wastewater Master Plan and Diablo Grande Sewer Line Draft Environmental Impact Report (DEIR). The project proposal includes expansion of the City's wastewater facilities to collect, treat and dispose of wastewater generated by approved and planned growth. This project also includes accommodation of wastewater generated by Phase One of Diablo Grande, and construction of a sewer trunk line from Diablo Grande to the City. The project is located near Walnut Avenue and Poplar Avenue in Patterson.

I have reviewed the proposed project and circulated it with the various Caltrans departments and have the following comments based on the additional data submitted from previous submissions:

TRAFFIC OPERATIONS:

- The DEIR did not mention the types of vehicles and volumes associated with the wastewater treatment plant. E-1
- An encroachment permit will be required.
- Traffic Operations will have further comments when additional information is provided. E-2

ENVIRONMENTAL:

- The use of California State Highways for other than normal transportation purposes may require written authorization from Caltrans in the form of an encroachment permit. The application must include the environmental document prepared for the E-3

project that addresses Caltrans right-of-way. At a minimum, documentation of cultural, biological and hazardous waste studies within Caltrans right-of-way is required.

- While this project may not significantly increase the ambient air pollution existing in Stanislaus County, the anticipated growth that would occur from this project will significantly increase pollution. Please be aware that any increase of negative air quality may well impact negatively on future transportation projects.

- For cultural studies at the minimum a recent record search from the information center and an Archaeological Survey Report are required.

- A Natural Environment Study report shall be written documenting the results of biological surveys, this should include a record search from the California Department of Fish and Game Natural Diversity Database. A qualified biologist should conduct surveys at the appropriate time of year to determine if listed species or wetlands occur in the project area. Surveys should meet the state and federal protocol standards. E-3 (cont'd)

- If right-of-way is being dedicated to Caltrans, the applicant is required to submit a copy of Attachment A, confirming that the land to be dedicated to Caltrans is free of hazardous waste. Even if right-of-way is not being dedicated, it is a good practice to conduct a record search to obtain known hazardous waste locations.

- Documented contact with the Native American Heritage Commission was not indicated within this document. Caltrans strongly encourages contact and coordination with the Native American Heritage Commission at: 915 Capitol Mall, Room 364, Sacramento, California, 95814, Telephone (916) 653-4082, Fax (916) 657-5390 for advice on consulting with Native Americans regarding any cultural concerns within the project area.

- For more information on encroachment permits, please visit our web page at http://www.dot.ca.gov/doingbusiness.html then click on Encroachment Permits.

HYDRAULICS:

- The developer needs to ensure that the existing State drainage facilities will not be significantly impacted by the project. If historical undeveloped topography shows drainage from this site flowed into the State right-of-way, it may continue to do so with the conditions that peak flows may not be increased from the pre-construction quantity and the site runoff be treated to meet present storm water quality standards. E-4

If historical undeveloped topography shows drainage from this site did not flow into the State right-of-way, then it will not be allowed to flow into the State right-of-way at this time.

E-4 (cont'd)

Please forward all Final Conditions of Approval including any mitigation measures that are being proposed as well as any other documents and reports (i.e. all forms of environmental documents, Traffic Impact Study Reports, site and location maps, etc) on this proposed project for our review, comment, and records. If you are aware of any controversy regarding any of our requirements, please contact us as soon as possible so we may work together to resolve them before submittal to your Board.

If you have any questions or would like to discuss our comments in more detail, please contact David Cooper at (209) 948-7190 (e-mail: david_cooper@dot.ca.gov) or myself at (209) 941-1921. We look forward in continuing to work with you in a cooperative manner.

Sincerely,

David Cooper for

TOM DUMAS, Chief
Office of Intermodal Planning

LETTER
E
RESPONSE

Tom Dumas, Chief
Office of Intermodal Planning
California Department of Transportation
August 6, 2003

E-1 The expanded WWTP is not expected to increase traffic volumes or alter the types of vehicles using the State Highway system. For this reason, Transportation and Traffic issues were scoped out of the EIR by the Initial Study (included as Appendix A), and were not discussed further in the DEIR.

E-2 This comment is noted. The City and Western Hills Water District will obtain all required Caltrans encroachment permits for their respective projects.

E-3 The City and Western Hills Water District will obtain all required Caltrans encroachment permits for their respective projects. This EIR contains the environmental information that Caltrans is requesting.

This EIR addresses potential impacts on biological resources (Chapter 6) and cultural resources (Chapter 7) related to implementation of the proposed project, including all project components within Caltrans rights-of-way. This impact analysis is based on site-specific cultural and biological literature and field surveys. The Initial Study prepared for the proposed project states that a review of U.S. EPA's Envirofacts Website revealed that no hazardous waste sites are located near any component of the project site (EIR Appendix A, Page 25). For this reason, hazardous waste impacts were scoped out of further consideration in this EIR.

The EIR includes a project specific air quality analysis (Chapter 8) and a cumulative air quality analysis (Impact 11-7 on Page 11-7). Section 12.2 of this EIR discloses the potential environmental impacts, including air quality, with respect to the growth that the proposed project would induce. The commenter states that cultural studies require a recent record search from the information center and an Archaeological Survey Report.

LETTER
E
RESPONSE

continued ...

A Cultural Resources Inventory (EDAW 2003) that included a record search at the Central California Information Center is included as Appendix C of this EIR. The NAHC was contacted regarding this project. On February 26, 2003, the NAHC issued a letter stating that their record search of the sacred lands file failed to indicate the presence of Native American cultural resources in the immediate project area. The NAHC provided contact information for two individuals who may have knowledge of cultural resources in the project area. These two individuals were contacted in writing on March 6, 2003, but they provided no response. In response to this DEIR comment, the letter issued by NAHC and the contact letters to the two individuals have been added to Appendix C of the EIR.

Chapter 6 of this EIR provides the results of project-specific literature reviews and field surveys performed by qualified biologists from EDAW. As stated on Page 6-6 of this EIR, special-status species known or with potential to occur in the vicinity of the study area were identified through a search of the CNDDB. The records search was followed by a site-specific biological reconnaissance survey. Certain EIR mitigation measures require pre-construction biological surveys during the appropriate time of the year to ensure the project would not significantly impact sensitive biological resources. All required surveys would meet state and federal protocol standards.

No land is proposed to be dedicated to Caltrans as part of the proposed project. Therefore, documentation confirming that land dedicated to Caltrans is free of hazardous waste will not be required.

E-4 As discussed in the Initial Study prepared for the proposed project, the sewer collection system would be placed underground and would not alter drainage patterns or substantially affect surface runoff (see EIR Appendix A, Page 28). The sewer collection system is the only project component that would be located in or near State highways.

F

Stanislaus County
Striving to be the Best

CHIEF EXECUTIVE O

Reagan M. I
Chief Executive

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P.O. Box 3404, Modesto, CA 95353-340-

Patricia Hill Thomas
Assistant Executive Office
Phone: 209.525.6333 Fax 209.544.6886

August 20, 2003

George Lambert
City of Patterson
Planning Department
33 South Del Puerto Avenue
Patterson, CA 95363

SUBJECT: **PATTERSON WASTEWATER MASTER PLAN AND DIABLO GRANDE SEWER LINE DRAFT ENVIRONMENTAL IMPACT REPORT**

Mr. Lambert:

The Stanislaus County Environmental Review Committee (ERC) has reviewed the subject project and has the following comment(s):

- The ERC attaches hereto and incorporates herein by reference the correspondence from the Stanislaus Council of Governments to the City of Patterson City Manager dated August 20, 2003. F-1

- If the amount of chemicals increase at the Patterson Wastewater Plant, there will be a need to update the Business Plan with the Stanislaus County Department of Environmental Resources. F-2

- The Stanislaus County Department of Planning and Community Development concurs with the impact analysis and conclusions of the Draft EIR, and further supports the efforts of the City and Western Hills Water District to provide regional wastewater treatment facilities.

- The County anticipates that this EIR (once certified by the City) will be used by the County to provide CEQA compliance for construction of the Diablo Grande Sewer Line and lift station, and any proposed revisions to the Diablo Grande Specific Plan as deemed necessary to allow the City of Patterson to provide sewer service to the approved Diablo Grande development. Please note, however, that the County has not approved any request from Diablo Grande to date that would allow this to occur. We anticipate that an application to revise the Diablo Grande Specific Plan will be forthcoming. F-3

- All of the proposed Patterson wastewater treatment percolation pond expansions are proposed to occur in the unincorporated County on lands currently designated "Agriculture" on the General Plan and zoned "General Agriculture" (A-2-20). Construction of these ponds will require the City to obtain Use Permits for each site located in the unincorporated County prior to construction. Treatment ponds fall under the requirements for a Tier III Use Permit as described in County Code Section 21.20.030-C2(i). The County expects that this EIR will fulfill all required CEQA compliance requirements to allow processing of Use Permit applications. F-4

- Because the existing wastewater treatment facility is currently located within the City limits, it may be appropriate for the City to annex the percolation pond sites on a phased basis prior to construction, thus eliminating the need for processing additional permits through the County. If annexation of the ponds is planned, the County assumes that this EIR would also satisfy the needs of LAFCO for the annexation. F-5

- The majority of the alternative percolation/evaporation pond sites are located within the 100-year floodplain of the San Joaquin River (see Exhibit 2-5). Furthermore, the majority of Parcels K and M are located within the State of California Designated Floodway which is an important fact that is not addressed in the EIR. The EIR states the ponds would be bermed to protect them from inundation of the 100-year flood event. This mitigation measure may not be possible to implement. The Reclamation Board of the State of California must approve these ponds within the designated floodway. The Department of Fish and Game may also have a concern about the ponds within the floodway. This Department recommends all State agencies that might review this proposal be contacted to verify feasibility. Before the ponds would be bermed, a hydrolgy study would need to be performed to determine if the project adversely affects the carrying capacity of the 100-year floodplain. If the study concludes the water surface elevation will be increased 1 foot above the base flood elevation, the berm would not be permitted per the County's "Ordinance Regarding Flood Damage Prevention". F-6

- The stated purpose of the Stanislaus County "Ordinance Regarding Flood Damage Prevention "is "to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions" (Sec 16.50.030). From a strictly floodplain management perspective, it is inappropriate to locate these sewer ponds within the 100-year floodplain. This Department recommends the City re-evaluate the proposed pond locations based on its adopted floodplain ordinance and its section on the statement of purpose. F-7

- On Page 2-20, the EIR states the sewer line west of I-5 will be located within the shoulder of the existing Diablo Grande Parkway and Del Puerto Canyon Road. It is important to stress that on both roads the sewer line will need to be located as far from the edge of pavement, as possible, so the integrity of the paved roadway is not disturbed. Any proposed crossing of Diablo Grande Parkway must be bored. F-8

- Improvement plans for the construction of the sewer line must be approved by Stanislaus County Department of Public Works.

- The City of Patterson shall execute a Maintenance Agreement for the future maintenance of the sewer line prior to the issuance of the encroachment permit. F-9

- If Salado Creek and/or Del Puerto Creek are crossed within the County road rights-of-way, the City of Patterson shall provide a copy of approvals from all agencies including, but not limited to, Department of Fish and Game, the Army Corps of Engineers and others that have authority over creek crossings prior to issuance of the encroachment permit. F-10

- An encroachment permit shall be obtained a minimum of 48 hours prior to the start of any work within the County road rights-of-way. A permit fee will be charged to cover the cost of inspecting the work.

The ERC appreciates the opportunity to comment on this project.

Sincerely,

W. Richard Jantz, Deputy Executive Officer
Raul Mendez, Senior Management Consultant
Environmental Review Committee

cc: ERC Members

LETTER
F
RESPONSE

W. Richard Jantz, Deputy Executive Officer
Stanislaus County
August 20, 2003

F-1 The City has labeled Stanislaus County's letter as comment letter "F", and has labeled StanCOG's letter as comment letter "G". The City provides responses to StanCOG's comments after the following responses to comment letter "F".

F-2 This comment is noted. The City will comply with all applicable County regulations.

F-3 The commenter concurs with the impact analysis and conclusions of the DEIR, and further supports the efforts of the City of Patterson and Western Hills Water District to provide regional wastewater treatment facilities. The commenter also states that it anticipates that this EIR will be used by the County to provide CEQA compliance for the proposed Diablo Grande sewer line, the lift station, and any applicable revisions to the Diablo Grande Specific Plan. This comment is noted.

F-4 This comment is noted.

F-5 This comment is noted. The City will consider annexation of the pond sites at an appropriate time.

F-6 The commenter is correct that some of the pond sites are located in FEMA's Zone A 100-year floodplain, as discussed on Page 9-16 of the EIR and as depicted on Exhibit 9-2. However, no portion of the proposed project would be located in the State Reclamation Board's Designated Floodway. This is also discussed on Page 9-16 of the EIR and depicted on Exhibit 9-2.

Regarding notification of State agencies, the City has fulfilled all of its CEQA notification requirements, allowing all applicable State agencies an adequate opportunity to review and comment on the DEIR.

LETTER
F
RESPONSE

continued ...

The EIR includes a hydrology study in Appendix B. The analysis and conclusions of the hydrology study are presented in EIR Chapter 9 (Water Quality and Surface Hydrology). As stated on Page 9-29, "new percolation ponds within the 100-year floodplain would increase river elevations in some locations near the ponds by a maximum of 0.02 feet (i.e., about $^1/_4$ inch)...." Therefore, the project would not conflict with the County's "Ordinance Regarding Flood Damage Prevention." Impact 9-3 of the EIR (Page 9-29) concludes that constructing the proposed percolation ponds within the 100-year floodplain would result in a less-than-significant impact related to floodplain hydraulics.

F-7 As discussed in Impact 9-3 of the EIR (Page 9-29), the percolation ponds would result in minimal changes to floodplain hydraulics. Such minimal changes would not conflict with the purpose of the County ordinance. The EIR concludes that constructing the proposed percolation ponds within the 100-year floodplain would result in a less-than-significant impact related to floodplain hydraulics.

F-8 This comment is noted. The Western Hills Water District will coordinate with the County for approval of the sewer line plans.

F-9 This comment is noted. The Western Hills Water District will execute a Maintenance Agreement for future maintenance of the Diablo Grande Sewer Line prior to the issuance of the required encroachment permits.

F-10 This comment is noted. The Western Hills Water District will be responsible for design, construction, and securing all permit approvals for the Diablo Grande Sewer Line and lift station. The District will provide the County with all required approvals for creek crossings within County rights-of-way, and will secure an encroachment permit at least 48 hours prior to the start of any work within the County road rights-of-way.

G

StanCOG
Stanislaus Council of Governments

City of Ceres • City of Hughson • City of Modesto • City of Newman • City of Oakdale • City of Patterson
City of Riverbank • City of Turlock • City of Waterford • County of Stanislaus

To: George Lambert
Patterson City Manager
33 S. Del Puerto Avenue
Patterson, CA 95363

August 20, 2003

Re: Patterson Wastewater Master Plan and Diablo Grande Sewer Line Draft EIR

Dear Mr. Lambert,

The Stanislaus Council of Governments (StanCOG) has reviewed the Draft EIR for the proposed project referenced above, and provides the following comments:

Page 2-20 states that, east of Interstate 5, the Diablo Grande sewer line would run eastward, parallel to Sperry Road. The sewer line would be located approximately 200 feet south of Sperry Avenue between I-5 and Rogers Road, and approximately 20 feet south of Sperry Road until it joins a city sewer line on the east side of Salado Creek. StanCOG would like to remind the city that a Project Study Report (PSR) was completed by Caltrans for the Sperry/I-5 interchange in May of 2002. The proposed alignment for the sewer line in the vicinity of the interchange should not conflict with the improvement alternatives identified in the PSR. G-1

In addition, the widening of Sperry Road to four lanes from I-5 to State Route 33 is identified in the Preferred Alternative Strategy of StanCOG's Regional Transportation Plan. StanCOG recommends the proposed sewer line along this segment of Sperry Road conform with the future right of way requirements for the proposed four lane facility. G-2

Please call Mike Higgins, at (209) 558-4847, or e-mail mhiggins@stancog.org if you have questions regarding these comments. Thank you for the opportunity to comment on this proposal.

Sincerely,

Laurie Barton

Laurie Barton
Deputy Executive Director

LETTER
G
RESPONSE

Laurie Barton, Deputy Executive Director
Stanislaus Council of Governments
August 20, 2003

G-1 The Diablo Grande Sewer Line does not appear to conflict with the improvement alternatives identified in the PSR. The EIR describes the approximate location of the sewer line in the vicinity of the intersection, and analyzes the environmental effects of constructing the sewer line in this location. The precise alignment of the sewer line will be selected by the Western Hills Water District during the design phase, and will be located within the areas described and analyzed in this EIR. The Western Hills Water District will consider existing interchange geometry and the alternatives identified in the most recent PSR to identify the best alignment, and will secure an encroachment permit from Caltrans for the portion of the sewer line that passes through the State's right-of-way along Interstate 5. The Western Hills Water District will fully cooperate with Caltrans when future interchange improvements are implemented. If necessary, the District would be willing to realign the sewer line to accommodate future interchange improvements.

G-2 The Diablo Grande Sewer Line is intended to conform with the future right-of-way requirements for Sperry Road. The EIR describes the approximate location of the sewer line along Sperry Road, and analyzes the environmental effects of constructing the sewer line in this location. The precise alignment of the sewer line will be selected by the Western Hills Water District during the design phase, and will be located within the areas described and analyzed in this EIR. The Western Hills Water District will consider existing roadway geometry and the Preferred Alternative Strategy of StanCOG's Regional Transportation Plan to identify the best alignment, and will secure an encroachment permit from Stanislaus County for improvements within County road rights-of-way.

18 MITIGATION MONITORING PLAN

18.1 INTRODUCTION

In accordance with CEQA, the City of Patterson (City) prepared an Environmental Impact Report (EIR) for the Patterson Wastewater Master Plan and Diablo Grande Sewer Line project. The environmental analysis for the EIR resulted in the finding that construction activities associated with the proposed project would result in adverse impacts on certain environmental resources. In response to findings of adverse impacts, the EIR prescribes mitigation measures which would minimize or eliminate significant adverse impacts.

Section 21081.6 of the California Public Resources Code and §15091(d) and §15097 of the State CEQA Guidelines require public agencies "to adopt a reporting and monitoring program for changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment." The following Mitigation Monitoring Plan (MMP) is required for the Patterson Wastewater Master Plan and Diablo Grande Sewer Line project because the EIR identified potentially significant adverse impacts that would result from construction activities and operation of the project and developed mitigation measures to be implemented to mitigate or avoid those impacts.

Adoption of this MMP will occur along with approval of the proposed project.

18.2 PURPOSE OF MITIGATION MONITORING PLAN

This MMP has been prepared to ensure that all required mitigation measures are implemented and completed according to schedule and, where appropriate, are maintained in a satisfactory manner during the construction of the project, as required. The MMP may be modified by the City during project implementation, as necessary, in response to changing conditions or other refinements. Table 18-1 has been prepared to assist the responsible parties in implementing the MMP. Table 18-1 identifies the category of significant environmental impact, individual mitigation measures, monitoring/mitigation timing, responsible person/agency for implementing the measure, monitoring and reporting procedure, and space to confirm implementation of the mitigation measures. The numbering of mitigation measures follows the numbering sequence found in the Initial Study and Final EIR.

18.3 Roles and Responsibilities

Unless otherwise specified herein, the construction contractor is responsible for taking all actions necessary to implement the mitigation measures according to the specifications provided for each measure and for demonstrating to the City that the mitigation has been successfully completed.

Because the City is the lead agency, it assumes overall responsibility for verifying compliance with this MMP. The Western Hills Water District (WHWD) is the proponent of the Diablo Grande Sewer Line project, and will be responsible for implementing the mitigation measures that apply to that project, and providing documentation verifying compliance to the City's project manager.

The City will be responsible for overall administration of the MMP and for verifying that the construction contractor has completed the necessary actions for each measure. The City will designate a project manager to oversee the MMP during the construction period. Duties of the project manager include the following:

- Ensure routine inspections of the construction site are conducted by appropriate City staff; check plans, reports, and other documents required by the MMP; and conduct report activities.
- Serve as a liaison between the City and the construction contractor regarding mitigation monitoring issues.
- Complete forms and maintain reports and other records and documents generated by the MMP.
- Coordinate and ensure that corrective actions or enforcement measures are taken, if necessary.

The construction contractor will identify the construction staff members responsible for coordinating with the City on the MMP.

18.4 Annual Reporting

CEQA Guidelines §15097(a) state that "until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program." Annual reporting provides the documentation of implementation and compliance with the MMP. The City will prepare an annual monitoring

report documenting the compliance of project construction activity with the required mitigation measures. Information regarding periodic inspections, construction monitoring, and other requirements will be compiled and explained in the annual report. The report will be designed to simply and clearly identify whether mitigation measures are being, or have been, adequately implemented. At a minimum, each report shall identify the mitigation measures or conditions to be monitored for implementation, whether compliance with the mitigation measures or conditions has occurred, the procedures used to assess compliance, and whether further action is required. The reports shall be provided to the City of Patterson Planning Department.

18.5 MITIGATION MONITORING PLAN TABLE

The annual report will verify the implementation of mitigation measures. The MMP Table 18-1 that follows will guide the City in their evaluation of compliance with mitigation measures and will be the basis for annual reporting.

The column categories identified in the MMP Table are described below.

Mitigation Number - This column lists the mitigation measures by number.

Mitigation Measure - This column provides the text of the mitigation measures identified in the Initial Study and EIR.

Timing/Schedule - This column lists the time frame in which the mitigation will take place.

Implementation Responsibility - This column identifies the entity responsible for complying with the requirements of the mitigation measure. In most cases, the construction contractor will be responsible for conforming to the mitigation measure.

Implementation and Verification - These columns are for verifying compliance. The "Monitoring Action" column describes the type of action taken to verify implementation. The "Date Completed" column is to be dated and initialed by the City project manager, or their designee, based on the documentation provided by the construction contractor, its agents (qualified individuals), or through personal verification by City staff.

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
INITIAL STUDY					
Geo-1	Project structures shall be designed in accordance with the seismic standards of the current Uniform Building Code (UBC). Final design standards shall be implemented in accordance with the findings of a detailed design specific geologic and geotechnical analysis conducted for the project site prior to completion of final grading design plans.	Prior to Grading Plan approval	City of Patterson/ WHWD		
Geo-2	A slope stability analysis of the large landslide 3 miles east of the Diablo Grande Specific Plan area shall be included as part of the detailed geotechnical report for the project. The report shall provide recommendations for slope stability measures that future landsliding activities not impact the proposed Diablo Grande sewer trunk line. All recommended measures shall be incorporated into the proposed project plans.	Prior to Grading Plan approval	City of Patterson/ WHWD		
Hydro-1	Prior to the initiation of project grading, the City (and Western Hills Water District for the Diablo Grande sewer trunk line) will prepare a Stormwater Pollution Prevention Plan (SWPPP) designed to reduce potential impacts to surface and groundwater quality. The SWPPPs would act as the overall program document designed to provide measures to mitigate potential impacts to surface water quality associated with implementation of the proposed project. Each SWPPP shall include: ▸ Specific and detailed BMPs designed to mitigate construction-related pollutants. These controls shall include practices to minimize the contact of construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives) with storm water. The SWPPP shall specify properly designed centralized storage areas that keep these materials	Prior to Construction	City of Patterson/ WHWD		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	out of the rain. ▸ An important component of the storm water quality protection effort is knowledge of the site supervisors and workers. To educate onsite personnel and maintain awareness of the importance of storm water quality protection, site supervisors shall conduct regular tailgate meetings to discuss pollution prevention. The frequency of the meetings and required personnel attendance list shall be specified in the SWPPP. ▸ The SWPPP shall specify a monitoring program to be implemented by the construction site supervisor, and must include both dry and wet weather inspections. In addition, in accordance with State Water Resources Control Board Resolution No. 2001-046, monitoring would be required during the construction period for pollutants that may be present in the runoff that are "not visually detectable in runoff." Patterson and Western Hills Water District personnel shall conduct regular inspections to ensure compliance with the SWPPP. RWQCB personnel, who may make unannounced site inspections, are empowered to levy considerable fines if it is determined that the SWPPP has not been properly prepared and implemented. ▸ BMPs designed to reduce erosion of exposed soil may include, but are not limited to: soil stabilization controls, watering for dust control, perimeter silt fences, placement of hay bales, and sediment basins. The potential for erosion is generally increased if grading is performed during the rainy season as disturbed soil can be exposed to rainfall and storm runoff. If grading must be conducted during the rainy season, the primary BMPs selected shall focus on				

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	erosion control, that is, keeping sediment on the site. End-of-pipe sediment control measures (e.g., basins and traps) shall be used only as secondary measures. If hydroseeding is selected as the primary soil stabilization method, then these areas shall be seeded by September 1 and irrigated to ensure that adequate root development has occurred prior to October 1. Entry and egress from the construction site shall be carefully controlled to minimize offsite tracking of sediment. Vehicle and equipment wash-down facilities shall be designed to be accessible and functional both during dry and wet conditions.				
Noise-1	Construction activities shall be limited to the following hours and days: ▸ Between the hours of 6:00 a.m. and 9:00 p.m. on any weekday ▸ Between the hours of 7:00 a.m. and 9:00 p.m. on Saturdays ▸ Prohibited on Sundays and holidays Construction equipment shall be properly outfitted and maintained with noise reduction devices to minimize construction-generated noise. Wherever possible, noise-generating construction equipment shall be shielded from nearby residences by noise-attenuating buffers such as structures or trucks. Stationary construction equipment shall be centrally located onsite at the greatest distance possible from nearby noise-sensitive receptors.	During Construction	City of Patterson/ WHWD		
AGRICULTURE CONVERSION					
5-1	**First-Phase Expansion - Contribute to the California Farmland Conservancy Fund.** The City of Patterson is considering contribution to the California Farmland Conservancy Fund pursuant to Public Resources Code Section 10231.5 for the	Prior to Construction or	City of Patterson		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	purposes of funding projects in Stanislaus County under the California Farmland Conservation Program. Such projects might include the purchase of agricultural conservation easements, land improvement and planning grants, technical assistance, or other authorized activities under the California Farmland Conservation Program. Use of funding from the Farmland Conservation Program Fund requires an appropriation by the Legislature. The amount of such contribution would, at minimum, reflect the then-current value of an agricultural conservation easement on comparable Prime agricultural land in the project vicinity equal in size to the acreage of the converted farmland, and a 10% increment for program administration under the Farmland Conservation Program. The per-acre valuation of such easement would be jointly developed in consultation with CDC.	Percolation Ponds			
5-2	**First-Phase Expansion - Comply with Williamson Act Contract Cancellation Procedures.** The City will follow the cancellation and notification procedures as outlined in Government Code Section 51280, and other applicable sections of the Government Code, to advise the Director of CDC and the Stanislaus County Board of Supervisors of its need to acquire the lands currently under Williamson Act contracts for a public use. The City will also take into consideration comments made by these agencies before to cancellation of the Williamson Act contracts. Pursuant to Government Code Section 51292, the City will also be required to make the following findings: "a) [t]he location is not based primarily on a consideration of the lower cost of acquiring land in an agricultural preserve"; and (b), "that there is no other land within or outside the preserve on which it is reasonably feasible to locate the public improvement."	Prior to Construction of Percolation Ponds on Williamson Act Parcels	City of Patterson		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
5-3	**First-Phase Expansion - Minimize Impacts to Farmland During Construction.** The City will implement the following mitigation measures: 1. To the degree possible, all pipelines will be routed within public roads or farm roads to minimize impacts on farmland. 2. Where it is not possible to avoid construction on farmland, construction activities on or adjacent to farmland to be retained in agricultural production following project implementation will be restricted to periods when specific fields in which construction activities are proposed to occur are in a fallow condition (i.e., construction activities in a specific field are not permitted during the planting, growing, and harvesting seasons of the field). The City will contact farmers of potentially affected farmland prior to development of the construction schedule to time construction activities to coincide with fallow periods. If it is not feasible for construction to occur during fallow periods, the City will provide monetary compensation to the affected farmer(s) in the amount of the production lost due to project construction. 3. Topsoil removed during construction activities on important farmland that is to be retained in agricultural production will be properly salvaged, stockpiled, and protected from wind and water erosion, and will be redistributed in its previous location by the construction contractor(s).	Prior to and During Construction	City of Patterson/ WHWD		
5-4	**General Plan Buildout - Contribute to the California Farmland Conservancy Fund.** The City will implement Mitigation Measure 5-1.	Prior to Construction of Percolation	City of Patterson		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
		Ponds			
5-5	**General Plan Buildout - Comply with Williamson Act Contract Cancellation Procedures.** The City will implement Mitigation Measure 5-2.	Prior to Construction of Percolation Ponds on Williamson Act Parcels	City of Patterson		
5-6	**General Plan Buildout - Minimize Impacts to Farmland During Construction.** The City will implement Mitigation Measure 5-3.	Prior to and During Construction	City of Patterson/ WHWD		
BIOLOGICAL RESOURCES					
6-2	**First-Phase Expansion - Protection of San Joaquin Kit Fox.** WHWD will implement the following construction impact avoidance and minimization measures, in accordance with USFWS (1999) guidelines, for portions of the project that would be constructed west of the Delta-Mendota Canal: ▸ An onsite biological monitor shall be present during construction. ▸ A worker education program will be conducted. ▸ Project-related vehicles will observe a 20-mph speed limit in the project area except on county roads, and State and Federal highways; this is particularly important at night when kit foxes are most active.	Prior to and During Construction of Diablo Grande Sewer Line	WHWD		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	▸ Nighttime construction will be prohibited. ▸ To prevent inadvertent entrapment of kit foxes during construction, all excavated, steep-walled holes or trenches more than 2 feet deep will be covered at the close of each working day with plywood or similar materials, or equipped with one or more escape ramps constructed of earth fill or wooden planks. Before trenches are filled, they will be thoroughly inspected for trapped kit foxes. ▸ All construction pipes, culverts, or similar structures with a diameter of 4 inches or greater that are stored at a construction site overnight will be thoroughly inspected for kit foxes before the pipe is buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe will not be moved until the USFWS has been consulted. ▸ All food-related trash items, such as wrappers, cans, bottles, and food scraps, will be disposed of in a closed container and removed at least once a week from the construction site.				
6-3	**First-Phase Expansion - Protection of Swainson's Hawk.** The City will implement the following measures: ▸ To avoid direct impacts to nesting Swainson's hawks, construction activities east of I-5 will not be conducted during the typical breeding season (March 1 to August 31). ▸ If avoiding construction during the breeding season is not feasible, pre-construction surveys will be conducted by a qualified ornithologist to	Prior to Construction of Percolation Ponds	City of Patterson		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	identify active nests within 0.5 mile of the project area. The survey will be conducted no less than 14 days and no more than 30 days before the beginning of construction. To the extent feasible, the guidelines provided in the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley* (Technical Advisory Committee 2000) will be followed. ▸ If active nests are found, impacts will be avoided by establishment of appropriate buffers. No project activity will commence within the buffer area until a qualified biologist confirms that the nest is no longer active. CDFG guidelines recommend implementation of 0.25- or 0.5-mile buffers, but the size of the buffer may be adjusted if a qualified biologist and CDFG determine it would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist may be required if the activity could adversely affect the nest. ▸ Loss of foraging habitat from construction of evaporation/percolation ponds will be mitigated by following the draft CDFG guidelines (1994), which state that Habitat Management lands will be provided to CDFG at ratios based on the distance of active nest trees to the project site. For projects within 5 miles of an active nest tree but greater than 1 mile, the mitigation ratio is 0.75 acres of Habitat Management lands for each acre developed. For projects within 1 mile of an active nest, the ratio is 1:1. Because the final locations of the evaporation/percolation ponds have not been selected, the actual distance from an active nest cannot be determined and neither can the mitigated acreage. However, the study area includes areas that range from less than 1 mile to 5 miles from an active nest. Following finalization of the construction footprint				

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	and before any project construction activity, the total acreage of Habitat Management lands required for mitigation will be calculated according to the above mitigation ratios.				
6-4	**First Phase Expansion - Protection of Special-status Amphibians.** The City will implement measures to minimize erosion and runoff into Salado Creek from construction of the Diablo Grande pump station and pipeline. Appropriate runoff controls such as berms, filtration systems, and sediment traps will be used to control siltation and the potential discharge of pollutants. These mitigation measures will be made part of the Storm Water Pollution Prevention Plan to be prepared for Mitigation Measure Hydro-1 included in the Initial Study prepared for the Wastewater Master Plan (Appendix A of this EIR).	Prior to and During Construction of Diablo Grande Sewer Line	WHWD		
6-5	**First-Phase Expansion - Protection of Western Pond Turtle.** A qualified biologist will be present to survey for western pond turtles during the pond draining. If any turtles are found during the pond draining, they will be captured and moved by a qualified biologist to suitable habitat outside of the construction area.	At Time of Pond Draining	City of Patterson		
6-6	**First-Phase Expansion - Protection of Burrowing Owl.** The City will implement the following measures: ▸ Before construction activity, focused pre-construction surveys will be conducted for burrowing owls where suitable habitat is present within 75 meters of the construction areas. Surveys will be conducted no less than 14 days and no more than 30 days before construction activities begin and surveys will be conducted in accordance with CDFG protocol (CDFG 1995).	Prior to Construction	City of Patterson/ WHWD		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	▸ If no occupied burrows are found in the survey area, a letter report documenting survey methods and findings will be submitted to CDFG for review and approval, and no further mitigation will be necessary. ▸ If occupied burrows are found, impacts to them will be avoided by providing a buffer of 50 meters during the non-breeding season (September 1 through January 31) or 75 meters during the breeding season (February 1 through August 31). In addition, a minimum of 6.5 acres of foraging habitat will be preserved contiguous with each occupied burrow. ▸ If impacts to occupied burrows are unavoidable, on-site passive relocation techniques approved by CDFG will be used to encourage owls to move to alternative burrows outside of the impact area. However, no occupied burrows will be disturbed during the nesting season unless a qualified biologist verifies through non-invasive methods that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Mitigation for foraging habitat for relocated pairs will follow guidelines provided in the California Burrowing Owl Consortium Guidelines (1993), which specify ranges for habitat from 6.5 to 19.5 acres per pair.				
6-7	**First-Phase Expansion - Protection of Other Raptors.** The City will implement the following measures: ▸ If project activity would occur during the raptor nesting season (February 15 to September 15), preconstruction surveys will be conducted in areas of suitable nesting habitat within 500 feet of project activity. Surveys will be conducted no less than 14 days and no more than 30 days before project	Prior to and During Construction	City of Patterson/ WHWD		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	activity begins. If no active nests are found, no further mitigation will be required. ▸ If active nests are found, impacts will be avoided by establishment of appropriate buffers. No project activity within the buffer area will begin until a qualified biologist confirms that the nest is no longer active. CDFG guidelines recommend implementation of 500-foot buffers, but the size of the buffer may be adjusted if a qualified biologist and CDFG determine it would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist may be required if the activity could adversely affect the nest.				
6-8	**First-Phase Expansion - Protection of Tricolored Blackbird.** The City will implement the following measures: ▸ If construction of the Diablo Grande pump station and pipeline would occur during the tricolored blackbird nesting season (March 1 to August 31), within 500 feet of the freshwater marsh upstream of the concrete dam in Salado Creek, preconstruction surveys will be conducted. The survey will be conducted within 14 days before project activity begins. If no colony is present, no further mitigation will be required. ▸ If a colony is found, impacts will be avoided by establishment of appropriate buffers. No project activity within the buffer area will begin until a qualified biologist confirms that the colony is no longer active. The appropriate size of the buffer will be determined in consultation with CDFG and is anticipated to range from 100 to 500 feet, depending on the extent of existing disturbance in the area and other relevant circumstances.	Prior to Construction of Diablo Grande Sewer Line	WHWD		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
6-10	**First-Phase Expansion - Protection of Sensitive Habitats.** The City will implement the following measures: ▸ Authorization for fill of jurisdictional areas will be secured from USACE via the Section 404 permitting process. It is anticipated that less than 0.5 acre of Salado Creek would be excavated for pipeline installation. ▸ A CDFG Streambed and Lakebed Alteration Agreement may also be required for trench excavation and pipeline installation across Salado Creek. ▸ The acreage of jurisdictional habitat removed will be rehabilitated on a "no-net-loss" basis in accordance with USACE and CDFG regulations. It is anticipated that restoration of the creek to pre-project conditions would be adequate to satisfy agency regulations. ▸ Riparian and oak woodland vegetation adjacent to the Diablo Grande pump station site will be fenced with high-visibility construction fencing to prevent access. No construction activities, vehicles, equipment, or staging activities may occur within the fenced area. The protective fencing will be maintained until all construction activities are complete. ▸ To protect the riparian woodland habitat located adjacent to the northeastern-most percolation pond site, a 100-foot setback will be established between the riparian woodland and the construction site. No construction activities, vehicles, equipment, or staging activities may occur within the setback area. During construction, the setback area will be fenced with high-visibility construction fencing to prevent access. The protective fencing will be	Prior to, During, and After Construction of Diablo Grande Sewer Line	WHWD		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	maintained until all construction activities are complete. All grading plans will include appropriate runoff controls to avoid construction runoff into this area. ▸ The biological mitigation site at the north edge of the existing wastewater treatment plant will be avoided during construction, so its function as a mitigation site is not adversely affected. ▸ Implement Mitigation Measure 6-4.				
6-14	**General Plan Buildout - Protection of Swainson's Hawk.** The City will implement Mitigation Measure 6-3.	Prior to Construction of Percolation Ponds	City of Patterson		
6-16	**General Plan Buildout - Protection of Western Pond Turtle.** The City will implement Mitigation Measure 6-5.	At Time of Pond Draining	City of Patterson		
6-17	**General Plan Buildout - Protection of Burrowing Owl.** The City will implement Mitigation Measure 6-6.	Prior to Construction	City of Patterson		
6-18	**General Plan Buildout - Protection of Other Raptors.** The City will implement Mitigation Measure 6-7.	Prior to and During Construction	City of Patterson		
6-21	**General Plan Buildout - Protection of Sensitive Habitats.** The City will implement the following measures:	Prior to, During, and	City of Patterson		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	▸ Authorization for fill of jurisdictional areas will be secured from USACE via the Section 404 permitting process. ▸ A CDFG Streambed and Lakebed Alteration Agreement may also be required for trench excavation and pipeline installation across Salado Creek. ▸ The acreage of jurisdictional habitat removed will be rehabilitated on a "no-net-loss" basis in accordance with USACE and CDFG regulations. It is anticipated that restoration of the creek to pre-project conditions would be adequate to satisfy agency regulations. ▸ Measures to minimize erosion and runoff into Salado Creek will be implemented. Appropriate runoff controls such as berms, filtration systems, and sediment traps will be implemented to control siltation and the potential discharge of pollutants.	After Construction			
CULTURAL RESOURCES					
7-1	**First-Phase Expansion - Construction Cessation If Cultural Resources Are Discovered During Ground Disturbing Activities.** In the event that previously unknown archaeological resources, are discovered during any land alteration activities, the construction crew will immediately cease work in the immediate area. A qualified archaeologist approved by the City of Patterson will be consulted to evaluate the resource in accordance with state guidelines. Mitigation measures consistent with the State CEQA Guidelines will be devised and a mitigation plan submitted for approval by the City of Patterson. Any necessary archaeological excavation and monitoring activities will be conducted in accordance with	During Construction	City of Patterson/ WHWD		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	prevailing professional standards. Mitigation, in accordance with a plan approved by the City, will be implemented before work within the area of the resource find begins. In the event that human remains are discovered, the County Coroner will be contacted in accordance with §7050.5 of the State Health and Safety Code. As cited in §15064.5 of the State CEQA Guidelines, if the coroner determines that the remains represent Native American interment, the Native American Heritage Commission in Sacramento will be consulted to identify the most likely descendant(s) and the appropriate disposition of the remains. Consultation with descendants will occur as directed by the Commission.				
7-2	**General Plan Buildout - Identify Cultural Resources Prior to and During Future Construction.** The City will implement the following measures: ▸ Conduct archival research and pedestrian field surveys in all areas not previously subjected to cultural resources inventory procedures. ▸ Implement Mitigation Measure 7-1.	Prior to and During Construction	City of Patterson		
AIR QUALITY					
8-1	**First-Phase Expansion - Regional Criteria Pollutant Reduction Measures.** The following mitigation measures, including those recommended by the SJVAPCD, will be incorporated into the project to reduce short-term construction emissions: ▸ All disturbed areas, including storage piles, which are not being actively used for construction purposes, shall be effectively stabilized to limit dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.	During Construction	City of Patterson/ WHWD		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	▸ All onsite unpaved roads and offsite unpaved access roads used for ongoing construction activities shall be effectively stabilized to limit dust emissions using water or chemical stabilizer/suppressant. ▸ All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled to limit fugitive dust emissions by applying water or by presoaking. ▸ With the demolition of buildings, all exterior surfaces of the building shall be wetted during demolition. ▸ When materials are transported offsite, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained. ▸ All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.) ▸ Following the addition of materials to, or the removal of materials from, the surfaces of outdoor storage piles, said piles shall be effectively stabilized to limit fugitive dust emissions using sufficient water or chemical stabilizer/suppresant. ▸ Onsite vehicle speeds on unpaved roads shall be limited to 15 mph. ▸ Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from adjacent project areas with a slope greater than				

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	1%. ▸ Wheel washers shall be installed for all exiting trucks and equipment, or wheels shall be washed to remove accumulated dirt before leaving the site. ▸ Excavation and grading activities shall be suspended when winds exceed 20 mph. ▸ Areas subject to excavation and grading at any one time shall be limited to the fullest extent possible. ▸ Onsite equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. ▸ When not in use, onsite equipment shall not be left idling. ▸ Alternative fueled or catalyst-equipped diesel construction equipment, or NO_X- or PM_{10}-controlled equipment shall be used, where possible. ▸ Before demolition of any existing structures, an asbestos survey shall be completed to identify any asbestos-containing building materials. Asbestos-containing materials shall be abated before and/or during demolition, in accordance with state and/or local regulatory requirements.				
8-3	**First-Phase Expansion - Airborne Odor Reduction Measures.** The following mitigation measures will be incorporated into the City's wastewater treatment expansion project to reduce potential emissions of airborne odors: ▸ Before final design, the City of Patterson will ensure that appropriate engineering controls have been incorporated into the design and construction	Prior to Construction and During Facility Operation	City of Patterson		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	of the proposed wastewater treatment and conveyance facilities to minimize the production of unpleasant odors. Engineering controls to diminish odors could include, but would not be limited to, covering the headworks and/or prechlorinating at the headworks use of chemical additives to mask odors, or installing systems to collect odiferous air and remove unpleasant odors (e.g., air scrubber). ▸ During operation of the expanded wastewater treatment and conveyance facilities, the City of Patterson will ensure that engineering controls designed to suppress odors are functioning properly by periodically evaluating odor levels adjacent to the facilities. Should offensive odors be present, the City will take appropriate action to correct them to the extent practical.				
8-4	**General Plan Buildout - Regional Criteria Pollutant Reduction Measures.** The City will implement Mitigation Measure 8-1.	During Construction	City of Patterson		
8-6	**General Plan Buildout - Airborne Odor Reduction Measures.** The City will implement Mitigation Measure 8-3.	Prior to Construction	City of Patterson		
CUMULATIVE IMPACTS					
11-1	**Cumulative - Contribute to the California Farmland Conservancy Fund.** The City will implement Mitigation Measure 5-1.	Prior to Construction of Percolation Ponds	City of Patterson		
11-2	**Cumulative - Reduction of Cumulatively Considerable Impacts to San Joaquin**	Prior to and	WHWD		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
	Kit Fox. WHWD will implement Mitigation Measure 6-2.	During Construction of Diablo Grande Sewer Line			
11-3	**Cumulative - Reduction of Cumulatively Considerable Impacts to Swainson's Hawk.** The City will implement Mitigation Measure 6-3.	Prior to Construction of Percolation Ponds	City of Patterson		
11-4	**Cumulative - Reduction of Cumulatively Considerable Impacts to Other Nesting Birds.** The City and WHWD will implement Mitigation Measures 6-6, 6-7, and 6-8.	Prior to and During Construction	City of Patterson/ WHWD		
11-5	**Cumulative - Reduction of Cumulatively Considerable Impacts to Aquatic Habitats and Associated Species.** The City and WHWD will implement Mitigation Measures 6-4, 6-5, and 6-10.	Prior to, During, and After Construction of Diablo Grande Sewer Line and at time of Pond Draining	City of Patterson/ WHWD		

TABLE 18-1
PATTERSON WASTEWATER MASTER PLAN
MITIGATION MONITORING PLAN

Mitigation Number	Mitigation Measure	Timing/Schedule	Implementation Responsibility	Implementation and Verification	
				Monitoring/ Action	Date Completed
11-7	**Cumulative - Regional Criteria Pollutant Reduction Measures.** The City will implement Mitigation Measure 8-1.	During Construction	City of Patterson/ WHWD		

appendix **A**

NOTICE OF PREPARATION / INITIAL STUDY

City of Patterson
33 South Del Puerto Avenue,
Patterson, CA 95363
Phone: (209) 892-2041
Fax: (209) 892-6119
Visit us at: http://evansinet.com/~pasncity/

To: Agencies and Interested Parties

From: Rod Simpson, Planning and Building Director, City of Patterson

Date: April 16, 2003

Subject: Notice of Preparation of a Draft Initial Study for the City of Patterson Wastewater Master Plan and Diablo Grande Sewer Line EIR.

PURPOSE OF THE NOTICE OF PREPARATION

The City of Patterson (City) will be preparing an Environmental Impact Report (EIR) for the City of Patterson Wastewater Master Plan Project. The City is the lead agency under the California Environmental Quality Act (CEQA) and has prepared an initial study (IS) on the City of Patterson Wastewater Master Plan Project. The IS is attached to this Notice of Preparation (NOP).

The purpose of this notice is to:

(A) solicit input from interested individuals, groups, and agencies about the desired content and scope of the EIR to be prepared by the City for the proposed Wastewater Master Plan Project; and,

(B) to announce the City's public scoping meeting on the Wastewater Master Plan and Diablo Grande Sewer Line EIR, to be held on April 22, 2003 at 6:00 p.m. The scoping meeting will be held at the Patterson City Council Chambers located at 48 N. Salado Avenue, Patterson, CA 95363.

SCOPING, CITY OF PATTERSON, AND OTHER AGENCY RESPONSIBILITIES

SCOPING

Scoping is an initial, essential, and critically important component of the City's Wastewater Master Plan EIR. Scoping will help to identify the range of environmental impacts and alternatives to be evaluated, methods of assessment, and mitigation measures that will be analyzed in depth, and it will help to eliminate from detailed study those issues that are not critical to the decision at hand. It is also an

effective way to bring together and resolve concerns of interested federal, state, and local agencies, and the public.

An NOP scoping meeting on the proposed Wastewater Master Plan and Diablo Grande Sewer Line EIR will be held at 6:00 p.m. on April 22, 2003, at the City of Patterson Council Chambers located at 48 N. Salado Avenue, Patterson, California. The objectives of the meeting will be to brief interested parties on the proposed project, summarize the possible environmental issues to be evaluated, and obtain the views of the public and resource agencies on the scope and content of the proposed EIR.

Interested parties may also provide the City with written comments on this NOP. Because of time limits mandated by state law, comments should be provided no later than **5 p.m.** on May 17, 2003. Commenting agencies that will need to use the EIR when considering permits or other approvals for the proposed project should provide the City with the name of a staff contact person. Please send all written comments to:

Mr. Rod Simpson
Planning Director
City of Patterson
33 South Del Puerto Avenue
Patterson, CA 95363

CITY OF PATTERSON

The City will serve as the lead agency for CEQA compliance and will coordinate as necessary with CEQA responsible and trustee agencies. The City is the lead agency for CEQA purposes because it has overall responsibility for approving the project and for providing wastewater treatment in the City. Also, the City will take the lead in securing funding for and implementing the proposed project. As lead agency under CEQA, the City will be principally responsible for conducting the environmental review process, including scoping, preparing appropriate environmental documentation (i.e., an EIR), and obtaining required permits and other regulatory approvals.

OTHER AGENCY ROLES

The following agencies may have jurisdiction over elements of the proposed project:

- Central Valley Regional Water Quality Control Board (RWQCB)
- Stanislaus County
- Western Hills Water District (WHWD)
- San Joaquin Valley Air Pollution Control District (SJVAPCD)
- California Department of Fish and Game (CDFG)
- California Office of Historic Preservation (COHP)
- U.S. Army Corps of Engineers (USACE)
- U.S. Fish and Wildlife Service (USFWS)
- California Department of Water Resources (DWR)

- San Luis & Delta-Mendota Water Authority (SLDMWA)
- U.S. Bureau of Reclamation (USBR)

PROJECT OVERVIEW

PURPOSE OF THE PROPOSED PROJECT

The primary objectives of the proposed Wastewater Master Plan and Diablo Grande Sewer Line project are to:

- continue to provide wastewater services at a reasonable rate for approved and planned growth in the City and its sphere of influence through the General Plan buildout year of 2020;
- provide wastewater services at a reasonable rate to Phase One of the approved Diablo Grande Specific Plan project in Stanislaus County;
- minimize the number of wastewater treatment plants serving the Diablo Grande Specific Plan project to consolidate management, disposal and permitting of the facilities; and,
- reduce the cost of wastewater facility improvements needed to serve the City and the Diablo Grande Specific Plan project by WHWD's participation in the combined facility improvements and by utilizing the City's existing maintenance and facility infrastructure to serve the Diablo Grande Specific Plan project.

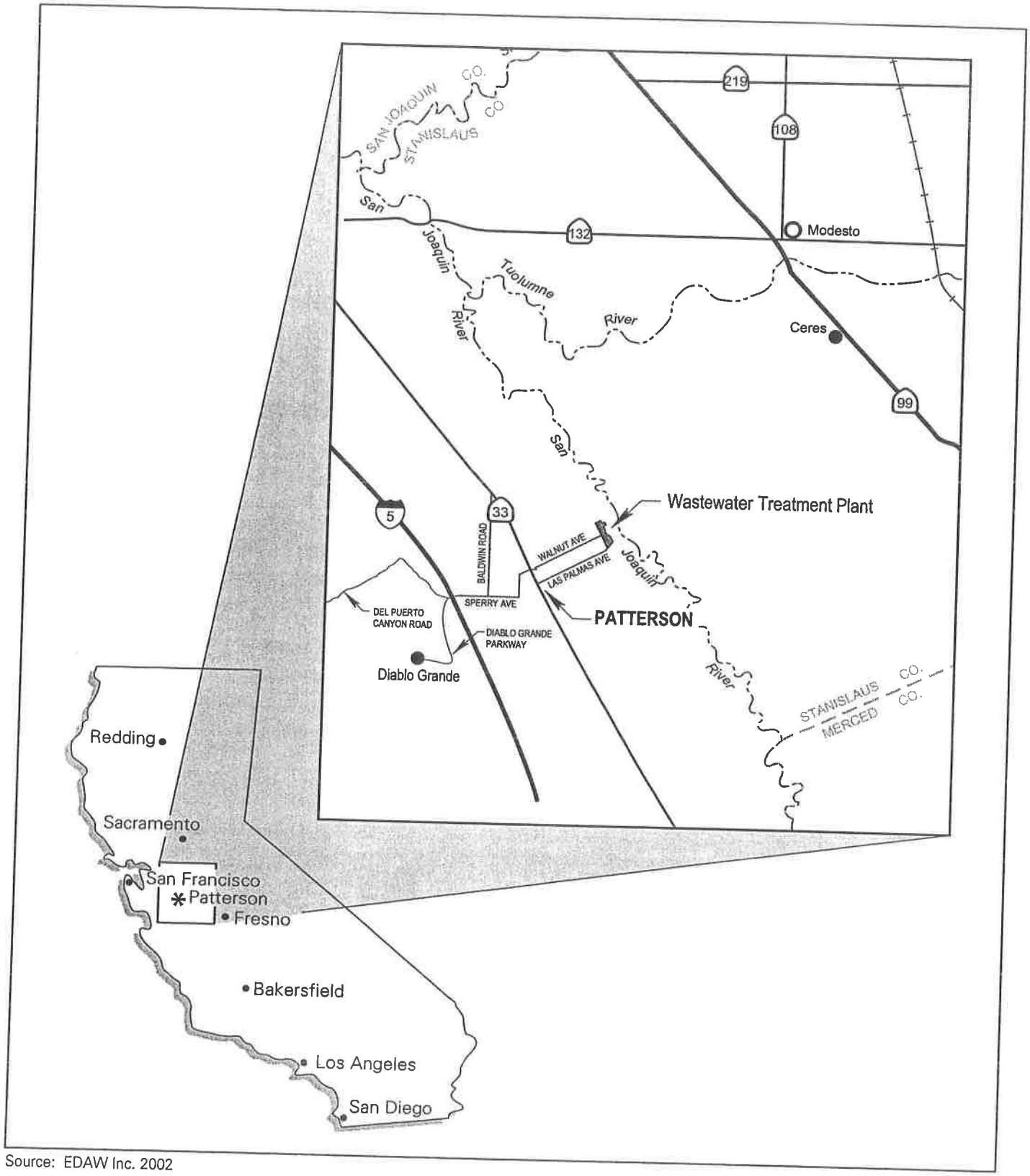
SETTING

EXISTING CITY WASTEWATER SYSTEM

The City of Patterson is located in western Stanislaus County, approximately 10 miles southwest of Modesto (Exhibit 1). The City of Patterson provides wastewater collection, treatment and disposal service for all residents, schools, commercial and industrial establishments in the City except for Patterson Frozen Foods, which has its own onsite treatment system; and a few residences, which are served by their own onsite septic tank treatment systems. The City's wastewater system also serves the Villa Del Lago commercial development located near the I-5/Sperry Avenue interchange. The City's wastewater system can be categorized into three basic elements: collection, treatment, and disposal.

WASTEWATER COLLECTION

The City's wastewater collection system consists of gravity flow pipelines ranging in size from 6-inch to 33-inch diameters, typically located in City street rights-of-way. Older portions of the system, which generally serve the downtown core residential and commercial areas, were constructed before 1960. Newer developments have been connected to the system over time.



Source: EDAW Inc. 2002

Regional Location

EXHIBIT 1

City of Patterson Wastewater Master Plan EIR

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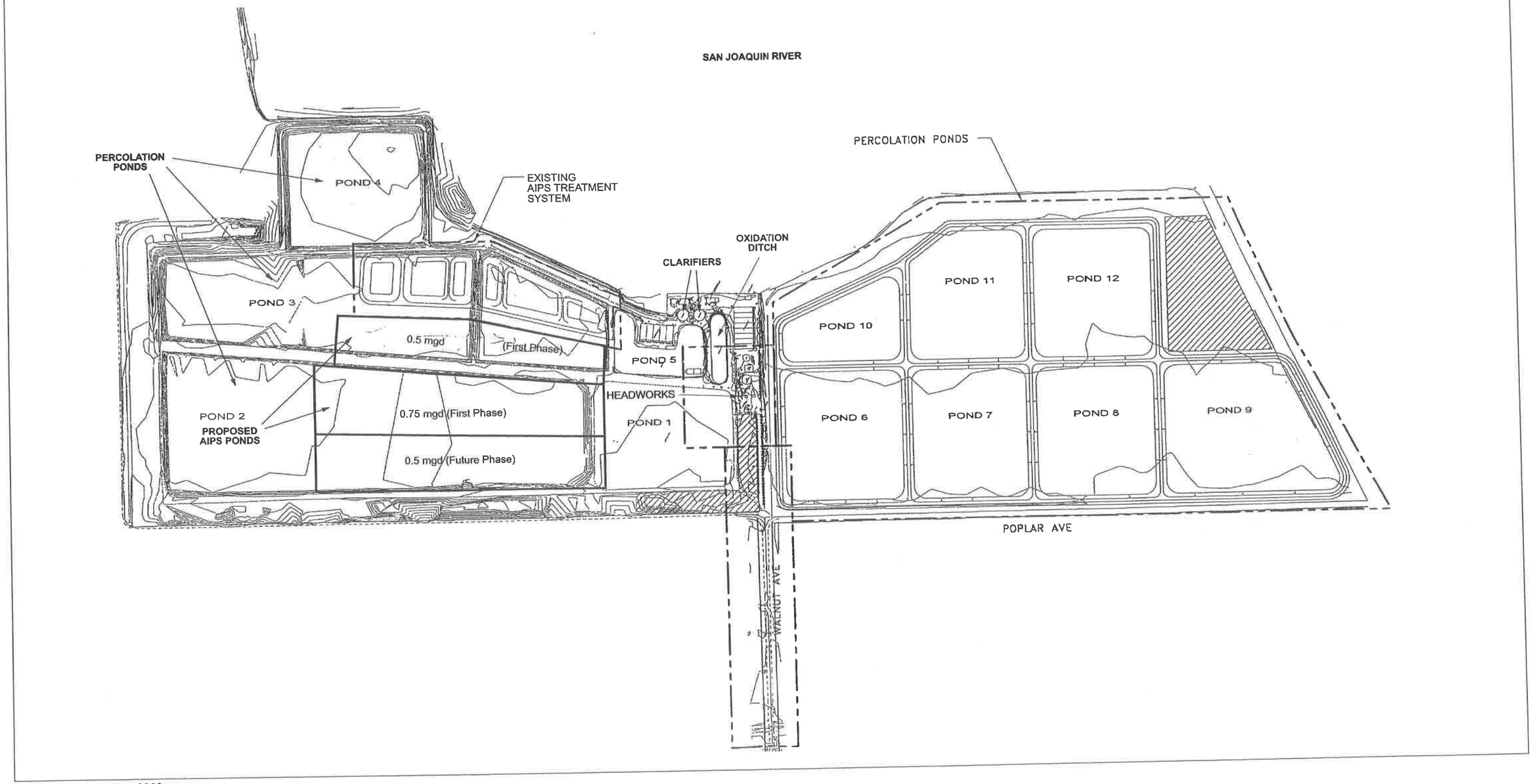
WASTEWATER TREATMENT AND DISPOSAL

The City's wastewater treatment plant is located on a 100-acre site situated between Walnut Avenue and Las Palmas Avenue, east of Poplar Avenue and west of the San Joaquin River (Exhibit 1 and 2). The plant is currently authorized by the Central Valley Regional Water Quality Control Board (RWQCB) pursuant to Order No. 5-00-146. The plant's currently permitted capacity is 1.3 million gallons per day (mgd), and the average current volume of wastewater produced by the City is approximately 0.8 mgd. The remaining capacity is available to provide service for previously-approved expansion and to accommodate unanticipated high flow conditions. Wastewater is treated using two types of treatment processes, each principally an aerated biological treatment system. The older system, with a permitted capacity of 0.8 mgd, consists of an activated sludge process followed by clarification. The newer system is an advanced integrated pond system (AIPS), with a permitted capacity of 0.5 mgd.

The treatment facilities include a lift station, metering structure, headworks, comminuter, oxidation ditch, settling clarifiers, AIPS ponds, and sludge drying beds. The lift station is located at the terminus of Walnut Avenue where the influent (i.e., untreated wastewater) is received from the Walnut Avenue trunk sewer line into the plant. The metering structure and headworks are located downstream of the lift station. In general, the lift station consists of a wet well with five submersible lift pumps with a total capacity of approximately 6 mgd, and a 16-inch discharge force main (a pipe that transmits pumped, rather then gravity, flows). The flow is measured by two magnetic flow meters prior to entering the headworks (one operating and one standby). The headworks contains a comminuter to grind rags, plastics, and other solids, and a bypass barscreen, diversion structures, and gates to direct flow to secondary treatment systems.

Secondary treatment is provided by two types of processes. The activated sludge system is a process where, under aerobic (i.e., oxygenated) conditions, a community of microorganisms (i.e., activated sludge), including non-pathogenic bacteria, consume biodegradable materials such as proteins, carbohydrates, fats and other compounds, are nourished by organic material in the wastewater, and reproduce. The activated sludge metabolizes and transforms the organic and inorganic substances into environmentally acceptable forms. This process occurs in an 8-foot-deep oxidation ditch with two surface brushes used to enhance aeration and mixing capacity. Following secondary treatment in the oxidation ditch, the mixed liquor (i.e., treated wastewater and activated sludge) is settled in two secondary clarifiers. Some of the settled sludge (bacterial organisms) is returned to the oxidation ditch to continue the process, and the rest is wasted (i.e., removed) to sludge drying beds. Three sludge pumps facilitate the process. The secondarily-treated wastewater is pumped to the open air disposal ponds where the treated effluent percolates into the ground or evaporates. The City currently does not chlorinate its treated effluent. No river discharge is currently permitted.

Under the AIPS, wastewater from the headworks is pumped directly into the AIPS ponds. The AIPS consists of a series of ponds that use facultative bacteria, which can adapt to grow and metabolize in both aerobic and anaerobic (i.e., without oxygen) conditions. By using facultative bacteria, both aerobic and anaerobic biological processes occur simultaneously. The upper portion of the water column (i.e., supernatant) is aerobic and the lower portion is anaerobic. This process provides secondary treatment with greater energy efficiency because energy-consumptive mixing devices are not required. The AIPS also results in less odor than traditional treatment processes. Most odors are generated in the anaerobic zone. The aerobic zone of the facultative ponds can create a cap that inhibits odors from the anaerobic



Source: Lee & Ro, Inc. 2002

EXHIBIT 2

City Wastewater Treatment Plant

City of Patterson Wastewater Master Plan EIR

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0 400 800 FEET NORTH

zone from escaping to the atmosphere. Each AIPS consists of a series of three facultative ponds. The treated effluent is then pumped to the open air disposal ponds where it percolates into the ground or evaporates. No river discharge is currently permitted.

Twelve disposal ponds (i.e., percolation ponds) are located on 80 acres of land in the existing wastewater treatment plant (Exhibit 2). Ponds located on the north side of the plant are used more frequently and have a higher percolation rate than the newer ponds located on the south side of the plant. The current design of the plant limits the use of the southern ponds (ponds 6 through 12) because there is no method of transporting effluent from the existing clarifiers to the south ponds. Only effluent from the AIPS ponds can be disposed of in the southern ponds.

WASTEWATER SYSTEM PLANNING ACTIVITIES

In 1992, the City of Patterson prepared the *Wastewater System Master Plan* (City of Patterson 1992) to provide guidance for future expansion of its existing wastewater collection, treatment and disposal system to accommodate expected development in the City General Plan Area. The Master Plan found:

> The existing collection system is considered adequate to serve the existing service area including infill. For planning purposes, capacity is not available other than on an interim case by case basis for new development in the General Plan growth area (City of Patterson, 1992; page 2-2).

The Master Plan also included a staged implementation program to meet the City's future treatment capacity needs, but recommended periodic review of the Master Plan to incorporate revisions that may be appropriate due to changing future conditions.

Over the last several years, substantial development has occurred in the western part of Patterson. The sewer collection pipe sizes constructed for the new developments generally followed the recommendations set forth in the Master Plan, and some of the pipes were oversized to assist in providing sewage collection service for future development on the western side of the City. In 1994, the City approved the Creekside Annexation, which required the applicant to fund construction of a 27-inch diameter trunk line within M Street and Walnut Avenue to convey wastewater from the western portion of the City to the wastewater treatment facility. This trunk line was addressed in the *Creekside Annexation to the City of Patterson EIR* (City of Patterson 1994), but has not yet been constructed. In 2001, the City prepared the *Western Expansion Area Sanitary Sewer Collection System* report (City of Patterson 2001) to determine the most cost effective way of providing sewage collection to the west side of the City's General Plan Area using the oversized sewer lines constructed since the 1992 Master Plan was developed. This report recommended an expansion of the sewer collection system. Under this system, the existing 15-inch and 21-inch sewer lines running through the Heartland Ranch (formerly Patterson Ranch) development would be loaded to near maximum capacity, and the 27-inch line in M Street would be loaded slightly above capacity. Therefore, a new collection pipeline would be required to serve the west Patterson projects.

The City of Patterson is expecting rapid growth over the next two decades. The City's current population (approximately 13,000) is projected to grow by 6% annually through 2010, adding approximately 7,800 residents during that period. The City's population is projected to grow to 30,000 by the year 2020, which is the projected holding capacity of the General Plan area for that year. Much of this growth is planned to occur in the western portion of the City. The City is currently considering two development

proposals and a master development plan in the west side of Patterson. Keystone Pacific Business Park and the Patterson Gardens mixed-use development would add 987 residences and approximately 3,059,845 square feet of new commercial, warehouse, office, and light industrial land uses to the City. The West Patterson Business Park would add another 6,221,255 square feet of new commercial, warehouse, office, hotel/motel, and light industrial land uses to the City. The *West Patterson Projects EIR* addresses all of the environmental impacts of these proposed developments and the proposed plan area.

The City of Patterson is also considering a plan to accommodate wastewater from the Diablo Grande project in western Stanislaus County. Diablo Grande is an approved development that will include recreational, residential, open space, golf resort, office, commercial, agricultural, and other land uses. Diablo Grande would be developed over a 10-year period, and would include approximately 2,000 dwelling units. The Western Hills Water District (WHWD) will provide sewer collection and treatment services to the Diablo Grande project. The WHWD has acquired a permit from the RWQCB for the construction of a 200,000 gallon per day (gpd) wastewater treatment facility. The entire Diablo Grande project is expected to generate approximately 710,000 gpd of wastewater.

Through recent discussions, the City of Patterson and the WHWD have determined that it would be beneficial to both parties to proceed with a sewer treatment alternative whereby the City of Patterson would treat WHWD sewer influent generated from the Diablo Grande project. This would be done at the existing Patterson wastewater treatment facility. This approach is beneficial to both parties for many reasons. First, the RWQCB has expressed an interest in reducing the number of plants through regionalization. This proposal would result in sewer from the City and the WHWD being collected and conveyed to one central facility thereby making its management, disposal and permitting easier. Secondly, the City of Patterson currently has much of the required maintenance and treatment infrastructure to serve a portion of Diablo Grande wastewater, and the service can be provided much more cost effectively and efficiently. Third, this approach will avoid the need for construction of two or three onsite facilities at the Diablo Grande project. Fourth, Diablo Grande's conveyance of wastewater to the City of Patterson wastewater treatment plant allows the WHWD to participate in costs of City of Patterson collection facility improvements, thereby reducing the cost of the entire project to the City of Patterson.

PROPOSED WASTEWATER INFRASTRUCTURE IMPROVEMENTS

Under the proposed project, the Western Hills Water District would construct a gravity sewer trunk line extending from within the Diablo Grande Specific Plan Area, down Diablo Grande Parkway to Del Puerto Canyon Road. The sewer line would then run east along Sperry Avenue to the connection with the City's existing sewer trunk line in Sperry Avenue in the vicinity of American Eagle Avenue. This sewer trunk line would be constructed entirely within existing roadways that have previously undergone CEQA review in the Diablo Grande Specific Plan EIR (Stanislaus County, June 15, 1993). Concurrent with development of Patterson Gardens, the City would construct the sewer trunk line proposed for Sperry Avenue and Ward Avenue with diameters 3 inches larger than the diameters proposed in the City of Patterson Western Expansion Area Sanitary Sewer Collection System report (June 2001), to accommodate wastewater flows from Diablo Grande and the flows already planned by the City for those trunk lines. The proposed project would require, and include, a Specific Plan amendment on behalf of Stanislaus County to address the proposed change of the wastewater treatment method for Diablo Grande.

The proposed project includes expansion of the City's wastewater collection system to serve planned City growth, including the proposed Keystone Pacific Business Park and Patterson Gardens, and buildout of the West Patterson Business Park Master Development Plan area. This EIR will analyze the environmental impacts of providing wastewater collection, treatment, and disposal to these proposed developments and the proposed plan area. The *West Patterson Business Park Master Development Plan EIR* addresses all of the environmental impacts of these proposed developments and the proposed plan area.

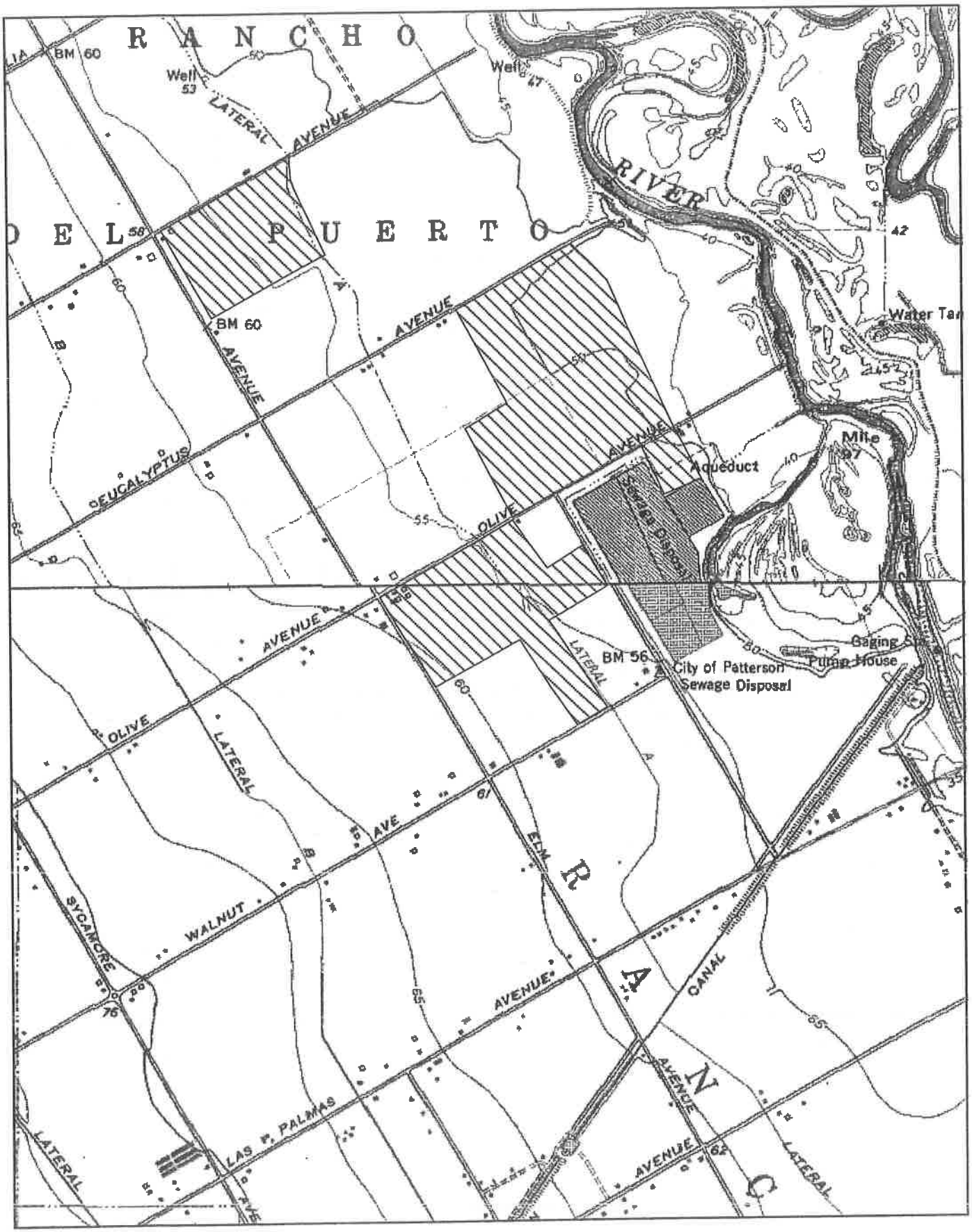
Diablo Grande would generate approximately 0.71 mgd of wastewater. Once the Diablo Grande trunk line is constructed and the Diablo Grande Specific Plan amendment is approved, the City's existing wastewater treatment plant could treat a portion of the wastewater generated by Diablo Grande (approximately 0.25 mgd), using a portion of the remaining capacity of the plant (approximately 0.5 mgd).

The first phase expansion of the City's wastewater treatment facility (1.25 mgd) would be constructed to serve the remainder of the previously-approved Creekside residential development and the Patterson Gardens development proposal and the first phases (about 150 acres) of the Keystone Pacific Business Park (a total of 0.5 mgd). The remaining capacity of the first-phase expansion (0.75 mgd) would replace the existing capacity that would be used to accommodate the initial 0.25 mgd of Diablo Grande wastewater, and the remaining wastewater generated by Diablo Grande.

Improvements required for the first phase expansion include two new AIPS with 1.25 mgd of total treatment capacity on about 19 acres of land in the 100-acre treatment plant site. The new AIPS would be constructed where percolation ponds now exist. Other improvements would include an additional grinder and diversion gates for the existing headworks, two additional effluent pumps, an effluent flow meter, additional effluent piping (including a force main from the effluent pump station to the new percolation ponds), and landscaping at the plant. Other proposed improvements to upgrade the plant include a new maintenance and storage building, concrete erosion skirt for the existing AIPS finishing ponds, and additional aerators in the existing AIPS ponds.

It is estimated that the first phase wastewater treatment plant expansion (1.25 mgd) would include up to 125 acres of land for the percolation/evaporation ponds. Because the City wants to examine several potential alternative locations for the first phase ponds (and for future phases), the EIR will discuss and analyze at least 250 acres of alternative pond sites at an equal, project-level of detail (Exhibit 3). No river discharge is proposed.

All of the alternative pond sites are located in unincorporated Stanislaus County, approximately 2 miles east of downtown Patterson. The topography of the pond sites is flat, and current land uses are irrigated agricultural production. The northeasternmost pond site is located adjacent to the 100-year flood plain of the San Joaquin River (Exhibit 3). Some portions of the alternative percolation pond sites are located within the 100-year flood zone as mapped by FEMA in March 1996. The City is currently evaluating various locations and designs for the percolation ponds. Prior to preparation of the EIR, the City will determine whether ponds would be located within the 100-year flood zone. In which case, the ponds would be bermed to protect them from innundation by a 100-year flood event, and the EIR would address whether the ponds would impede or redirect flows. Use of the sites would be subject to agreement by the existing land owners. Structures that are located on some of the pond sites would be demolished.



Potential Percolation Pond Sites

Alternative Percolation Pond Locations

EXHIBIT 3

City of Patterson Wastewater Master Plan EIR
2T008.01 10/02

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NORTH

EDAW

General Plan Buildout

Buildout of the City's General Plan and Diablo Grande would generate approximately 3.3 mgd of wastewater, in addition to the 0.8 mgd that is currently treated by the City. Once completed, the City's system would collect, treat, and dispose of approximately 4.1 mgd of wastewater. As with the proposed 1.25 mgd expansion, subsequent expansion phases of the treatment system would be accommodated within the City's existing wastewater treatment facility by converting existing percolation ponds within the 100-acre plant to treatment ponds. Disposal of 4.1 mgd of wastewater would require approximately 400 acres of ponds, including the 125 acres of ponds currently proposed by the City. This EIR is intended to analyze the 1.25 mgd expansion of the City's wastewater treatment system at a project-specific level, and to analyze the remaining expansion phases at a programmatic level.

City of Patterson
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CITY OF PATTERSON
Initial Study of Environmental Impact

I. SUMMARY OF FINDINGS

Site Location:	City of Patterson, Western Stanislaus County (Exhibit 1 in attached NOP)
Project Description:	Wastewater Master Plan Project (see description in attached NOP)
Sources:	This initial study was prepared using the Patterson Zoning Ordinance, General Plan, General Plan EIR, West Patterson Business Park Master Development Plan DEIR, and the Diablo Grande Specific Plan EIR.
Applicant:	City of Patterson
Prepared By:	City of Patterson Planning Department and EDAW, Inc.
Date:	April 16, 2003

II. INITIAL STUDY ENVIRONMENTAL CHECKLIST

This section discusses potential environmental impacts associated with approval of the proposed project.

The following guidance, adapted from Appendix G of the State CEQA Guidelines, was followed in answering the checklist questions:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the discussion. A "No Impact" answer is adequately supported if the discussion shows that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained when it is based on project-specific factors as well as general

standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. All analyses must be based on a comparison between conditions that would occur if the project were implemented and existing conditions (also known as baseline conditions).

4. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

5. "Potentially Significant unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-Than-Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from earlier analyses may be cross-referenced).

6. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (State CEQA Guidelines Section 15063[c][D]). Earlier analyses are discussed in the project description above under "Previous Environmental Documents and Site-Specific Information".

The discussion that follows each section of checklist questions: (1) analyzes previously certified environmental analysis and/or mitigation relevant to the issue, including the potential for each effect to be significant and adverse and standard requirements and measures that will preclude adverse impacts; (2) describes proposed measures that will preclude adverse impacts; (3) analyzes the potential for residual or remaining significant adverse impacts following implementation of the project and all previously identified, standard, and proposed requirements and measures; and (4) summarizes the applicable mitigation measures established by the various support documents and project-specific measures that will reduce the impacts to a less-than-significant level.

Identification of the potential for residual significant adverse environmental impacts would trigger the need for preparation of an EIR. For issue areas in which no significant adverse impact would result or impacts would be reduced to a less-than-significant level by mitigation, further analysis is not required.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I.	**AESTHETICS — Would the project:**				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

a) The project site is characterized by agricultural, urban, and institutional land uses. Long-range views include the Sierra Nevada to the east and the Coast Range to the west. Mid-range views near the treatment plant include the San Joaquin River and its riparian vegetation. No recognized scenic vistas are located within the project area. Therefore, the project would have no impact on a scenic vista.

b) Interstate 5 (I-5) in the project vicinity is a state scenic highway. Only the proposed collection system would be located near I-5. The treatment plant and proposed disposal ponds are located approximately 4 miles east of I-5, and would not be visible from this state scenic highway. The collection system would be located underground, beneath roadways and agricultural land not supporting recognized scenic resources. Therefore, the project would have no impact on any recognized scenic resources.

c) The project site is characterized by agricultural, urban, and institutional land uses. The proposed wastewater collection system would be constructed underground, and would not be visible. The proposed improvements at the existing plant would be visually similar to existing facilities at the wastewater treatment plant. Therefore, the proposed modifications at the treatment plant would not be distinguishable to the general public. The project would construct percolation ponds on agricultural land. Views of the proposed pond sites would be altered for certain nearby residences and motorists along adjacent roadways. Views from these areas would include berms, boundary fences, and ponded water, rather than the existing views of farmland and, in some instances, farm buildings and residences. The proposed ponds may screen some views of the San Joaquin River and its riparian habitat. However, views of farmland, farm buildings, residences, and the San Joaquin River would remain abundant in the project vicinity. Therefore, the project

would not substantially degrade the existing visual character or quality of the site and its surroundings. This is a less-than-significant impact.

d) Proposed wastewater expansion would not create new permanent sources of light. However temporary lighting could be needed for construction activities. Only essential temporary lighting would be used and directed toward construction activity, away from residences. Therefore, temporary construction lighting would not adversely affect day or night time views in the project area. This is a less-than-significant impact.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
II.	**AGRICULTURAL RESOURCES**				
	In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? (The Farmland Mapping and Monitoring Program in the California Resources Agency, Department of Conservation, maintains detailed maps of these and other categories of farmland.)	☒	☐	☐	☐
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☒	☐	☐	☐
c)	Involve other changes in the existing environment which, due to their location or nature, could individually or cumulatively result in loss of Farmland, to non-agricultural uses?	☒	☐	☐	☐

a) Expansion of the wastewater treatment plant would occur within the existing facilities, and would not convert farmland to other uses. The project would convert approximately 125 acres of Prime Farmland for the first phase expansion of the percolation ponds. Additional conversion of prime farmland would occur as future expansion of the percolation ponds proceed. Temporary conversion of Prime Farmland could also occur as sewer collection lines are constructed. This is a potentially significant impact of the WWTP expansion and will be further addressed in the EIR.

b) Construction of percolation ponds could require the cancellation of Williamson Act contracts on approximately 125 acres of land. Additional cancellation could occur as future expansion of the percolation ponds proceed. This is a potentially significant impact that will be addressed in the EIR. The EIR will also address consistency with City and County zoning codes.

c) The Wastewater Master Plan (WWMP) would remove obstacles to population growth by accommodating wastewater for growth projected in the City's General Plan, and the Diablo Grande Specific Plan. This would be a potentially significant impact. The EIR, therefore, will address growth-inducing impacts of the WWMP, including those related to farmland conversion.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
III.	**AIR QUALITY**				
	Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e)	Create objectionable odors affecting a substantial number of people?	☒	☐	☐	☐

a , b, c, d) Construction activities associated with the proposed project could generate daily emissions that would have a significant short-term impact on local and regional air quality. The expanded wastewater treatment facility would generate regional emissions primarily associated with increased vehicle use. Operational (i.e., long-term) emissions of ROG and NO_x would not, however, exceed the APCD-recommended thresholds of 10 tons per year for each pollutant. The proposed project could also potentially contribute to a cumulatively considerable increase in criteria pollutants, and could expose sensitive receptors to substantial air borne pollutant concentrations. This is a potentially significant impact. Air quality impacts will be evaluated in the EIR.

e) The expanded wastewater treatment facility and the new percolation ponds would result in increased odor generating potential that could affect nearby residences. This is a potentially significant impact. Therefore, this impact will be further addressed in the EIR.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES — Would the project:**				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b)	Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☒	☐	☐	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☒	☐	☐	☐

a) Based on a review of the CNDDB, five special-status plants are recorded as historical occurrences in the project vicinity. Four of the special-status species, heartscale (*Atriplex cordulata*), brittlescale (*Atriplex depressa*), vernal pool smallscale (*Atriplex persistens*), and alkali milk-vetch (*Astragalus tener tener*) are classified as extinct in Stanislaus County by the California Native Plant Society (CNPS 2001). The only other special-status plant, delta button-celery (*Eryngium racemosum*), was recorded in 1965 in riparian scrub near the San Joaquin River, approximately 3 miles south of the study area. Due to the lack of suitable natural habitat within the study area, it is considered unlikely for delta button-celery to occur.

There are six special-status wildlife species that may potentially occur in the project vicinity, based on review of the CNDDB (2002) and field reconnaissance surveys of the wastewater treatment plant and percolation pond sites. State and/or federally listed species include San Joaquin kit fox (*Vulpes macrotis mutica*), Swainson's hawk (*Buteo swainsoni*), and valley

elderberry longhorn beetle *(Desmocerus californicus dimorphus)*. Other special-status species include California Species of Special Concern: western burrowing owl (*Athene cunicularia hypugea*), tricolored blackbird (*Agelaius tricolor*), and western pond turtle (*Clemmys marmorata*).

If the project were to have a substantial adverse effect on candidate, sensitive, or special-status species, this would result in a significant impact. The EIR will analyze the project's effects on biological resources.

b) No riparian habitat or other sensitive natural community occurs within the wastewater treatment plant. Expansion of the plant, therefore, would not affect any such resources. Riparian woodland occurs adjacent to one of the percolation pond sites. Construction activities could inadvertently affect this riparian woodland. The proposed collection system could cross drainages supporting riparian habitat. If the project were to have a substantial adverse effect on riparian habitat, this would be considered a significant impact. The EIR will analyze the project's effects on riparian habitat and other sensitive natural communities.

c) Based on field reconnaissance surveys, no federally-protected wetlands occur within the wastewater treatment plant or the alternative percolation pond sites. Neither expansion of the plant nor construction of the percolation ponds would affect any such resources. The proposed collection system, however, could cross drainages or other wetland areas. If the project were to have a substantial adverse effect on wetlands, this would be considered a significant impact. The EIR will analyze the project's effects on wetlands.

d) Construction of the Diablo Grande sewer trunk line could cause temporary interference with the movement of San Joaquin kit fox through the eastern edge of the Diablo Range. This would be a temporary significant impact. After construction, the sewer line would be located underground, and would not interfere with movement of San Joaquin kit fox. The project is not expected to interfere with the movement of any other fish or wildlife species. The project would not involve work within the San Joaquin River, or any other water body supporting migratory fish species. The EIR will analyze the project's effects on wildlife movement.

e) Because the project would be constructed primarily within road rights-of-way, agricultural fields, and the City's wastewater treatment plant, it is not expected to conflict with local policies or ordinances protecting biological resources. However, the EIR will analyze the project's potential to conflict with such policies or ordinances.

f) The project is not expected to conflict with any such adopted or approved plans. However, the EIR will analyze the project's potential to conflict with such plans.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES — Would the project:**				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☒	☐	☐	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☒	☐	☐	☐
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
d)	Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

a-d) EDAW archaeologists conducted both prefield research and archaeological surveys on May 11, 12, 19, and 20, 2002, of the wastewater treatment plant and the potential percolation pond sites. No significant archaeological or historic sites were found. This survey, however, did not include the alignments of the proposed collection system. Therefore, the EIR will analyze potential impacts related to construction of the collection system, and will present the results of the archaeological survey already completed at the treatment plant and the pond sites. The EIR will include mitigation measures expected to reduce potentially significant impacts on cultural resources to a less-than-significant level.

ENVIRONMENTAL ISSUES (see attachments for information sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS — Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Div. of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

a.i) Fault rupture can occur along fault systems during seismic events (earthquakes). If the rupture extends to the surface, movement on a fault is visible as a surface rupture. The occurrence of fault rupture depends on several factors, including location of the epicenter in relation to the project site, and the characteristics of the earthquake, such as intensity and duration. The hazards associated with fault rupture generally occur in the immediate vicinity of the fault system. No major faults are located within the project area. The closest major faults are the San Andreas, Hayward, and Calaveras fault systems located approximately 48, 33, and 30 miles west of I-5. The *Fault Activity Map of California* (California Division of Mines and Geology 1992) maps the occurrence of the San Joaquin Fault running along the base of the Diablo Range parallel to I-5. The map lists the San Joaquin Fault as a Late Quaternary fault, with displacement

occurring within the last 700,000 years. No portion of the project area is located within any fault zones delineated on the Alquist-Priolo Earthquake Faulting Zoning Map issued by the California Geological Survey. This is a less-than-significant impact.

a. ii) Strong earthquakes generated along a fault system generally create ground shaking, which attenuates (i.e., lessens) with distance from the epicenter. In general, the area affected by ground shaking will depend on the characteristics of the earthquake and location of the epicenter. Strong seismic shaking can induce landslides and rockfalls in the hills above the proposed Diablo Grande sewer trunk line, and sliding, slumping or sluffing of adjacent creek embankments. Strong seismic ground shaking could also put undue stress on the sewer trunk lines, potentially causing rupture under severe shaking conditions. Strong seismic ground shaking could also affect the integrity of the proposed percolation ponds, and the wastewater treatment plant improvements. Given the unpredictability of the occurrence of an earthquake, this impact would be considered potentially significant. The implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure Geo-1: Project structures shall be designed in accordance with the seismic standards of the current Uniform Building Code (UBC). Final design standards shall be implemented in accordance with the findings of a detailed design specific geologic and geotechnical analysis conducted for the project site prior to completion of final grading design plans.

a.iii) Primary factors in determining liquefaction potential are soil type, level and duration of seismic ground motions, and depth to groundwater. Sandy, loose, or unconsolidated soils are more susceptible to liquefaction hazards than bedrock or other soils types. Seismically induced ground failure is typically due to densification of subsurface soils during, and immediately following, earthquakes. Again, loose, granular soils are most susceptible to densification, resulting in ground failure.

Liquifaction could cause loosely consolidated soils underlying the Diablo Grande sewer line to fail, potentially causing damage to the sewer line. Liquefaction could also damage the other sewer collection lines, the proposed new facilities at the wastewater treatment plant, and the percolation ponds. As discussed above, no major faults are located in or near the project area. Therefore, the risk of such hazards are low. Nevertheless, damage related to liquefaction would be a significant impact. Implementation of Mitigation Measure Geo-1 would reduce this impact to a less-than-significant level.

a.iv) Landslides occur when forces such as excessive rainfall or earthquakes loosen unstable materials from hillsides causing the material to slide downhill. The portion of the project site east of I-5 is relatively flat with only minor changes in elevation; therefore, the likelihood of a landslide in the project area east of I-5 would be relatively low. The portion of the project site west of I-5, however, passes through the Diablo Range and is more susceptible to landsliding. Approximately 3 miles east of the Diablo Grande Specific Plan area, the sewer trunk line would pass through a large landslide area identified in the Diablo Grande Specific Plan DEIR (Page IV-60). If

landsliding were to occur in this area, it could potentially damage the Diablo Grande sewer line. This would be a significant impact. The following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure Geo-2: A slope stability analysis of the large landslide 3 miles east of the Diablo Grande Specific Plan area shall be included as part of the detailed geotechnical report for the project. The report shall provide recommendations for slope stability measures that future landsliding activities not impact the proposed Diablo Grande sewer trunk line. All recommended measures shall be incorporated into the proposed project plans.

b) The proposed project would require trenching, grading, excavating and placement of fill materials during project construction. Soil disturbance associated with trenching, grading and excavation would increase the potential for erosion and/or loss of topsoil. Because grading operations could likely result in soil erosion and loss of topsoil, impacts would be considered potentially significant. Implementation of Mitigation Measure Hydro-1 would reduce this impact to a less-than-significant level.

c) Refer to a.i-iv above.

d) Based on the *Soil Survey of Stanislaus County, Western Part* (NRCS 2001), portions of the project area are underlain by soils with shrink-swell potential. However, the project would be constructed in conformance with UBC design standards and would not constitute a substantial risk to life or property. Therefore, this impact would be considered less than significant.

e) The proposed project involves expansion of the City's wastewater collection, treatment, and disposal system. The project would not involve the use of septic tanks or alternative wastewater disposal systems. The project would have no impact related to this issue.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII.	**HAZARDS and HAZARDOUS MATERIALS — Would the project:**				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	☐	☐	☒	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

a) Implementation of the proposed project would involve the routine transport and use of gasoline for operation of heavy machinery. The use, storage, and handling of hazardous substances (e.g., fuels, etc.) during construction and operational activities would occur in accordance with applicable federal, state, and local laws, including California Occupational Health and Safety Administration (Cal-OSHA) requirements, and manufacturers instructions. Therefore, impacts related to the use of hazardous materials would be less than significant with project development.

b) Implementation of the proposed project would not involve the use, storage, or disposal of hazardous materials on the site. As described in Item a, minor uses, storage, and handling of hazardous substances (e.g., fuels, etc.) would occur during project construction. However, this

would be done in accordance with applicable federal, state, and local laws. Therefore, less-than-significant impacts related to accidental release of hazardous materials would occur with project development.

c) Construction of sewer pipelines could occur with ¼ mile of schools located near downtown Patterson. Minor use, storage, and handling of hazardous substances would occur during project construction. As described above, impacts associated with the use of hazardous materials during construction would be less than significant.

d) The project includes the construction and installation of sewer pipelines within existing roadways in and near the City of Patterson. Review of the Environmental Protection Agency's Envirofacts Website revealed that no hazardous waste sites are located near any component of the project site. This would be a less-than-significant impact.

e,f) Installation of sewer pipeline will occur within 2 miles of Patterson Airport. Because the project would not include new housing, it would not result in a safety hazard for people residing in the project area. Because the project would not create new permanent jobs within 2 miles of an airport, it would not result in a safety hazard for people working in the project area. There would be no impact.

g) Construction activities within roadways could obstruct or slow vehicles attempting to evacuate or access the project area in the event of an emergency. Construction of sewer trunk lines would occur in phases so that a limited area of roadway would be disturbed at any one time. In some areas, re-pavement of project area roadways would improve roadway surfaces as compared to existing conditions. The City would notify all emergency service providers prior to the start of construction activities, to advise them of roadway construction activities. Therefore, impacts associated with interference of an adopted emergency response plan would be less than significant.

h) Project areas are composed of agricultural lands and is thus not composed of an area considered prone to wildland fires or adjacent to such an area. Therefore, expansion of the City's wastewater treatment plant would not expose people or structures to wildland fires. There would be no impact.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	**HYDROLOGY AND WATER QUALITY — Would the project:**				
a)	Violate any water quality standards or waste discharge requirement?	☒	☐	☐	☐
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f)	Otherwise substantially degrade water quality?	☒	☐	☐	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☒	☐	☐	☐
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

a) Waste Discharge Requirements (WDRs). Prior to expansion of the City's wastewater treatment plant, the City will be required to obtain revisions to its current WDRs from the RWQCB. Additionally, the City will be required to prepare and submit a Report of Waste Discharge

(RWD) as part of the application process to revise the WDRs. At a minimum, all RWDs must describe the type and quantity of the proposed discharge, and include a complete characterization of the constituents and the discharge concentration of each constituent. In May 2002, the RWQCB provided the City with a list of additional information requirements that will be required in the RWD for the proposed plant expansion. Based on this information, the RWQCB will evaluate the project's effects on the beneficial uses of groundwater, and its compliance with the SWRCB's antidegradation policy. The revised WDRs are expected to require continuation of the City's groundwater monitoring and reporting program to ensure compliance. Because the City's expanded plant will be required to comply with the revised WDRs, and because the City's existing facility complies with the current WDRs, the project is not expected to exceed the wastewater treatment requirements of the RWQCB. This would be a less-than-significant impact.

Water Quality Standards (Construction). During construction activities, short-term adverse water quality impacts could occur. The primary potential source of contamination would be soil loosened during grading, trenching, and other ground-disturbing activities. Other construction-related pollutant sources include leaks or spills of fluids or fuels from construction vehicles and equipment, or miscellaneous construction materials and debris. Sediment and adhered nutrients, or fluid contaminants, if mobilized and transported to receiving water bodies, could result in a violation of water quality standards. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure Hydro-1: Prior to the initiation of project grading, the City (and Western Hills Water District for the Diablo Grande sewer trunk line) will prepare a Stormwater Pollution Prevention Plan (SWPPP) designed to reduce potential impacts to surface and groundwater quality. The SWPPPs would act as the overall program document designed to provide measures to mitigate potential impacts to surface water quality associated with implementation of the proposed project. Each SWPPP shall include:

- Specific and detailed BMPs designed to mitigate construction-related pollutants. These controls shall include practices to minimize the contact of construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives) with storm water. The SWPPP shall specify properly designed centralized storage areas that keep these materials out of the rain.

- An important component of the storm water quality protection effort is knowledge of the site supervisors and workers. To educate onsite personnel and maintain awareness of the importance of storm water quality protection, site supervisors shall conduct regular tailgate meetings to discuss pollution prevention. The frequency of the meetings and required personnel attendance list shall be specified in the SWPPP.

- The SWPPP shall specify a monitoring program to be implemented by the construction site supervisor, and must include both dry and wet weather inspections. In addition, in accordance with State Water Resources Control Board Resolution No. 2001-046,

monitoring would be required during the construction period for pollutants that may be present in the runoff that are "not visually detectable in runoff." Patterson and Western Hills Water District personnel shall conduct regular inspections to ensure compliance with the SWPPP. RWQCB personnel, who may make unannounced site inspections, are empowered to levy considerable fines if it is determined that the SWPPP has not been properly prepared and implemented.

- BMPs designed to reduce erosion of exposed soil may include, but are not limited to: soil stabilization controls, watering for dust control, perimeter silt fences, placement of hay bales, and sediment basins. The potential for erosion is generally increased if grading is performed during the rainy season as disturbed soil can be exposed to rainfall and storm runoff. If grading must be conducted during the rainy season, the primary BMPs selected shall focus on erosion control, that is, keeping sediment on the site. End-of-pipe sediment control measures (e.g., basins and traps) shall be used only as secondary measures. If hydroseeding is selected as the primary soil stabilization method, then these areas shall be seeded by September 1 and irrigated to ensure that adequate root development has occurred prior to October 1. Entry and egress from the construction site shall be carefully controlled to minimize offsite tracking of sediment. Vehicle and equipment wash-down facilities shall be designed to be accessible and functional both during dry and wet conditions.

Water Quality Standards (Operation). If the proposed percolation ponds were to adversely affect groundwater quality, this would be a significant impact. The EIR will analyze the project's effects on groundwater quality related to percolation of treated wastewater at the proposed disposal ponds. No other component of the project is expected to generate operational impacts related to water quality.

b) The proposed project would have no impacts related to substantial depletion of groundwater supplies or interference with groundwater recharge. The proposed improvements at the City's wastewater treatment plant could add a marginal amount of new impervious surfaces to the facility, but would not substantially affect groundwater recharge. The project would also include disposal ponds that would allow treated wastewater to percolate into the ground. The project therefore, would have a less-than-significant impact related to depletion of groundwater supplies or interference with groundwater recharge.

c,d) The proposed project would not substantially alter existing drainage patterns. Because the sewer collection system would be placed underground, it would not alter drainage patterns. The proposed improvements at the City's wastewater treatment plant and construction of the proposed percolation ponds would result in minor alterations to the drainage patterns within the plant and the pond sites, but would not result in substantial erosion, siltation, or flooding. This would be a less-than-significant impact.

e) Because the sewer collection system would be placed underground, it would not substantially affect surface runoff. The proposed improvements at the City's wastewater treatment plant and

construction of the proposed percolation ponds would also not alter the runoff characteristics of either site such that runoff would exceed the capacity of existing drainage systems or provide substantial additional sources of polluted runoff. This would be a less-than-significant impact.

f) See VIII.a, c, and e.

g) Because the project does not include new housing, it would have no impact related to this issue.

h) The project is not expected to place surface structures within a 100-year flood hazard area. The sewer collection lines would be placed underground. The wastewater treatment plant is not located within a 100-year flood hazard area, so the proposed improvements at the plant would not be located in a 100-year flood hazard area. Some portions of the alternative percolation pond sites are located within the 100-year flood zone as mapped by FEMA in March 1996. The City is currently evaluating various locations and designs for the percolation ponds. Prior to preparation of the EIR, the City will determine whether ponds would be located within the 100-year flood zone. In which case, the ponds would be bermed to protect them from innundation by a 100-year flood event, and the EIR would address whether the ponds would impede or redirect flows. If the ponds would cause flooding by impeding or redirecting flows, this would be a significant impact.

i) The project does not include new housing or structures that would expose people to such a hazard. The project would have no impact.

j) The project area is not located near any major water bodies that would generate a seiche, and it is too far from the Pacific Ocean to be subject to tsunamis. Mudflows could potentially occur in the Diablo Range where the Diablo Grande sewer line would be located. However, this would be an unlikely occurrence and would not be expected to result in a significant impact to people or structures. This would be a less-than-significant impact.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	**LAND USE AND PLANNING — Would the project:**				
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☒	☐	☐	☐

a) The sewer collection lines would be placed underground. The wastewater treatment plant improvements would occur within the existing plant boundaries. The percolation ponds would be constructed in a rural setting, and would not create any physical barriers to movement within the community. Therefore, the project would not physically divide an established community. There would be no impact.

b) The EIR will evaluate the project's consistency with the City's General Plan and Zoning Ordinance, the County's General Plan and Zoning Ordinance, and the Diablo Grande Specific Plan. The project includes an amendment to the Diablo Grande Specific Plan to address the proposed changes to wastewater treatment services. If the project does conflict with any land use plan policy or regulation adopted for the purpose of avoiding or mitigating an environmental impact, it could be a potentially significant impact.

c) The project is not expected to conflict with any such adopted or approved plans. However, the EIR will analyze the project's potential to conflict with such plans.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	**MINERAL RESOURCES — Would the project:**				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

a) The project is not located in an area of known regionally important mineral resources. The California Geological Survey rates the project area as MRZ -3a: an area of undetermined mineral significance. Therefore, expansion of the City's wastewater treatment system would not result in a loss of known mineral resources valuable to the state.

b) No portion of the project site is delineated in the Stanislaus County General Plan or any other land use plan as containing a mineral resources of local importance. Therefore, expansion of the City's wastewater treatment system would not result in the loss of locally-important mineral resources.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	**NOISE — Would the project result in:**				
a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

a,d) Due to the relatively low traffic volumes generated by an expanded wastewater treatment facility, operation of the proposed facilities would not be expected to result in a measurable change in the traffic noise contours of area roadways and would not be expected to result in a substantial increase (i.e., 3 dBA, or greater) in average daily traffic noise levels at nearby receptors. In addition, the proposed project is not expected to include operation of any new major stationary sources of noise that would adversely affect nearby residences.

Project construction could cause short-term potentially significant noise impacts to nearby noise-sensitive receptors. Construction noise generated during evening and nighttime hours would be of greatest concern and would have the greatest potential for adverse impacts to nearby receptors. The following mitigation measure would reduce construction-generated noise impacts to a less-than-significant level.

Mitigation Measure Noise-1:
Construction activities shall be limited to the following hours and days:

- Between the hours of 6:00 a.m. and 9:00 p.m. on any weekday
- Between the hours of 7:00 a.m. and 9:00 p.m. on Saturdays
- Prohibited on Sundays and holidays

Construction equipment shall be properly outfitted and maintained with noise reduction devices to minimize construction-generated noise. Wherever possible, noise-generating construction equipment shall be shielded from nearby residences by noise-attenuating buffers such as structures or trucks. Stationary construction equipment shall be centrally located onsite at the greatest distance possible from nearby noise-sensitive receptors.

b) The project is not expected to generate excessive groundborne noise or vibration. This would be a less-than-significant impact.

c) Due to the relatively low traffic volumes generated by an expanded wastewater treatment facility, operation of the proposed facilities would not be expected to result in a measurable change in the traffic noise contours of area roadways and would not be expected to result in a substantial increase (i.e., 3 dBA, or greater) in average daily traffic noise levels at nearby receptors. In addition, the proposed project is not expected to include operation of any new major stationary sources of noise that would adversely affect nearby residences. This would be a less-than-significant impact.

e,f) The project would not create any permanent jobs or residences near the Patterson Airport. Project construction workers in the vicinity of the airport might hear aircraft noise while working. However, noise from the airport is not expected to be excessive, and construction activities would be temporary. This would be a less-than-significant impact.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. POPULATION AND HOUSING — Would the project:					
a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☒	☐	☐	☐
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

a) The project would remove obstacles to population growth by accommodating wastewater for growth projected in the City's General Plan, and the Diablo Grande Specific Plan. The EIR, therefore, will address growth-inducing impacts of the project.

b,c) Sewer line placement would occur in existing rights-of-way and, thus, not displace existing housing. Wastewater treatment plant infrastructure improvements would occur within the footprint of the plant and thus not displace existing housing. Depending on which percolation pond sites are chosen, construction of the percolation ponds could displace a small number of residences (i.e., estimated at fewer than five). This number, however, is not considered substantial and would be a less-than-significant impact. The EIR, therefore, will not address direct impacts related to displaced housing. The project would be implemented to provide wastewater services to new development within the City. Therefore, ample opportunities for replacement housing are expected to be available to displaced residents.

ENVIRONMENTAL ISSUES (see attachments for information sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

a) The project would not directly affect public services. This is a less-than-significant impact.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. RECREATION					
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

a,b) The project would not directly affect or include parks or recreational facilities. This is a less-than-significant impact.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC — Would the project:					
a)	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐
d)	Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e)	Result in inadequate emergency access?	☐	☐	☒	☐
f)	Result in inadequate parking capacity?	☐	☐	☒	☐
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☒	☐

a-e) Expansion of the City's wastewater treatment system would extend sewer trunk lines along existing road rights-of-way. No significant impacts would result from this activity. Work in roadways could cause short-term traffic slowdowns for a period of a few days. Such short-term impacts are generally minimized through the use of traffic controls such as cones, signage, and flaggers. Because impacts to traffic flow would be very short term and are expected to be minimized through the use of traffic controls, the project would have a less-than-significant impact on traffic.

f) The construction crews would park in designated parking areas during construction activities. The project would not permanently increase parking demand. This would be a less-than-significant impact.

g) The project would expand underground infrastructure, and would include surface improvements at the treatment plant and the percolation ponds. None of these activities would permanently affect any such policies, plans, or programs. This would be a less-than-significant impact

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS. Would the project:					
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs	☐	☐	☒	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

a) Prior to expansion of the City's wastewater treatment plant, the City would be required to obtain revisions to its current WDRs from the RWQCB. Additionally, the City will be required to prepare and submit a Report of Waste Discharge (RWD) as part of the application process to revise the WDRs. At a minimum, all RWDs must describe the type and quantity of the proposed discharge, and include a complete characterization of the constituents and the discharge concentration of each constituent. In May 2002, the RWQCB provided the City with a list of additional information that will be required in the RWD for the proposed plant expansion. Based on this information, the RWQCB will evaluate the project's effects on the beneficial uses of groundwater, and its compliance with the SWRCB's antidegradation policy. The revised WDRs are expected to require continuation of the City's groundwater monitoring and reporting program to ensure compliance. Because the City's expanded plant will be required to comply with the revised WDRs, and because the City's existing facility complies with the current WDRs, the project is not expected to exceed the wastewater treatment requirements of the RWQCB. This would be a less-than-significant impact.

b) The proposed project includes expansion of the City's wastewater treatment plant. Potentially significant environmental effects of the proposed expansion will be addressed in the EIR.

c) Proposed project construction would not require the development of new or expanded stormwater facilities. Therefore, no impact would occur.

d) Construction activities would temporarily, but marginally, increase water demand and new employees at the wastewater treatment facility could also generate a marginal increase in water demand. Such marginal increases in water demand would be adequately provided by the existing water supplier. This would result in a less-than-significant impact.

e,f,g) The project would not generate wastewater or substantial amounts of solid waste. Construction waste would be disposed of at Fink Road Landfill. The project would comply with federal, state, and local statutes and regulations related to solid waste. Therefore, impacts related to solid waste would be less than significant.

	Potentially Significant Impact	Potentially Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☒	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Authority: Public Resources Code Sections 21083 and 21087.
Reference: Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 31083.3, 21093, 21094, 21151; *Sundstrom v. County of Mendocino*, 202 Cal. Approximately. 3d 296 (1988); *Leonoff v. Monterey Board of Supervisors*, 222 Cal. Approximately. 3d 1337 (1990).

a,b,c) The EIR will analyze the project's potential impacts related to agricultural conversion, air quality, biological resources, cultural resources, groundwater quality, cumulative impacts, and growth-inducing impacts.

Summary of Issues Raised at
Patterson Wastewater Master Plan EIR
Scoping Meeting

November 13, 2002
6:00 PM

Patterson City Council Chambers

The following summarizes the issues raised by the public at the scoping meeting, and the expected method of addressing the comments.

- Increased Odors: The EIR will analyze this issue.
- Groundwater Quality: The EIR will analyze this issue.
- Land Use Plan Consistency: The EIR will analyze this issue.
- Socioeconomic Impacts to nearby properties: Not required under CEQA. Ample opportunity will be available for the public to provide comments to the City Council and the County Board of Supervisors about socioeconomic impacts during project merits hearings.
- Alternative locations for the percolation ponds: The commentors requested consideration of alternative locations, perhaps in the western portion of the County. The EIR will address this type of alternative in terms of feasibility constraints and will discuss, in general and comparative terms, potential environmental effects of pumping the treated effluent to a more distant disposal location.
- Hearing Time: One commentor requested future hearings to be scheduled at 7 pm, rather than 6 pm. No hearings are planned until the City Council EIR Certification Hearing. City Council meetings are usually scheduled for 7 pm.
- Notification: One commentor requested notification of residents within 1 mile of the proposed pond areas. Consistent with standard City procedures, the City will notify residents within 300 feet of the pond sites, and will continue to provide legally required newspaper notification.
- Selection of Alternative Pond Sites: Several commentors asked how the alternative pond sites were selected, and expressed opinions about the distribution pattern of the sites. The Public Works Director addressed these comments at the meeting by explaining the City's preferred policy of working with willing sellers rather than invoking imminent domain. This is not a CEQA Issue and will not be addressed in the EIR.

MEMORANDUM

To: George Lambert, City Manager
Rod Simpson, Planning Director

From: Scott Goebl

Date: April 23, 2003

Re: *Summary of Patterson Wastewater Master Plan and Diablo Grande Sewer Line EIR Scoping Meeting (April 22, 2003)*

The scoping meeting for the *Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project EIR* was held at 6:00 pm on April 22, 2003 at the Patterson City Council Chambers. In attendance were Rod Simpson (City Planning Director) and myself. No members of the public or agency representatives were present. Therefore, no issues were raised. The meeting was adjourned at 6:15 pm.

EDAW *2022 J Street, Sacramento, CA 95814*

Gray Davis
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse

Tal Finney
Interim Director

Notice of Preparation

April 16, 2003

To: Reviewing Agencies

Re: Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project
SCH# 2003042070

Attached for your review and comment is the Notice of Preparation (NOP) for the Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project draft Environmental Impact Report (EIR). To ensure responsible and trustee agencies have adequate opportunity to provide the lead agency with specific detail about the scope and content of the EIR, and to comply with CEQA Guidelines, an NOP and Initial Study are being forwarded to your agency, and the April 10, 2003 DEIR is being withdrawn. The City of Patterson expects to re-issue a draft EIR sometime after the close of this 30-day NOP scoping period. Responsible and trustee agencies may utilize the withdrawn April 10, 2003 draft EIR for scoping and commenting purposes.

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Rod Simpson
City of Patterson
33 S. Del Puerto Avenue
Patterson, CA 95363

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (196) 445-0613.

Sincerely,

Philip Crimmins
Project Analyst, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2003042070
Project Title Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project
Lead Agency Patterson, City of

Type NOP Notice of Preparation

Description Expansion of the City's wastewater facilities to serve approved and planned growth in the City and its sphere of influence. The project also includes accommodation of wastewater generated by Phase One of Diablo Grande, and construction of a sewer trunk line from Diablo Grande to the City (please see NOP for more details).

Lead Agency Contact

Name Rod Simpson
Agency City of Patterson
Phone 209-892-2041 **Fax**
email
Address 33 S. Del Puerto Avenue
City Patterson **State** CA **Zip** 95363

Project Location

County Stanislaus
City Patterson
Region
Cross Streets Walnut Avenue & Poplar Avenue
Parcel No. Various
Township 5S **Range** 8E **Section** Rancho **Base** Crow's L

Proximity to:

Highways SR 33
Airports Patterson Airport
Railways SPRR
Waterways San Joaquin River, Salado Creek
Schools Las Palmas Elem., Creek Middle, Northmead Elem., Patterson High,
Land Use General Agriculture & Specific Plan 1

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

Reviewing Agencies Resources Agency; Department of Conservation; Department of Parks and Recreation; Department of Water Resources; Department of Health Services; Department of Food and Agriculture; Department of Fish and Game, Region 4; Native American Heritage Commission; State Lands Commission; Caltrans, District 10; California Highway Patrol; Department of Toxic Substances Control; Regional Water Quality Control Bd., Region 5 (Sacramento)

Date Received 04/16/2003 **Start of Review** 04/16/2003 **End of Review** 05/15/2003

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

Resources Agency

- **Resources Agency**
  Nadell Gayou
- **Dept. of Boating & Waterways**
  Suzi Betzler
- **California Coastal Commission**
  Elizabeth A. Fuchs
- **Dept. of Conservation**
  Roseanne Taylor
- **Dept. of Forestry & Fire Protection**
  Allen Robertson
- **Office of Historic Preservation**
  Hans Kreutzberg
- **Dept of Parks & Recreation**
  B. Noah Tilghman
  Environmental Stewardship Section
- **Reclamation Board**
  Lori Buford
- **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

Health & Welfare

- **Health & Welfare**
  Wayne Hubbard
  Dept. of Health/Drinking Water

Food & Agriculture

- **Food & Agriculture**
  Steve Shaffer
  Dept. of Food and Agriculture

Fish and Game

- **Dept. of Fish & Game**
  Scott Flint
  Environmental Services Division
- **Dept. of Fish & Game 1**
  Donald Koch
  Region 1
- **Dept. of Fish & Game 2**
  Banky Curtis
  Region 2
- **Dept. of Fish & Game 3**
  Robert Floerke
  Region 3
- **Dept. of Fish & Game 4**
  William Laudermilk
  Region 4
- **Dept. of Fish & Game 5**
  Don Chadwick
  Region 5, Habitat Conservation Program
- **Dept. of Fish & Game 6**
  Gabrina Gatchel
  Region 6, Habitat Conservation Program
- **Dept. of Fish & Game 6 I/M**
  Tammy Allen
  Region 6, Inyo/Mono, Habitat Conservation Program
- **Dept. of Fish & Game M**
  Tom Napoli
  Marine Region

Independent Commissions

- **California Energy Commission**
  Environmental Office
- **Native American Heritage Comm.**
  Debbie Treadway
- **Public Utilities Commission**
  Ken Lewis
- **State Lands Commission**
  Jean Sarino
- **Governor's Office of Planning & Research**
  State Clearinghouse Planner
- **Colorado River Board**
  Gerald R. Zimmerman
- **Tahoe Regional Planning Agency (TRPA)**
  Lyn Barnett
- **Office of Emergency Services**
  John Rowden, Manager
- **Delta Protection Commission**
  Debby Eddy
- **Santa Monica Mountains Conservancy**
  Paul Edelman

Dept. of Transportation

- **Dept. of Transportation 1**
  Mike Eagan
  District 1
- **Dept. of Transportation 2**
  Don Anderson
  District 2
- **Dept. of Transportation 3**
  Jeff Pulverman
  District 3
- **Dept. of Transportation 4**
  Tim Sable
  District 4
- **Dept. of Transportation 5**
  David Murray
  District 5
- **Dept. of Transportation 6**
  Marc Birnbaum
  District 6
- **Dept. of Transportation 7**
  Stephen J. Buswell
  District 7
- **Dept. of Transportation 8**
  Linda Grimes,
  District 8
- **Dept. of Transportation 9**
  Gayle Rosander
  District 9
- **Dept. of Transportation 10**
  Tom Dumas
  District 10
- **Dept. of Transportation 11**
  Bill Figge
  District 11
- **Dept. of Transportation 12**
  Bob Joseph
  District 12

Business, Trans & Housing

- **Housing & Community Development**
  Cathy Creswell
  Housing Policy Division
- **Caltrans - Division of Aeronautics**
  Sandy Hesnard
- **California Highway Patrol**
  Lt. Julie Page
  Office of Special Projects
- **Dept. of Transportation**
  Ron Helgeson
  Caltrans - Planning
- **Dept. of General Services**
  Robert Sleppy
  Environmental Services Section

Air Resources Board

- Airport Projects
  Jim Lerner
- Transportation Projects
  Kurt Karperos
- Industrial Projects
  Mike Tollstrup

- **California Integrated Waste Management Board**
  Sue O'Leary
- **State Water Resources Control Board**
  Jim Hockenberry
  Division of Financial Assistance
- **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- **State Water Resouces Control Board**
  Mike Falkenstein
  Division of Water Rights
- **Dept. of Toxic Substances Control**
  CEQA Tracking Center

Regional Water Quality Control Board (RWQCB)

- **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- **RWQCB 3**
  Central Coast Region (3)
- **RWQCB 4**
  Jonathan Bishop
  Los Angeles Region (4)
- **RWQCB 5S**
  Central Valley Region (5)
  - **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- **RWQCB 6**
  Lahontan Region (6)
  - **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- **RWQCB 7**
  Colorado River Basin Region (7)
- **RWQCB 8**
  Santa Ana Region (8)
- **RWQCB 9**
  San Diego Region (9)

California Regional Water Quality Control Board
Central Valley Region
Robert Schneider, Chair

Winston H. Hickox
Secretary for Environmental Protection

Fresno Branch Office
Internet Address: http://www.swrcb.ca.gov/~rwqcb5
1685 E Street, Fresno, California 93706-2020
Phone (559) 445-5116 • FAX (559) 445-5910

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MAY 21 2003

21 May 2003

Mr. Rod Simpson
Planning Director
City of Patterson
33 South Del Puerto Avenue
Patterson, CA 95363

NOTICE OF PREPARATION, CITY OF PATTERSON WASTEWATER MASTER PLAN AND DIABLO GRANDE SEWER LINE EIR, STANISLAUS COUNTY

We reviewed *Notice of Preparation (NOP) of a Draft Initial Study for the City of Patterson Wastewater Master Plan and Diablo Grande Sewer Line Environmental Impact Report (EIR)*, received 16 April 2003 and prepared by the City of Patterson. The NOP describes a project comprised of the necessary improvements to the City's wastewater treatment facility (WWTF) and collection system to accommodate future sewage flows. The NOP describes the City's proposal to construct three additional advanced integrated pond systems (AIPs) in two phases. Phase 1 includes the construction by 2004 of two AIPs with rated design capacities of 0.5 million gallons per day (mgd) and 0.75 mgd. Phase II consists of construction by 2008 of one additional 0.5 mgd AIPs for an ultimate WWTF flow increase to 3.15 mgd by 2008. The NOP also describes the construction of a gravity sewer truck line to serve development within the Diablo Grande Specific Plan Area.

Waste Discharge Requirements Order No. 5-00-146 (WDRs) regulates the WWTF and its discharge of up to 1.3 mgd to 12 evaporation/percolation ponds (hereafter ponds) encompassing 80 acres. The WWTF currently utilizes two separate wastewater treatment processes: an oxidation ditch activated sludge system and a 3-treatment cell AIPs. Order No. R5-2003-0019 regulates a package treatment facility that temporarily serves development within the Diablo Grande Specific Plan Area and its discharge of up to 0.4 mgd disinfected secondary-treated effluent to a lined storage reservoir and 30 acres of fodder crops. Ultimately the City anticipates accepting all or a significant portion of the sewage generated by the development within Diablo Grande Specific Plan Area.

Below are comments regarding the NOP and accompanying Environmental Checklist.

> *The Environmental Checklist, Section VIII. Hydrology and Water Quality, page 27, indicates that the project has a significant impact to violate WDRs. The City proposes to mitigate this significant impact by indicating the City will be required to comply with revised WDRs and, because the City is in compliance with the existing WDRs, the project is not expected to violate the WDRs.*

The effluent quality from the City's WWTF, specifically from the existing AIPs, does not consistently comply with Discharge Specification B.6 in the WDRs, which stipulates that the monthly average concentration of 5-day biochemical oxygen demand (BOD_5) shall not exceed 45 mg/L. In 2002, the

monthly average effluent BOD_5 exceeded the 45 mg/L limit during the months of April (50 mg/L), May (46 mg/L), August (54 mg/L), September (48 mg/L), November (69 mg/L), and December (75 mg/L). The EIR should disclose the apparent inability of the existing AIPs, as currently operated, to generate effluent of a quality that complies with the WDRs.

> *The Environmental Checklist, Section VIII. Hydrology and Water Quality indicates that the proposed project could have a potentially significant impact to violate any water quality standards or waste discharge requirements. In response it indicates, in general, as indicated in previous environmental documents prepared for the City's WWTF, that the Regional Board, as the lead regulatory agency for these types of facilities, will require the City implement appropriate measures to ensure the discharge reflects best practicable treatment and control and is protective of water quality.*

The City submitted a Report of Waste Discharge (RWD) dated 12 March 2003, for the proposed WWTF expansion using the AIPs. Regional Board letter dated 11 April 2003 deemed the RWD incomplete and indicated that the WWTF, as proposed, is not consistent with the State Antidegradation Policy. The letter explained that, because groundwater affected by the discharge contains waste constituents in concentrations exceeding water quality objectives, tentative WDRs for Regional Board consideration would, if adopted, require the City to reduce the discharge's impact on underlying groundwater by:

1. Sealing all treatment ponds and sludge handling facilities to permeabilities reflective of best practicable treatment and control (BPTC);

2. Provided percolation remains the effluent disposal method of choice, implementing and operating at optimum levels treatment technology that is reflective of BPTC for organic removal (e.g., technology capable of generating effluent characterized by BOD_5 and total suspended solids (TSS) concentrations not exceeding 20 mg/L each); and

3. Implementing BPTC for nitrogen removal by:

   (a) reducing effluent total nitrogen concentrations prior to discharge to disposal ponds to at least less than 7 mg/L, and/or

   (b) providing sealed effluent ponds for winter storage and recycling effluent on crops at reasonable agronomic rates and in a manner that complies with Statewide recycling criteria in Title 22, California Code of Regulations (CCR), section 60301 et seq.

On 13 May 2003, Regional Board staff met with City representatives to discuss some of the issues in the 11 April Regional Board letter. The City indicates that it intends to propose an alternative design that incorporates oxidation ditches in lieu of the AIPs in order to improve and optimize treatment performance and reduce the discharge's impact on water quality. City representatives indicated the City will submit a revised RWD. We recommend the EIR identify and evaluate potential adverse water quality impacts as a result of continued operation of the existing WWTF in addition to the City's new proposal. We also recommend that if adverse impacts to water quality are identified, the EIR specifically identify and discuss what mitigation measure(s) the City will implement to reduce these adverse impacts to less than significant levels. An overriding statement(s) in the EIR that compliance with existing laws and regulations will mitigate any identified adverse impacts is not sufficient and does not constitute a

mitigation measure. In addition to identifying specific mitigation measures, the document must also thoroughly discuss how the City will monitor the effectiveness of the mitigation measure(s).

> *The NOP refers to previously prepared environmental documents for various projects, including portions of the sewer expansion. However, the NOP and environmental checklist do not include a discussion of the potential adverse impacts of the increased indirect discharge flows to the San Joaquin River.*

We recommend the EIR include, at a minimum, a technical summary of all previous evaluations regarding the impacts, if any, that the discharge (or project) may have on the San Joaquin River and area groundwater. Regional Board letter dated 11 April 2003 requested the City evaluate the manner and degree to which the San Joaquin River and the discharge influences the quality of area groundwater. The EIR should incorporate any pertinent information derived from this evaluation.

We thank you for the opportunity to comment on the NOP. To clarify the threat to water quality from the proposed discharge, the EIR should discuss more thoroughly the WWTF treatment processes, the City's compliance with WDRs, and potentially significant adverse impacts to surface and groundwater quality as a result of the WWTF operation and its discharge. Specifically, we recommend the EIR:

1. Include a revised project description that incorporates the City's revised proposed project.
2. Thoroughly describe the WWTF including the design and operation of all onsite sludge storage and handling facilities (e.g., sludge storage lagoons, sludge drying beds, etc.) and their respective impacts on water quality.
3. Thoroughly describe the shortcomings of the existing WWTF, including findings indicating that the City is not consistently complying with WDRs Order No. 5-00-146.
4. Include a technical discussion (including identification of all previously reference material) identifying possible impacts from the discharge on the water quality of the San Joaquin River for waste constituents of concern, such as, salts, organic load, nutrients, and metals.
5. Identify and evaluate specific mitigation measures the City will implement to reduce the project's potentially significant adverse impacts to water quality to less than significant levels, and describe a plan to monitor the effectiveness of the mitigation measure(s). The City should include a general time schedule for the implementation of each mitigation measure.

We are looking forward to reviewing the draft EIR. If you have questions regarding the matters above, please contact Alexis R. Phillips-Dowell at (559) 445-5500.

Jo Anne Kipps

JO ANNE KIPPS
Senior Engineer
RCE No. 49278

cc: Mr. Ignacio Lopez, Director, City of Patterson Department of Public Works, Patterson
Mr. Joel Cockrell, Paterson WWTF, Patterson
Mr. Robert Godwin, Project Manager, Lee & Ro, Inc., Rancho Cordova

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N15 / STANISLAUS COUNTY / PATTERSON, CITY OF / PATTERSON WWTF / 5B50NC00002



San Joaquin Valley Air Pollution Control District

May 20, 2003

Rod R. Simpson, Planning Director
City of Patterson
Planning Department
P.O. Box 667
Patterson, CA 95363

SUBJECT: NOTICE OF PREPARATION OF A DRAFT INITIAL STUDY FOR THE CITY OF PATTERSON WASTEWATER MASTER PLAN AND DIABLO GRANDE SEWER LINE EIR.

Dear Mr. Simpson:

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

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

The District recommends that the air quality section of the EIR have three main components. **Section one** should provide a description of the regulatory environment and existing air quality conditions impacting the San Joaquin Valley. **Section two** should provide estimates of existing emissions and projected pollutant emissions related to any increases in population, vehicle use, and construction activities along with an analysis of the effects of these increases. **Section three** should identify and discuss all feasible mitigation measures which, after implementation, will reduce the air quality impacts generated by this project.

Section 1: *description of the regulatory environment and existing air quality conditions of the San Joaquin Valley.*

The District has several sources of information available to assist with the existing air quality and regulatory environment section of the EIR. The District's ***Guide for Assessing and Mitigating Air Quality Impacts*** (GAMAQI) contains discussions regarding the existing air quality conditions and trends of the San Joaquin Valley Air Basin, including those pollutants of particular concern: ozone, PM-10, and carbon monoxide. In addition, it provides an overview of the regulatory environment governing

David L. Crow
Executive Director/Air Pollution Control Officer

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4230 Kiernan Avenue, Suite 130
Modesto, CA 95356-9322
(209) 557-6400 • FAX (209) 557-6475

Central Region Office
1990 East Gettysburg Avenue
Fresno, CA 93726-0244
(559) 230-6000 • FAX (559) 230-6061
www.valleyair.org

Southern Region Office
2700 M Street, Suite 275
Bakersfield, CA 93301-2373
(661) 326-6900 • FAX (661) 326-6985

air quality at the federal, state, and regional levels. The GAMAQI provides air monitoring data and other relevant information for PM-10 and other pollutants.

Section 2: ***projected pollutant emissions generated during the construction and operational phases of the project.***

The growth-inducing and cumulative impacts analyses should take into consideration the existing and planned development both within the project area and in the surrounding areas. The District recommends the use of the URBEMIS 7G modeling program to calculate the pollutant emissions resulting from motor vehicle trips generated by this development project. Additional guidance is provided in the GAMAQI.

Additionally, the EIR should quantify emissions that are individually small but cumulatively significant sources of pollution. This includes, but is not limited to, emissions from natural gas combustion for space and water heating and emissions from gas-powered lawn and garden maintenance equipment. URBEMIS 7G may also be used to quantify these emissions.

Section 3: ***mitigation measures.***

Mitigation measures must be included in the EIR that reduce the emissions of reactive organic gases (ROG), nitrogen oxides, carbon monoxide, and PM-10 to the maximum extent feasible. Site design and building construction measures that would reduce air quality impacts should be included. In addition, measures to reduce vehicle trips, miles traveled, and cold starts should be included in the project.

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

Sincerely,

John Cadrett
Environmental Planner
Northern Region

APCD REF # 20030196

CC: Stanislaus County
Environmental Review Committee
Arlene Stevens
1010 Tenth Street #6800
Modesto CA, 95354

DEPARTMENT OF CONSERVATION
STATE OF CALIFORNIA

DIVISION OF LAND RESOURCE PROTECTION

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GRAY DAVIS
GOVERNOR

RECEIVED
MAY 21 2003

May 16, 2003

Mr. Rod Simpson, Planning Director
City of Patterson
33 S. Del Puerto Avenue
P.O. Box 667
Patterson, CA 95363

Subject: Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project Notice of Preparation (NOP) - SCH# 2003042070, Stanislaus County

Dear Mr. Simpson:

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the NOP for the referenced project. The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's impacts on Williamson Act contracts and agricultural land.

Project Description

The proposed project is the expansion of the City of Patterson's (City) wastewater collection system to serve planned city growth including projects described in the West Patterson Projects Environmental Impact Report (EIR) and the Diablo Grande project in west Stanislaus County. The proposal represents a first phase wastewater treatment plant expansion that includes conversion of 125 acres of Prime Farmland for percolation ponds. The NOP refers to the West Patterson Projects EIR and the Diablo Grande Specific Plan EIR as providing environmental impact analysis for the proposed plan area. The West Patterson Projects EIR determined that agricultural impacts would be significant and included mitigation required for the percolation ponds as well as other development. The proposed percolation pond sites identified in the NOP and the West Patterson Projects EIR appear to include much of the same area. The NOP also notes that this project would require cancellation of Williamson Act contracts covering the 125 acres.

Mitigation Measures

Mitigation Measure C.1 of the West Patterson Projects EIR states that an applicant for a building permit in the West Patterson area shall submit documentation that the applicant has contributed to the California Farmland

TURLOCK DISTRICT AREA
City of Ceres, CA
City of Hughson, CA
City of Newman, CA
City of Patterson, CA
City of Turlock, CA
County of Stanislaus, CA

Turlock
Mosquito Abatement District

TELEPHONE (209) 634-1234
4412 NORTH WASHINGTON ROAD
TURLOCK, CALIFORNIA 95380

MANAGER
JERRY M. DAVIS

April 21, 2003

Mr. Rod Simpson
Planning Director
City of Patterson
33 South Del Puerto Avenue
Patterson, CA 95363

RE: Comments NOP Draft Initial Study of the City of Patterson Wastewater Master Plan and Diablo Grande Sewer Line EIR

Dear Mr. Simpson,

The Turlock Mosquito Abatement District provides mosquito control in the area of the proposed project. Mosquitoes are capable of carrying diseases that people get and lower the quality of life because of their biting activity.

In reviewing the documentation including the Draft EIR the District is concerned with the use of percolation beds to eliminate treated water. The District is not opposed to the use of percolation beds but emphasizes that they must be managed in a way to prevent water from standing long enough so that immature mosquitoes can not develop into adult mosquitoes.

In order to mitigate mosquito breeding that may occur Best Management Practices must be used in percolation beds. This means that the land is prepared before hand so that it is graded and no potholes are present that will allow water to stand for longer than 4 days. That weed growth is controlled so that the percolation beds are not conducive to adult mosquito survival and that should mosquito breeding occur that the District can control any immature stages. Also access should be provided for periodic maintenance and for district personnel to make routine inspections and treatments as necessary.

Should you have questions, please feel free to contact me at (209) 634-8331.

Sincerely,

Jerry M. Davis,
Manager

MEMBER

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

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IN REPLY REFER TO:
PPN 3046

JUN - 4 2003

Rod Simpson
Planning Director
City of Patterson
33 South Del Puerto Avenue
Patterson, California 95363

Subject: Notice of Preparation of a Draft Environmental Impact Report for the City of Patterson Wastewater Master Plan Project and Diablo Grande Sewer Line

Dear Mr. Simpson:

Thank you for the opportunity to review the Notice of Preparation (NOP) and Initial Study for an Environmental Impact Report (EIR) to be prepared for the proposed City of Patterson Wastewater Master Plan Project and Diablo Grande Sewer Line Project in Stanislaus County, California. The enclosures provided in this letter are intended to assist you in the early environmental review of this proposal. Future consultation with the U.S. Fish and Wildlife Service (Service) may be required under the provisions of the Fish and Wildlife Coordination Act and/or the Endangered Species Act of 1973, as amended (ESA), if project activities are anticipated to affect federally listed threatened or endangered species or impact jurisdictional wetlands pursuant to the Clean Water Act.

Enclosure A provides a list of sensitive species that may occur in or near the project site and general related information and survey guidelines. The Service recommends that surveys be completed by a qualified biologist on the proposed project site to confirm the presence or absence of special-status species or their habitats.

Direct, indirect, and cumulative impacts on federally listed species and species of concern should be evaluated. The existing conditions on the project site(s) provide actual or potential habitat for many species of concern. Species of concern are provided no protection under the ESA. However, one potential benefit of considering species of concern is that by exploring alternatives early in the planning process, it may be possible to provide long-term conservation benefits for these species and avoid future conflicts that could otherwise develop.

Enclosure B recommends general guidelines for identifying and mitigating project impacts to fish, wildlife, and their habitats. The Council on Environmental Quality developed regulations for implementing the National Environmental Policy Act, and defines mitigation to include: (1) avoiding the impact; (2) minimizing the impact; (3) rectifying the impact; (4) reducing or eliminating the impact over time; and (5) compensating for impacts. The Service supports and adopts this definition of mitigation and considers the specific elements to represent

the desirable sequence of steps in the mitigation planning process. Accordingly, we maintain that the best way to mitigate for the adverse biological impacts is avoidance when at all possible.

GENERAL COMMENTS

The City of Patterson provides wastewater collection, treatment, and disposal service for the majority of homes, schools, commercial and industrial establishments in the City. The EIR must identify and discuss all direct and indirect impacts to natural resources (i.e., wetlands, wildlife habitat, sensitive species) associated with construction, operation, and maintenance of the proposed Wastewater Master Plan and Diablo Grande Sewer Line project. Further, a cumulative effects analysis should incorporate any related actions that would not be undertaken but for the proposed project. Such related actions include, but are not limited to: (1) all necessary roadway improvements required for project implementation; and (2) installation of any water distribution system needed to service the facility.

The NOP does not discuss any proposed design alternatives. Consideration of alternative design proposals should be included in the DEIR. In a project of this magnitude there should be many reasonable options available to reduce the direct and indirect impacts to natural resources. Inclusion of a comprehensive array of design alternatives which would result in a reduction of resource impacts would be greatly beneficial.

Cursory examination of the Service's National Wetland Inventory maps has identified wetland habitats on the proposed project site. We recommend a wetland delineation of the proposed project site be conducted by a qualified biologist or firm and submitted to the U.S. Army Corps of Engineers for verification. The EIR should include a wetlands map and consider all direct and indirect impacts of the proposed project to wetlands located on or adjacent to the site.

We encourage you to use these comments and guidelines to develop a comprehensive environmental document that addresses these needs. The Service requests that a copy of the DEIR be provided to this office. If you have any questions regarding these comments, please contact Jill Wright in the Watershed Planning Branch at (916) 414-6557.

Sincerely,

David L. Harlow
Acting Field Supervisor

Enclosures

cc:
AES, Portland, OR
Regional Manager, CDFG, Region 2, Rancho Cordova, CA (w/o enclosures)

ENCLOSURE A

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below
Reference File No. 1-1-03-SP-2053

City of Patterson Wastewater Master Plan & Diablo Grande Sewer Line EIR

May 27, 2003

QUAD: 424A CROWS LANDING

Listed Species

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California tiger salamander, *Ambystoma californiense* (C/E)

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Fish

green sturgeon, *Acipenser medirostris* (C)

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- greater western mastiff-bat, *Eumops perotis californicus* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)
- San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

- tricolored blackbird, *Agelaius tricolor* (SC)
- western burrowing owl, *Athene cunicularia hypugaea* (SC)
- Aleutian Canada goose, *Branta canadensis leucopareia* (D)
- Swainson's hawk, *Buteo Swainsoni* (CA)
- ferruginous hawk, *Buteo regalis* (SC)
- Costa's hummingbird, *Calypte costae* (SC)
- Lawrence's goldfinch, *Carduelis lawrencei* (SC)
- Vaux's swift, *Chaetura vauxi* (SC)
- white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- prairie falcon, *Falco mexicanus* (SC)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- greater sandhill crane, *Grus canadensis tabida* (CA)
- loggerhead shrike, *Lanius ludovicianus* (SC)
- Lewis' woodpecker, *Melanerpes lewis* (SC)
- long-billed curlew, *Numenius americanus* (SC)
- Nuttall's woodpecker, *Picoides nuttallii* (SLC)
- white-faced ibis, *Plegadis chihi* (SC)
- rufous hummingbird, *Selasphorus rufus* (SC)
- California thrasher, *Toxostoma redivivum* (SC)

Reptiles

- silvery legless lizard, *Anniella pulchra pulchra* (SC)
- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- southwestern pond turtle, *Clemmys marmorata pallida* (SC)
- San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

DEPARTMENT OF CONSERVATION
STATE OF CALIFORNIA

DIVISION OF LAND RESOURCE PROTECTION

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May 16, 2003

Mr. Rod Simpson, Planning Director
City of Patterson
33 S. Del Puerto Avenue
P.O. Box 667
Patterson, CA 95363

Subject: Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project Notice of Preparation (NOP) - SCH# 2003042070, Stanislaus County

Dear Mr. Simpson:

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the NOP for the referenced project. The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's impacts on Williamson Act contracts and agricultural land.

Project Description

The proposed project is the expansion of the City of Patterson's (City) wastewater collection system to serve planned city growth including projects described in the West Patterson Projects Environmental Impact Report (EIR) and the Diablo Grande project in west Stanislaus County. The proposal represents a first phase wastewater treatment plant expansion that includes conversion of 125 acres of Prime Farmland for percolation ponds. The NOP refers to the West Patterson Projects EIR and the Diablo Grande Specific Plan EIR as providing environmental impact analysis for the proposed plan area. The West Patterson Projects EIR determined that agricultural impacts would be significant and included mitigation required for the percolation ponds as well as other development. The proposed percolation pond sites identified in the NOP and the West Patterson Projects EIR appear to include much of the same area. The NOP also notes that this project would require cancellation of Williamson Act contracts covering the 125 acres.

Mitigation Measures

Mitigation Measure C.1 of the West Patterson Projects EIR states that an applicant for a building permit in the West Patterson area shall submit documentation that the applicant has contributed to the California Farmland

Conservancy Fund pursuant to Public Resources Code §10231.5. The amount of the contribution shall, at minimum, reflect the then-current value of an agricultural conservation easement on comparable prime agricultural land in the West Patterson project vicinity equal in size to the acreage for which the permit is being sought, a pro-rata share for the acreage converted under the City's wastewater treatment plant expansion and a 10 percent increment for program administration under the Farmland Conservation Program. The Department recommends that the DEIR for this project repeat this statement of required mitigation.

Williamson Act Land

In its comment letters of November 18, 2002 and January 2, 2003 regarding the West Patterson Projects EIR, the Department provided information about the cancellation of a Williamson Act contract and the acquisition of Williamson Act land including the requirement for notice to the Department. Cancellation requires initiation by the landowner (Government Code §51282 et seq.). Acquisition is an action by a public agency that must conform to eminent domain law whereby the property is acquired by eminent domain or in lieu of eminent domain in order to terminate the contract (Government Code §51290 et seq.). Both actions require making specific findings. Cancellation, if approved, requires a cancellation fee from the landowner.

The West Patterson Projects EIR and this NOP refer to cancellation of the Williamson Act contracts associated with the percolation pond sites. If, however, it appears that the City may acquire the properties through public agency acquisition provisions, the Department recommends that the City provide notification in conformance with Government Code §51291(b). As stated in the Department's January 2 comments, the City is not exempted from notification pursuant to Government Code §51291.5 because percolation ponds and other on-ground facilities are not considered *"piped subterranean water or wastewater facilities."* Please find enclosed Notification Provisions that list items of information required as part of notification.

Thank you for the opportunity to comment on this NOP. If you have questions on our comments or require technical assistance or information on agricultural land conservation, please contact Bob Blanford at 801 K Street, MS 13-71, Sacramento, California 95814; or, phone (916) 327-2145.

Sincerely,

Erik Vink
Assistant Director

Enclosure

cc: Phillip Crimmins, Project Analyst
State Clearinghouse

West Stanislaus Resource Conservation District
220 N. El Circulo
Patterson, CA 95363

ACQUISITION NOTIFICATION PROVISIONS OF THE WILLIAMSON ACT

Notification provisions of the Williamson Act (Government Code Section 51291) require an agency to notify the Director of the Department of Conservation of the possible acquisition of Williamson Act contracted land for a public improvement. Such notification must occur when it **appears** that land enrolled in a Williamson Act contract may be required for a public use, is **acquired**, the original public improvement for the acquisition is **changed**, or the land acquired is **not used** for the public improvement. The local governing body responsible for the administration of the agricultural preserve must also be notified.

NOTIFICATION (Government Code Section 51291 (b))

The following information must be included in the notification correspondence.

1. The total number of acres of Williamson Act contracted land to be acquired and whether the land is considered prime agricultural land according to Government Code Section 51201.
2. The purpose for the acquisition and why the land was identified for acquisition. (If available, include documentation of eminent domain proceedings or a property appraisal and written offer in lieu of eminent domain per GC §§7267.1 and 7267.2 to void the contract per GC §51295; include a chronology of steps taken or planned to effect acquisition by eminent domain or in lieu of eminent domain.)
3. A description of where the parcel(s) is located.
4. Characteristics of adjacent land (urban development, Williamson Act, noncontract agricultural, etc.)
5. A vicinity map and a location map (may be the same as #8).
6. A copy of the contract(s) covering the land.
7. CEQA documents for the project.
8. **The findings required under GC §51292 , documentation to support the findings and an explanation of the preliminary consideration of §51292.** (Include a map of the proposed site and an area of surrounding land identified by characteristics and large enough to help clarify that no other, noncontract land is reasonably feasible for the public improvement.)

ACQUISITION (Government Code Section 51291 (c))

The following information must be included in the notification when land within an agricultural preserve has been **acquired**. The notice must be forwarded to the Director within **10 working days** of the acquisition of the land. The notice must also include the following:

1. A general explanation of the decision to acquire the land, and why noncontracted land is not available for the public improvement.
2. Findings made pursuant to Government Code Section 51292, as amended.
3. If the information is different from that provided in the previous notice sent upon consideration of the land, a general description of the land, and a copy of the contract covering the land shall be included in the notice.

SIGNIFICANT CHANGE IN PUBLIC IMPROVEMENT (Government Code Section 51291 (d))

Once notice is given as required, if the public agency proposed any significant change in the public improvement, the Director must be notified of the **changes** before the project is completed.

LAND ACQUIRED IS NOT USED FOR PUBLIC IMPROVEMENT (Government Code Section 51295)

If the acquiring public agency does not use the land for the stated public improvement and plans to return it to private ownership, **before** returning the land to private ownership the Director must be notified of the action. **Additional requirements apply.** The mailing address for the Director is: **Darryl Young, Director, Department of Conservation, 801 K Street, MS 13-71, Sacramento, CA 95814.**

April 2002

TURLOCK DISTRICT AREA
City of Ceres, CA
City of Hughson, CA
City of Newman, CA
City of Patterson, CA
City of Turlock, CA
County of Stanislaus, CA

Turlock
Mosquito Abatement District

TELEPHONE (209) 634-1234
4412 NORTH WASHINGTON ROAD
TURLOCK, CALIFORNIA 95380

MANAGER
JERRY M. DAVIS

April 21, 2003

Mr. Rod Simpson
Planning Director
City of Patterson
33 South Del Puerto Avenue
Patterson, CA 95363

RE: Comments NOP Draft Initial Study of the City of Patterson Wastewater Master Plan and Diablo Grande Sewer Line EIR

Dear Mr. Simpson,

The Turlock Mosquito Abatement District provides mosquito control in the area of the proposed project. Mosquitoes are capable of carrying diseases that people get and lower the quality of life because of their biting activity.

In reviewing the documentation including the Draft EIR the District is concerned with the use of percolation beds to eliminate treated water. The District is not opposed to the use of percolation beds but emphasizes that they must be managed in a way to prevent water from standing long enough so that immature mosquitoes can not develop into adult mosquitoes.

In order to mitigate mosquito breeding that may occur Best Management Practices must be used in percolation beds. This means that the land is prepared before hand so that it is graded and no potholes are present that will allow water to stand for longer than 4 days. That weed growth is controlled so that the percolation beds are not conducive to adult mosquito survival and that should mosquito breeding occur that the District can control any immature stages. Also access should be provided for periodic maintenance and for district personnel to make routine inspections and treatments as necessary.

Should you have questions, please feel free to contact me at (209) 634-8331.

Sincerely,

Jerry M. Davis,
Manager

MEMBER

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

RECEIVED
JUN 05 2003

IN REPLY REFER TO:
PPN 3046

JUN - 4 2003

Rod Simpson
Planning Director
City of Patterson
33 South Del Puerto Avenue
Patterson, California 95363

Subject: Notice of Preparation of a Draft Environmental Impact Report for the City of Patterson Wastewater Master Plan Project and Diablo Grande Sewer Line

Dear Mr. Simpson:

Thank you for the opportunity to review the Notice of Preparation (NOP) and Initial Study for an Environmental Impact Report (EIR) to be prepared for the proposed City of Patterson Wastewater Master Plan Project and Diablo Grande Sewer Line Project in Stanislaus County, California. The enclosures provided in this letter are intended to assist you in the early environmental review of this proposal. Future consultation with the U.S. Fish and Wildlife Service (Service) may be required under the provisions of the Fish and Wildlife Coordination Act and/or the Endangered Species Act of 1973, as amended (ESA), if project activities are anticipated to affect federally listed threatened or endangered species or impact jurisdictional wetlands pursuant to the Clean Water Act.

Enclosure A provides a list of sensitive species that may occur in or near the project site and general related information and survey guidelines. The Service recommends that surveys be completed by a qualified biologist on the proposed project site to confirm the presence or absence of special-status species or their habitats.

Direct, indirect, and cumulative impacts on federally listed species and species of concern should be evaluated. The existing conditions on the project site(s) provide actual or potential habitat for many species of concern. Species of concern are provided no protection under the ESA. However, one potential benefit of considering species of concern is that by exploring alternatives early in the planning process, it may be possible to provide long-term conservation benefits for these species and avoid future conflicts that could otherwise develop.

Enclosure B recommends general guidelines for identifying and mitigating project impacts to fish, wildlife, and their habitats. The Council on Environmental Quality developed regulations for implementing the National Environmental Policy Act, and defines mitigation to include: (1) avoiding the impact; (2) minimizing the impact; (3) rectifying the impact; (4) reducing or eliminating the impact over time; and (5) compensating for impacts. The Service supports and adopts this definition of mitigation and considers the specific elements to represent

the desirable sequence of steps in the mitigation planning process. Accordingly, we maintain that the best way to mitigate for the adverse biological impacts is avoidance when at all possible.

GENERAL COMMENTS

The City of Patterson provides wastewater collection, treatment, and disposal service for the majority of homes, schools, commercial and industrial establishments in the City. The EIR must identify and discuss all direct and indirect impacts to natural resources (i.e., wetlands, wildlife habitat, sensitive species) associated with construction, operation, and maintenance of the proposed Wastewater Master Plan and Diablo Grande Sewer Line project. Further, a cumulative effects analysis should incorporate any related actions that would not be undertaken but for the proposed project. Such related actions include, but are not limited to: (1) all necessary roadway improvements required for project implementation; and (2) installation of any water distribution system needed to service the facility.

The NOP does not discuss any proposed design alternatives. Consideration of alternative design proposals should be included in the DEIR. In a project of this magnitude there should be many reasonable options available to reduce the direct and indirect impacts to natural resources. Inclusion of a comprehensive array of design alternatives which would result in a reduction of resource impacts would be greatly beneficial.

Cursory examination of the Service's National Wetland Inventory maps has identified wetland habitats on the proposed project site. We recommend a wetland delineation of the proposed project site be conducted by a qualified biologist or firm and submitted to the U.S. Army Corps of Engineers for verification. The EIR should include a wetlands map and consider all direct and indirect impacts of the proposed project to wetlands located on or adjacent to the site.

We encourage you to use these comments and guidelines to develop a comprehensive environmental document that addresses these needs. The Service requests that a copy of the DEIR be provided to this office. If you have any questions regarding these comments, please contact Jill Wright in the Watershed Planning Branch at (916) 414-6557.

Sincerely,

David L. Harlow
Acting Field Supervisor

Enclosures

cc:
AES, Portland, OR
Regional Manager, CDFG, Region 2, Rancho Cordova, CA (w/o enclosures)

ENCLOSURE A

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below
Reference File No. 1-1-03-SP-2053

City of Patterson Wastewater Master Plan & Diablo Grande Sewer Line EIR

May 27, 2003

QUAD: 424A CROWS LANDING

Listed Species

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California tiger salamander, *Ambystoma californiense* (C/E)

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Fish

green sturgeon, *Acipenser medirostris* (C)

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

Swainson's hawk, *Buteo Swainsoni* (CA)

ferruginous hawk, *Buteo regalis* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

prairie falcon, *Falco mexicanus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)

loggerhead shrike, *Lanius ludovicianus* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

long-billed curlew, *Numenius americanus* (SC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)

white-faced ibis, *Plegadis chihi* (SC)

rufous hummingbird, *Selasphorus rufus* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Summary of Issues Raised at
Patterson Wastewater Master Plan EIR
Scoping Meeting

November 13, 2002
6:00 PM

Patterson City Council Chambers

The following summarizes the issues raised by the public at the scoping meeting, and the expected method of addressing the comments.

- Increased Odors: The EIR will analyze this issue.
- Groundwater Quality: The EIR will analyze this issue.
- Land Use Plan Consistency: The EIR will analyze this issue.
- Socioeconomic Impacts to nearby properties: Not required under CEQA. Ample opportunity will be available for the public to provide comments to the City Council and the County Board of Supervisors about socioeconomic impacts during project merits hearings.
- Alternative locations for the percolation ponds: The commentors requested consideration of alternative locations, perhaps in the western portion of the County. The EIR will address this type of alternative in terms of feasibility constraints and will discuss, in general and comparative terms, potential environmental effects of pumping the treated effluent to a more distant disposal location.
- Hearing Time: One commentor requested future hearings to be scheduled at 7 pm, rather than 6 pm. No hearings are planned until the City Council EIR Certification Hearing. City Council meetings are usually scheduled for 7 pm.
- Notification: One commentor requested notification of residents within 1 mile of the proposed pond areas. Consistent with standard City procedures, the City will notify residents within 300 feet of the pond sites, and will continue to provide legally required newspaper notification.
- Selection of Alternative Pond Sites: Several commentors asked how the alternative pond sites were selected, and expressed opinions about the distribution pattern of the sites. The Public Works Director addressed these comments at the meeting by explaining the City's preferred policy of working with willing sellers rather than invoking imminent domain. This is not a CEQA Issue and will not be addressed in the EIR.

MEMORANDUM

To:	George Lambert, City Manager Rod Simpson, Planning Director
From:	Scott Goebl
Date:	April 23, 2003
Re:	*Summary of Patterson Wastewater Master Plan and Diablo Grande Sewer Line EIR Scoping Meeting (April 22, 2003)*

The scoping meeting for the *Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project EIR* was held at 6:00 pm on April 22, 2003 at the Patterson City Council Chambers. In attendance were Rod Simpson (City Planning Director) and myself. No members of the public or agency representatives were present. Therefore, no issues were raised. The meeting was adjourned at 6:15 pm.

EDAW *2022 J Street, Sacramento, CA 95814*

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
Governor

Tal Finney
Interim Director

Notice of Preparation

April 16, 2003

To: Reviewing Agencies

Re: Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project
SCH# 2003042070

Attached for your review and comment is the Notice of Preparation (NOP) for the Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project draft Environmental Impact Report (EIR). To ensure responsible and trustee agencies have adequate opportunity to provide the lead agency with specific detail about the scope and content of the EIR, and to comply with CEQA Guidelines, an NOP and Initial Study are being forwarded to your agency, and the April 10, 2003 DEIR is being withdrawn. The City of Patterson expects to re-issue a draft EIR sometime after the close of this 30-day NOP scoping period. Responsible and trustee agencies may utilize the withdrawn April 10, 2003 draft EIR for scoping and commenting purposes.

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Rod Simpson
City of Patterson
33 S. Del Puerto Avenue
Patterson, CA 95363

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (196) 445-0613.

Sincerely,

Philip Crimmins
Project Analyst, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2003042070
Project Title Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project
Lead Agency Patterson, City of

Type NOP Notice of Preparation

Description Expansion of the City's wastewater facilities to serve approved and planned growth in the City and its sphere of influence. The project also includes accommodation of wastewater generated by Phase One of Diablo Grande, and construction of a sewer trunk line from Diablo Grande to the City (please see NOP for more details).

Lead Agency Contact

Name Rod Simpson
Agency City of Patterson
Phone 209-892-2041 **Fax**
email
Address 33 S. Del Puerto Avenue
City Patterson **State** CA **Zip** 95363

Project Location

County Stanislaus
City Patterson
Region
Cross Streets Walnut Avenue & Poplar Avenue
Parcel No. Various
Township 5S **Range** 8E **Section** Rancho **Base** Crow's L

Proximity to:

Highways SR 33
Airports Patterson Airport
Railways SPRR
Waterways San Joaquin River, Salado Creek
Schools Las Palmas Elem., Creek Middle, Northmead Elem., Patterson High,
Land Use General Agriculture & Specific Plan 1

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

Reviewing Agencies Resources Agency; Department of Conservation; Department of Parks and Recreation; Department of Water Resources; Department of Health Services; Department of Food and Agriculture; Department of Fish and Game, Region 4; Native American Heritage Commission; State Lands Commission; Caltrans, District 10; California Highway Patrol; Department of Toxic Substances Control; Regional Water Quality Control Bd., Region 5 (Sacramento)

Date Received 04/16/2003 **Start of Review** 04/16/2003 **End of Review** 05/15/2003

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

Resources Agency

- **Resources Agency**
  Nadell Gayou
- **Dept. of Boating & Waterways**
  Suzi Betzler
- **California Coastal Commission**
  Elizabeth A. Fuchs
- **Dept. of Conservation**
  Roseanne Taylor
- **Dept. of Forestry & Fire Protection**
  Allen Robertson
- **Office of Historic Preservation**
  Hans Kreutzberg
- **Dept of Parks & Recreation**
  B. Noah Tilghman
  Environmental Stewardship Section
- **Reclamation Board**
  Lori Buford
- **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

Health & Welfare

- **Health & Welfare**
  Wayne Hubbard
  Dept. of Health/Drinking Water

Food & Agriculture

- **Food & Agriculture**
  Steve Shaffer
  Dept. of Food and Agriculture

Fish and Game

- **Dept. of Fish & Game**
  Scott Flint
  Environmental Services Division
- **Dept. of Fish & Game 1**
  Donald Koch
  Region 1
- **Dept. of Fish & Game 2**
  Banky Curtis
  Region 2
- **Dept. of Fish & Game 3**
  Robert Floerke
  Region 3
- **Dept. of Fish & Game 4**
  William Laudermilk
  Region 4
- **Dept. of Fish & Game 5**
  Don Chadwick
  Region 5, Habitat Conservation Program
- **Dept. of Fish & Game 6**
  Gabrina Gatchel
  Region 6, Habitat Conservation Program
- **Dept. of Fish & Game 6 I/M**
  Tammy Allen
  Region 6, Inyo/Mono, Habitat Conservation Program
- **Dept. of Fish & Game M**
  Tom Napoli
  Marine Region

Independent Commissions

- **California Energy Commission**
  Environmental Office
- **Native American Heritage Comm.**
  Debbie Treadway
- **Public Utilities Commission**
  Ken Lewis
- **State Lands Commission**
  Jean Sarino
- **Governor's Office of Planning & Research**
  State Clearinghouse Planner
- **Colorado River Board**
  Gerald R. Zimmerman
- **Tahoe Regional Planning Agency (TRPA)**
  Lyn Barnett
- **Office of Emergency Services**
  John Rowden, Manager
- **Delta Protection Commission**
  Debby Eddy
- **Santa Monica Mountains Conservancy**
  Paul Edelman

Dept. of Transportation

- **Dept. of Transportation 1**
  Mike Eagan
  District 1
- **Dept. of Transportation 2**
  Don Anderson
  District 2
- **Dept. of Transportation 3**
  Jeff Pulverman
  District 3
- **Dept. of Transportation 4**
  Tim Sable
  District 4
- **Dept. of Transportation 5**
  David Murray
  District 5
- **Dept. of Transportation 6**
  Marc Birnbaum
  District 6
- **Dept. of Transportation 7**
  Stephen J. Buswell
  District 7
- **Dept. of Transportation 8**
  Linda Grimes,
  District 8
- **Dept. of Transportation 9**
  Gayle Rosander
  District 9
- **Dept. of Transportation 10**
  Tom Dumas
  District 10
- **Dept. of Transportation 11**
  Bill Figge
  District 11
- **Dept. of Transportation 12**
  Bob Joseph
  District 12

Business, Trans & Housing

- **Housing & Community Development**
  Cathy Creswell
  Housing Policy Division
- **Caltrans - Division of Aeronautics**
  Sandy Hesnard
- **California Highway Patrol**
  Lt. Julie Page
  Office of Special Projects
- **Dept. of Transportation**
  Ron Helgeson
  Caltrans - Planning
- **Dept. of General Services**
  Robert Sleppy
  Environmental Services Section

Air Resources Board

- Airport Projects
  Jim Lerner
- Transportation Projects
  Kurt Karperos
- Industrial Projects
  Mike Tollstrup

- **California Integrated Waste Management Board**
  Sue O'Leary
- **State Water Resources Control Board**
  Jim Hockenberry
  Division of Financial Assistance
- **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- **State Water Resouces Control Board**
  Mike Falkenstein
  Division of Water Rights
- **Dept. of Toxic Substances Control**
  CEQA Tracking Center

Regional Water Quality Control Board (RWQCB)

- **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- **RWQCB 3**
  Central Coast Region (3)
- **RWQCB 4**
  Jonathan Bishop
  Los Angeles Region (4)
- **RWQCB 5S**
  Central Valley Region (5)
  - **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- **RWQCB 6**
  Lahontan Region (6)
  - **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- **RWQCB 7**
  Colorado River Basin Region (7)
- **RWQCB 8**
  Santa Ana Region (8)
- **RWQCB 9**
  San Diego Region (9)

California Regional Water Quality Control Board
Central Valley Region
Robert Schneider, Chair

Winston H. Hickox
Secretary for Environmental Protection

Fresno Branch Office
Internet Address: http://www.swrcb.ca.gov/~rwqcb5
1685 E Street, Fresno, California 93706-2020
Phone (559) 445-5116 • FAX (559) 445-5910

Gray Davis
Governor

RECEIVED
MAY 21 2003

21 May 2003

Mr. Rod Simpson
Planning Director
City of Patterson
33 South Del Puerto Avenue
Patterson, CA 95363

NOTICE OF PREPARATION, CITY OF PATTERSON WASTEWATER MASTER PLAN AND DIABLO GRANDE SEWER LINE EIR, STANISLAUS COUNTY

We reviewed *Notice of Preparation (NOP) of a Draft Initial Study for the City of Patterson Wastewater Master Plan and Diablo Grande Sewer Line Environmental Impact Report (EIR),* received 16 April 2003 and prepared by the City of Patterson. The NOP describes a project comprised of the necessary improvements to the City's wastewater treatment facility (WWTF) and collection system to accommodate future sewage flows. The NOP describes the City's proposal to construct three additional advanced integrated pond systems (AIPs) in two phases. Phase 1 includes the construction by 2004 of two AIPs with rated design capacities of 0.5 million gallons per day (mgd) and 0.75 mgd. Phase II consists of construction by 2008 of one additional 0.5 mgd AIPs for an ultimate WWTF flow increase to 3.15 mgd by 2008. The NOP also describes the construction of a gravity sewer truck line to serve development within the Diablo Grande Specific Plan Area.

Waste Discharge Requirements Order No. 5-00-146 (WDRs) regulates the WWTF and its discharge of up to 1.3 mgd to 12 evaporation/percolation ponds (hereafter ponds) encompassing 80 acres. The WWTF currently utilizes two separate wastewater treatment processes: an oxidation ditch activated sludge system and a 3-treatment cell AIPs. Order No. R5-2003-0019 regulates a package treatment facility that temporarily serves development within the Diablo Grande Specific Plan Area and its discharge of up to 0.4 mgd disinfected secondary-treated effluent to a lined storage reservoir and 30 acres of fodder crops. Ultimately the City anticipates accepting all or a significant portion of the sewage generated by the development within Diablo Grande Specific Plan Area.

Below are comments regarding the NOP and accompanying Environmental Checklist.

> *The Environmental Checklist, Section VIII. Hydrology and Water Quality, page 27, indicates that the project has a significant impact to violate WDRs. The City proposes to mitigate this significant impact by indicating the City will be required to comply with revised WDRs and, because the City is in compliance with the existing WDRs, the project is not expected to violate the WDRs.*

The effluent quality from the City's WWTF, specifically from the existing AIPs, does not consistently comply with Discharge Specification B.6 in the WDRs, which stipulates that the monthly average concentration of 5-day biochemical oxygen demand (BOD_5) shall not exceed 45 mg/L. In 2002, the

monthly average effluent BOD_5 exceeded the 45 mg/L limit during the months of April (50 mg/L), May (46 mg/L), August (54 mg/L), September (48 mg/L), November (69 mg/L), and December (75 mg/L). The EIR should disclose the apparent inability of the existing AIPs, as currently operated, to generate effluent of a quality that complies with the WDRs.

> *The Environmental Checklist, Section VIII. Hydrology and Water Quality indicates that the proposed project could have a potentially significant impact to violate any water quality standards or waste discharge requirements. In response it indicates, in general, as indicated in previous environmental documents prepared for the City's WWTF, that the Regional Board, as the lead regulatory agency for these types of facilities, will require the City implement appropriate measures to ensure the discharge reflects best practicable treatment and control and is protective of water quality.*

The City submitted a Report of Waste Discharge (RWD) dated 12 March 2003, for the proposed WWTF expansion using the AIPs. Regional Board letter dated 11 April 2003 deemed the RWD incomplete and indicated that the WWTF, as proposed, is not consistent with the State Antidegradation Policy. The letter explained that, because groundwater affected by the discharge contains waste constituents in concentrations exceeding water quality objectives, tentative WDRs for Regional Board consideration would, if adopted, require the City to reduce the discharge's impact on underlying groundwater by:

1. Sealing all treatment ponds and sludge handling facilities to permeabilities reflective of best practicable treatment and control (BPTC);

2. Provided percolation remains the effluent disposal method of choice, implementing and operating at optimum levels treatment technology that is reflective of BPTC for organic removal (e.g., technology capable of generating effluent characterized by BOD_5 and total suspended solids (TSS) concentrations not exceeding 20 mg/L each); and

3. Implementing BPTC for nitrogen removal by:

   (a) reducing effluent total nitrogen concentrations prior to discharge to disposal ponds to at least less than 7 mg/L, and/or

   (b) providing sealed effluent ponds for winter storage and recycling effluent on crops at reasonable agronomic rates and in a manner that complies with Statewide recycling criteria in Title 22, California Code of Regulations (CCR), section 60301 et seq.

On 13 May 2003, Regional Board staff met with City representatives to discuss some of the issues in the 11 April Regional Board letter. The City indicates that it intends to propose an alternative design that incorporates oxidation ditches in lieu of the AIPs in order to improve and optimize treatment performance and reduce the discharge's impact on water quality. City representatives indicated the City will submit a revised RWD. We recommend the EIR identify and evaluate potential adverse water quality impacts as a result of continued operation of the existing WWTF in addition to the City's new proposal. We also recommend that if adverse impacts to water quality are identified, the EIR specifically identify and discuss what mitigation measure(s) the City will implement to reduce these adverse impacts to less than significant levels. An overriding statement(s) in the EIR that compliance with existing laws and regulations will mitigate any identified adverse impacts is not sufficient and does not constitute a

mitigation measure. In addition to identifying specific mitigation measures, the document must also thoroughly discuss how the City will monitor the effectiveness of the mitigation measure(s).

> *The NOP refers to previously prepared environmental documents for various projects, including portions of the sewer expansion. However, the NOP and environmental checklist do not include a discussion of the potential adverse impacts of the increased indirect discharge flows to the San Joaquin River.*

We recommend the EIR include, at a minimum, a technical summary of all previous evaluations regarding the impacts, if any, that the discharge (or project) may have on the San Joaquin River and area groundwater. Regional Board letter dated 11 April 2003 requested the City evaluate the manner and degree to which the San Joaquin River and the discharge influences the quality of area groundwater. The EIR should incorporate any pertinent information derived from this evaluation.

We thank you for the opportunity to comment on the NOP. To clarify the threat to water quality from the proposed discharge, the EIR should discuss more thoroughly the WWTF treatment processes, the City's compliance with WDRs, and potentially significant adverse impacts to surface and groundwater quality as a result of the WWTF operation and its discharge. Specifically, we recommend the EIR:

1. Include a revised project description that incorporates the City's revised proposed project.
2. Thoroughly describe the WWTF including the design and operation of all onsite sludge storage and handling facilities (e.g., sludge storage lagoons, sludge drying beds, etc.) and their respective impacts on water quality.
3. Thoroughly describe the shortcomings of the existing WWTF, including findings indicating that the City is not consistently complying with WDRs Order No. 5-00-146.
4. Include a technical discussion (including identification of all previously reference material) identifying possible impacts from the discharge on the water quality of the San Joaquin River for waste constituents of concern, such as, salts, organic load, nutrients, and metals.
5. Identify and evaluate specific mitigation measures the City will implement to reduce the project's potentially significant adverse impacts to water quality to less than significant levels, and describe a plan to monitor the effectiveness of the mitigation measure(s). The City should include a general time schedule for the implementation of each mitigation measure.

We are looking forward to reviewing the draft EIR. If you have questions regarding the matters above, please contact Alexis R. Phillips-Dowell at (559) 445-5500.

Jo Anne Kipps

JO ANNE KIPPS
Senior Engineer
RCE No. 49278

cc: Mr. Ignacio Lopez, Director, City of Patterson Department of Public Works, Patterson
Mr. Joel Cockrell, Paterson WWTF, Patterson
Mr. Robert Godwin, Project Manager, Lee & Ro, Inc., Rancho Cordova

V:\Municipal\Projects\Outgoing\ceqa\arp NOP Patterson jlk.doc
N15 / STANISLAUS COUNTY / PATTERSON, CITY OF / PATTERSON WWTP / 5B50NC00002



San Joaquin Valley Air Pollution Control District

May 20, 2003

Rod R. Simpson, Planning Director
City of Patterson
Planning Department
P.O. Box 667
Patterson, CA 95363

SUBJECT: NOTICE OF PREPARATION OF A DRAFT INITIAL STUDY FOR THE CITY OF PATTERSON WASTEWATER MASTER PLAN AND DIABLO GRANDE SEWER LINE EIR.

Dear Mr. Simpson:

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

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

The District recommends that the air quality section of the EIR have three main components. **Section one** should provide a description of the regulatory environment and existing air quality conditions impacting the San Joaquin Valley. **Section two** should provide estimates of existing emissions and projected pollutant emissions related to any increases in population, vehicle use, and construction activities along with an analysis of the effects of these increases. **Section three** should identify and discuss all feasible mitigation measures which, after implementation, will reduce the air quality impacts generated by this project.

Section 1: *description of the regulatory environment and existing air quality conditions of the San Joaquin Valley.*

The District has several sources of information available to assist with the existing air quality and regulatory environment section of the EIR. The District's ***Guide for Assessing and Mitigating Air Quality Impacts*** (GAMAQI) contains discussions regarding the existing air quality conditions and trends of the San Joaquin Valley Air Basin, including those pollutants of particular concern: ozone, PM-10, and carbon monoxide. In addition, it provides an overview of the regulatory environment governing

David L. Crow
Executive Director/Air Pollution Control Officer

Northern Region Office
4230 Kiernan Avenue, Suite 130
Modesto, CA 95356-9322
(209) 557-6400 • FAX (209) 557-6475

Central Region Office
1990 East Gettysburg Avenue
Fresno, CA 93726-0244
(559) 230-6000 • FAX (559) 230-6061

Southern Region Office
2700 M Street, Suite 275
Bakersfield, CA 93301-2373
(661) 326-6900 • FAX (661) 326-6985

www.valleyair.org

air quality at the federal, state, and regional levels. The GAMAQI provides air monitoring data and other relevant information for PM-10 and other pollutants.

Section 2: ***projected pollutant emissions generated during the construction and operational phases of the project.***

The growth-inducing and cumulative impacts analyses should take into consideration the existing and planned development both within the project area and in the surrounding areas. The District recommends the use of the URBEMIS 7G modeling program to calculate the pollutant emissions resulting from motor vehicle trips generated by this development project. Additional guidance is provided in the GAMAQI.

Additionally, the EIR should quantify emissions that are individually small but cumulatively significant sources of pollution. This includes, but is not limited to, emissions from natural gas combustion for space and water heating and emissions from gas-powered lawn and garden maintenance equipment. URBEMIS 7G may also be used to quantify these emissions.

Section 3: ***mitigation measures.***

Mitigation measures must be included in the EIR that reduce the emissions of reactive organic gases (ROG), nitrogen oxides, carbon monoxide, and PM-10 to the maximum extent feasible. Site design and building construction measures that would reduce air quality impacts should be included. In addition, measures to reduce vehicle trips, miles traveled, and cold starts should be included in the project.

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

Sincerely,

John Cadrett
Environmental Planner
Northern Region

APCD REF # 20030196

CC: Stanislaus County
Environmental Review Committee
Arlene Stevens
1010 Tenth Street #6800
Modesto CA, 95354

DEPARTMENT OF CONSERVATION
STATE OF CALIFORNIA

DIVISION OF LAND RESOURCE PROTECTION

801 K STREET
SACRAMENTO
CALIFORNIA
95814

PHONE
916/324-0850

FAX
916/327-3430

TDD
916/324-2555

INTERNET
consrv.ca.gov

GRAY DAVIS
GOVERNOR

RECEIVED
MAY 21 2003

May 16, 2003

Mr. Rod Simpson, Planning Director
City of Patterson
33 S. Del Puerto Avenue
P.O. Box 667
Patterson, CA 95363

Subject: Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project Notice of Preparation (NOP) - SCH# 2003042070, Stanislaus County

Dear Mr. Simpson:

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the NOP for the referenced project. The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's impacts on Williamson Act contracts and agricultural land.

Project Description

The proposed project is the expansion of the City of Patterson's (City) wastewater collection system to serve planned city growth including projects described in the West Patterson Projects Environmental Impact Report (EIR) and the Diablo Grande project in west Stanislaus County. The proposal represents a first phase wastewater treatment plant expansion that includes conversion of 125 acres of Prime Farmland for percolation ponds. The NOP refers to the West Patterson Projects EIR and the Diablo Grande Specific Plan EIR as providing environmental impact analysis for the proposed plan area. The West Patterson Projects EIR determined that agricultural impacts would be significant and included mitigation required for the percolation ponds as well as other development. The proposed percolation pond sites identified in the NOP and the West Patterson Projects EIR appear to include much of the same area. The NOP also notes that this project would require cancellation of Williamson Act contracts covering the 125 acres.

Mitigation Measures

Mitigation Measure C.1 of the West Patterson Projects EIR states that an applicant for a building permit in the West Patterson area shall submit documentation that the applicant has contributed to the California Farmland

Conservancy Fund pursuant to Public Resources Code §10231.5. The amount of the contribution shall, at minimum, reflect the then-current value of an agricultural conservation easement on comparable prime agricultural land in the West Patterson project vicinity equal in size to the acreage for which the permit is being sought, a pro-rata share for the acreage converted under the City's wastewater treatment plant expansion and a 10 percent increment for program administration under the Farmland Conservation Program. The Department recommends that the DEIR for this project repeat this statement of required mitigation.

Williamson Act Land

In its comment letters of November 18, 2002 and January 2, 2003 regarding the West Patterson Projects EIR, the Department provided information about the cancellation of a Williamson Act contract and the acquisition of Williamson Act land including the requirement for notice to the Department. Cancellation requires initiation by the landowner (Government Code §51282 et seq.). Acquisition is an action by a public agency that must conform to eminent domain law whereby the property is acquired by eminent domain or in lieu of eminent domain in order to terminate the contract (Government Code §51290 et seq.). Both actions require making specific findings. Cancellation, if approved, requires a cancellation fee from the landowner.

The West Patterson Projects EIR and this NOP refer to cancellation of the Williamson Act contracts associated with the percolation pond sites. If, however, it appears that the City may acquire the properties through public agency acquisition provisions, the Department recommends that the City provide notification in conformance with Government Code §51291(b). As stated in the Department's January 2 comments, the City is not exempted from notification pursuant to Government Code §51291.5 because percolation ponds and other on-ground facilities are not considered *"piped subterranean water or wastewater facilities."* Please find enclosed Notification Provisions that list items of information required as part of notification.

Thank you for the opportunity to comment on this NOP. If you have questions on our comments or require technical assistance or information on agricultural land conservation, please contact Bob Blanford at 801 K Street, MS 13-71, Sacramento, California 95814; or, phone (916) 327-2145.

Sincerely,

Erik Vink
Assistant Director

Enclosure

cc: Phillip Crimmins, Project Analyst
State Clearinghouse

West Stanislaus Resource Conservation District
220 N. El Circulo
Patterson, CA 95363

ACQUISITION NOTIFICATION PROVISIONS OF THE WILLIAMSON ACT

Notification provisions of the Williamson Act (Government Code Section 51291) require an agency to notify the Director of the Department of Conservation of the possible acquisition of Williamson Act contracted land for a public improvement. Such notification must occur when it **appears** that land enrolled in a Williamson Act contract may be required for a public use, is **acquired**, the original public improvement for the acquisition is **changed**, or the land acquired is **not used** for the public improvement. The local governing body responsible for the administration of the agricultural preserve must also be notified.

NOTIFICATION (Government Code Section 51291 (b))

The following information must be included in the notification correspondence.

1. The total number of acres of Williamson Act contracted land to be acquired and whether the land is considered prime agricultural land according to Government Code Section 51201.
2. The purpose for the acquisition and why the land was identified for acquisition. (If available, include documentation of eminent domain proceedings or a property appraisal and written offer in lieu of eminent domain per GC §§7267.1 and 7267.2 to void the contract per GC §51295; include a chronology of steps taken or planned to effect acquisition by eminent domain or in lieu of eminent domain.)
3. A description of where the parcel(s) is located.
4. Characteristics of adjacent land (urban development, Williamson Act, noncontract agricultural, etc.)
5. A vicinity map and a location map (may be the same as #8).
6. A copy of the contract(s) covering the land.
7. CEQA documents for the project.
8. **The findings required under GC §51292 , documentation to support the findings and an explanation of the preliminary consideration of §51292.** (Include a map of the proposed site and an area of surrounding land identified by characteristics and large enough to help clarify that no other, noncontract land is reasonably feasible for the public improvement.)

ACQUISITION (Government Code Section 51291 (c))

The following information must be included in the notification when land within an agricultural preserve has been **acquired**. The notice must be forwarded to the Director within **10 working days** of the acquisition of the land. The notice must also include the following:

1. A general explanation of the decision to acquire the land, and why noncontracted land is not available for the public improvement.
2. Findings made pursuant to Government Code Section 51292, as amended.
3. If the information is different from that provided in the previous notice sent upon consideration of the land, a general description of the land, and a copy of the contract covering the land shall be included in the notice.

SIGNIFICANT CHANGE IN PUBLIC IMPROVEMENT (Government Code Section 51291 (d))

Once notice is given as required, if the public agency proposed any significant change in the public improvement, the Director must be notified of the **changes** before the project is completed.

LAND ACQUIRED IS NOT USED FOR PUBLIC IMPROVEMENT (Government Code Section 51295)

If the acquiring public agency does not use the land for the stated public improvement and plans to return it to private ownership, **before** returning the land to private ownership the Director must be notified of the action. **Additional requirements apply.** The mailing address for the Director is: **Darryl Young, Director, Department of Conservation, 801 K Street, MS 13-71, Sacramento, CA 95814.**

April 2002

TURLOCK DISTRICT AREA
City of Ceres, CA
City of Hughson, CA
City of Newman, CA
City of Patterson, CA
City of Turlock, CA
County of Stanislaus, CA

Turlock
Mosquito Abatement District

TELEPHONE (209) 634-1234
4412 NORTH WASHINGTON ROAD
TURLOCK, CALIFORNIA 95380

MANAGER
JERRY M. DAVIS

April 21, 2003

Mr. Rod Simpson
Planning Director
City of Patterson
33 South Del Puerto Avenue
Patterson, CA 95363

RE: Comments NOP Draft Initial Study of the City of Patterson Wastewater Master Plan and Diablo Grande Sewer Line EIR

Dear Mr. Simpson,

The Turlock Mosquito Abatement District provides mosquito control in the area of the proposed project. Mosquitoes are capable of carrying diseases that people get and lower the quality of life because of their biting activity.

In reviewing the documentation including the Draft EIR the District is concerned with the use of percolation beds to eliminate treated water. The District is not opposed to the use of percolation beds but emphasizes that they must be managed in a way to prevent water from standing long enough so that immature mosquitoes can not develop into adult mosquitoes.

In order to mitigate mosquito breeding that may occur Best Management Practices must be used in percolation beds. This means that the land is prepared before hand so that it is graded and no potholes are present that will allow water to stand for longer than 4 days. That weed growth is controlled so that the percolation beds are not conducive to adult mosquito survival and that should mosquito breeding occur that the District can control any immature stages. Also access should be provided for periodic maintenance and for district personnel to make routine inspections and treatments as necessary.

Should you have questions, please feel free to contact me at (209) 634-8331.

Sincerely,

Jerry M. Davis,
Manager

MEMBER

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

RECEIVED
JUN 05 2003

IN REPLY REFER TO:
PPN 3046

JUN - 4 2003

Rod Simpson
Planning Director
City of Patterson
33 South Del Puerto Avenue
Patterson, California 95363

Subject: Notice of Preparation of a Draft Environmental Impact Report for the City of Patterson Wastewater Master Plan Project and Diablo Grande Sewer Line

Dear Mr. Simpson:

Thank you for the opportunity to review the Notice of Preparation (NOP) and Initial Study for an Environmental Impact Report (EIR) to be prepared for the proposed City of Patterson Wastewater Master Plan Project and Diablo Grande Sewer Line Project in Stanislaus County, California. The enclosures provided in this letter are intended to assist you in the early environmental review of this proposal. Future consultation with the U.S. Fish and Wildlife Service (Service) may be required under the provisions of the Fish and Wildlife Coordination Act and/or the Endangered Species Act of 1973, as amended (ESA), if project activities are anticipated to affect federally listed threatened or endangered species or impact jurisdictional wetlands pursuant to the Clean Water Act.

Enclosure A provides a list of sensitive species that may occur in or near the project site and general related information and survey guidelines. The Service recommends that surveys be completed by a qualified biologist on the proposed project site to confirm the presence or absence of special-status species or their habitats.

Direct, indirect, and cumulative impacts on federally listed species and species of concern should be evaluated. The existing conditions on the project site(s) provide actual or potential habitat for many species of concern. Species of concern are provided no protection under the ESA. However, one potential benefit of considering species of concern is that by exploring alternatives early in the planning process, it may be possible to provide long-term conservation benefits for these species and avoid future conflicts that could otherwise develop.

Enclosure B recommends general guidelines for identifying and mitigating project impacts to fish, wildlife, and their habitats. The Council on Environmental Quality developed regulations for implementing the National Environmental Policy Act, and defines mitigation to include: (1) avoiding the impact; (2) minimizing the impact; (3) rectifying the impact; (4) reducing or eliminating the impact over time; and (5) compensating for impacts. The Service supports and adopts this definition of mitigation and considers the specific elements to represent

the desirable sequence of steps in the mitigation planning process. Accordingly, we maintain that the best way to mitigate for the adverse biological impacts is avoidance when at all possible.

GENERAL COMMENTS

The City of Patterson provides wastewater collection, treatment, and disposal service for the majority of homes, schools, commercial and industrial establishments in the City. The EIR must identify and discuss all direct and indirect impacts to natural resources (i.e., wetlands, wildlife habitat, sensitive species) associated with construction, operation, and maintenance of the proposed Wastewater Master Plan and Diablo Grande Sewer Line project. Further, a cumulative effects analysis should incorporate any related actions that would not be undertaken but for the proposed project. Such related actions include, but are not limited to: (1) all necessary roadway improvements required for project implementation; and (2) installation of any water distribution system needed to service the facility.

The NOP does not discuss any proposed design alternatives. Consideration of alternative design proposals should be included in the DEIR. In a project of this magnitude there should be many reasonable options available to reduce the direct and indirect impacts to natural resources. Inclusion of a comprehensive array of design alternatives which would result in a reduction of resource impacts would be greatly beneficial.

Cursory examination of the Service's National Wetland Inventory maps has identified wetland habitats on the proposed project site. We recommend a wetland delineation of the proposed project site be conducted by a qualified biologist or firm and submitted to the U.S. Army Corps of Engineers for verification. The EIR should include a wetlands map and consider all direct and indirect impacts of the proposed project to wetlands located on or adjacent to the site.

We encourage you to use these comments and guidelines to develop a comprehensive environmental document that addresses these needs. The Service requests that a copy of the DEIR be provided to this office. If you have any questions regarding these comments, please contact Jill Wright in the Watershed Planning Branch at (916) 414-6557.

Sincerely,

David L. Harlow
Acting Field Supervisor

Enclosures

cc:
AES, Portland, OR
Regional Manager, CDFG, Region 2, Rancho Cordova, CA (w/o enclosures)

ENCLOSURE A

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below
Reference File No. 1-1-03-SP-2053

City of Patterson Wastewater Master Plan & Diablo Grande Sewer Line EIR

May 27, 2003

QUAD: 424A CROWS LANDING

Listed Species

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California tiger salamander, *Ambystoma californiense* (C/E)

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E) NMFS

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Fish

green sturgeon, *Acipenser medirostris* (C)

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

- Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)
- greater western mastiff-bat, *Eumops perotis californicus* (SC)
- small-footed myotis bat, *Myotis ciliolabrum* (SC)
- long-legged myotis bat, *Myotis volans* (SC)
- Yuma myotis bat, *Myotis yumanensis* (SC)
- San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

- tricolored blackbird, *Agelaius tricolor* (SC)
- western burrowing owl, *Athene cunicularia hypugaea* (SC)
- Aleutian Canada goose, *Branta canadensis leucopareia* (D)
- Swainson's hawk, *Buteo Swainsoni* (CA)
- ferruginous hawk, *Buteo regalis* (SC)
- Costa's hummingbird, *Calypte costae* (SC)
- Lawrence's goldfinch, *Carduelis lawrencei* (SC)
- Vaux's swift, *Chaetura vauxi* (SC)
- white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- prairie falcon, *Falco mexicanus* (SC)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- greater sandhill crane, *Grus canadensis tabida* (CA)
- loggerhead shrike, *Lanius ludovicianus* (SC)
- Lewis' woodpecker, *Melanerpes lewis* (SC)
- long-billed curlew, *Numenius americanus* (SC)
- Nuttall's woodpecker, *Picoides nuttallii* (SLC)
- white-faced ibis, *Plegadis chihi* (SC)
- rufous hummingbird, *Selasphorus rufus* (SC)
- California thrasher, *Toxostoma redivivum* (SC)

Reptiles

- silvery legless lizard, *Anniella pulchra pulchra* (SC)
- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- southwestern pond turtle, *Clemmys marmorata pallida* (SC)
- San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

Summary of Issues Raised at
Patterson Wastewater Master Plan EIR
Scoping Meeting

November 13, 2002
6:00 PM

Patterson City Council Chambers

The following summarizes the issues raised by the public at the scoping meeting, and the expected method of addressing the comments.

- Increased Odors: The EIR will analyze this issue.
- Groundwater Quality: The EIR will analyze this issue.
- Land Use Plan Consistency: The EIR will analyze this issue.
- Socioeconomic Impacts to nearby properties: Not required under CEQA. Ample opportunity will be available for the public to provide comments to the City Council and the County Board of Supervisors about socioeconomic impacts during project merits hearings.
- Alternative locations for the percolation ponds: The commentors requested consideration of alternative locations, perhaps in the western portion of the County. The EIR will address this type of alternative in terms of feasibility constraints and will discuss, in general and comparative terms, potential environmental effects of pumping the treated effluent to a more distant disposal location.
- Hearing Time: One commentor requested future hearings to be scheduled at 7 pm, rather than 6 pm. No hearings are planned until the City Council EIR Certification Hearing. City Council meetings are usually scheduled for 7 pm.
- Notification: One commentor requested notification of residents within 1 mile of the proposed pond areas. Consistent with standard City procedures, the City will notify residents within 300 feet of the pond sites, and will continue to provide legally required newspaper notification.
- Selection of Alternative Pond Sites: Several commentors asked how the alternative pond sites were selected, and expressed opinions about the distribution pattern of the sites. The Public Works Director addressed these comments at the meeting by explaining the City's preferred policy of working with willing sellers rather than invoking imminent domain. This is not a CEQA Issue and will not be addressed in the EIR.

MEMORANDUM

To:	George Lambert, City Manager Rod Simpson, Planning Director
From:	Scott Goebl
Date:	April 23, 2003
Re:	*Summary of Patterson Wastewater Master Plan and Diablo Grande Sewer Line EIR Scoping Meeting (April 22, 2003)*

The scoping meeting for the *Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project EIR* was held at 6:00 pm on April 22, 2003 at the Patterson City Council Chambers. In attendance were Rod Simpson (City Planning Director) and myself. No members of the public or agency representatives were present. Therefore, no issues were raised. The meeting was adjourned at 6:15 pm.

EDAW *2022 J Street, Sacramento, CA 95814*

Gray Davis
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse

Tal Finney
Interim Director

Notice of Preparation

April 16, 2003

To: Reviewing Agencies

Re: Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project
SCH# 2003042070

Attached for your review and comment is the Notice of Preparation (NOP) for the Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project draft Environmental Impact Report (EIR). To ensure responsible and trustee agencies have adequate opportunity to provide the lead agency with specific detail about the scope and content of the EIR, and to comply with CEQA Guidelines, an NOP and Initial Study are being forwarded to your agency, and the April 10, 2003, DEIR is being withdrawn. The City of Patterson expects to re-issue a draft EIR sometime after the close of this 30-day NOP scoping period. Responsible and trustee agencies may utilize the withdrawn April 10, 2003 draft EIR for scoping and commenting purposes.

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Rod Simpson
City of Patterson
33 S. Del Puerto Avenue
Patterson, CA 95363

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (196) 445-0613.

Sincerely,

Philip Crimmins
Project Analyst, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2003042070
Project Title Patterson Wastewater Master Plan and Diablo Grande Sewer Line Project
Lead Agency Patterson, City of

Type NOP Notice of Preparation

Description Expansion of the City's wastewater facilities to serve approved and planned growth in the City and its sphere of influence. The project also includes accommodation of wastewater generated by Phase One of Diablo Grande, and construction of a sewer trunk line from Diablo Grande to the City (please see NOP for more details).

Lead Agency Contact

Name Rod Simpson
Agency City of Patterson
Phone 209-892-2041 **Fax**
email
Address 33 S. Del Puerto Avenue
City Patterson **State** CA **Zip** 95363

Project Location

County Stanislaus
City Patterson
Region
Cross Streets Walnut Avenue & Poplar Avenue
Parcel No. Various
Township 5S **Range** 8E **Section** Rancho **Base** Crow's L

Proximity to:

Highways SR 33
Airports Patterson Airport
Railways SPRR
Waterways San Joaquin River, Salado Creek
Schools Las Palmas Elem., Creek Middle, Northmead Elem., Patterson High,
Land Use General Agriculture & Specific Plan 1

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

Reviewing Agencies Resources Agency; Department of Conservation; Department of Parks and Recreation; Department of Water Resources; Department of Health Services; Department of Food and Agriculture; Department of Fish and Game, Region 4; Native American Heritage Commission; State Lands Commission; Caltrans, District 10; California Highway Patrol; Department of Toxic Substances Control; Regional Water Quality Control Bd., Region 5 (Sacramento)

Date Received 04/16/2003 **Start of Review** 04/16/2003 **End of Review** 05/15/2003

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

Resources Agency

- **Resources Agency**
  Nadell Gayou
- **Dept. of Boating & Waterways**
  Suzi Betzler
- **California Coastal Commission**
  Elizabeth A. Fuchs
- **Dept. of Conservation**
  Roseanne Taylor
- **Dept. of Forestry & Fire Protection**
  Allen Robertson
- **Office of Historic Preservation**
  Hans Kreutzberg
- **Dept of Parks & Recreation**
  B. Noah Tilghman
  Environmental Stewardship Section
- **Reclamation Board**
  Lori Buford
- **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

Health & Welfare

- **Health & Welfare**
  Wayne Hubbard
  Dept. of Health/Drinking Water

Food & Agriculture

- **Food & Agriculture**
  Steve Shaffer
  Dept. of Food and Agriculture

Fish and Game

- **Dept. of Fish & Game**
  Scott Flint
  Environmental Services Division
- **Dept. of Fish & Game 1**
  Donald Koch
  Region 1
- **Dept. of Fish & Game 2**
  Banky Curtis
  Region 2
- **Dept. of Fish & Game 3**
  Robert Floerke
  Region 3
- **Dept. of Fish & Game 4**
  William Laudermilk
  Region 4
- **Dept. of Fish & Game 5**
  Don Chadwick
  Region 5, Habitat Conservation Program
- **Dept. of Fish & Game 6**
  Gabrina Gatchel
  Region 6, Habitat Conservation Program
- **Dept. of Fish & Game 6 I/M**
  Tammy Allen
  Region 6, Inyo/Mono, Habitat Conservation Program
- **Dept. of Fish & Game M**
  Tom Napoli
  Marine Region

Independent Commissions

- **California Energy Commission**
  Environmental Office
- **Native American Heritage Comm.**
  Debbie Treadway
- **Public Utilities Commission**
  Ken Lewis
- **State Lands Commission**
  Jean Sarino
- **Governor's Office of Planning & Research**
  State Clearinghouse Planner
- **Colorado River Board**
  Gerald R. Zimmerman
- **Tahoe Regional Planning Agency (TRPA)**
  Lyn Barnett
- **Office of Emergency Services**
  John Rowden, Manager
- **Delta Protection Commission**
  Debby Eddy
- **Santa Monica Mountains Conservancy**
  Paul Edelman

Dept. of Transportation

- **Dept. of Transportation 1**
  Mike Eagan
  District 1
- **Dept. of Transportation 2**
  Don Anderson
  District 2
- **Dept. of Transportation 3**
  Jeff Pulverman
  District 3
- **Dept. of Transportation 4**
  Tim Sable
  District 4
- **Dept. of Transportation 5**
  David Murray
  District 5
- **Dept. of Transportation 6**
  Marc Birnbaum
  District 6
- **Dept. of Transportation 7**
  Stephen J. Buswell
  District 7
- **Dept. of Transportation 8**
  Linda Grimes,
  District 8
- **Dept. of Transportation 9**
  Gayle Rosander
  District 9
- **Dept. of Transportation 10**
  Tom Dumas
  District 10
- **Dept. of Transportation 11**
  Bill Figge
  District 11
- **Dept. of Transportation 12**
  Bob Joseph
  District 12

Business, Trans & Housing

- **Housing & Community Development**
  Cathy Creswell
  Housing Policy Division
- **Caltrans - Division of Aeronautics**
  Sandy Hesnard
- **California Highway Patrol**
  Lt. Julie Page
  Office of Special Projects
- **Dept. of Transportation**
  Ron Helgeson
  Caltrans - Planning
- **Dept. of General Services**
  Robert Sleppy
  Environmental Services Section

Air Resources Board

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- Transportation Projects
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  Mike Tollstrup

- **California Integrated Waste Management Board**
  Sue O'Leary
- **State Water Resources Control Board**
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  Division of Financial Assistance
- **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- **State Water Resouces Control Board**
  Mike Falkenstein
  Division of Water Rights
- **Dept. of Toxic Substances Control**
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Regional Water Quality Control Board (RWQCB)

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  North Coast Region (1)
- **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- **RWQCB 3**
  Central Coast Region (3)
- **RWQCB 4**
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- **RWQCB 5S**
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- **RWQCB 6**
  Lahontan Region (6)
  - **RWQCB 6V**
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California Regional Water Quality Control Board
Central Valley Region

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Environmental
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RECEIVED
MAY 21 2003

21 May 2003

Mr. Rod Simpson
Planning Director
City of Patterson
33 South Del Puerto Avenue
Patterson, CA 95363

NOTICE OF PREPARATION, CITY OF PATTERSON WASTEWATER MASTER PLAN AND DIABLO GRANDE SEWER LINE EIR, STANISLAUS COUNTY

We reviewed *Notice of Preparation (NOP) of a Draft Initial Study for the City of Patterson Wastewater Master Plan and Diablo Grande Sewer Line Environmental Impact Report (EIR)*, received 16 April 2003 and prepared by the City of Patterson. The NOP describes a project comprised of the necessary improvements to the City's wastewater treatment facility (WWTF) and collection system to accommodate future sewage flows. The NOP describes the City's proposal to construct three additional advanced integrated pond systems (AIPs) in two phases. Phase I includes the construction by 2004 of two AIPs with rated design capacities of 0.5 million gallons per day (mgd) and 0.75 mgd. Phase II consists of construction by 2008 of one additional 0.5 mgd AIPs for an ultimate WWTF flow increase to 3.15 mgd by 2008. The NOP also describes the construction of a gravity sewer truck line to serve development within the Diablo Grande Specific Plan Area.

Waste Discharge Requirements Order No. 5-00-146 (WDRs) regulates the WWTF and its discharge of up to 1.3 mgd to 12 evaporation/percolation ponds (hereafter ponds) encompassing 80 acres. The WWTF currently utilizes two separate wastewater treatment processes: an oxidation ditch activated sludge system and a 3-treatment cell AIPs. Order No. R5-2003-0019 regulates a package treatment facility that temporarily serves development within the Diablo Grande Specific Plan Area and its discharge of up to 0.4 mgd disinfected secondary-treated effluent to a lined storage reservoir and 30 acres of fodder crops. Ultimately the City anticipates accepting all or a significant portion of the sewage generated by the development within Diablo Grande Specific Plan Area.

Below are comments regarding the NOP and accompanying Environmental Checklist.

> *The Environmental Checklist, Section VIII. Hydrology and Water Quality, page 27, indicates that the project has a significant impact to violate WDRs. The City proposes to mitigate this significant impact by indicating the City will be required to comply with revised WDRs and, because the City is in compliance with the existing WDRs, the project is not expected to violate the WDRs.*

The effluent quality from the City's WWTF, specifically from the existing AIPs, does not consistently comply with Discharge Specification B.6 in the WDRs, which stipulates that the monthly average concentration of 5-day biochemical oxygen demand (BOD_5) shall not exceed 45 mg/L. In 2002, the

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 Web-site at http://www.swrcb.ca.gov/rwqcb5

monthly average effluent BOD_5 exceeded the 45 mg/L limit during the months of April (50 mg/L), May (46 mg/L), August (54 mg/L), September (48 mg/L), November (69 mg/L), and December (75 mg/L). The EIR should disclose the apparent inability of the existing AIPs, as currently operated, to generate effluent of a quality that complies with the WDRs.

> *The Environmental Checklist, Section VIII. Hydrology and Water Quality indicates that the proposed project could have a potentially significant impact to violate any water quality standards or waste discharge requirements. In response it indicates, in general, as indicated in previous environmental documents prepared for the City's WWTF, that the Regional Board, as the lead regulatory agency for these types of facilities, will require the City implement appropriate measures to ensure the discharge reflects best practicable treatment and control and is protective of water quality.*

The City submitted a Report of Waste Discharge (RWD) dated 12 March 2003, for the proposed WWTF expansion using the AIPs. Regional Board letter dated 11 April 2003 deemed the RWD incomplete and indicated that the WWTF, as proposed, is not consistent with the State Antidegradation Policy. The letter explained that, because groundwater affected by the discharge contains waste constituents in concentrations exceeding water quality objectives, tentative WDRs for Regional Board consideration would, if adopted, require the City to reduce the discharge's impact on underlying groundwater by:

1. Sealing all treatment ponds and sludge handling facilities to permeabilities reflective of best practicable treatment and control (BPTC);

2. Provided percolation remains the effluent disposal method of choice, implementing and operating at optimum levels treatment technology that is reflective of BPTC for organic removal (e.g., technology capable of generating effluent characterized by BOD_5 and total suspended solids (TSS) concentrations not exceeding 20 mg/L each); and

3. Implementing BPTC for nitrogen removal by:

   (a) reducing effluent total nitrogen concentrations prior to discharge to disposal ponds to at least less than 7 mg/L, and/or

   (b) providing sealed effluent ponds for winter storage and recycling effluent on crops at reasonable agronomic rates and in a manner that complies with Statewide recycling criteria in Title 22, California Code of Regulations (CCR), section 60301 et seq.

On 13 May 2003, Regional Board staff met with City representatives to discuss some of the issues in the 11 April Regional Board letter. The City indicates that it intends to propose an alternative design that incorporates oxidation ditches in lieu of the AIPs in order to improve and optimize treatment performance and reduce the discharge's impact on water quality. City representatives indicated the City will submit a revised RWD. We recommend the EIR identify and evaluate potential adverse water quality impacts as a result of continued operation of the existing WWTF in addition to the City's new proposal. We also recommend that if adverse impacts to water quality are identified, the EIR specifically identify and discuss what mitigation measure(s) the City will implement to reduce these adverse impacts to less than significant levels. An overriding statement(s) in the EIR that compliance with existing laws and regulations will mitigate any identified adverse impacts is not sufficient and does not constitute a

mitigation measure. In addition to identifying specific mitigation measures, the document must also thoroughly discuss how the City will monitor the effectiveness of the mitigation measure(s).

> *The NOP refers to previously prepared environmental documents for various projects, including portions of the sewer expansion. However, the NOP and environmental checklist do not include a discussion of the potential adverse impacts of the increased indirect discharge flows to the San Joaquin River.*

We recommend the EIR include, at a minimum, a technical summary of all previous evaluations regarding the impacts, if any, that the discharge (or project) may have on the San Joaquin River and area groundwater. Regional Board letter dated 11 April 2003 requested the City evaluate the manner and degree to which the San Joaquin River and the discharge influences the quality of area groundwater. The EIR should incorporate any pertinent information derived from this evaluation.

We thank you for the opportunity to comment on the NOP. To clarify the threat to water quality from the proposed discharge, the EIR should discuss more thoroughly the WWTF treatment processes, the City's compliance with WDRs, and potentially significant adverse impacts to surface and groundwater quality as a result of the WWTF operation and its discharge. Specifically, we recommend the EIR:

1. Include a revised project description that incorporates the City's revised proposed project.
2. Thoroughly describe the WWTF including the design and operation of all onsite sludge storage and handling facilities (e.g., sludge storage lagoons, sludge drying beds, etc.) and their respective impacts on water quality.
3. Thoroughly describe the shortcomings of the existing WWTF, including findings indicating that the City is not consistently complying with WDRs Order No. 5-00-146.
4. Include a technical discussion (including identification of all previously reference material) identifying possible impacts from the discharge on the water quality of the San Joaquin River for waste constituents of concern, such as, salts, organic load, nutrients, and metals.
5. Identify and evaluate specific mitigation measures the City will implement to reduce the project's potentially significant adverse impacts to water quality to less than significant levels, and describe a plan to monitor the effectiveness of the mitigation measure(s). The City should include a general time schedule for the implementation of each mitigation measure.

We are looking forward to reviewing the draft EIR. If you have questions regarding the matters above, please contact Alexis R. Phillips-Dowell at (559) 445-5500.

Jo Anne Kipps

JO ANNE KIPPS
Senior Engineer
RCE No. 49278

cc: Mr. Ignacio Lopez, Director, City of Patterson Department of Public Works, Patterson
Mr. Joel Cockrell, Paterson WWTF, Patterson
Mr. Robert Godwin, Project Manager, Lee & Ro, Inc., Rancho Cordova



San Joaquin Valley
Air Pollution Control District

May 20, 2003

Rod R. Simpson, Planning Director
City of Patterson
Planning Department
P.O. Box 667
Patterson, CA 95363

SUBJECT: NOTICE OF PREPARATION OF A DRAFT INITIAL STUDY FOR THE CITY OF PATTERSON WASTEWATER MASTER PLAN AND DIABLO GRANDE SEWER LINE EIR.

Dear Mr. Simpson:

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

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

The District recommends that the air quality section of the EIR have three main components. **Section one** should provide a description of the regulatory environment and existing air quality conditions impacting the San Joaquin Valley. **Section two** should provide estimates of existing emissions and projected pollutant emissions related to any increases in population, vehicle use, and construction activities along with an analysis of the effects of these increases. **Section three** should identify and discuss all feasible mitigation measures which, after implementation, will reduce the air quality impacts generated by this project.

Section 1: *description of the regulatory environment and existing air quality conditions of the San Joaquin Valley.*

The District has several sources of information available to assist with the existing air quality and regulatory environment section of the EIR. The District's ***Guide for Assessing and Mitigating Air Quality Impacts*** (GAMAQI) contains discussions regarding the existing air quality conditions and trends of the San Joaquin Valley Air Basin, including those pollutants of particular concern: ozone, PM-10, and carbon monoxide. In addition, it provides an overview of the regulatory environment governing

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Executive Director/Air Pollution Control Officer

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(559) 230-6000 • FAX (559) 230-6061
www.valleyair.org

Southern Region Office
2700 M Street, Suite 275
Bakersfield, CA 93301-2373
(661) 326-6900 • FAX (661) 326-6985

air quality at the federal, state, and regional levels. The GAMAQI provides air monitoring data and other relevant information for PM-10 and other pollutants.

Section 2: ***projected pollutant emissions generated during the construction and operational phases of the project.***

The growth-inducing and cumulative impacts analyses should take into consideration the existing and planned development both within the project area and in the surrounding areas. The District recommends the use of the URBEMIS 7G modeling program to calculate the pollutant emissions resulting from motor vehicle trips generated by this development project. Additional guidance is provided in the GAMAQI.

Additionally, the EIR should quantify emissions that are individually small but cumulatively significant sources of pollution. This includes, but is not limited to, emissions from natural gas combustion for space and water heating and emissions from gas-powered lawn and garden maintenance equipment. URBEMIS 7G may also be used to quantify these emissions.

Section 3: ***mitigation measures.***

Mitigation measures must be included in the EIR that reduce the emissions of reactive organic gases (ROG), nitrogen oxides, carbon monoxide, and PM-10 to the maximum extent feasible. Site design and building construction measures that would reduce air quality impacts should be included. In addition, measures to reduce vehicle trips, miles traveled, and cold starts should be included in the project.

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

Sincerely,

John Cadrett
Environmental Planner
Northern Region

APCD REF # 20030196

CC: Stanislaus County
Environmental Review Committee
Arlene Stevens
1010 Tenth Street #6800
Modesto CA, 95354

zone from escaping to the atmosphere. Each AIPS consists of a series of three facultative ponds. The treated effluent is then pumped to the open air disposal ponds where it percolates into the ground or evaporates. No river discharge is currently permitted.

Twelve disposal ponds (i.e., percolation ponds) are located on 80 acres of land in the existing wastewater treatment plant (Exhibit 2). Ponds located on the north side of the plant are used more frequently and have a higher percolation rate than the newer ponds located on the south side of the plant. The current design of the plant limits the use of the southern ponds (ponds 6 through 12) because there is no method of transporting effluent from the existing clarifiers to the south ponds. Only effluent from the AIPS ponds can be disposed of in the southern ponds.

WASTEWATER SYSTEM PLANNING ACTIVITIES

In 1992, the City of Patterson prepared the *Wastewater System Master Plan* (City of Patterson 1992) to provide guidance for future expansion of its existing wastewater collection, treatment and disposal system to accommodate expected development in the City General Plan Area. The Master Plan found:

> The existing collection system is considered adequate to serve the existing service area including infill. For planning purposes, capacity is not available other than on an interim case by case basis for new development in the General Plan growth area (City of Patterson, 1992; page 2-2).

The Master Plan also included a staged implementation program to meet the City's future treatment capacity needs, but recommended periodic review of the Master Plan to incorporate revisions that may be appropriate due to changing future conditions.

Over the last several years, substantial development has occurred in the western part of Patterson. The sewer collection pipe sizes constructed for the new developments generally followed the recommendations set forth in the Master Plan, and some of the pipes were oversized to assist in providing sewage collection service for future development on the western side of the City. In 1994, the City approved the Creekside Annexation, which required the applicant to fund construction of a 27-inch diameter trunk line within M Street and Walnut Avenue to convey wastewater from the western portion of the City to the wastewater treatment facility. This trunk line was addressed in the *Creekside Annexation to the City of Patterson EIR* (City of Patterson 1994), but has not yet been constructed. In 2001, the City prepared the *Western Expansion Area Sanitary Sewer Collection System* report (City of Patterson 2001) to determine the most cost effective way of providing sewage collection to the west side of the City's General Plan Area using the oversized sewer lines constructed since the 1992 Master Plan was developed. This report recommended an expansion of the sewer collection system. Under this system, the existing 15-inch and 21-inch sewer lines running through the Heartland Ranch (formerly Patterson Ranch) development would be loaded to near maximum capacity, and the 27-inch line in M Street would be loaded slightly above capacity. Therefore, a new collection pipeline would be required to serve the west Patterson projects.

The City of Patterson is expecting rapid growth over the next two decades. The City's current population (approximately 13,000) is projected to grow by 6% annually through 2010, adding approximately 7,800 residents during that period. The City's population is projected to grow to 30,000 by the year 2020, which is the projected holding capacity of the General Plan area for that year. Much of this growth is planned to occur in the western portion of the City. The City is currently considering two development

proposals and a master development plan in the west side of Patterson. Keystone Pacific Business Park and the Patterson Gardens mixed-use development would add 987 residences and approximately 3,059,845 square feet of new commercial, warehouse, office, and light industrial land uses to the City. The West Patterson Business Park would add another 6,221,255 square feet of new commercial, warehouse, office, hotel/motel, and light industrial land uses to the City. The *West Patterson Projects EIR* addresses all of the environmental impacts of these proposed developments and the proposed plan area.

The City of Patterson is also considering a plan to accommodate wastewater from the Diablo Grande project in western Stanislaus County. Diablo Grande is an approved development that will include recreational, residential, open space, golf resort, office, commercial, agricultural, and other land uses. Diablo Grande would be developed over a 10-year period, and would include approximately 2,000 dwelling units. The Western Hills Water District (WHWD) will provide sewer collection and treatment services to the Diablo Grande project. The WHWD has acquired a permit from the RWQCB for the construction of a 200,000 gallon per day (gpd) wastewater treatment facility. The entire Diablo Grande project is expected to generate approximately 710,000 gpd of wastewater.

Through recent discussions, the City of Patterson and the WHWD have determined that it would be beneficial to both parties to proceed with a sewer treatment alternative whereby the City of Patterson would treat WHWD sewer influent generated from the Diablo Grande project. This would be done at the existing Patterson wastewater treatment facility. This approach is beneficial to both parties for many reasons. First, the RWQCB has expressed an interest in reducing the number of plants through regionalization. This proposal would result in sewer from the City and the WHWD being collected and conveyed to one central facility thereby making its management, disposal and permitting easier. Secondly, the City of Patterson currently has much of the required maintenance and treatment infrastructure to serve a portion of Diablo Grande wastewater, and the service can be provided much more cost effectively and efficiently. Third, this approach will avoid the need for construction of two or three onsite facilities at the Diablo Grande project. Fourth, Diablo Grande's conveyance of wastewater to the City of Patterson wastewater treatment plant allows the WHWD to participate in costs of City of Patterson collection facility improvements, thereby reducing the cost of the entire project to the City of Patterson.

PROPOSED WASTEWATER INFRASTRUCTURE IMPROVEMENTS

Under the proposed project, the Western Hills Water District would construct a gravity sewer trunk line extending from within the Diablo Grande Specific Plan Area, down Diablo Grande Parkway to Del Puerto Canyon Road. The sewer line would then run east along Sperry Avenue to the connection with the City's existing sewer trunk line in Sperry Avenue in the vicinity of American Eagle Avenue. This sewer trunk line would be constructed entirely within existing roadways that have previously undergone CEQA review in the Diablo Grande Specific Plan EIR (Stanislaus County, June 15, 1993). Concurrent with development of Patterson Gardens, the City would construct the sewer trunk line proposed for Sperry Avenue and Ward Avenue with diameters 3 inches larger than the diameters proposed in the City of Patterson Western Expansion Area Sanitary Sewer Collection System report (June 2001), to accommodate wastewater flows from Diablo Grande and the flows already planned by the City for those trunk lines. The proposed project would require, and include, a Specific Plan amendment on behalf of Stanislaus County to address the proposed change of the wastewater treatment method for Diablo Grande.

The proposed project includes expansion of the City's wastewater collection system to serve planned City growth, including the proposed Keystone Pacific Business Park and Patterson Gardens, and buildout of the West Patterson Business Park Master Development Plan area. This EIR will analyze the environmental impacts of providing wastewater collection, treatment, and disposal to these proposed developments and the proposed plan area. The *West Patterson Business Park Master Development Plan EIR* addresses all of the environmental impacts of these proposed developments and the proposed plan area.

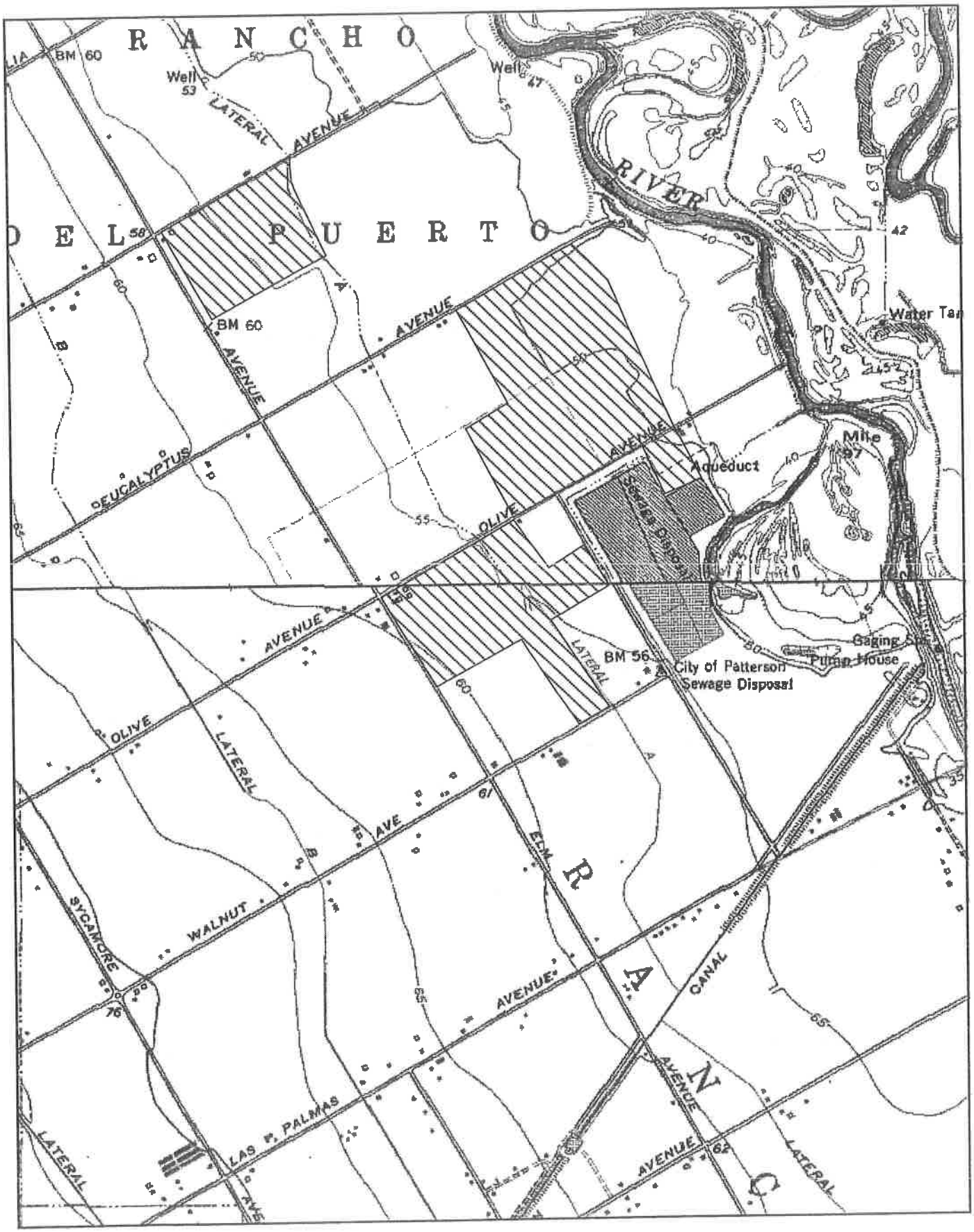
Diablo Grande would generate approximately 0.71 mgd of wastewater. Once the Diablo Grande trunk line is constructed and the Diablo Grande Specific Plan amendment is approved, the City's existing wastewater treatment plant could treat a portion of the wastewater generated by Diablo Grande (approximately 0.25 mgd), using a portion of the remaining capacity of the plant (approximately 0.5 mgd).

The first phase expansion of the City's wastewater treatment facility (1.25 mgd) would be constructed to serve the remainder of the previously-approved Creekside residential development and the Patterson Gardens development proposal and the first phases (about 150 acres) of the Keystone Pacific Business Park (a total of 0.5 mgd). The remaining capacity of the first-phase expansion (0.75 mgd) would replace the existing capacity that would be used to accommodate the initial 0.25 mgd of Diablo Grande wastewater, and the remaining wastewater generated by Diablo Grande.

Improvements required for the first phase expansion include two new AIPS with 1.25 mgd of total treatment capacity on about 19 acres of land in the 100-acre treatment plant site. The new AIPS would be constructed where percolation ponds now exist. Other improvements would include an additional grinder and diversion gates for the existing headworks, two additional effluent pumps, an effluent flow meter, additional effluent piping (including a force main from the effluent pump station to the new percolation ponds), and landscaping at the plant. Other proposed improvements to upgrade the plant include a new maintenance and storage building, concrete erosion skirt for the existing AIPS finishing ponds, and additional aerators in the existing AIPS ponds.

It is estimated that the first phase wastewater treatment plant expansion (1.25 mgd) would include up to 125 acres of land for the percolation/evaporation ponds. Because the City wants to examine several potential alternative locations for the first phase ponds (and for future phases), the EIR will discuss and analyze at least 250 acres of alternative pond sites at an equal, project-level of detail (Exhibit 3). No river discharge is proposed.

All of the alternative pond sites are located in unincorporated Stanislaus County, approximately 2 miles east of downtown Patterson. The topography of the pond sites is flat, and current land uses are irrigated agricultural production. The northeasternmost pond site is located adjacent to the 100-year flood plain of the San Joaquin River (Exhibit 3). Some portions of the alternative percolation pond sites are located within the 100-year flood zone as mapped by FEMA in March 1996. The City is currently evaluating various locations and designs for the percolation ponds. Prior to preparation of the EIR, the City will determine whether ponds would be located within the 100-year flood zone. In which case, the ponds would be bermed to protect them from innundation by a 100-year flood event, and the EIR would address whether the ponds would impede or redirect flows. Use of the sites would be subject to agreement by the existing land owners. Structures that are located on some of the pond sites would be demolished.



Potential Percolation Pond Sites

EXHIBIT 3

Alternative Percolation Pond Locations

City of Patterson Wastewater Master Plan EIR

2T008.01 10/02

1000 0 1000 FEET

NORTH

EDAW

GENERAL PLAN BUILDOUT

Buildout of the City's General Plan and Diablo Grande would generate approximately 3.3 mgd of wastewater, in addition to the 0.8 mgd that is currently treated by the City. Once completed, the City's system would collect, treat, and dispose of approximately 4.1 mgd of wastewater. As with the proposed 1.25 mgd expansion, subsequent expansion phases of the treatment system would be accommodated within the City's existing wastewater treatment facility by converting existing percolation ponds within the 100-acre plant to treatment ponds. Disposal of 4.1 mgd of wastewater would require approximately 400 acres of ponds, including the 125 acres of ponds currently proposed by the City. This EIR is intended to analyze the 1.25 mgd expansion of the City's wastewater treatment system at a project-specific level, and to analyze the remaining expansion phases at a programmatic level.

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CITY OF PATTERSON
Initial Study of Environmental Impact

I. SUMMARY OF FINDINGS

Site Location:	City of Patterson, Western Stanislaus County (Exhibit 1 in attached NOP)
Project Description:	Wastewater Master Plan Project (see description in attached NOP)
Sources:	This initial study was prepared using the Patterson Zoning Ordinance, General Plan, General Plan EIR, West Patterson Business Park Master Development Plan DEIR, and the Diablo Grande Specific Plan EIR.
Applicant:	City of Patterson
Prepared By:	City of Patterson Planning Department and EDAW, Inc.
Date:	April 16, 2003

II. INITIAL STUDY ENVIRONMENTAL CHECKLIST

This section discusses potential environmental impacts associated with approval of the proposed project.

The following guidance, adapted from Appendix G of the State CEQA Guidelines, was followed in answering the checklist questions:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the discussion. A "No Impact" answer is adequately supported if the discussion shows that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained when it is based on project-specific factors as well as general

standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. All analyses must be based on a comparison between conditions that would occur if the project were implemented and existing conditions (also known as baseline conditions).

4. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

5. "Potentially Significant unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-Than-Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from earlier analyses may be cross-referenced).

6. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (State CEQA Guidelines Section 15063[c][D]). Earlier analyses are discussed in the project description above under "Previous Environmental Documents and Site-Specific Information".

The discussion that follows each section of checklist questions: (1) analyzes previously certified environmental analysis and/or mitigation relevant to the issue, including the potential for each effect to be significant and adverse and standard requirements and measures that will preclude adverse impacts; (2) describes proposed measures that will preclude adverse impacts; (3) analyzes the potential for residual or remaining significant adverse impacts following implementation of the project and all previously identified, standard, and proposed requirements and measures; and (4) summarizes the applicable mitigation measures established by the various support documents and project-specific measures that will reduce the impacts to a less-than-significant level.

Identification of the potential for residual significant adverse environmental impacts would trigger the need for preparation of an EIR. For issue areas in which no significant adverse impact would result or impacts would be reduced to a less-than-significant level by mitigation, further analysis is not required.

ENVIRONMENTAL ISSUES (see attachments for information sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS — Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

a) The project site is characterized by agricultural, urban, and institutional land uses. Long-range views include the Sierra Nevada to the east and the Coast Range to the west. Mid-range views near the treatment plant include the San Joaquin River and its riparian vegetation. No recognized scenic vistas are located within the project area. Therefore, the project would have no impact on a scenic vista.

b) Interstate 5 (I-5) in the project vicinity is a state scenic highway. Only the proposed collection system would be located near I-5. The treatment plant and proposed disposal ponds are located approximately 4 miles east of I-5, and would not be visible from this state scenic highway. The collection system would be located underground, beneath roadways and agricultural land not supporting recognized scenic resources. Therefore, the project would have no impact on any recognized scenic resources.

c) The project site is characterized by agricultural, urban, and institutional land uses. The proposed wastewater collection system would be constructed underground, and would not be visible. The proposed improvements at the existing plant would be visually similar to existing facilities at the wastewater treatment plant. Therefore, the proposed modifications at the treatment plant would not be distinguishable to the general public. The project would construct percolation ponds on agricultural land. Views of the proposed pond sites would be altered for certain nearby residences and motorists along adjacent roadways. Views from these areas would include berms, boundary fences, and ponded water, rather than the existing views of farmland and, in some instances, farm buildings and residences. The proposed ponds may screen some views of the San Joaquin River and its riparian habitat. However, views of farmland, farm buildings, residences, and the San Joaquin River would remain abundant in the project vicinity. Therefore, the project

would not substantially degrade the existing visual character or quality of the site and its surroundings. This is a less-than-significant impact.

d) Proposed wastewater expansion would not create new permanent sources of light. However temporary lighting could be needed for construction activities. Only essential temporary lighting would be used and directed toward construction activity, away from residences. Therefore, temporary construction lighting would not adversely affect day or night time views in the project area. This is a less-than-significant impact.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
II.	**AGRICULTURAL RESOURCES**				
	In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? (The Farmland Mapping and Monitoring Program in the California Resources Agency, Department of Conservation, maintains detailed maps of these and other categories of farmland.)	☒	☐	☐	☐
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☒	☐	☐	☐
c)	Involve other changes in the existing environment which, due to their location or nature, could individually or cumulatively result in loss of Farmland, to non-agricultural uses?	☒	☐	☐	☐

a) Expansion of the wastewater treatment plant would occur within the existing facilities, and would not convert farmland to other uses. The project would convert approximately 125 acres of Prime Farmland for the first phase expansion of the percolation ponds. Additional conversion of prime farmland would occur as future expansion of the percolation ponds proceed. Temporary conversion of Prime Farmland could also occur as sewer collection lines are constructed. This is a potentially significant impact of the WWTP expansion and will be further addressed in the EIR.

b) Construction of percolation ponds could require the cancellation of Williamson Act contracts on approximately 125 acres of land. Additional cancellation could occur as future expansion of the percolation ponds proceed. This is a potentially significant impact that will be addressed in the EIR. The EIR will also address consistency with City and County zoning codes.

c) The Wastewater Master Plan (WWMP) would remove obstacles to population growth by accommodating wastewater for growth projected in the City's General Plan, and the Diablo Grande Specific Plan. This would be a potentially significant impact. The EIR, therefore, will address growth-inducing impacts of the WWMP, including those related to farmland conversion.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
III.	**AIR QUALITY**				
	Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e)	Create objectionable odors affecting a substantial number of people?	☒	☐	☐	☐

a , b, c, d) Construction activities associated with the proposed project could generate daily emissions that would have a significant short-term impact on local and regional air quality. The expanded wastewater treatment facility would generate regional emissions primarily associated with increased vehicle use. Operational (i.e., long-term) emissions of ROG and NO_x would not, however, exceed the APCD-recommended thresholds of 10 tons per year for each pollutant. The proposed project could also potentially contribute to a cumulatively considerable increase in criteria pollutants, and could expose sensitive receptors to substantial air borne pollutant concentrations. This is a potentially significant impact. Air quality impacts will be evaluated in the EIR.

e) The expanded wastewater treatment facility and the new percolation ponds would result in increased odor generating potential that could affect nearby residences. This is a potentially significant impact. Therefore, this impact will be further addressed in the EIR.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES — Would the project:**				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b)	Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	☒	☐	☐	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☒	☐	☐	☐

a) Based on a review of the CNDDB, five special-status plants are recorded as historical occurrences in the project vicinity. Four of the special-status species, heartscale *(Atriplex cordulata)*, brittlescale (*Atriplex depressa*), vernal pool smallscale (*Atriplex persistens*), and alkali milk-vetch (*Astragalus tener tener*) are classified as extinct in Stanislaus County by the California Native Plant Society (CNPS 2001). The only other special-status plant, delta button-celery (*Eryngium racemosum*), was recorded in 1965 in riparian scrub near the San Joaquin River, approximately 3 miles south of the study area. Due to the lack of suitable natural habitat within the study area, it is considered unlikely for delta button-celery to occur.

There are six special-status wildlife species that may potentially occur in the project vicinity, based on review of the CNDDB (2002) and field reconnaissance surveys of the wastewater treatment plant and percolation pond sites. State and/or federally listed species include San Joaquin kit fox (*Vulpes macrotis mutica*), Swainson's hawk (*Buteo swainsoni*), and valley

elderberry longhorn beetle *(Desmocerus californicus dimorphus)*. Other special-status species include California Species of Special Concern: western burrowing owl (*Athene cunicularia hypugea*), tricolored blackbird (*Agelaius tricolor*), and western pond turtle (*Clemmys marmorata*).

If the project were to have a substantial adverse effect on candidate, sensitive, or special-status species, this would result in a significant impact. The EIR will analyze the project's effects on biological resources.

b) No riparian habitat or other sensitive natural community occurs within the wastewater treatment plant. Expansion of the plant, therefore, would not affect any such resources. Riparian woodland occurs adjacent to one of the percolation pond sites. Construction activities could inadvertently affect this riparian woodland. The proposed collection system could cross drainages supporting riparian habitat. If the project were to have a substantial adverse effect on riparian habitat, this would be considered a significant impact. The EIR will analyze the project's effects on riparian habitat and other sensitive natural communities.

c) Based on field reconnaissance surveys, no federally-protected wetlands occur within the wastewater treatment plant or the alternative percolation pond sites. Neither expansion of the plant nor construction of the percolation ponds would affect any such resources. The proposed collection system, however, could cross drainages or other wetland areas. If the project were to have a substantial adverse effect on wetlands, this would be considered a significant impact. The EIR will analyze the project's effects on wetlands.

d) Construction of the Diablo Grande sewer trunk line could cause temporary interference with the movement of San Joaquin kit fox through the eastern edge of the Diablo Range. This would be a temporary significant impact. After construction, the sewer line would be located underground, and would not interfere with movement of San Joaquin kit fox. The project is not expected to interfere with the movement of any other fish or wildlife species. The project would not involve work within the San Joaquin River, or any other water body supporting migratory fish species. The EIR will analyze the project's effects on wildlife movement.

e) Because the project would be constructed primarily within road rights-of-way, agricultural fields, and the City's wastewater treatment plant, it is not expected to conflict with local policies or ordinances protecting biological resources. However, the EIR will analyze the project's potential to conflict with such policies or ordinances.

f) The project is not expected to conflict with any such adopted or approved plans. However, the EIR will analyze the project's potential to conflict with such plans.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES — Would the project:**				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☒	☐	☐	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☒	☐	☐	☐
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
d)	Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

a-d) EDAW archaeologists conducted both prefield research and archaeological surveys on May 11, 12, 19, and 20, 2002, of the wastewater treatment plant and the potential percolation pond sites. No significant archaeological or historic sites were found. This survey, however, did not include the alignments of the proposed collection system. Therefore, the EIR will analyze potential impacts related to construction of the collection system, and will present the results of the archaeological survey already completed at the treatment plant and the pond sites. The EIR will include mitigation measures expected to reduce potentially significant impacts on cultural resources to a less-than-significant level.

ENVIRONMENTAL ISSUES (see attachments for information sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS — Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Div. of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

a.i) Fault rupture can occur along fault systems during seismic events (earthquakes). If the rupture extends to the surface, movement on a fault is visible as a surface rupture. The occurrence of fault rupture depends on several factors, including location of the epicenter in relation to the project site, and the characteristics of the earthquake, such as intensity and duration. The hazards associated with fault rupture generally occur in the immediate vicinity of the fault system. No major faults are located within the project area. The closest major faults are the San Andreas, Hayward, and Calaveras fault systems located approximately 48, 33, and 30 miles west of I-5. The *Fault Activity Map of California* (California Division of Mines and Geology 1992) maps the occurrence of the San Joaquin Fault running along the base of the Diablo Range parallel to I-5. The map lists the San Joaquin Fault as a Late Quaternary fault, with displacement

occurring within the last 700,000 years. No portion of the project area is located within any fault zones delineated on the Alquist-Priolo Earthquake Faulting Zoning Map issued by the California Geological Survey. This is a less-than-significant impact.

a. ii) Strong earthquakes generated along a fault system generally create ground shaking, which attenuates (i.e., lessens) with distance from the epicenter. In general, the area affected by ground shaking will depend on the characteristics of the earthquake and location of the epicenter. Strong seismic shaking can induce landslides and rockfalls in the hills above the proposed Diablo Grande sewer trunk line, and sliding, slumping or sluffing of adjacent creek embankments. Strong seismic ground shaking could also put undue stress on the sewer trunk lines, potentially causing rupture under severe shaking conditions. Strong seismic ground shaking could also affect the integrity of the proposed percolation ponds, and the wastewater treatment plant improvements. Given the unpredictability of the occurrence of an earthquake, this impact would be considered potentially significant. The implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure Geo-1: Project structures shall be designed in accordance with the seismic standards of the current Uniform Building Code (UBC). Final design standards shall be implemented in accordance with the findings of a detailed design specific geologic and geotechnical analysis conducted for the project site prior to completion of final grading design plans.

a.iii) Primary factors in determining liquefaction potential are soil type, level and duration of seismic ground motions, and depth to groundwater. Sandy, loose, or unconsolidated soils are more susceptible to liquefaction hazards than bedrock or other soils types. Seismically induced ground failure is typically due to densification of subsurface soils during, and immediately following, earthquakes. Again, loose, granular soils are most susceptible to densification, resulting in ground failure.

Liquifaction could cause loosely consolidated soils underlying the Diablo Grande sewer line to fail, potentially causing damage to the sewer line. Liquefaction could also damage the other sewer collection lines, the proposed new facilities at the wastewater treatment plant, and the percolation ponds. As discussed above, no major faults are located in or near the project area. Therefore, the risk of such hazards are low. Nevertheless, damage related to liquefaction would be a significant impact. Implementation of Mitigation Measure Geo-1 would reduce this impact to a less-than-significant level.

a.iv) Landslides occur when forces such as excessive rainfall or earthquakes loosen unstable materials from hillsides causing the material to slide downhill. The portion of the project site east of I-5 is relatively flat with only minor changes in elevation; therefore, the likelihood of a landslide in the project area east of I-5 would be relatively low. The portion of the project site west of I-5, however, passes through the Diablo Range and is more susceptible to landsliding. Approximately 3 miles east of the Diablo Grande Specific Plan area, the sewer trunk line would pass through a large landslide area identified in the Diablo Grande Specific Plan DEIR (Page IV-60). If

landsliding were to occur in this area, it could potentially damage the Diablo Grande sewer line. This would be a significant impact. The following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure Geo-2: A slope stability analysis of the large landslide 3 miles east of the Diablo Grande Specific Plan area shall be included as part of the detailed geotechnical report for the project. The report shall provide recommendations for slope stability measures that future landsliding activities not impact the proposed Diablo Grande sewer trunk line. All recommended measures shall be incorporated into the proposed project plans.

b) The proposed project would require trenching, grading, excavating and placement of fill materials during project construction. Soil disturbance associated with trenching, grading and excavation would increase the potential for erosion and/or loss of topsoil. Because grading operations could likely result in soil erosion and loss of topsoil, impacts would be considered potentially significant. Implementation of Mitigation Measure Hydro-1 would reduce this impact to a less-than-significant level.

c) Refer to a.i-iv above.

d) Based on the *Soil Survey of Stanislaus County, Western Part* (NRCS 2001), portions of the project area are underlain by soils with shrink-swell potential. However, the project would be constructed in conformance with UBC design standards and would not constitute a substantial risk to life or property. Therefore, this impact would be considered less than significant.

e) The proposed project involves expansion of the City's wastewater collection, treatment, and disposal system. The project would not involve the use of septic tanks or alternative wastewater disposal systems. The project would have no impact related to this issue.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII.	**HAZARDS and HAZARDOUS MATERIALS — Would the project:**				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	☐	☐	☒	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

a) Implementation of the proposed project would involve the routine transport and use of gasoline for operation of heavy machinery. The use, storage, and handling of hazardous substances (e.g., fuels, etc.) during construction and operational activities would occur in accordance with applicable federal, state, and local laws, including California Occupational Health and Safety Administration (Cal-OSHA) requirements, and manufacturers instructions. Therefore, impacts related to the use of hazardous materials would be less than significant with project development.

b) Implementation of the proposed project would not involve the use, storage, or disposal of hazardous materials on the site. As described in Item a, minor uses, storage, and handling of hazardous substances (e.g., fuels, etc.) would occur during project construction. However, this

would be done in accordance with applicable federal, state, and local laws. Therefore, less-than-significant impacts related to accidental release of hazardous materials would occur with project development.

c) Construction of sewer pipelines could occur with ¼ mile of schools located near downtown Patterson. Minor use, storage, and handling of hazardous substances would occur during project construction. As described above, impacts associated with the use of hazardous materials during construction would be less than significant.

d) The project includes the construction and installation of sewer pipelines within existing roadways in and near the City of Patterson. Review of the Environmental Protection Agency's Envirofacts Website revealed that no hazardous waste sites are located near any component of the project site. This would be a less-than-significant impact.

e,f) Installation of sewer pipeline will occur within 2 miles of Patterson Airport. Because the project would not include new housing, it would not result in a safety hazard for people residing in the project area. Because the project would not create new permanent jobs within 2 miles of an airport, it would not result in a safety hazard for people working in the project area. There would be no impact.

g) Construction activities within roadways could obstruct or slow vehicles attempting to evacuate or access the project area in the event of an emergency. Construction of sewer trunk lines would occur in phases so that a limited area of roadway would be disturbed at any one time. In some areas, re-pavement of project area roadways would improve roadway surfaces as compared to existing conditions. The City would notify all emergency service providers prior to the start of construction activities, to advise them of roadway construction activities. Therefore, impacts associated with interference of an adopted emergency response plan would be less than significant.

h) Project areas are composed of agricultural lands and is thus not composed of an area considered prone to wildland fires or adjacent to such an area. Therefore, expansion of the City's wastewater treatment plant would not expose people or structures to wildland fires. There would be no impact.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	**HYDROLOGY AND WATER QUALITY — Would the project:**				
a)	Violate any water quality standards or waste discharge requirement?	☒	☐	☐	☐
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f)	Otherwise substantially degrade water quality?	☒	☐	☐	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☒	☐	☐	☐
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

a) Waste Discharge Requirements (WDRs). Prior to expansion of the City's wastewater treatment plant, the City will be required to obtain revisions to its current WDRs from the RWQCB. Additionally, the City will be required to prepare and submit a Report of Waste Discharge

(RWD) as part of the application process to revise the WDRs. At a minimum, all RWDs must describe the type and quantity of the proposed discharge, and include a complete characterization of the constituents and the discharge concentration of each constituent. In May 2002, the RWQCB provided the City with a list of additional information requirements that will be required in the RWD for the proposed plant expansion. Based on this information, the RWQCB will evaluate the project's effects on the beneficial uses of groundwater, and its compliance with the SWRCB's antidegradation policy. The revised WDRs are expected to require continuation of the City's groundwater monitoring and reporting program to ensure compliance. Because the City's expanded plant will be required to comply with the revised WDRs, and because the City's existing facility complies with the current WDRs, the project is not expected to exceed the wastewater treatment requirements of the RWQCB. This would be a less-than-significant impact.

Water Quality Standards (Construction). During construction activities, short-term adverse water quality impacts could occur. The primary potential source of contamination would be soil loosened during grading, trenching, and other ground-disturbing activities. Other construction-related pollutant sources include leaks or spills of fluids or fuels from construction vehicles and equipment, or miscellaneous construction materials and debris. Sediment and adhered nutrients, or fluid contaminants, if mobilized and transported to receiving water bodies, could result in a violation of water quality standards. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measure Hydro-1: Prior to the initiation of project grading, the City (and Western Hills Water District for the Diablo Grande sewer trunk line) will prepare a Stormwater Pollution Prevention Plan (SWPPP) designed to reduce potential impacts to surface and groundwater quality. The SWPPPs would act as the overall program document designed to provide measures to mitigate potential impacts to surface water quality associated with implementation of the proposed project. Each SWPPP shall include:

- Specific and detailed BMPs designed to mitigate construction-related pollutants. These controls shall include practices to minimize the contact of construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives) with storm water. The SWPPP shall specify properly designed centralized storage areas that keep these materials out of the rain.

- An important component of the storm water quality protection effort is knowledge of the site supervisors and workers. To educate onsite personnel and maintain awareness of the importance of storm water quality protection, site supervisors shall conduct regular tailgate meetings to discuss pollution prevention. The frequency of the meetings and required personnel attendance list shall be specified in the SWPPP.

- The SWPPP shall specify a monitoring program to be implemented by the construction site supervisor, and must include both dry and wet weather inspections. In addition, in accordance with State Water Resources Control Board Resolution No. 2001-046,

monitoring would be required during the construction period for pollutants that may be present in the runoff that are "not visually detectable in runoff." Patterson and Western Hills Water District personnel shall conduct regular inspections to ensure compliance with the SWPPP. RWQCB personnel, who may make unannounced site inspections, are empowered to levy considerable fines if it is determined that the SWPPP has not been properly prepared and implemented.

- BMPs designed to reduce erosion of exposed soil may include, but are not limited to: soil stabilization controls, watering for dust control, perimeter silt fences, placement of hay bales, and sediment basins. The potential for erosion is generally increased if grading is performed during the rainy season as disturbed soil can be exposed to rainfall and storm runoff. If grading must be conducted during the rainy season, the primary BMPs selected shall focus on erosion control, that is, keeping sediment on the site. End-of-pipe sediment control measures (e.g., basins and traps) shall be used only as secondary measures. If hydroseeding is selected as the primary soil stabilization method, then these areas shall be seeded by September 1 and irrigated to ensure that adequate root development has occurred prior to October 1. Entry and egress from the construction site shall be carefully controlled to minimize offsite tracking of sediment. Vehicle and equipment wash-down facilities shall be designed to be accessible and functional both during dry and wet conditions.

Water Quality Standards (Operation). If the proposed percolation ponds were to adversely affect groundwater quality, this would be a significant impact. The EIR will analyze the project's effects on groundwater quality related to percolation of treated wastewater at the proposed disposal ponds. No other component of the project is expected to generate operational impacts related to water quality.

b) The proposed project would have no impacts related to substantial depletion of groundwater supplies or interference with groundwater recharge. The proposed improvements at the City's wastewater treatment plant could add a marginal amount of new impervious surfaces to the facility, but would not substantially affect groundwater recharge. The project would also include disposal ponds that would allow treated wastewater to percolate into the ground. The project therefore, would have a less-than-significant impact related to depletion of groundwater supplies or interference with groundwater recharge.

c,d) The proposed project would not substantially alter existing drainage patterns. Because the sewer collection system would be placed underground, it would not alter drainage patterns. The proposed improvements at the City's wastewater treatment plant and construction of the proposed percolation ponds would result in minor alterations to the drainage patterns within the plant and the pond sites, but would not result in substantial erosion, siltation, or flooding. This would be a less-than-significant impact.

e) Because the sewer collection system would be placed underground, it would not substantially affect surface runoff. The proposed improvements at the City's wastewater treatment plant and

construction of the proposed percolation ponds would also not alter the runoff characteristics of either site such that runoff would exceed the capacity of existing drainage systems or provide substantial additional sources of polluted runoff. This would be a less-than-significant impact.

f) See VIII.a, c, and e.

g) Because the project does not include new housing, it would have no impact related to this issue.

h) The project is not expected to place surface structures within a 100-year flood hazard area. The sewer collection lines would be placed underground. The wastewater treatment plant is not located within a 100-year flood hazard area, so the proposed improvements at the plant would not be located in a 100-year flood hazard area. Some portions of the alternative percolation pond sites are located within the 100-year flood zone as mapped by FEMA in March 1996. The City is currently evaluating various locations and designs for the percolation ponds. Prior to preparation of the EIR, the City will determine whether ponds would be located within the 100-year flood zone. In which case, the ponds would be bermed to protect them from innundation by a 100-year flood event, and the EIR would address whether the ponds would impede or redirect flows. If the ponds would cause flooding by impeding or redirecting flows, this would be a significant impact.

i) The project does not include new housing or structures that would expose people to such a hazard. The project would have no impact.

j) The project area is not located near any major water bodies that would generate a seiche, and it is too far from the Pacific Ocean to be subject to tsunamis. Mudflows could potentially occur in the Diablo Range where the Diablo Grande sewer line would be located. However, this would be an unlikely occurrence and would not be expected to result in a significant impact to people or structures. This would be a less-than-significant impact.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	**LAND USE AND PLANNING — Would the project:**				
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☒	☐	☐	☐

a) The sewer collection lines would be placed underground. The wastewater treatment plant improvements would occur within the existing plant boundaries. The percolation ponds would be constructed in a rural setting, and would not create any physical barriers to movement within the community. Therefore, the project would not physically divide an established community. There would be no impact.

b) The EIR will evaluate the project's consistency with the City's General Plan and Zoning Ordinance, the County's General Plan and Zoning Ordinance, and the Diablo Grande Specific Plan. The project includes an amendment to the Diablo Grande Specific Plan to address the proposed changes to wastewater treatment services. If the project does conflict with any land use plan policy or regulation adopted for the purpose of avoiding or mitigating an environmental impact, it could be a potentially significant impact.

c) The project is not expected to conflict with any such adopted or approved plans. However, the EIR will analyze the project's potential to conflict with such plans.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	**MINERAL RESOURCES — Would the project:**				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

a) The project is not located in an area of known regionally important mineral resources. The California Geological Survey rates the project area as MRZ -3a: an area of undetermined mineral significance. Therefore, expansion of the City's wastewater treatment system would not result in a loss of known mineral resources valuable to the state.

b) No portion of the project site is delineated in the Stanislaus County General Plan or any other land use plan as containing a mineral resources of local importance. Therefore, expansion of the City's wastewater treatment system would not result in the loss of locally-important mineral resources.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	**NOISE — Would the project result in:**				
a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

a,d) Due to the relatively low traffic volumes generated by an expanded wastewater treatment facility, operation of the proposed facilities would not be expected to result in a measurable change in the traffic noise contours of area roadways and would not be expected to result in a substantial increase (i.e., 3 dBA, or greater) in average daily traffic noise levels at nearby receptors. In addition, the proposed project is not expected to include operation of any new major stationary sources of noise that would adversely affect nearby residences.

Project construction could cause short-term potentially significant noise impacts to nearby noise-sensitive receptors. Construction noise generated during evening and nighttime hours would be of greatest concern and would have the greatest potential for adverse impacts to nearby receptors. The following mitigation measure would reduce construction-generated noise impacts to a less-than-significant level.

Mitigation Measure Noise-1:
Construction activities shall be limited to the following hours and days:

- Between the hours of 6:00 a.m. and 9:00 p.m. on any weekday
- Between the hours of 7:00 a.m. and 9:00 p.m. on Saturdays
- Prohibited on Sundays and holidays

Construction equipment shall be properly outfitted and maintained with noise reduction devices to minimize construction-generated noise. Wherever possible, noise-generating construction equipment shall be shielded from nearby residences by noise-attenuating buffers such as structures or trucks. Stationary construction equipment shall be centrally located onsite at the greatest distance possible from nearby noise-sensitive receptors.

b) The project is not expected to generate excessive groundborne noise or vibration. This would be a less-than-significant impact.

c) Due to the relatively low traffic volumes generated by an expanded wastewater treatment facility, operation of the proposed facilities would not be expected to result in a measurable change in the traffic noise contours of area roadways and would not be expected to result in a substantial increase (i.e., 3 dBA, or greater) in average daily traffic noise levels at nearby receptors. In addition, the proposed project is not expected to include operation of any new major stationary sources of noise that would adversely affect nearby residences. This would be a less-than-significant impact.

e,f) The project would not create any permanent jobs or residences near the Patterson Airport. Project construction workers in the vicinity of the airport might hear aircraft noise while working. However, noise from the airport is not expected to be excessive, and construction activities would be temporary. This would be a less-than-significant impact.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. POPULATION AND HOUSING — Would the project:					
a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☒	☐	☐	☐
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

a) The project would remove obstacles to population growth by accommodating wastewater for growth projected in the City's General Plan, and the Diablo Grande Specific Plan. The EIR, therefore, will address growth-inducing impacts of the project.

b,c) Sewer line placement would occur in existing rights-of-way and, thus, not displace existing housing. Wastewater treatment plant infrastructure improvements would occur within the footprint of the plant and thus not displace existing housing. Depending on which percolation pond sites are chosen, construction of the percolation ponds could displace a small number of residences (i.e., estimated at fewer than five). This number, however, is not considered substantial and would be a less-than-significant impact. The EIR, therefore, will not address direct impacts related to displaced housing. The project would be implemented to provide wastewater services to new development within the City. Therefore, ample opportunities for replacement housing are expected to be available to displaced residents.

ENVIRONMENTAL ISSUES (see attachments for information sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

a) The project would not directly affect public services. This is a less-than-significant impact.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. RECREATION					
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

a,b) The project would not directly affect or include parks or recreational facilities. This is a less-than-significant impact.

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV.	**TRANSPORTATION/TRAFFIC — Would the project:**				
a)	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐
d)	Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e)	Result in inadequate emergency access?	☐	☐	☒	☐
f)	Result in inadequate parking capacity?	☐	☐	☒	☐
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☒	☐

a-e) Expansion of the City's wastewater treatment system would extend sewer trunk lines along existing road rights-of-way. No significant impacts would result from this activity. Work in roadways could cause short-term traffic slowdowns for a period of a few days. Such short-term impacts are generally minimized through the use of traffic controls such as cones, signage, and flaggers. Because impacts to traffic flow would be very short term and are expected to be minimized through the use of traffic controls, the project would have a less-than-significant impact on traffic.

f) The construction crews would park in designated parking areas during construction activities. The project would not permanently increase parking demand. This would be a less-than-significant impact.

g) The project would expand underground infrastructure, and would include surface improvements at the treatment plant and the percolation ponds. None of these activities would permanently affect any such policies, plans, or programs. This would be a less-than-significant impact

ENVIRONMENTAL ISSUES (see attachments for information sources)		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS. Would the project:					
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs	☐	☐	☒	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

a) Prior to expansion of the City's wastewater treatment plant, the City would be required to obtain revisions to its current WDRs from the RWQCB. Additionally, the City will be required to prepare and submit a Report of Waste Discharge (RWD) as part of the application process to revise the WDRs. At a minimum, all RWDs must describe the type and quantity of the proposed discharge, and include a complete characterization of the constituents and the discharge concentration of each constituent. In May 2002, the RWQCB provided the City with a list of additional information that will be required in the RWD for the proposed plant expansion. Based on this information, the RWQCB will evaluate the project's effects on the beneficial uses of groundwater, and its compliance with the SWRCB's antidegradation policy. The revised WDRs are expected to require continuation of the City's groundwater monitoring and reporting program to ensure compliance. Because the City's expanded plant will be required to comply with the revised WDRs, and because the City's existing facility complies with the current WDRs, the project is not expected to exceed the wastewater treatment requirements of the RWQCB. This would be a less-than-significant impact.

b) The proposed project includes expansion of the City's wastewater treatment plant. Potentially significant environmental effects of the proposed expansion will be addressed in the EIR.

c) Proposed project construction would not require the development of new or expanded stormwater facilities. Therefore, no impact would occur.

d) Construction activities would temporarily, but marginally, increase water demand and new employees at the wastewater treatment facility could also generate a marginal increase in water demand. Such marginal increases in water demand would be adequately provided by the existing water supplier. This would result in a less-than-significant impact.

e,f,g) The project would not generate wastewater or substantial amounts of solid waste. Construction waste would be disposed of at Fink Road Landfill. The project would comply with federal, state, and local statutes and regulations related to solid waste. Therefore, impacts related to solid waste would be less than significant.

		Potentially Significant Impact	Potentially Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE					
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☒	☐	☐	☐
c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Authority: Public Resources Code Sections 21083 and 21087.
Reference: Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 31083.3, 21093, 21094, 21151; *Sundstrom v. County of Mendocino*, 202 Cal. Approximately. 3d 296 (1988); *Leonoff v. Monterey Board of Supervisors*, 222 Cal. Approximately. 3d 1337 (1990).

a,b,c) The EIR will analyze the project's potential impacts related to agricultural conversion, air quality, biological resources, cultural resources, groundwater quality, cumulative impacts, and growth-inducing impacts.

Amphibians

western spadefoot toad, *Spea hammondii* (SC)

Fish

river lamprey, *Lampetra ayresi* (SC)

Kern brook lamprey, *Lampetra hubbsi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

molestan blister beetle, *Lytta molesta* (SC)

Plants

alkali milk-vetch, *Astragalus tener var. tener* (SC) *

heartscale, *Atriplex cordulata* (SC) *

brittlescale, *Atriplex depressa* (SC) *

vernal pool (=persistent-fruited, Sacramento) saltbush (=smallscale, saltscale), *Atriplex persistens* (SC) *

delta coyote-thistle (=button-celery), *Eryngium racemosum* (CA) *

little mousetail, *Myosurus minimus ssp. apus* (SC)

QUAD: 424B PATTERSON

Listed Species

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *

riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

San Joaquin kit fox, *Vulpes macrotis mutica* (E)

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

blunt-nosed leopard lizard, *Gambelia (=Crotaphytus) sila* (E)

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California tiger salamander, *Ambystoma californiense* (C/E)

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Fish

green sturgeon, *Acipenser medirostris* (C)

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

oak titmouse, *Baeolophus inornatus* (SLC)

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

Swainson's hawk, *Buteo Swainsoni* (CA)

ferruginous hawk, *Buteo regalis* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

prairie falcon, *Falco mexicanus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

greater sandhill crane, *Grus canadensis tabida* (CA)

loggerhead shrike, *Lanius ludovicianus* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)
long-billed curlew, *Numenius americanus* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
California thrasher, *Toxostoma redivivum* (SC)

Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

western spadefoot toad, *Spea hammondii* (SC)

Fish

river lamprey, *Lampetra ayresi* (SC)
Kern brook lamprey, *Lampetra hubbsi* (SC)
Pacific lamprey, *Lampetra tridentata* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Plants

Lemmon's jewelflower, *Caulanthus coulteri var lemmonii* (SLC)
diamond-petaled California poppy, *Eschscholzia rhombipetala* (SC) *

Endangered and Threatened Species that May Occur in or be Affected by
Projects in the Area of the Following California Counties
Reference File No. 1-1-03-SP-2053
May 27, 2003

STANISLAUS COUNTY

Listed Species

Mammals

San Joaquin kit fox, *Vulpes macrotis mutica* (E)
riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *
riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

giant garter snake, *Thamnophis gigas* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)
California tiger salamander, *Ambystoma californiense* (C/E)

Fish

Central Valley steelhead, *Oncorhynchus mykiss* (T) NMFS
Sacramento splittail, *Pogonichthys macrolepidotus* (T)
delta smelt, *Hypomesus transpacificus* (T)

Invertebrates

Conservancy fairy shrimp, *Branchinecta conservatio* (E)
longhorn fairy shrimp, *Branchinecta longiantenna* (E)
valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)
vernal pool fairy shrimp, *Branchinecta lynchi* (T)
vernal pool tadpole shrimp, *Lepidurus packardi* (E)

Plants

Colusa grass, *Neostapfia colusana* (T)
Greene's tuctoria (=Orcutt grass), *Tuctoria greenei* (E) *
Hartweg's golden sunburst, *Pseudobahia bahiifolia* (E)
Hoover's spurge, *Chamaesyce hooveri* (T)
San Joaquin Valley Orcutt grass, *Orcuttia inaequalis* (T) *
hairy Orcutt grass, *Orcuttia pilosa* (E)
succulent (=fleshy) owl's-clover, *Castilleja campestris ssp. succulenta* (T)

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Invertebrates

Critical habitat, vernal pool invertebrates, *See Federal Register 67:59883* (PX)

Plants

Critical habitat, vernal pool plants, *See Federal Register 67:59883* (PX)

Candidate Species

Birds

Western yellow-billed cuckoo, *Coccyzus americanus occidentalis* (C) *

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C) NMFS

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C) NMFS

green sturgeon, *Acipenser medirostris* (C)

Species of Concern

Mammals

Merced kangaroo rat, *Dipodomys heermanni dixoni* (SC)

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

long-legged myotis bat, *Myotis volans* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

Birds

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

American bittern, *Botaurus lentiginosus* (SC)

American peregrine falcon, *Falco peregrinus anatum* (D)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

California thrasher, *Toxostoma redivivum* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Nuttall's woodpecker, *Picoides nuttallii* (SLC)

Swainson's hawk, *Buteo Swainsoni* (CA)

Vaux's swift, *Chaetura vauxi* (SC)
bank swallow, *Riparia riparia* (CA)
ferruginous hawk, *Buteo regalis* (SC)
greater sandhill crane, *Grus canadensis tabida* (CA)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
loggerhead shrike, *Lanius ludovicianus* (SC)
long-billed curlew, *Numenius americanus* (SC)
marbled godwit, *Limosa fedoa* (SC)
oak titmouse, *Baeolophus inornatus* (SLC)
olive-sided flycatcher, *Contopus cooperi* (SC)
red-breasted sapsucker, *Sphyrapicus ruber* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
tricolored blackbird, *Agelaius tricolor* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
white-faced ibis, *Plegadis chihi* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

Reptiles

California horned lizard, *Phrynosoma coronatum frontale* (SC)
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
silvery legless lizard, *Anniella pulchra pulchra* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Spea hammondii* (SC)

Fish

Kern brook lamprey, *Lampetra hubbsi* (SC)
Pacific lamprey, *Lampetra tridentata* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)
river lamprey, *Lampetra ayresi* (SC)

Invertebrates

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)
Sacramento anthicid beetle, *Anthicus sacramento* (SC)
moestan blister beetle, *Lytta moesta* (SC)
molestan blister beetle, *Lytta molesta* (SC)

Plants

Hall's bush mallow, *Malacothamnus hallii (=M. fasciculatus)* (SLC)
Hoover's caycadenia, *Calycadenia hooveri* (SLC)
Hoover's cryptantha, *Cryptantha hooveri* (SLC)
Lemmon's jewelflower, *Caulanthus coulteri var lemmonii* (SLC)
Merced monardella, *Monardella leucocephala* (SC) **
Mt. Diablo phacelia, *Phacelia phacelioides* (SC)
Mt. Hamilton (=Sharesmith's) harebell, *Campanula sharsmithiae* (SC)
Mt. Hamilton coreopsis, *Coreopsis hamiltonii* (SC)
Mt. Hamilton lomatium, *Lomatium observatorium* (SLC)
Mt. Hamilton thistle, *Cirsium fontinale var. campylon* (SC)
Napa western flax, *Hesperolinon serpentinum* (SC)
Sharsmith's onion, *Allium sharsmithae* (SC)
alkali milk-vetch, *Astragalus tener var. tener* (SC) *
beaked clarkia, *Clarkia rostrata* (SC)
big tarplant, *Blepharizonia plumosa ssp. plumosa* (SC) *
brittlescale, *Atriplex depressa* (SC) *
chaparral harebell (=bellflower), *Campanula exigua* (SLC)
delta coyote-thistle (=button-celery), *Eryngium racemosum* (CA)
diamond-petaled California poppy, *Eschscholzia rhombipetala* (SC) *
heartscale, *Atriplex cordulata* (SC) *
legenere, *Legenere limosa* (SC) *
little mousetail, *Myosurus minimus ssp. apus* (SC)
red-flowered lotus, *Lotus rubriflorus* (SC)
spiny-sepaled coyote-thistle (=button-celery), *Eryngium spinosepalum* (SC)
stinkbells, *Fritillaria agrestis* (SLC)
talus fritillary, *Fritillaria falcata* (SC)
vernal pool (=persistent-fruited, Sacramento) saltbush (=smallscale, saltscale), *Atriplex persistens* (SC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	Other species of concern to the Service.
(SLC)	*Species of Local Concern*	Species of local or regional concern or conservation significance.
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
NMFS	NMFS species	Under jurisdiction of the National Marine Fisheries Service. Contact them directly.
*	*Extirpated*	Possibly extirpated from the area.
**	*Extinct*	Possibly extinct
	Critical Habitat	Area essential to the conservation of a species.

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute *quads*. The United States is divided into these quads, which are about the size of San Francisco. If you requested your list by quad name or number, that is what we used. Otherwise, we used the information you sent us to determine which quad or quads to use.

The animals on your species list are ones that occur within, *or may be affected by projects within*, the quads covered by the list. Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them. Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents. Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regard-less of whether they appear on a quad list.

Plants

Any plants on your list are ones *that have actually been observed* in the quad or quads covered by the list. We have also included either a county species list or a list of species in nearby quads. We recommend that you check your project area for these plants. Plants may exist in an area without ever having been detected there.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. For plant surveys, we recommend using the enclosed *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species*. The results of your surveys should be published in any environmental documents prepared for your project.

State-Listed Species

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. *However you should contact the California Department of Fish and Game for official information about these species.* Call (916) 322-2493 or write Marketing Manager, California Department of Fish and Game, Natural Diversity Data Base, 1416 Ninth Street, Sacramento, California 95814.

Your Responsibilities Under the Endangered Species Act

All plants and animals identified as *listed* on Enclosure A are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the *take* of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal. Take may include significant habitat

modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a *formal consultation* with the Service. During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a *biological opinion* by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an *incidental take permit*. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project. Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compen-sates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as *critical habitat*. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Maps and boundary descriptions of the critical habitat may be found in the *Federal Register*. The information is also reprinted in the *Code of Federal Regulations* (50 **CFR** 17.95).

Candidate Species

We recommend that you address impacts to *candidate* species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

Your list may contain a section called *Species of Concern*. This is an informal term that refers to those species that the Sacramento Fish and Wildlife Office believes might be in need of concentrated

conservation actions. Such conservation actions vary depending on the health of the populations and degree and types of threats. At one extreme, there may only need to be periodic monitoring of populations and threats to the species and its habitat. At the other extreme, a species may need to be listed as a Federal threatened or endangered species. Species of concern receive no legal protection and the use of the term does not necessarily mean that the species will eventually be proposed for listing as a threatened or endangered species.

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed, candidate and special concern species in your planning, this should not be a problem. We also continually strive to make our information as accurate as possible. Sometimes we learn that a particular species has a different range than we thought. This should not be a problem if you consider the species on the county that we have enclosed. If you have a long-term project or if your project is delayed, please contact us for a current list. You can also find out the current status of a species by going to the Service's Internet page: www.fws.gov.

GUIDELINES FOR CONDUCTING AND REPORTING BOTANICAL INVENTORIES FOR FEDERALLY LISTED, PROPOSED AND CANDIDATE PLANTS
(September 23, 1996)

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire project area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.

2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations is not available, investigators should study specimens from local herbaria.

3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.

4. Report results of botanical field inventories that include:

   a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species

   b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name

   c. survey dates and survey methodology(ies)

   d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made

   e. a comprehensive list of all vascular plants occurring on the project site for each habitat type

   f. current and historic land uses of the habitat(s) and degree of site alteration

   g. presence of target species off-site on adjacent parcels, if known

   h. an assessment of the biological significance or ecological quality of the project site in a local and regional context

5. If target species is(are) found, report results that additionally include:

a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project

b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors.

c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports.

d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat.

6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.

7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than three years from the current date of project proposal submission will likely need additional survey. Investigators need to assess whether an additional survey(s) is (are) needed.

8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.

9. Guidance from California Department of Fish and Game (CDFG) regarding plant and plant community surveys can be found in Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities, 1984. Please contact the CDFG Regional Office for questions regarding the CDFG guidelines and for assistance in determining any applicable State regulatory requirements.

The goal of the U.S. Fish and Wildlife Service is to conserve, protect and enhance fish, wildlife, and their habitats by timely and effective provision of fish and wildlife information and recommendations. To assist us in accomplishing this goal, we would like to see the items described below addressed in your environmental documents for the proposed project.

Project Description

The document should very clearly state the purposes of, and document the needs for, the proposed project so that the capabilities of the various alternatives to meet the purposes and needs can be readily determined.

A thorough description of all permanent and temporary facilities to be constructed and work to be done as a part of the project should be included. The document should identify any new access roads, equipment staging areas, and gravel processing facilities which are needed. Figures accurately depicting proposed project features in relation to natural features (such as streams, wetlands, riparian areas, and other habitat types) in the project area should be included.

Affected Environment

The document should show the location of, and describe, all vegetative cover types in the areas potentially affected by all project alternatives and associated activities. Tables with acreage of each cover type with and without the project for each alternative would also be appropriate. We recommend that all wetlands in the project area be delineated and described according to the classification system found in the Service's Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979). The Service's National Wetland Inventory maps would be one starting point for this effort, but updated information may be needed.

The document should present and analyze a full range of alternatives to the proposed project. In an effort to fully comply with the Clean Water Act and meet the Federal government's goal of no net loss of wetlands, at least one alternative should be designed to avoid all impacts to wetlands, including riparian areas. Similarly, within each alternative, measures to minimize or avoid impacts to all habitats (wetlands, riparian areas, grasslands, oak woodlands, etc.) should be included.

Lists of fish and wildlife species expected to occur in the project area should be in the document. The lists should also indicate for each species whether it is a resident or migrant, and the time of year it would be expected in the project area.

Environmental Consequences

The sections on impacts to fish and wildlife should discuss impacts from vegetation removal (both permanent and temporary), filling or degradation of wetlands, interruption of wildlife migration corridors, and disturbance from trucks and other machinery during construction and/or operation. These sections should also analyze possible impacts to streams from construction of outfall structures,

loading, sedimentation, toxins, biological oxygen demand, and temperature in receiving waters should also be discussed in detail along with the resultant effects on fish and aquatic invertebrates. Discussion of indirect impacts to fish, wildlife, and their habitats, including impacts from growth induced by the proposed project, should also be addressed in the document. The impacts of each alternative should be discussed in sufficient detail to allow comparison between the alternatives.

The cumulative impacts of the project, when viewed in conjunction with other past, existing, and foreseeable projects, needs to be addressed. Cumulative impacts to fish, wildlife and habitats, including water quality, should be included.

Mitigation Planning.
Under provisions of the Fish and Wildlife Coordination Act, the Service advises and provides recommendations to Federal agencies planning water development activities or permitting such activities. These Federal agencies are to consult with the Service and give equal consideration to the conservation and rehabilitation of fish and wildlife resources with other project purposes. When reviewing proposed activities, the Service generally does not object to projects meeting the following criteria:

1. They are ecologically sound;

2. The least environmentally damaging reasonable alternative is selected;

3. Every reasonable effort is made to avoid or minimize damage or loss of fish and wildlife resources and uses;

4. All important recommended means and measures have been adopted, with guaranteed implementation to satisfactorily compensate for unavoidable damage or loss consistent with the appropriate mitigation goal; and

5. For wetlands and shallow water habitats, the proposed activity is clearly water dependent and there is a demonstrated public need.

The Service may recommend the "no project" alternative for those projects which do not meet all of the above criteria, and where there is likely to be a loss of fish and wildlife resources.

When projects impacting fish and wildlife resources are deemed acceptable to the Service, we recommend full mitigation for any impacts to fish and wildlife habitat. The Council on Environmental Quality regulations for implementing the National Environmental Policy Act define mitigation to include: 1) avoiding the impact; 2) minimizing the impact; 3) rectifying the impact; 4) reducing or eliminating the impact over time; and 5) compensating for impacts. The Service supports and adopts this definition of mitigation and considers the specific elements to

represent the desirable sequence of steps in the mitigation planning process. Accordingly, we maintain that the best way to mitigate for adverse biological impacts is to avoid them altogether.

Project documentation should include a mitigation plan that describes all measures proposed to avoid, minimize, or compensate for impacts to fish and wildlife and their habitats. The measures should be presented in as much detail as possible to allow evaluation of their probable effectiveness.

To determine mitigation credits available for unavoidable impacts, future conditions on the mitigation site, absent any mitigation, are estimated and then compared to conditions expected to develop as a result of implementing the mitigation plan.

Mitigation habitat should be equal to or exceed the quality of the habitat to be affected by the project. Baseline information would need to be gathered at the impact site to be able to quantify this goal, such as plant species diversity, shrub and tree canopy cover, number of stems per acre, tree height, etc. Judging the ultimate success of the project should include success of mitigation, which should use these same measurements at the mitigation site as standards of comparison. Mitigation success criteria should aim toward equaling or exceeding the quality of the highest quality habitat to be affected. In other words, the mitigation effort would be deemed a success in relation to this goal if the mitigation site met or exceeded target habitat measurements (plant cover, density, species diversity, etc.).

Criteria should be developed for assessing the progress of mitigative measures during their developmental stages as well. Assessment criteria should include rates of plant growth, plant health, and evidence of natural reproduction.

The plan should present the proposed ground elevations at the mitigation site, along with elevations in the adjacent areas. A comparison of the soils of the proposed mitigation and adjacent areas should also be included in the plan, and a determination made as to the suitability of the soils to support habitats consistent with the mitigation goals.

Because of their very high value to migratory birds, and ever-increasing scarcity in California, our mitigation goal for wetlands (including riparian and riverine wetlands) is no net loss of in-kind habitat value or acreage, whichever is greater. As a result of their high value and reliance on suitable hydrological conditions, wetlands require development of additional information on the predicted hydrology of the mitigation site. The plan should describe the depth of the water table, and the frequency, duration, areal extent, and depth of flooding which would occur on the site. The hydrologic information should include an analysis of extreme conditions (drought, flooding) as well as typical conditions.

A mitigation plan must include a timeframe for implementing the mitigation in relation to the proposed project. We recommend that mitigation be initiated prior to the onset of construction. If there will be a substantial time lag between project construction and completion of the

substantial time lag between project construction and completion of the mitigation, a net loss of habitat values would result, and more mitigation would be required to offset this loss.

Generally, monitoring of the mitigation site should occur annually for at least the first five years, biennially for years 6 through 11, and every five years thereafter until the mitigation has met all success criteria. Remedial efforts and additional monitoring should occur if success criteria are not met during the first five years. Some projects will require monitoring throughout the life of the project. Reports should be prepared after each monitoring session.

The plan should require the preparation of "as-built" plans. Such plans provide valuable information, especially if the mitigation effort fails. Similarly, a "time-zero" report should be mandated. This report would describe exactly what was done during the construction of the mitigation project, what problems were encountered, and what corrections or modifications to the plans were undertaken.

The plan should detail how the site is to be maintained during the mitigation establishment period, and how long the establishment period will be. It will also be important to note what entity will perform the maintenance activities, and what entity will ultimately own and manage the site. In addition, a mechanism to fund the maintenance and management of the site should be established and identified. A permanent easement should be placed on the property used for the mitigation that would preclude incompatible activities on the site in perpetuity.

Finally, in some cases, a performance bond may be required as part of the mitigation plan. The amount of the bond should be sufficient to cover the costs of designing and implementing an adequate mitigation plan (and purchasing land if needed) should the proposed plan not succeed.

Reference:

Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. FWS/OBS-79/31. U.S. Fish and Wildlife Service, Washington, D.C. 103 pp.

ENCLOSURE B

The goal of the U.S. Fish and Wildlife Service is to conserve, protect and enhance fish, wildlife, and their habitats by timely and effective provision of fish and wildlife information and recommendations. To assist us in accomplishing this goal, we would like to see the items described below addressed in your environmental documents for the proposed project.

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Affected Environment
The document should show the location of, and describe, all vegetative cover types in the areas potentially affected by all project alternatives and associated activities. Tables with acreage of each cover type with and without the project for each alternative would also be appropriate. We recommend that all wetlands in the project area be delineated and described according to the classification system found in the Service's Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979). The Service's National Wetland Inventory maps would be one starting point for this effort, but updated information may be needed.

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The sections on impacts to fish and wildlife should discuss impacts from vegetation removal (both permanent and temporary), filling or degradation of wetlands, interruption of wildlife migration corridors, and disturbance from trucks and other machinery during construction and/or operation. These sections should also analyze possible impacts to streams from construction of outfall structures, pipeline crossings, and filling. Impacts on water quality, including nutrient

pipeline crossings, and filling. Impacts on water quality, including nutrient loading, sedimentation, toxins, biological oxygen demand, and temperature in receiving waters should also be discussed in detail along with the resultant effects on fish and aquatic invertebrates. Discussion of indirect impacts to fish, wildlife, and their habitats, including impacts from growth induced by the proposed project, should also be addressed in the document. The impacts of each alternative should be discussed in sufficient detail to allow comparison between the alternatives.

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Finally, in some cases, a performance bond may be required as part of the mitigation plan. The amount of the bond should be sufficient to cover the costs of designing and implementing an adequate mitigation plan (and purchasing land if needed) should the proposed plan not succeed.

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appendix **B**

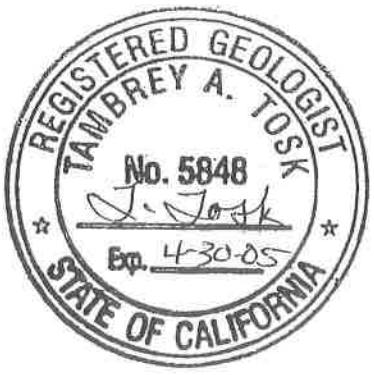
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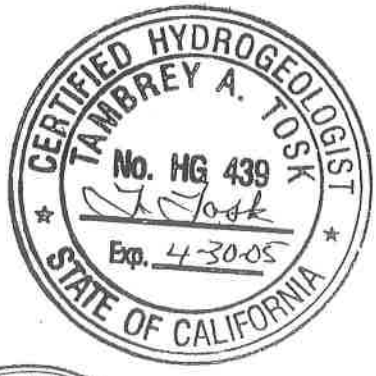
REPORT OF BACKGROUND GROUNDWATER QUALITY STUDY AND EVALUATION OF FUTURE IMPACTS DUE TO ANTICIPATED DEVELOPMENT WITHIN THE CITY OF PATTERSON WASTEWATER SERVICE AREA

Report prepared by:

LEE & RO, INC.
11060 White Rock Road, Suite 100
Rancho Cordova, California 95670-6046

March 5, 2003





Tambrey Tosk

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SUMMARY

This report evaluates the potential impact to groundwater and San Joaquin River water quality under from the existing effluent disposal at the Patterson Wastewater Treatment Plant and from the increases in effluent disposal rates projected through the year 2008. The water quality issues discussed are salinity, trace metals, nitrate, phosphorous, and pathogens. The report discusses the hydrogeologic setting and develops a conceptual model of groundwater flow and effluent-influenced groundwater inflow to the San Joaquin River.

The background groundwater quality portion of this study was conducted in the area proposed for construction of additional percolation ponds for disposal of the projected additional effluent flow. The samples were collected from groundwater approximately 20 to 30 feet below surface using a direct-push sampling device to collect one-time HydroPunch®-type samples. Samples were analyzed for water quality parameters potentially related to sewage disposal as requested by the Regional Water Quality Control Board. Sampling results were compared with results from the monitoring wells around the existing percolation ponds to evaluate potential effects of increasing the percolation pond area and effluent flow rates.

The current average dry weather flow rate at the WWTP is approximately 0.80 million gallons per day (mgd). Plant effluent flow rates in 2020 are projected to reach 3.39 mgd from development within the City of Patterson and 4.12 mgd including flow from the proposed Diablo Grande development west of the city. The Phase I treatment plant expansion proposed at this time is to a capacity of 2.75 mgd to accommodate development planned through the year 2007. The Phase II expansion, which is expected to be constructed by the year 2008, will increase the capacity to 3.25 mgd.

Flow Model

A conceptual flow model was developed for two scenarios, the current flow rate of 0.8 mgd and the projected flow rate in 2008 of 3.25 mgd. The effluent disposal is assumed to be evenly distributed along the one-mile length of the existing ponds in the current scenario. For the year 2008 scenario, effluent disposal is assumed to be evenly distributed along the length of the existing ponds and the new ponds extending one-half mile northward from the existing ponds.

To be conservative, evapotranspiration losses are neglected and the entire flow of 0.8 mgd is assumed to all reach the San Joaquin River in the current scenario. The 0.8 mgd (1.24 cfs) is distributed along a river length of approximately one mile, giving a river inflow rate of 1.24 cfs/mi. Average groundwater inflow along that 19-mile stretch of the San Joaquin River has been estimated using a groundwater flow model to be approximately 2.0 cfs/mi (Phillips et al, 1991). The 1.24 cfs/mi inflow to the river from the plant effluent is therefore less than the estimated average groundwater inflow and a minor contributor to the river flow, which averages approximately 1,000 cfs.

With the projected flow increase to 3.25 mgd in 2008 and the associated percolation pond expansion, the river length along which the percolation ponds will extend will increase from 1 to 1.5 miles and the pond area will increase from approximately 80 to approximately 100 acres.

The inflow would be approximately 3.35 cfs/mi. That flow rate would be less than double the average groundwater inflow rate of 2 cfs/mi and a minor contributor to river flow.

The conceptual flow model was developed using groundwater elevations measured in the existing plant monitoring wells and surface water elevations from the San Joaquin River measuring station at Patterson. An average groundwater slope to the river of 0.0012 ft/ft was estimated from the hydrographs. Assuming a groundwater flow of 2.1 mgd, which is the 0.8 mgd of plant effluent plus the 2 cfs/mi average groundwater inflow estimated by Phillips et al (1991), the aquifer transmissivity is estimated at 3.3×10^5 gpd/ft of aquifer width. Assuming an effective aquifer thickness of 100 ft, the hydraulic conductivity of the aquifer material is estimated at 3.3×10^3 gpd/ft^2 or 442 ft/day. The actual groundwater velocity was calculated by multiplying the hydraulic conductivity by the slope and dividing by an assumed porosity of 25 percent, giving an actual velocity of 2.12 ft/day or 775 ft/year. Travel time for water from the percolation ponds to reach the river approximately one-half mile to the east was estimated at approximately 3.4 years.

The water quality objectives for groundwater and surface water in the San Joaquin Basin are the drinking water maximum contaminant levels (MCLs). All constituents analyzed were found at concentrations below the applicable MCLs (if any) except for arsenic and nitrate. Arsenic was detected at 0.02 mg/L, which exceeded the MCL of 0.01 mg/L, in one downgradient sample and was not found in concentrations exceeding the detection limit of 0.005 mg/L in any of the background samples. However, as arsenic was not detected in any of the other monitoring wells, the average concentration in the groundwater influenced by the plant effluent is expected to be within drinking water limits.

Selenium and Boron

Selenium, a constituent of concern in the San Joaquin Basin, was not found at concentrations exceeding the MCL of 0.05 mg/L. The concentrations found were approximately the same in the background study samples and in an upgradient monitoring well as in the one downgradient monitoring well with detectable concentrations of selenium. The concentration of selenium in groundwater does not appear to be significantly influenced by the effluent disposal.

Boron, which is a contaminant of concern in the San Joaquin Basin although it has no MCL and no water quality objective in the San Joaquin River at the City of Patterson, was found at average concentrations of 1.5 mg/L in the background study samples, 2.5 mg/L in the background monitoring well samples, and only 1.2 mg/L in the downgradient monitoring well samples. It appears to be diluted by the effluent.

Salinity

Although the salinity has been gradually increasing in the San Joaquin River since monitoring began in the 1930s, this evaluation concludes that the proposed increase in treated wastewater disposal will have no effect or potentially beneficial effect on the salinity in the San Joaquin River. Increase in flow from development in the City of Patterson service area potentially will have a beneficial impact to groundwater and San Joaquin River salinity as the plant effluent is of

lower salinity than the background shallow groundwater and so reduces its salinity by dilution. The Diablo Grande development will obtain its potable water from the State Water Project (SWP), which is of much lower salinity than the well water used by the City, so adding approximately 0.7 mgd of wastewater flow from Diablo Grande will further reduce the salinity of the plant effluent and increase the beneficial impact.

Addition of the Diablo Grande development wastewater flow would further improve the effluent concentrations and increase the beneficial effect for other constituents of concern as the SWP water to be used by the Diablo Grande development contains much lower concentrations of boron, bromide, chloride, magnesium and sodium than the background shallow groundwater.

Coliform

The plant effluent is not disinfected, so it contains coliform at levels exceeding drinking water standards. However, pathogens such as coliform bacteria travel only short distances in the soil and groundwater and so would not impact groundwater uses beyond the immediate pond area. A two-month travel time, the maximum time pathogens would be expected to remain active, would allow a travel distance of 127 feet at 2.1 ft/day. The samples from the monitoring wells adjacent to the existing percolation ponds have shown only infrequent detectable levels of coliform, which are similar to those from the background wells. Increasing the effluent flow rate would only increase the maximum travel distance to approximately 276 feet and would not cause any impact to surface water, which is a minimum of 1,000 feet from the proposed percolation ponds.

Nutrients

No nutrient reduction treatment is performed in the Patterson plant processes, so the effluent generally contains both nitrate and phosphorous. Nitrate and phosphorous are of concern as nutrients that can cause algal blooms that deplete the dissolved oxygen concentration in surface water. Nitrate is also directly toxic to humans as a drinking water contaminant that can cause "blue baby syndrome" at concentrations in excess of drinking water standards.

Nitrate (as N) was detected at concentrations exceeding the MCL of 10 mg/L nitrate (as N) in four of the six background samples as well as in one of the two background monitoring wells and in the monitoring well downgradient of the recently constructed percolation ponds south of the existing plant, which appears to still represent background conditions. The nitrate concentrations in the effluent are generally similar to, or lower than, those found in the upgradient monitoring wells at the existing plant and in the one-time samples collected from the groundwater in the proposed percolation pond expansion area, as the shallow groundwater upgradient of the plant has already been affected by agricultural land uses. Concentrations of nitrate in the downstream monitoring wells adjacent to the existing ponds averaged 3.94 mg/L nitrate (as N) for the nine quarters of sampling conducted to date. Concentrations in the one-time samples from the proposed pond expansion area averaged 12.3 mg/L nitrate (as N). Ammonia, another nitrogen-containing compound, was found in all of the background study samples but was not found in any of the monitoring well samples. These results indicate that the groundwater quality is being improved by dilution with the plant effluent and/or by utilization of nitrate by the natural microbes in the soil stimulated by the organic material in the effluent. The impact of effluent

disposal is beneficial to groundwater quality under current conditions and it is expected to have the same beneficial effect with increased flow rates.

The mass of nitrate flux to the San Joaquin River from effluent-influenced groundwater is estimated to be 7.7 Kg nitrate (as N) per mile per day under current conditions. Mass flux of nitrate to the river in 2008 from effluent-influenced groundwater is estimated to be 32.2 Kg nitrate (as N) per mile per day. Both are significantly less than the average mass flux to the river, which under the average condition of 2 cfs/mi and background nitrate concentration of 12.3 mg/L nitrate (as N) is 60.2 Kg nitrate (as N) per mile per day.

Phosphorous was measured in the groundwater monitoring wells at concentrations ranging from 0.13 to 0.18 mg/L in the upgradient background wells and 0.18 to 0.24 mg/L in the downgradient wells. No phosphorous was detected in the one-time HydroPunch®-type background study samples from the proposed pond expansion area, but the detection limit for the method used was 0.5 mg/L, so the concentrations found in the well samples would not have been detectable using that method. No significant increase in phosphorous concentration was observed in the downgradient groundwater as compared to the background wells. The slight increase in average concentration in the downgradient groundwater was so small as to be within the normal variability of the analysis technique and is not likely to represent a real difference in concentrations. The phosphorous in the plant effluent appears to be utilized by biological growth in the percolation ponds or in the immediate area of the ponds. The effluent from the expanded treatment plant will be of similar quality, so the same processes are expected to continue with little to no increase in phosphorous concentration downgradient of the percolation ponds. No significant concentrations of phosphate are expected to reach the San Joaquin River from the Patterson WWTP.

INTRODUCTION

This report is being prepared to report the results of a background groundwater quality study conducted in the proposed percolation pond expansion area at the City of Patterson (City) Wastewater Treatment Plant (WWTP) and to evaluate current and potential impacts to groundwater salinity and beneficial uses caused by the expansion in disposal capacity at the WWTP. This report supplements the results of the Salt Impact Study Progress Report and the Report of Future Impacts on Groundwater Salinity and Beneficial Uses Due To Anticipated Development Within the City of Patterson Wastewater Service Area prepared by LEE & RO, Inc. in 2002 (LEE & RO, 2002a and 2002b). This report evaluates current conditions and potential impacts caused by the increased treatment and disposal capacity at the completion of the Phase II expansion in the year 2008 in consideration of the State Water Resources Control Board Resolution 68-16. This report has been organized to describe the wastewater treatment plant and proposed expansion; the hydrologic and hydrogeologic setting; the water quality objectives; the rationale for and results of the background groundwater quality study and other groundwater monitoring; and to evaluate current and potential effects to groundwater and surface water of increased effluent flow.

EXISTING WASTEWATER TREATMENT PLANT

The City of Patterson's Wastewater Treatment Plant (WWTP) is located three miles northeast of Patterson at 14901 Poplar Avenue in Stanislaus County, California (see Figure 1). The facility is currently permitted for a discharge of 1.3 mgd. The City's plant is regulated by the California Regional Water Quality Control Board, Central Valley Region (Regional Board). During the past two years, the plant has experienced monthly average flows as low as 0.72 mgd and as high as 0.88 mgd, with an annual average flow of about 0.8 mgd.

The City is currently utilizing two separate wastewater treatment processes: Activated Sludge and Advanced Integrated Pond System (AIPS). The Activated Sludge process consists of an Aeration Oxidation Ditch and two Secondary Clarifiers. Treated water from the Secondary Clarifiers is discharged to Percolation Pond 5 and then pumped to Pond 2 for land discharge by means of percolation. This portion of the treatment plant has a permitted capacity of 0.8 mgd.

The City's WWTP also utilizes an Advanced Integrated Pond System (AIPS) to treat wastewater. These ponds treat wastewater with a process of aerobic and anaerobic digestion. This portion of the treatment plant has a rated capacity of 0.5 mgd. Effluent from the AIPS ponds drains to the Effluent Pump Station. From there, the treated wastewater can be transferred by gravity to the other existing northern ponds. Flow can also be pumped to the ponds south of the existing plant (Percolation Ponds 6 through 12).

PROPOSED PLANT EXPANSION

Improvements to the City of Patterson's Wastewater Treatment Plant include the addition of three more Advanced Integrated Pond Systems (AIPS) to treat wastewater. The new AIPS will be configured in the same manner as the existing AIPS system and will be built in two phases.

Two of the AIPS will be designed to handle a capacity of 0.50 mgd each and the third AIPS will be designed to handle a maximum rated capacity of 0.75 mgd. The City currently plans to build a 0.50 mgd and a 0.75 mgd AIPS pond as part of the Phase I construction project, with a second 0.50 mgd AIPS to be constructed as Phase II. Start of construction of Phase I is scheduled for late 2003. It is anticipated that construction of Phase II will be completed in 2008. The two phases of construction will increase the rated capacity of the plant to 3.25 mgd.

Along with the three new AIPS systems, there will be construction of additional percolation ponds for effluent disposal. The proposed AIPS systems will be installed within existing percolation ponds, reducing the percolation pond area by approximately 15 acres. The City of Patterson has purchased approximately 120 acres on the north side of the existing plant area to be used for additional percolation pond construction. Seven 5-acre ponds are planned for the Phase I construction. The ponds will be located along the western edge of the new property and will extend a distance of one-half mile north of the existing ponds.

The effluent pump station will be expanded and capability will be provided to distribute effluent from each of the treatment systems to any of the percolation ponds, giving the operators the flexibility to utilize all of the ponds to their full capacity.

REGIONAL HYDROLOGIC AND HYDROGEOLOGIC SETTING

The Patterson wastewater treatment plant is located on a gently sloping plain at the edge of a ten-foot high bluff overlooking the San Joaquin River approximately one-half mile to the east (see **Figure 2**). The area between the plant and the river is occupied by ox-bow lake ponds formed by cut-off meanders of the river.

Patterson is located in the San Joaquin basin of the Central Valley of California (Planert and Williams, 1995). The Central Valley is bounded on the east by the Sierra Nevada, a tilted granitic block, and on the west by the Coast Ranges, which consist of deformed marine sedimentary rock. The southern part of the Central Valley, which has no external drainage, is called the Tulare Basin. The northern part of the Central Valley is drained by the San Joaquin River, which flows northward and joins with the Sacramento River in the Sacramento-San Joaquin Delta area and ultimately flows to San Francisco Bay (see **Figure 3**).

The surface-water hydrology of the San Joaquin and Tulare Basins has been radically modified by development of water resources. Reservoirs capture up to 7.5 million acre-ft of the 8.84 million acre-ft/yr total mean annual flow into the San Joaquin Valley from the Sierra Nevada drainages. The timing of surface-water flow is highly controlled, with water stored in the reservoirs released as needed to meet downstream needs for irrigation, power generation, in-stream fisheries, and recreational uses (Domagalski, 1998).

In sharp contrast to the Sierra Nevada tributaries, most streams that drain the Coast Ranges are intermittent or ephemeral and contribute an insignificant amount of water to the valley. The total mean annual flow from the Coast Ranges, including the Tehachapi Mountains, is estimated to be 92,600 acre-ft/yr, which represents about 1 percent of the total surface water that enters the San Joaquin Valley from the adjacent highlands (Domagalski, 1998).

The San Joaquin River is the only surface-water outlet from the San Joaquin Valley. The water quality of the San Joaquin River is of critical interest because the river flows into the Sacramento-San Joaquin Delta. The delta is the source of irrigation water to farms in the San Joaquin Valley and the source for the California Aqueduct, which in turn supplies drinking water for millions of people in southern California (Domagalski, 1998).

Groundwater is withdrawn from an aquifer in the San Joaquin Valley that averages about 1,400 ft thick. The aquifer is composed of numerous lenses of gravel, sand, silt, and clay. Sediments in the west-side alluvial fans are coarsest at the heads of the fans and consist predominantly of fine-grained silts and clays in the rest of the west side of the valley. Sediments derived from the Sierra Nevada generally are coarser grained than those derived from the Coast Ranges. The San Joaquin River forms the approximate boundary between the sediments derived from the mountain ranges on each side of the valley (Domagalski, 1998).

Groundwater recharge in the San Joaquin Basin is primarily from runoff at the mountain margins and from irrigation water infiltration in the central parts of the basin. A study of groundwater inflow to the San Joaquin River conducted by the United States Geological Survey found that two hydrochemical facies are represented in the Patterson area groundwater (Phillips et al, 1991). The most prevalent is the Coast Range facies, which contains solutes derived from Coast Ranges sediments. The shallowest groundwater, which they designated the irrigation facies, represents irrigation water recharge to the aquifer within the last 50 years.

Irrigation water was historically drawn from the nearby river with excess irrigation water percolating to the underlying aquifer or draining back to the river. Groundwater recharged from infiltration of excess irrigation water may contain elevated concentrations of nutrients, pesticide residues, and trace elements (Dubrovsky et al, 1998). Importation of irrigation water from the State Water Project and better management practices have reduced the problem, though it is still of concern.

Nitrate is of major concern as the nitrate load in the San Joaquin River has been steadily increasing since the 1950s. The flow-adjusted nitrate concentration in the San Joaquin River increased from about 0.3 to 1.4 milligrams per liter (mg/L) over a four-decade period (Dubrovsky et al, 1998). The sources of the nitrate are primarily runoff from fertilizer applications and subsurface agricultural drainage, though runoff from dairies and discharge from wastewater treatment plants are of increasing concern. Despite this long-term increase in the San Joaquin River, nitrate concentrations are still well below the USEPA drinking-water standard (Dubrovsky et al, 1998).

SITE-SPECIFIC HYDROGEOLOGIC SETTING

The western border of the San Joaquin Valley is underlain by Cretaceous and Tertiary marine sedimentary rocks similar to those exposed in the Coastal Ranges to the west of the valley. Overlying the marine deposits are Tertiary and Quaternary continental deposits (Davis et al, 1959). Sediments of the San Joaquin Valley consist of interlayered gravel, sand, silt, and clay derived from the adjacent mountains and deposited in alluvial-fan, floodplain, flood-basin, lacustrine, and marsh environments. Lithology and texture of the sediments reflect their source

area and manner of deposition (Domagalski, 1998). The near-surface lithology in the Patterson area consists of sand, silt, and clay flood plain deposits of the Holocene age Dos Palos Alluvium (Anderson & Associates, 2003).

Borings installed during installation of monitoring wells at the existing plant and during geotechnical investigations at the existing plant and in the proposed expansion area have encountered fine-grained silt and clay soils to a depth ranging from approximately 5 to 15 feet and sands from that depth to the total depth of each boring (typically 20 to 30 feet). The permeability of the surficial silt and clay layer ranges from approximately 0.02 to 1.1 in/hr and the permeability of the lower sandy layer ranges from approximately 35 to 134 in/hr (Anderson & Associates, 2003).

Groundwater was found at approximately 14 feet below surface in each of the geotechnical borings in the proposed northern expansion area, though sufficient quantities to sample were not found in the background water quality study HydroPunch®-type direct push borings until depths of 20 to 30 feet were reached. The groundwater elevations measured in the five monitoring wells at the existing plant are shown on **Figure 4** along with the San Joaquin River water levels measured at the Patterson bridge during the same period.

The current effluent disposal rate of 0.8 mgd is approximately 1.24 cfs. The existing percolation ponds extend a distance of 1 mile along the river path, making the average inflow of effluent to the river under current conditions 0.8 mgd/mi or 1.24 cfs/mi. The groundwater inflow along this 19-mile stretch of the San Joaquin River has been estimated to be 2 cfs/mi (Phillips et al, 1991), so the contribution from the plant effluent disposal is a minor contribution to groundwater inflow and a minor contribution to the river flow, which averages approximately 1,000 cfs.

Under the proposed conditions in the year 2008 after the Phase II expansion, 3.25 mgd will be disposed in percolation ponds extending along the river for a distance of 1.5 miles. The inflow of effluent to the river will be approximately 2.17 mgd/mi or 3.35 cfs/mi. That flow rate would be less than double the average groundwater inflow rate of 2 cfs/mi and a minor contributor to river flow.

The conceptual flow model was developed using groundwater elevations measured in the existing plant monitoring wells and surface water elevations from the San Joaquin River measuring station at Patterson. An average groundwater slope to the river of 0.0012 ft/ft was estimated from the hydrographs. Assuming a groundwater flow of 2.1 mgd, which is the 0.8 mgd of plant effluent plus the 2 cfs/mi average groundwater inflow estimated by Phillips et al (1991), the aquifer transmissivity is estimated at 3.3×10^5 gpd/ft of aquifer width. Assuming an effective aquifer thickness of approximately 100 ft, the hydraulic conductivity of the aquifer material is estimated at approximately 3.3×10^3 gpd/ft^2 or 442 ft/day. The actual groundwater velocity was calculated by multiplying the hydraulic conductivity by the slope and dividing by an assumed porosity of 25 percent, giving an actual velocity of 2.12 ft/day or 775 ft/year. Travel time for water from the percolation ponds to reach the river approximately one-half mile to the east was estimated at approximately 3.4 years under current conditions. The proposed flow increases through the year 2008 would increase the groundwater flow rate to approximately 4.6 ft/day.

GROUNDWATER AND SURFACE WATER QUALITY OBJECTIVES

All groundwater in California is considered of potential drinking water beneficial use unless it meets specific exclusionary criteria which do not apply to the groundwater at Patterson. Therefore, it is required to meet all drinking water quality standards. As a result, the applicable maximum contaminant levels (MCLs), if any, for the constituents measured in this study are provided in **Table 1.**

The Basin Plan designates portions of the San Joaquin River as having stricter water quality objectives (WQOs) than the MCLs. None of the stricter WCOs are listed as applying to the Patterson area of the river. The WQOs for the San Joaquin River are therefore assumed to be the applicable MCLs.

SITE-SPECIFIC GROUNDWATER QUALITY DATA

The background groundwater quality study was conducted to evaluate the current condition of groundwater under the areas proposed for construction of additional percolation ponds to accommodate the Patterson WWTP expansion. The six sampling locations, which are shown on **Figure 2,** were selected to represent the proposed pond area. Sampling was conducted on January 28, 2003.

The samples were collected using a direct-push Geoprobe®-type sampling device. A 2-inch diameter stainless steel pipe was driven to a depth ranging from 20 to 30 feet below ground surface and a slotted groundwater sampling device was driven into the undisturbed soil beyond the end of the pipe and allowed to fill with groundwater. Samples were collected through a tube using vacuum assistance. The samples for metals analysis were collected in unpreserved bottles and filtered at the laboratory prior to preservation and analysis.

Five monitoring wells have been installed at and around the existing WWTP. These wells are sampled quarterly per the requirement of the WDR. The groundwater gradient slopes towards the San Joaquin River located on the east side of the plant. Monitoring wells MW-1 and MW-2 are located west of the ponds and provide background upgradient data. MW-3 is located downgradient of the southern percolation ponds. MW-4 and MW-5 are located downgradient of the main pond area.

The results of the background groundwater quality study and the monitoring well sampling for the same constituents are presented in **Table 1.** Previous groundwater quality data from the plant monitoring wells are presented in **Tables 2A-2G.**

TABLE 1
GROUNDWATER QUALITY DATA

	January 2003 Background Water Quality Study						February 2003 Monitoring Well Data						
Analyte	B-1	B-2	B-3	B-4	B-5	B-6	MW-1	MW-2	MW-3	MW-4	MW-5	UNIT	MCL
Aluminum	0.25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	mg/L	
Arsenic	<0.002	<0.002	<0.002	0.005	0.0027	<0.002	<0.01	<0.01	<0.01	0.02	<0.01	mg/L	0.01
Barium	0.069	0.095	0.049	0.03	0.046	0.051	<0.1	<0.1	<0.1	<0.1	<0.1	mg/L	2
Boron	1.2	1.2	0.8	1.1	1.7	3	2.5	2.4	2.5	0.8	1.5	mg/L	
Bromide	0.76	0.77	0.71	0.58	0.76	0.99	NS	NS	NS	NS	NS	mg/L	
Cadmium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001	mg/L	0.005
Calcium	120	93	85	47	44	110	73	61	130	109	98	mg/L	
Chloride	250	230	320	180	210	490	300	418	398	200	400	mg/L	
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.031	0.028	0.037	0.015	0.02	mg/L	0.1
Copper	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	mg/L	1.3
Fluoride	0.53	0.64	0.75	0.66	0.6	0.68	NS	NS	NS	NS	NS	mg/L	4
Iron	0.1	<0.1	0.38	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/L	
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	mg/L	0.015
Magnesium	68	110	87	64	65	170	124	175	152	78	83	mg/L	
Manganese	0.41	0.51	0.72	0.058	0.14	1.3	<0.02	<0.02	<0.02	0.56	<0.02	mg/L	
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	mg/L	0.002
Molybdenum	0.031	<0.02	<0.02	<0.02	0.023	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/L	
Nickel	NS	NS	NS	NS	NS	NS	<0.05	<0.05	<0.05	<0.05	<0.05	mg/L	
Potassium	22	7.5	9.7	5.4	7.1	4.2	6.3	<2	3.9	17	9.6	mg/L	
Selenium	<0.005	0.0086	<0.005	<0.005	<0.005	0.015	<0.01	0.03	<0.01	<0.01	0.03	mg/L	0.05
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/L	
Sodium	310	270	290	230	310	490	303	286	351	142	269	mg/L	
Zinc	0.041	<0.02	0.022	<0.02	0.03	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	mg/L	
pH	7.01	7.27	7.23	8.3	8.07	7.28	7.6	7.3	7.3	7.1	7.1	UNITS	
Hardness, Total	580	680	570	380	380	970	693	873	951	593	587	mg/L	
Alkalinity as CaCO3	430	440	360	250	360	610	410	530	500	400	370	mg/L	
Hydroxide	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	mg/L	
Carbonate	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	mg/L	
Bicarbonate	430	440	360	250	360	610	410	530	500	400	370	mg/L	
Nitrate (as N)	17.84	13.55	1.1	5.87	16.94	18.29	23	8.8	16	0.58	6.8	mg/L	10
Nitrite	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NS	NS	NS	NS	NS	mg/L	1
Ammonia (as N)	0.31	0.65	0.58	0.4	0.31	0.48	<0.1	<0.1	<0.1	<0.1	<0.1	mg/L	
Total Kjeldahl Nitrogen	1.6	0.61	0.68	0.58	0.8	0.81	<1	<1	<1	<1	<1	mg/L	
Phosphorous	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.13	0.18	0.13	0.24	0.18	mg/L	
Sulfate	350	320	300	230	310	630	684	493	831	281	344	mg/L	
Electrical Conductivity	2,400	2,200	2,200	1,500	2,300	3,800	3,650	4,100	4,280	1,960	623	umhos/cm	
Total Dissolved Solids	1,500	1,700	1,700	980	1,600	2,800	1,950	1,580	2,360	1,120	1,570	mg/L	
Sum of Anions	24.2	23	22.6	15.3	20.8	40.5	NC	NC	NC	NC	NC	mg/L	
Sum of Cations	25.6	24.4	23.5	17.5	20.8	39.5	NC	NC	NC	NC	NC	mg/L	
MBAS	0.11	<0.1	0.14	<0.1	0.11	0.12	NS	NS	NS	NS	NS	mg/L	
COD	<3	<3	<3	<3	<3	<3	<20	<20	<20	<20	<20	mg/L	
TOC	<2	<2	2	4	<2	<2	1.5	2.1	1.9	2.2	1.9	mg/L	
Total Coliform	<2	<2	<2	4	<2	<2	2	<2	2	<2	<2	MPN/100 mL	
Fecal Coliform	<2	<2	<2	2	<2	<2	<2	<2	<2	<2	<2	MPN/100 mL	

NC = Not Calculated NS = Not Sampled

Table 2A
Groundwater Analytical Results
April 2001

	Unit	MW-1	MW-2	MW-3	MW-4	MW-5
pH	Unit	7.5	7.4	7.2	7.4	6.9
Electrical Conductivity	uS/cm	3,600	2,900	4,100	930	1,500
Total Dissolved Solids	mg/L	2,400	1,800	2,800	550	1,500
Nitrate as Nitrogen	mg/L	25	4.9	17	0.48	9.8
Total Coliform Organisms	MPN/100 mL	4	17	22	7	500
Fecal Coliform Organisms	MPN/100 mL	<2	2	<2	<2	<2

Table 2B
Groundwater Analytical Results
July 2001

	Unit	MW-1	MW-2	MW-3	MW-4	MW-5
pH (field)	Unit	7.44	7.28	6.36	6.86	6.80
Electrical Conductivity (field)	uS/cm	1,890	1,901	1,537	1,853	1,898
Total Dissolved Solids	mg/L	1,600	2,010	3,110	1,680	1,700
Nitrate as Nitrogen	mg/L	8.8	6.4	19	<0.2	1.4
Total Coliform Organisms	MPN/100 mL	<2	<2	<2	<2	<2
Fecal Coliform Organisms	MPN/100 mL	<2	<2	<2	<2	<2

Table 2C
Groundwater Analytical Results
September 2001

	Unit	MW-1	MW-2	MW-3	MW-4	MW-5
pH	Unit	7.85	7.66	7.54	7.27	7.36
Electrical Conductivity	uS/cm	2,710	3,720	4,410	2,710	3,130
Total Dissolved Solids	mg/L	1,830	2,050	2,260	1,670	1,670
Nitrate as Nitrogen	mg/L	15	4.9	15	2.7	4.4
Total Coliform Organisms	MPN/100 mL	500	11	<2	<2	<2
Fecal Coliform Organisms	MPN/100 mL	170	<2	<2	<2	<2

Table 2D
Groundwater Analytical Results
November 2001

	Unit	MW-1	MW-2	MW-3	MW-4	MW-5
pH	Unit	7.60	7.46	7.30	7.10	7.15
Electrical Conductivity	uS/cm	3,105	3,010	3,593	2,592	2,554
Total Dissolved Solids	mg/L	2,190	2,140	2,500	1,710	1,710
Nitrate as Nitrogen	mg/L	13	5.4	17	<0.2	3.4
Total Coliform Organisms	MPN/100 mL	80	<2	<2	<2	<2
Fecal Coliform Organisms	MPN/100 mL	8	<2	<2	<2	<2

Table 2D
Groundwater Analytical Results
February 2002

	Unit	MW-1	MW-2	MW-3	MW-4	MW-5
pH	Unit	7.7	7.7	7.3	7.3	7.1
Electrical Conductivity	uS/cm	2,704	2,737	3,020	1,990	2,265
Total Dissolved Solids	mg/L	2,170	2,070	2,430	1,450	1,610
Nitrate as Nitrogen	mg/L	25	5.6	19	0.4	6.2
Total Coliform Organisms	MPN/100 mL	<2	<2	<2	<2	<2
Fecal Coliform Organisms	MPN/100 mL	<2	<2	<2	<2	<2

Table 2E
Groundwater Analytical Results
May 2002

	Unit	MW-1	MW-2	MW-3	MW-4	MW-5
pH	Unit	7.0	7.3	7.3	7.2	6.9
Electrical Conductivity	uS/cm	2,980	3,160	3,490	2,540	2,450
Total Dissolved Solids	mg/L	2,030	2,140	2,480	1,640	1,530
Nitrate as Nitrogen	mg/L	16	1.7	17	2.2	29
Total Coliform Organisms	MPN/100 mL	<2	8	<2	<2	<2
Fecal Coliform Organisms	MPN/100 mL	<2	<2	<2	<2	<2

Table 2F
Groundwater Analytical Results
August 2002

	Unit	MW-1	MW-2	MW-3	MW-4	MW-5
pH	Unit	7.9	7.5	7.5	7.3	7.1
Electrical Conductivity	uS/cm	1,898	3,056	3,135	2,729	2,654
Total Dissolved Solids	mg/L	1,340	2,030	2,120	1,650	1,570
Nitrate as Nitrogen	mg/L	9.3	3.8	12	<0.25	1.0
Total Coliform Organisms	MPN/100 mL	<2	<2	<2	<2	<2
Fecal Coliform Organisms	MPN/100 mL	<2	<2	<2	<2	<2

Table 2G
Groundwater Analytical Results
November 2002

	Unit	MW-1	MW-2	MW-3	MW-4	MW-5
pH	Unit	7.6	7.3	7.3	7.1	6.9
Electrical Conductivity	uS/cm	2,290	3,000	3,240	2,700	2,180
Total Dissolved Solids	mg/L	1,400	1,960	2,250	1,580	1,470
Nitrate as Nitrogen	mg/L	6.6	2.5	6.8	1.6	<0.25
Total Coliform Organisms	MPN/100 mL	<2	<2	<2	<2	<2
Fecal Coliform Organisms	MPN/100 mL	<2	<2	<2	<2	<2

EVALUATION OF GROUNDWATER QUALITY IMPACTS UNDER CURRENT CONDITIONS

The water quality objectives for groundwater in the San Joaquin basin are the drinking water maximum contaminant levels (MCLs). All constituents analyzed were found at concentrations below the applicable MCLs (if any) except for arsenic and nitrate. Arsenic was detected at 0.02 mg/L, which exceeded the MCL of 0.01 mg/L, in one downgradient sample and was not found in at concentrations exceeding 0.005 mg/L in any of the background samples. However, as arsenic was not detected in the other monitoring wells, the average concentration in the groundwater influenced by the plant effluent is expected to be within drinking water limits.

No nutrient reduction treatment is performed in the Patterson WWTP processes, so the effluent generally contains both nitrate and phosphorous. Nitrate and phosphorous are of concern as nutrients that can cause algal blooms that deplete the dissolved oxygen concentration in surface water. Nitrate is also directly toxic to humans as a drinking water contaminant that can cause "blue baby syndrome" at concentrations in excess of drinking water standards. Nitrate (as N) was detected at concentrations exceeding the MCL of 10 mg/L nitrate (as N) in four of the six background study samples as well as in one of the two background monitoring wells and in the monitoring well downgradient of the recently constructed percolation ponds south of the existing plant, which appears to still represent background conditions. Ammonia, another nitrogen-containing compound, was found in all of the one-time HydroPunch®-type background study samples from the proposed pond expansion area, but was not found in any of the monitoring well samples. Nitrate appears to be diluted by the effluent, which is of similar to lower concentration than the background groundwater. The background groundwater quality, which has been degraded by historical agricultural activities, is improved by dilution with the plant effluent and/or by utilization of nitrate by the natural microbes in the soil stimulated by the organic material in the effluent. The impact of effluent disposal is beneficial to groundwater quality.

Phosphate, a common constituent of detergents and wastewater, has been measured in the plant influent and effluent at concentrations of approximately 8 to 9 mg/L, which is equivalent to phosphorous (phosphate as P) concentration of approximately 3 mg/L. Phosphorous was measured in the groundwater monitoring wells at concentrations ranging from 0.13 to 0.18 mg/L in the background wells and 0.18 to 0.24 mg/L in the downgradient wells. No phosphorous was detected in the background study samples, but the detection limit for the method used was 0.5 mg/L, so the concentrations found in the well samples would not have been detectable using that method. No significant increase in phosphorous concentration was observed in the downgradient groundwater as compared to the background wells. The phosphorous in the plant effluent appears to be utilized by biological growth in the percolation ponds or in the immediate area of the ponds. Phosphorous, nitrogen, and carbon are all required for the growth of biological organisms. The ratio utilized is typically 100 parts carbon to ten parts nitrogen to one part phosphorous. Average nitrate concentrations are approximately 10 mg/L nitrate (as N) lower in the downgradient groundwater monitoring wells than in those upgradient of the percolation ponds. Assuming the phosphorous is utilized at a rate of one part phosphorous to ten parts nitrogen, the phosphorous concentration will be reduced by approximately 2 mg/L (6 mg/L phosphate) within the immediate pond area, which is approximately what is observed. The slight increase in average concentration in the downgradient groundwater was so small as to be within

the normal variability of the analysis technique and is not likely to represent a real difference in concentrations. Since phosphorous is an essential nutrient with no MCL a slight increase in concentration would not be a significant issue.

Selenium, a constituent of concern in the San Joaquin Basin, was not found at concentrations exceeding the MCL of 0.05 mg/L. The concentrations found were approximately the same in the background study samples and an upgradient monitoring well as in the one downgradient monitoring well with detectable concentrations of selenium. The concentration of selenium in groundwater does not appear to be significantly influenced by the effluent disposal.

Boron, which is a contaminant of concern in the San Joaquin Basin although it has no MCL and no water quality objective in the San Joaquin River at Patterson, was found at a average concentrations of 1.5 mg/L in the background study samples, 2.5 mg/L in the background monitoring well samples, and only 1.2 mg/L in the downgradient monitoring well samples. It appears to be diluted by the effluent.

The plant effluent appears to have a beneficial impact to groundwater salinity under current conditions. Salinity in the downgradient wells is lower than that in the upgradient wells. The plant effluent is of lower salinity than the background shallow groundwater and so reduces its salinity by dilution.

The plant effluent is not disinfected, so it contains coliform at levels exceeding drinking water standards. However, pathogens such as coliform bacteria travel only short distances in the soil and groundwater and so would not impact groundwater uses beyond the immediate pond area. A two-month travel time, the maximum time pathogens would be expected to remain active, would allow a maximum travel distance of approximately 127 feet at the estimated groundwater velocity of 2.1 ft/day. The samples from the monitoring wells adjacent to the existing percolation ponds have shown only infrequent detectable levels of coliform, which are similar to those from the background wells. The pathogens in the effluent do not cause any significant impact to groundwater quality.

EVALUATION OF GROUNDWATER QUALITY IMPACTS WITH PROPOSED EXPANSION

The effluent water quality is expected to remain the same or improve with the treatment plant expansion. Increases in flow from development in the City of Patterson service area would have a beneficial impact to groundwater salinity as the plant effluent is of lower salinity than the background shallow groundwater and so reduces its salinity by dilution. The Diablo Grande development will obtain its potable water from the State Water Project (SWP), which is of much lower salinity than the well water used by the City, so the 0.7 mgd of wastewater flow from Diablo Grande will further reduce the salinity of the plant effluent and increase the beneficial impact.

Addition of the Diablo Grande development wastewater flow would further improve the effluent concentrations and increase the beneficial effect for other constituents of concern as the SWP water to be used by the Diablo Grande development contains much lower concentrations of

boron, bromide, chloride, magnesium and sodium than the background shallow groundwater (see **Table 3**).

Nitrate and other nitrogen-containing compound concentrations in the expanded plant effluent will be approximately the same as in the effluent from the existing plant. This will continue to be approximately the same or lower in concentration than the background groundwater.

Pathogens will continue to be present in the plant effluent. With the increased flow, the distance traveled within the two-month period pathogens can remain active may increase slightly. The maximum travel distance is expected to still be less than 276 feet, typically remaining within the plant boundaries.

EVALUATION OF GROUNDWATER INFLOW TO SAN JOAQUIN RIVER UNDER CURRENT CONDITIONS

The impact of effluent reaching the San Joaquin River as groundwater inflow is insignificant. The inflow rate under current conditions is approximately 1.24 cfs/mi, which is less than the average groundwater inflow rate of 2.0 cfs/mi estimated for this 19-mile stretch of the San Joaquin River in a previous study (Phillips, 1991). The effluent-effected groundwater inflow is similar to or better in quality than the background groundwater with regards to salinity, nitrate, and trace mineral concentrations.

Pathogens are estimated to travel less than 127 feet in the maximum two months they can remain active, so they will not effect the river located ½ mile away from the ponds.

The nitrate load to the San Joaquin River associated with effluent disposal in the percolation ponds under current conditions was estimated based on a concentration of 3.94 mg/L nitrate (as N), the average observed in monitoring wells MW-4 and MW-5 over the nine quarters of monitoring to date. The groundwater inflow to the river of 1.24 cfs or 2100 L/min corresponds to a nitrate load of 11.9 Kg nitrate (as N) per day. That is insignificant compared to the background nitrate load of 60.2 Kg nitrate (as N) per day per mile of river, which is based on an average flow of 2 cfs/mi and average concentration in the background study samples of 12.3 mg/L nitrate (as N).

EVALUATION OF GROUNDWATER INFLOW TO SAN JOAQUIN RIVER WITH PROPOSED EXPANSION

The increased effluent disposal will increase the effluent-effected groundwater inflow to the San Joaquin River from the current rate of approximately 1.24 cfs/mi to an estimated rate of approximately 3.35 cfs/mi. The increased flow will have no significant effect on the quality of the groundwater inflow.

The groundwater velocity to the river will increase slightly with the increased flow rate. The distance groundwater will flow within the two-month time period pathogens can remain active is

Table 3
Harvey O. Banks Pumping Plant Water Quality Data for 2002

Analyte	Jan-02	Feb-02	Mar-02	Apr-02	May-02	Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02	Dec-02	AVERAGE
Aluminum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Arsenic	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.002	0.00
Barium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Boron	0.1	0.2	0.1	0.1	0.2	0.1	<0.1	<0.1	<0.1	0.1	0.2	0.2	0.14
Bromide	0.13	0.15	0.12	0.23	0.16	0.09	0.14	0.37	0.37	0.43	0.37	0.36	0.24
Cadmium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Calcium	20	23	20	19	21	16	14	16	16	18	19	20	18.50
Chloride	46	49	43	139	47	32	43	112	112	134	134	114	83.75
Chromium	0.001	0.006	0.005	0.004	0.003	0.005	<0.001	0.003	0.003	0.003	0.005	0.006	0.0040
Copper	0.003	0.002	0.002	0.002	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.0023
Fluoride	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.10
Iron	0.085	0.053	0.018	0.021	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	0.011	0.029	0.032
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Magnesium	11	13	12	13	12	9	9	14	14	16	15	15	12.75
Manganese	0.028	0.015	0.008	0.01	<0.005	<0.005	0.008	0.008	0.008	0.022	0.016	0.009	0.013
Mercury	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Potassium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Selenium	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.002	<0.001	0.001	0.0013
Silver	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Sodium	31	39	33	48	38	26	31	71	71	79	71	70	50.67
Zinc	0.015	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.015
pH	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Hardness, Total	95	111	99	101	102	77	72	98	98	111	110	112	98.83
Alkalinity as CaCO3	69	92	82	79	79	70	60	66	66	83	83	72	75.08
Hydroxide	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Carbonate	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Bicarbonate	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Nitrate (as N)	1.7	1	0.81	0.87	0.68	0.49	0.28	0.19	0.19	0.3	0.3	0.93	0.65
Nitrite	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	INC	
Ammonia (as N)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Total Kjeldahl Nitrogen	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Phosphate	0.15	0.07	0.06	0.08	0.09	0.08	0.07	0.06	0.06	0.06	0.07	0.07	0.077
Sulfate	37	44	37	35	42	29	17	23	23	33	35	39	32.83
Electrical Conductivity	379	445	395	466	401	309	305	533	533	652	652	557	468.92
Total Dissolved Solids	232	263	202	260	222	173	181	321	321	398	398	338	275.75
Sum of Anions	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Sum of Cations	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
MBAS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
BOD (DOC)	8.3	4	3.6	3.8	3.8	2.7	2.2	1.9	1.9	2.2	2.3	3.4	3.34
Total Coliform	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Fecal Coliform	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
E. coli	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	

INC = Included in Nitrate Concentration.
SIC = Data uncertain but as reported. (SIC)
NS = Not Sampled
NR = Not Reported

estimated to increase to up to approximately 276 ft. Pathogens will not effect the water quality in the river 1000 to 2500 feet away from the new ponds.

The nitrate load in the year 2008 at 3.35 cfs/mi is estimated to be 32.3 Kg nitrate (as N) per day per mile of river. That is approximately half of the average load of 60.2 Kg nitrate (as N) per day per mile of river.

CONCLUSIONS

No significant impacts to groundwater or surface water quality have occurred under current conditions. No significant impacts are expected with the proposed wastewater treatment plant expansion.

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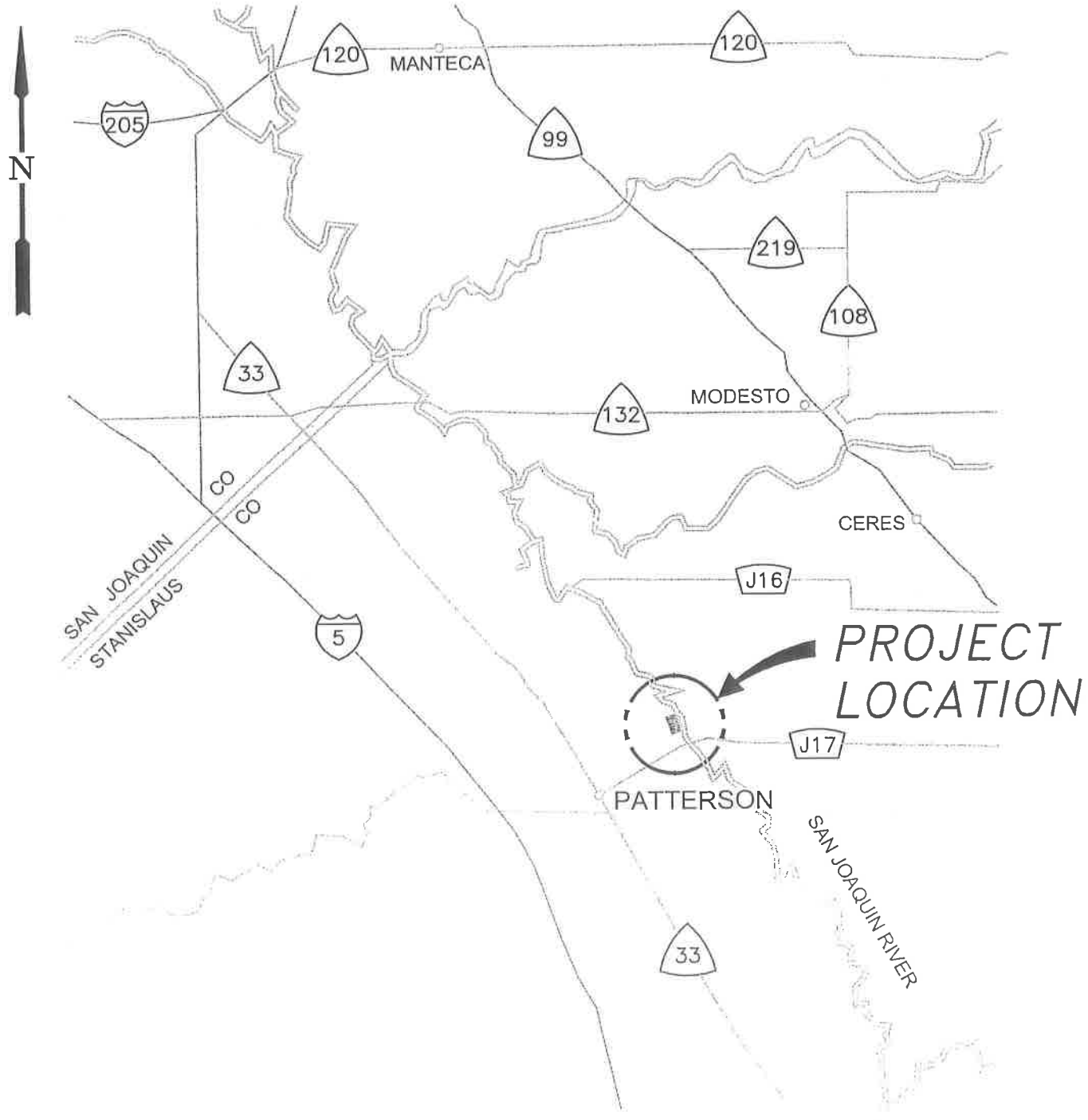
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FIGURE 1
VICINITY MAP



NOT TO SCALE

FIGURE 2
SITE MAP

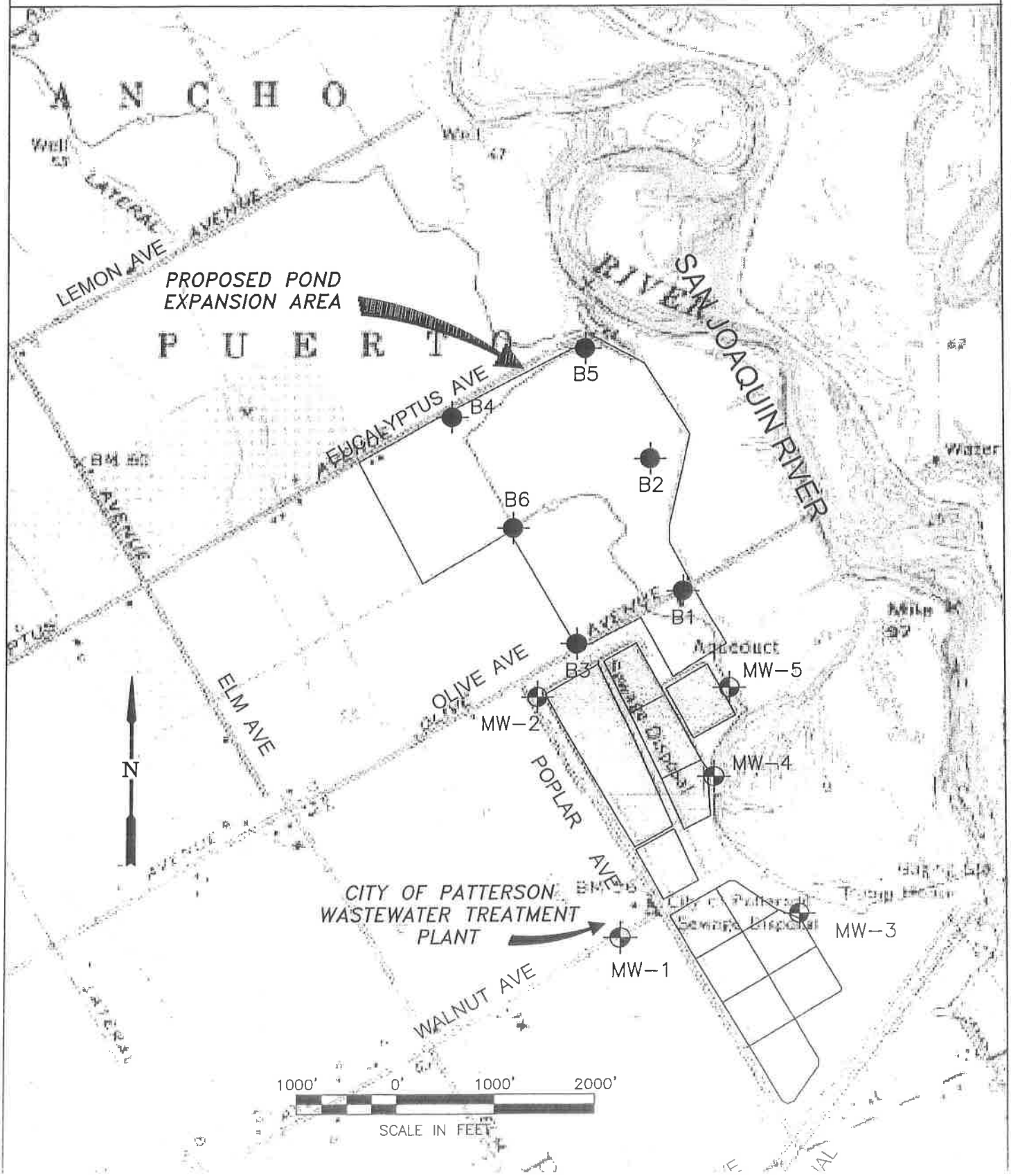
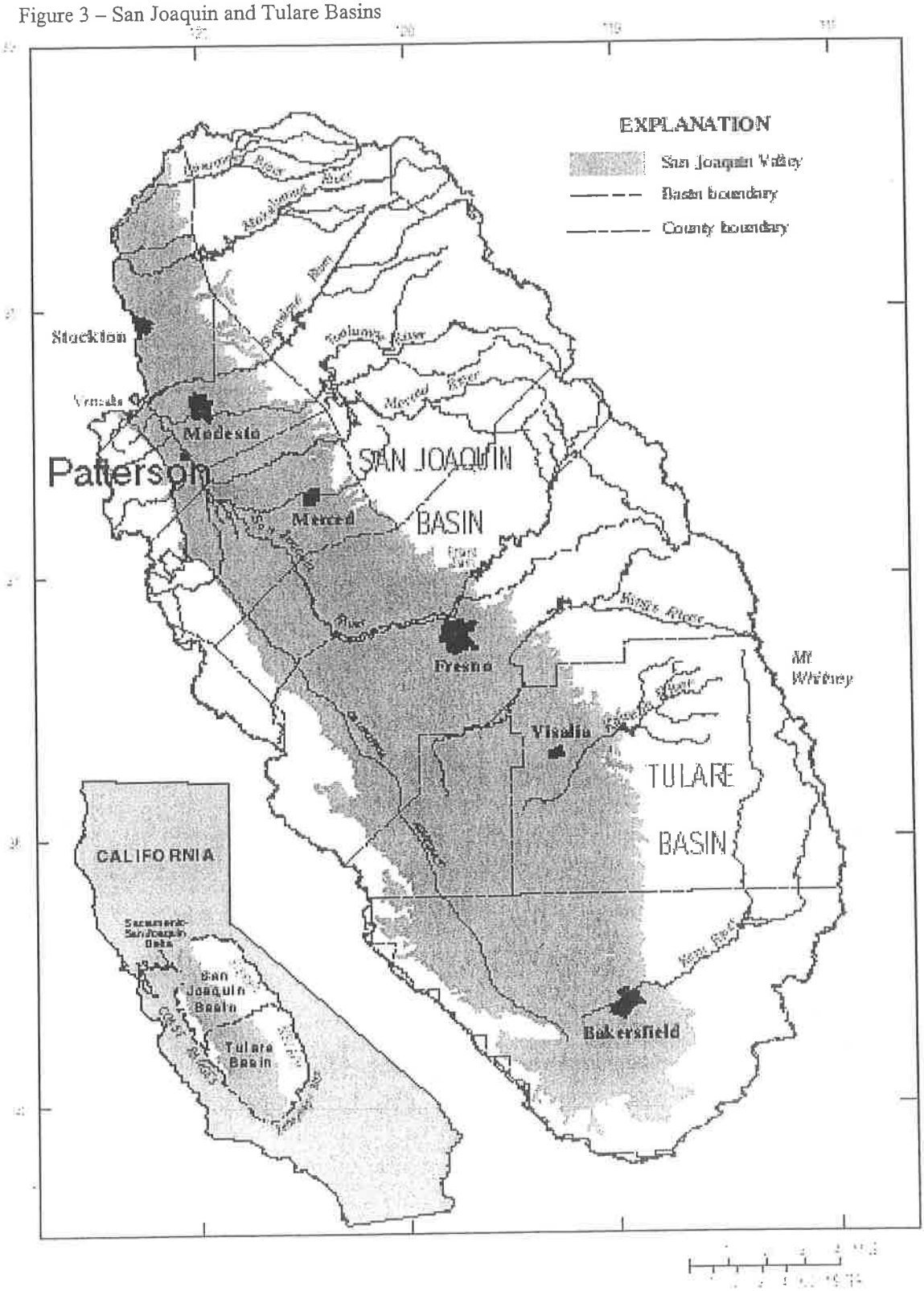
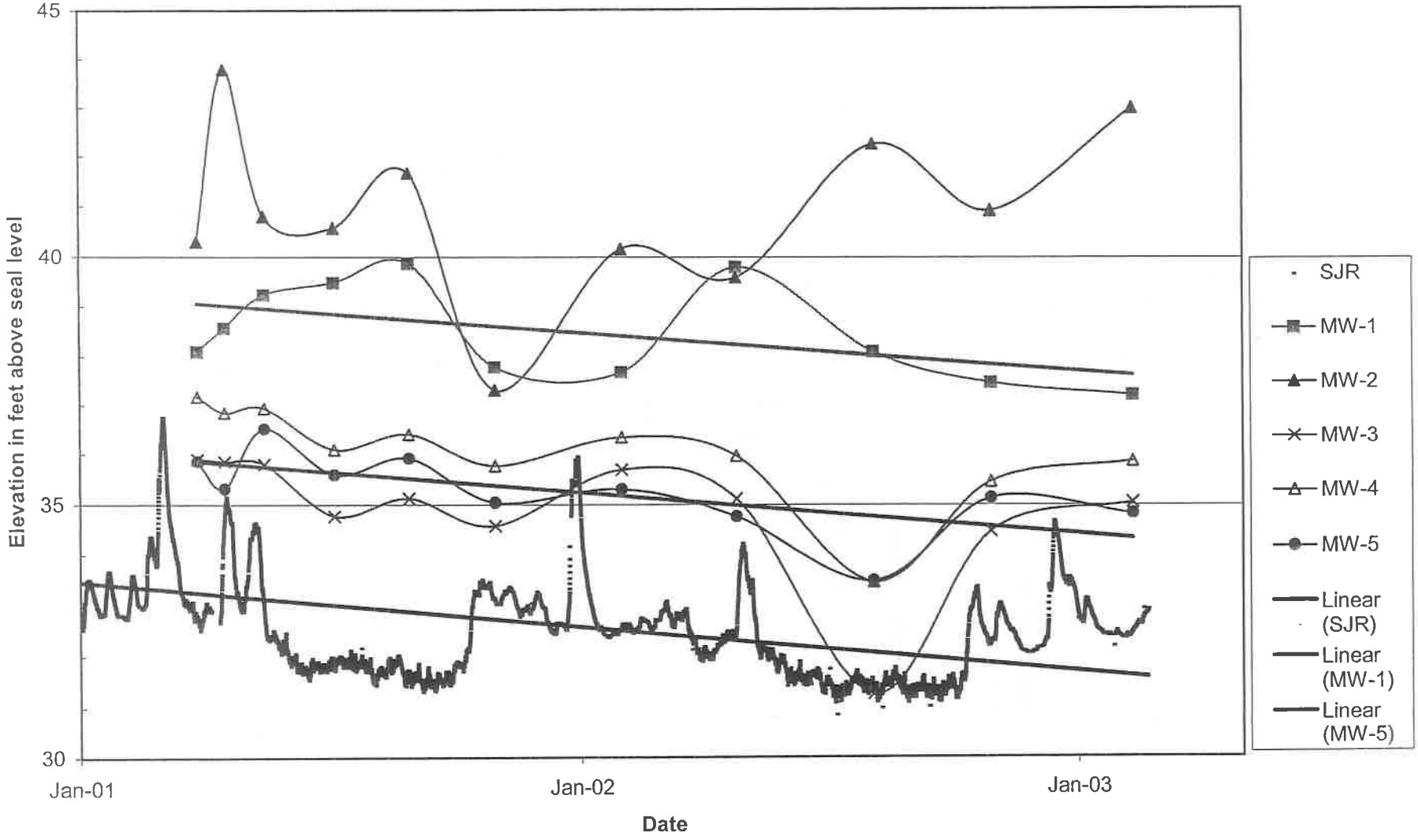


Figure 3 – San Joaquin and Tulare Basins



From Planert and Williams, 1995.

Figure 4
San Joaquin River and Groundwater Elevations at Patterson



Purpose

The City of Patterson is proposing to expand its waste water treatment plant (WWTP) area by approximately 110 acres on the floodplain terrace adjacent to the San Joaquin River. The purpose of this report is to investigate potential flooding associated with the expansion of the WWTP operation on the San Joaquin River in Stanislaus County, California. This study is expected to assist in the development of reclamation plans for the project and provide data for environmental documents.

Background

The area planned for expansion of the WWTP is on the left floodplain terrace of the San Joaquin River one mile downstream of the Patterson Bridge (see Figure 1).

Typical plant life consists of mainly agricultural fields mingled with grassland. Soils are generally free draining. Normal annual precipitation in the area is about 10 inches.

US Army Corps of Engineers

The Lower San Joaquin River and Tributaries Project was authorized by the 78th Congress in the Flood Control Act of 22 December 1944, Public Law 534. Subsequently, the US Army Corps of Engineers (USACE) prepared plans to provide flood control along the project reach as detailed in Design Memorandum No. 1, San Joaquin River Levees General Design, 23 December 1955. In the reach for Patterson WWTP, the design flow was selected at 45,000 cfs (about 50 year annual exceedence). The improvements included construction of a project levee on the right bank. No levees were constructed by the Corps on the left bank. The design water surface elevations per the Design Memorandum at the Patterson WWTP are 52.1 to 52.9 feet (msl).

The State Reclamation Board

The State Reclamation Board regulates activities in designated floodways and on project levees to ensure that adequate flood protection is maintained and to prevent any encroachment of activity that would adversely affect the capacity, operations, or maintenance of the flood control works. The Board issues Encroachment Permits for activities on levees and the floodplain in its jurisdiction under Title 23, Diversion 1 of the California Code of Regulations.

The designated floodway map for the project vicinity was obtained and is plotted on Figure 2. The proposed WWTP is outside of the floodway, and therefore no permit is required from the Reclamation Board.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) is responsible to provide participating communities flood hazard data for flood insurance purposes. A flood insurance study was performed in November 1987 and revised March 2001 for Stanislaus County.

In the project reach, the San Joaquin River was studied with approximate analyses because of the rural character of the area. Figure 2 shows the floodplain of the Flood Insurance Rate Map (FIRM) for the project area. The area is a Zone A designation. Zone A is defined as an area inundated by the 100-year flood, determined by approximate methods. No base flood elevations are provided.

Hydraulic Analysis

The US Army Corps of Engineers' computer program UNET (US Army Corps of Engineers, 1996) was used to compute water surface elevations in the subject reach. The UNET computer modeling program was developed by the US Army Corps of Engineers Hydrologic Engineering Center (HEC) in Davis, California. UNET is widely used in floodplain management applications. The model can compute the water surface of both subcritical and supercritical flow regimes. The effects of various special floodplain conditions, such as levees, fill, bridges, culverts or weirs can be analyzed by the model. The program is designed to calculate water surface profiles for unsteady state (changing discharge over time) flow in natural or manmade channels.

Roughness factors (Mannings "n") used in computations were chosen by engineering judgment and based on field observations. A roughness value of 0.08 is used for the left over bank in the project reach of the San Joaquin River.

Cross sections input into the model for the analysis were obtained from aerial topography at a scale of 1"=200' and a contour interval of 2 feet (NGVD 29). Figure 3 shows the cross-section locations in the study area.

Existing Conditions

The hydraulic analysis was made using a preliminary version of the Sacramento and San Joaquin River Basins Comprehensive Study (Comp Study) San Joaquin River Basin UNET model (SJRNET75J.CS, dated 8/7/2001).

The Comp Study UNET model has a cross-section spacing of approximately 1/4 mile. In order to provide more detail at the project site, cross-section 94.80 in reach 20 of the model was replaced with cross-sections 95.04, 94.84, 94.54 and 94.36 (see Fig. 3), which were developed from the Comp Study digital topography map.

Post Project Condition

The purpose of the analysis was to determine the hydraulic impacts of the Patterson WWTP expansion project when the flow in the San Joaquin River approximates the design flow of 45,000 cfs. As part of the Comp Study hydraulic analysis, the Corps of Engineers had developed a series of UNET model input data sets resulting from storms of various frequencies with various geographical centerings. Through an iterative analysis a hydrograph was developed that when combined with the assumption of no upstream levee failures resulted in a peak flow at the project site of 47,300 cfs. This hydrograph was used in this analysis.

The project was modeled by adding an encroachment to cross-sections 95.04, 94.84 and 94.54 to represent the flow area removed from the flood plain.

The results of the analysis are summarized in Tables 1 and 2.

Table 1. Maximum Water Surface Elevations (ft - NGVD)

Location	Pre-Project	Post-Project	Project Impact
95.324	52.46	52.45	-0.01
95.04	52.05	52.07	+0.02
94.84	51.69	51.70	+0.01
94.54	51.12	51.08	-0.04
94.207	50.70	50.70	0.00

Table 1. Maximum Channel Velocities (feet per second)

Location	Pre-Project	Post-Project	Project Impact
95.324	3.78	3.79	+0.01
95.04	5.24	5.07	-0.17
94.84	4.89	4.89	0.00
94.54	5.59	5.74	+0.15
94.207	3.43	3.43	0.00

Results and Conclusion

The study hydraulic analysis shows that under existing conditions the water surface elevation in the left over bank at the proposed WWTP ranges from 51.1 to 52.1. Water depths are shallow ranging from 0 feet to 4 feet.

Levee freeboard at the right bank levee ranges from 5 to 7 feet in the project vicinity. Levee freeboard at the existing WWTP is a little more than 2 feet (Figure 4 & 5).

Reducing the floodplain area under post project conditions results in no significant changes in water surface elevations. Main channel velocities changes ranged from -0.17 fps to +0.15 fps. The results indicate that the project has no significant hydraulic impact.

Local drainage patterns were not analyzed in this study. Topography indicates that the WWTP may intercept local runoff. Ditches should be provided and sized to route local drainage around the proposed facilities and drain to the river.

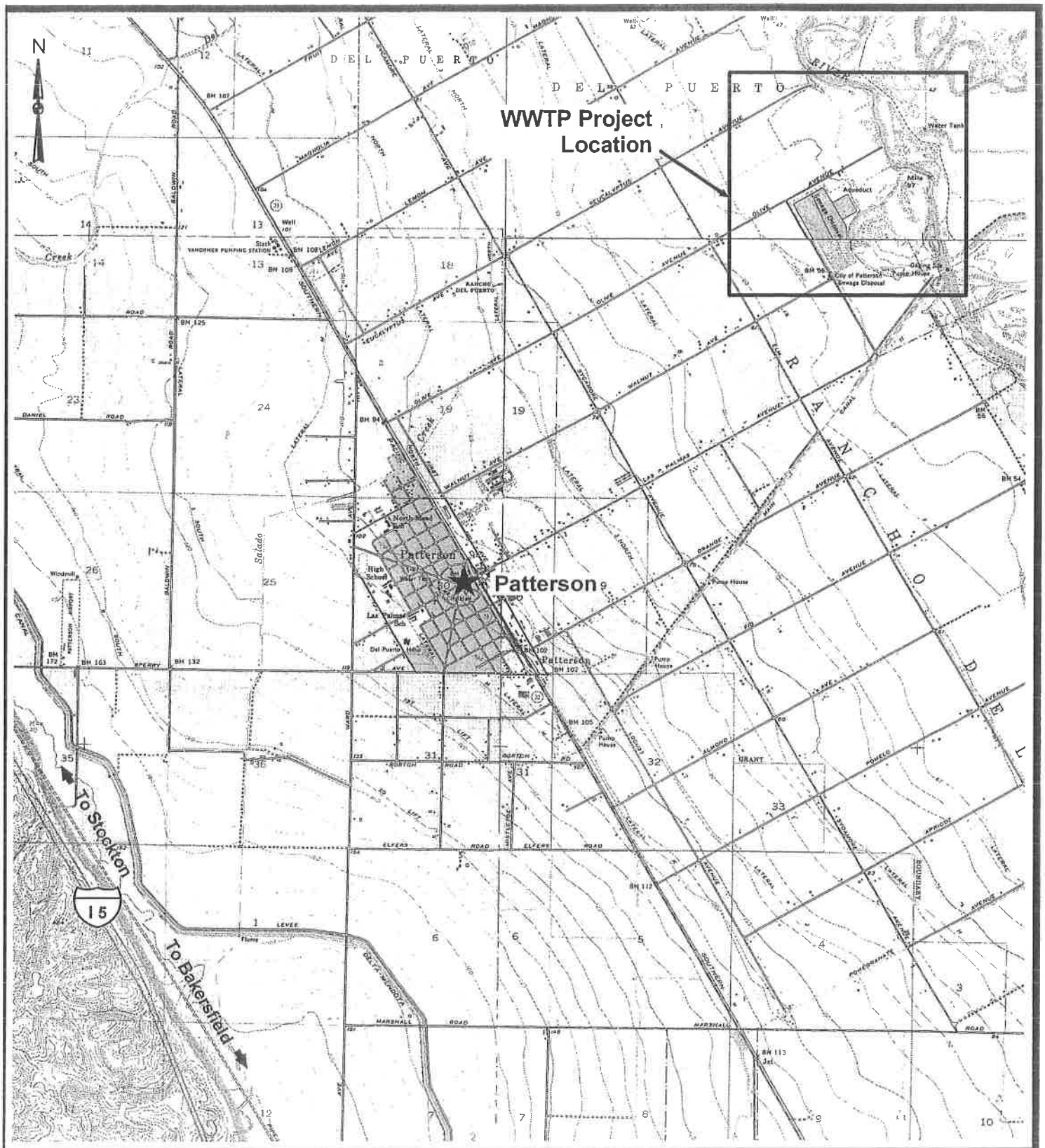
MF/mv
3287/HYDRAULIC ANALYSIS 01.22.03

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US Army Corps of Engineers. Design Memorandum No. 1 San Joaquin River Levees, Lower San Joaquin River Tributaries Project, California, Sacramento District. December 1955.

The Reclamation Board. San Joaquin River Designated Floodway, Stanislaus County, California. March 8, 1974.



Patterson WWTP San Jauquin River RM 95.0+/- Vicinity Map	Applicant: City of Patterson Source: USACE & MBK Date: January 2003	Purpose: Expansion of Waste Water Treatment Plant Datum: NGVD 29 County: Stanislaus Scale: 1" = 4000'

MBK ENGINEERS
2450 Alharbra Blvd.
Second Floo
Sacramento, CA 9517
Phone: 96.456.4400

Figure 1

N

San Joaquin River

Existing WWTP

Corps Project Levee

Legend

- Rec. Board Designated Floodway
- FEMA Zone A Floodplain
- WWTP Expansion Area

Patterson WWTP

San Joaquin River RM 95.0+/-

Project Feature Map

MBK ENGINEERS
2450 Alhambra Blvd.
Second Floo
Sacramento, CA 9817
Phone: 916.456.4400

Applicant:
City of Patterson

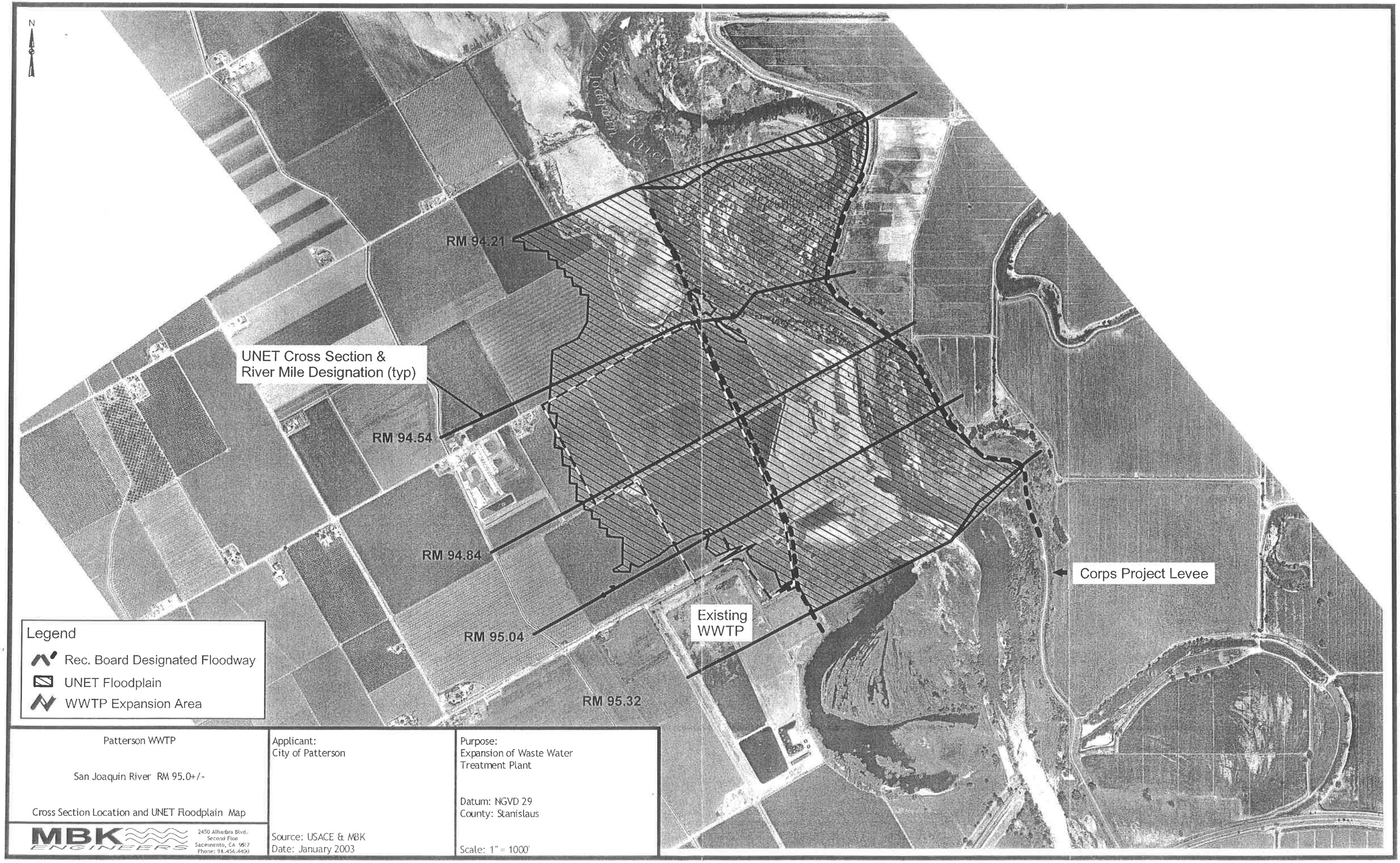
Source: USACE & MBK
Date: January 2003

Purpose:
Expansion of Waste Water Treatment Plant

Datum: NGVD 29
County: Stanislaus

Scale: 1" = 1000'

Figure 2



Patterson WWTP

San Joaquin River RM 95.0+/-

Cross Section Location and UNET Floodplain Map

MBK ENGINEERS
2450 Alhambra Blvd., Second Floo
Sacramento, CA 9817
Phone: 916.456.4400

Applicant:
City of Patterson

Source: USACE & MBK
Date: January 2003

Purpose:
Expansion of Waste Water Treatment Plant

Datum: NGVD 29
County: Stanislaus

Scale: 1" = 1000'

Figure 3

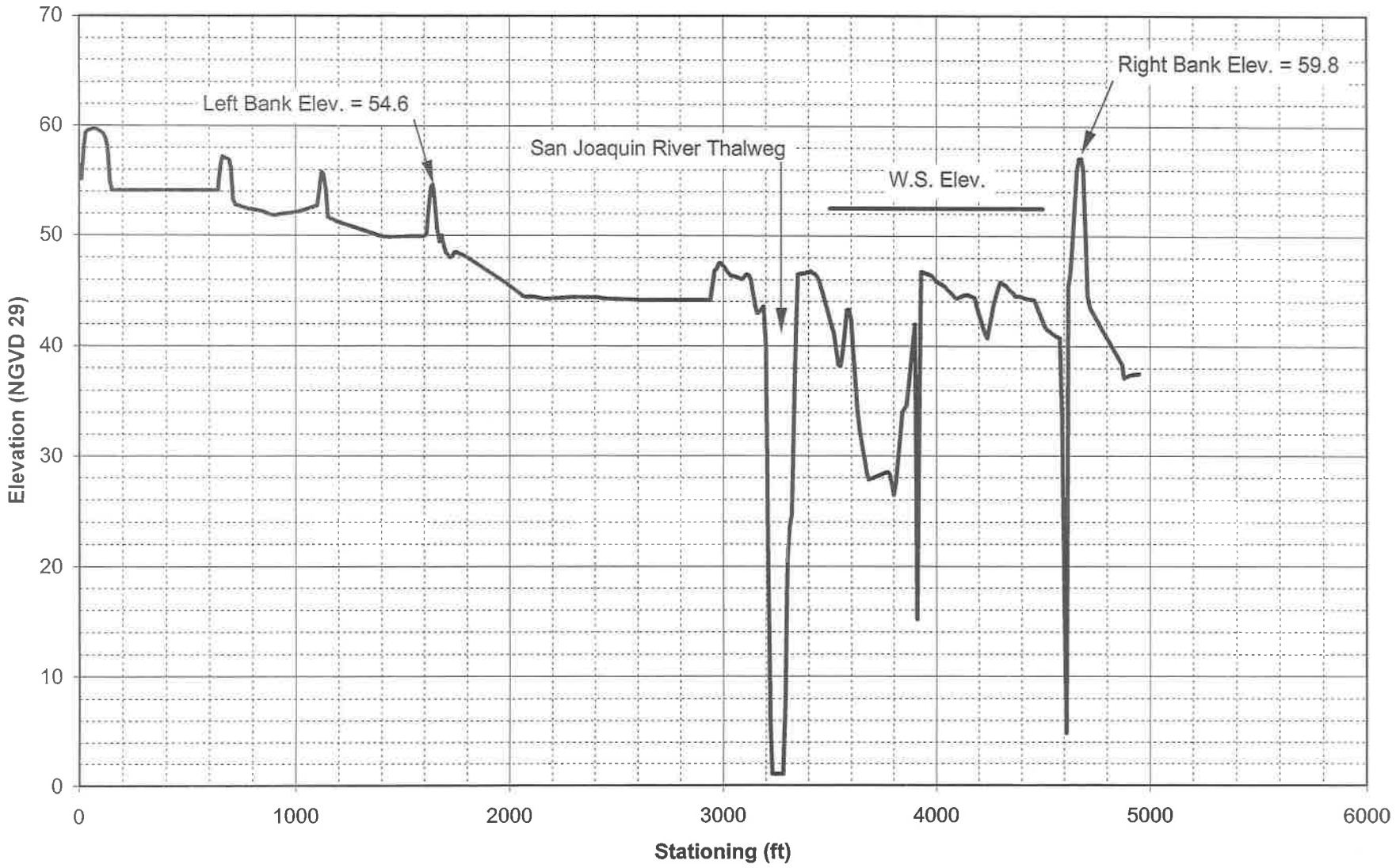

Cross Section @ Rm 95.32
Left Bank Elev. = 54.6
San Joaquin River Thalweg
W.S. Elev.
Right Bank Elev. = 59.8
Elevation (NGVD 29)
Stationing (ft)
0
10
20
30
40
50
60
70
0
1000
2000
3000
4000
5000
6000

Figure 4

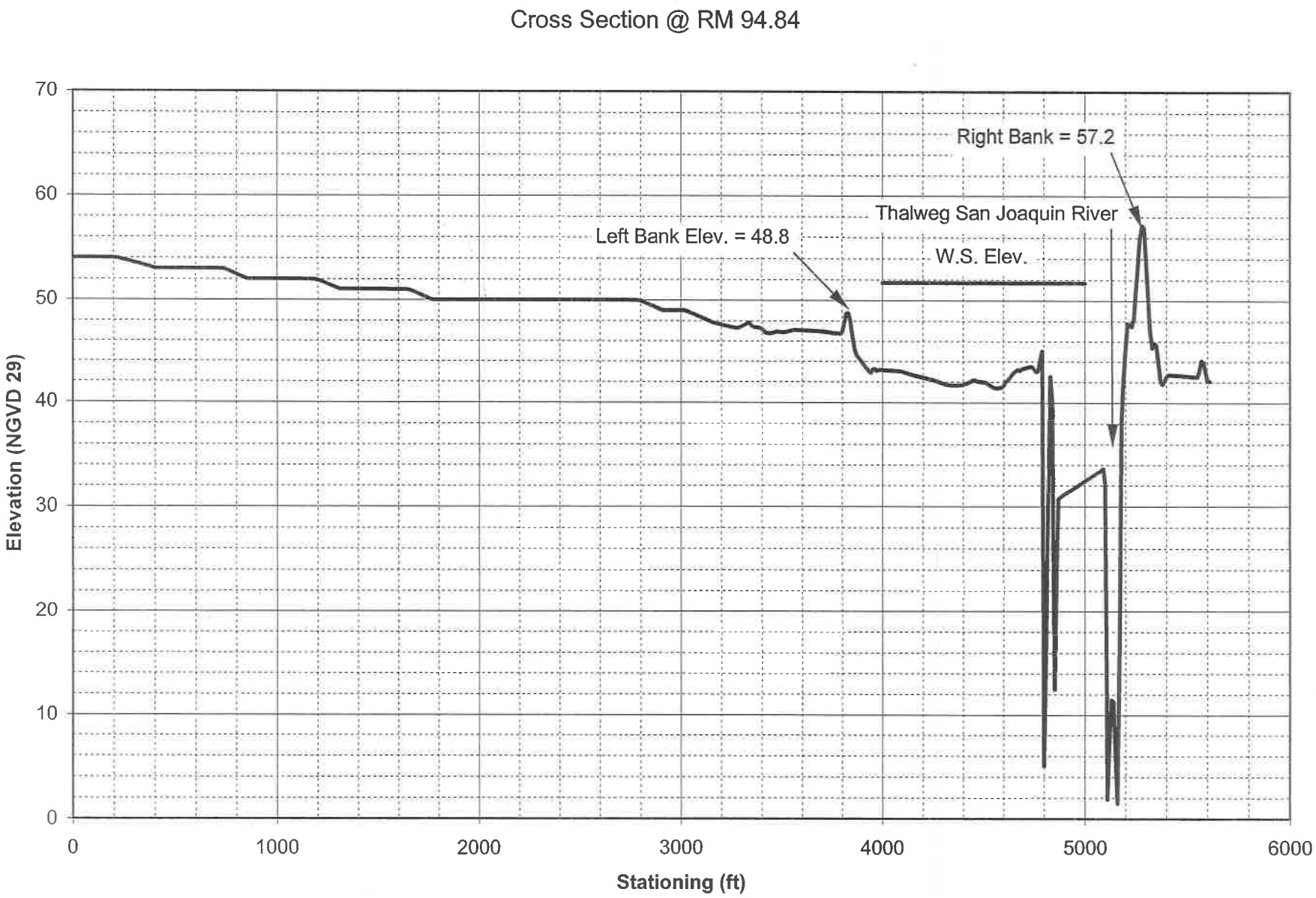

Cross Section @ RM 94.84
Right Bank = 57.2
Thalweg San Joaquin River
Left Bank Elev. = 48.8
W.S. Elev.
Elevation (NGVD 29)
Stationing (ft)
70
60
50
40
30
20
10
0
0
1000
2000
3000
4000
5000
6000

Figure 5

appendix **C**

CULTURAL RESOURCES INVENTORY

CULTURAL RESOURCES INVENTORY
FOR THE
PATTERSON WASTEWATER MASTER PLAN EIR PROJECT
STANISLAUS COUNTY, CALIFORNIA

City of Patterson
Patterson, California

EDAW

April 1, 2003

CULTURAL RESOURCES INVENTORY
FOR THE
PATTERSON WASTEWATER MASTER PLAN EIR PROJECT
STANISLAUS COUNTY, CALIFORNIA

Prepared for:

City of Patterson
33 S. Del Puerto Avenue
Patterson, CA 95363

Prepared by:

EDAW Inc.
2022 J Street
Sacramento, CA
(916) 414-5800

EDAW

April 1, 2003

2T008.01

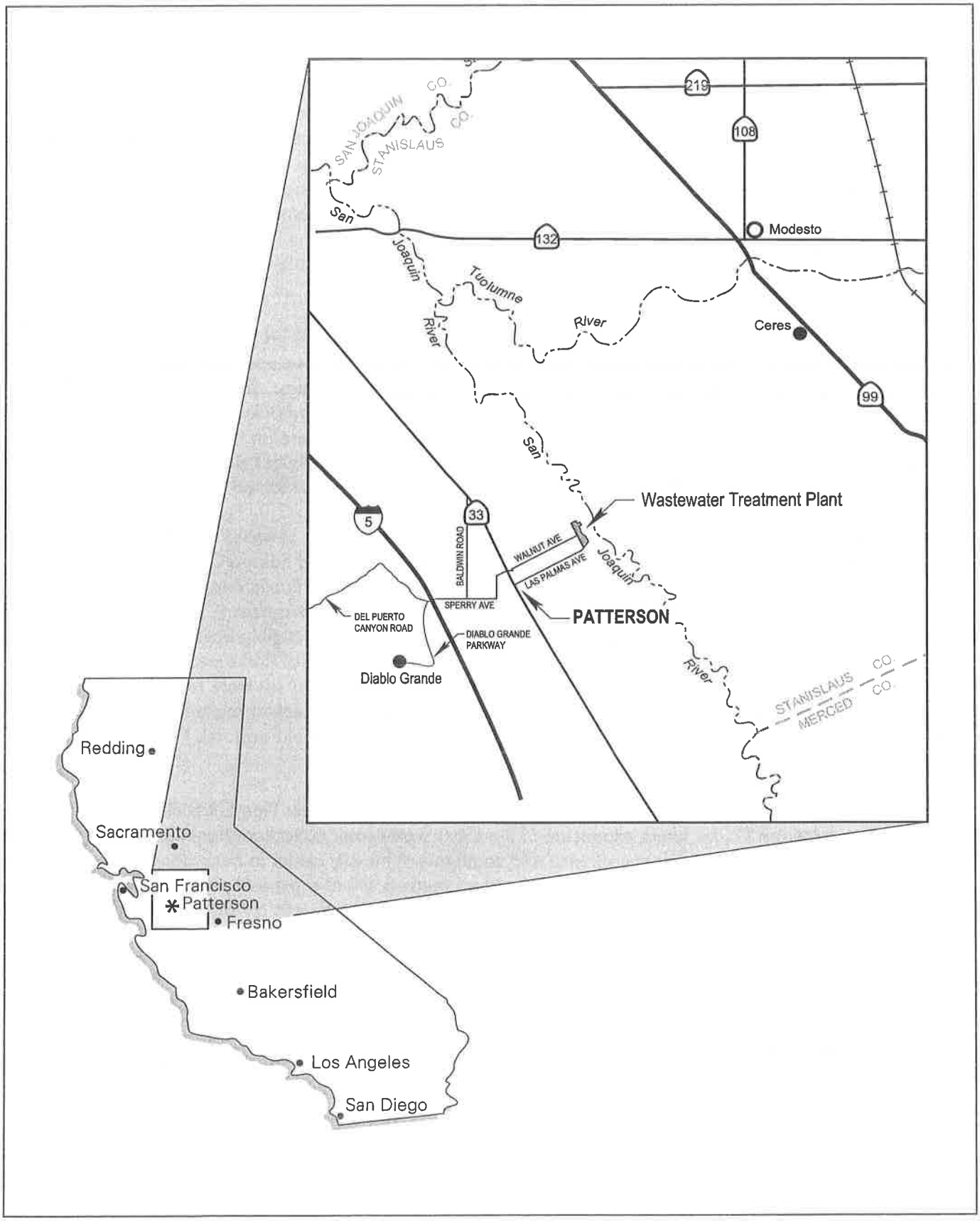
SUMMARY

At the request of the City of Patterson (the City), in support of the City's Wastewater Master Plan EIR, EDAW, Inc. (EDAW) conducted a cultural resources inventory for the proposed project area. The proposed project is located in Patterson, Stanislaus County, California (Figure 1). The proposed first-phase expansion includes construction of new wastewater disposal ponds near the wastewater treatment plant, wastewater collection lines to serve the West Patterson Business Park Master Development Plan Area, and the proposed Diablo Grande Sewer Line. The Diablo Grande sewer line, from the Diablo Grande Specific Plan Area to Interstate 5, will be located within the graded shoulder of the newly constructed Diablo Grande Parkway.

Pursuant to Section 15161 of the California Environmental Quality Act (CEQA) Guidelines, the Wastewater Master Plan EIR is intended to serve as a project EIR for the proposed first-phase expansion of the City's wastewater collection, treatment, and disposal system. This document was prepared in compliance with CEQA, and the City of Patterson General Plan policies. A cultural resource investigation for the Patterson Wastewater Treatment Facility Expansion Project was conducted by EDAW in July 2002 (Deis 2002). The present investigation builds on the previous investigation conducted by EDAW, and references pertinent information contained in that report.

The inventory, conducted on January 27, 2003, resulted in the evaluation of two properties containing historic-era buildings, and a section of the historically realigned Salado Creek. These resources were evaluated for significance using the criteria outlined in the Public Resources Code Section 5024.1 for consideration to the California Register of Historical Resources (CRHR). None of the resources documented during the EDAW survey are recommended as eligible based upon lack of integrity and limited research potential. All were recorded on Department of Parks and Recreation (DPR) Series 523 Forms (Appendix A). No prehistoric archaeological resources were recorded during the survey. In the event that cultural resources are identified during construction related activities, work in the vicinity of the find would halt until a qualified archaeologist could evaluate the nature and significance of the find.

Pursuant to Section 15168 of the CEQA Guidelines, the Wastewater Master Plan EIR is also intended to serve as a program EIR for future expansion of the City's wastewater collection, treatment, and disposal system, and future buildout northeast and southeast of the city center in accordance with the City's General Plan. Because planning in these buildout areas is still at a general plan level, and the locations for the sewer lines are not yet determined, no pedestrian survey was conducted. Only a records search and literature review was performed for these areas.



Source: EDAW Inc. 2002

Regional Location

FIGURE 1

City of Patterson Wastewater Master Plan EIR
G 2T008.01 3/03

0 2.5 5 MILES

NORTH

EDAW

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Appendices

A Department of Parks and Recreation Forms

INTRODUCTION

At the request of the City of Patterson (the City), in support of the City's Wastewater Master Plan EIR, EDAW conducted a cultural resources investigation to identify any archaeological or historical resources within the project area that could be affected by the proposed project. This document was prepared in compliance with the California Environmental Quality Act (CEQA) of 1970, as amended, and the City of Patterson General Plan policies.

The proposed first-phase expansion includes construction of new wastewater disposal ponds near the new Wastewater Treatment Plant, construction of wastewater collection lines to serve the West Patterson Business Park Master Development Plan Area, and construction of the proposed Diablo Grande Sewer Line. These locales are depicted on the Brush Lake and Patterson USGS 7.5 minute topographic quadrangles, within Township 5 South, Range 8 East (Figure 2) of Stanislaus County, California.

ARCHAEOLOGICAL STUDY TEAM

EDAW's cultural resources staff conducted research for this project according to current legal and professional standards. The study team consisted of professionally trained archaeologists and historians. The following personnel were participants in the project:

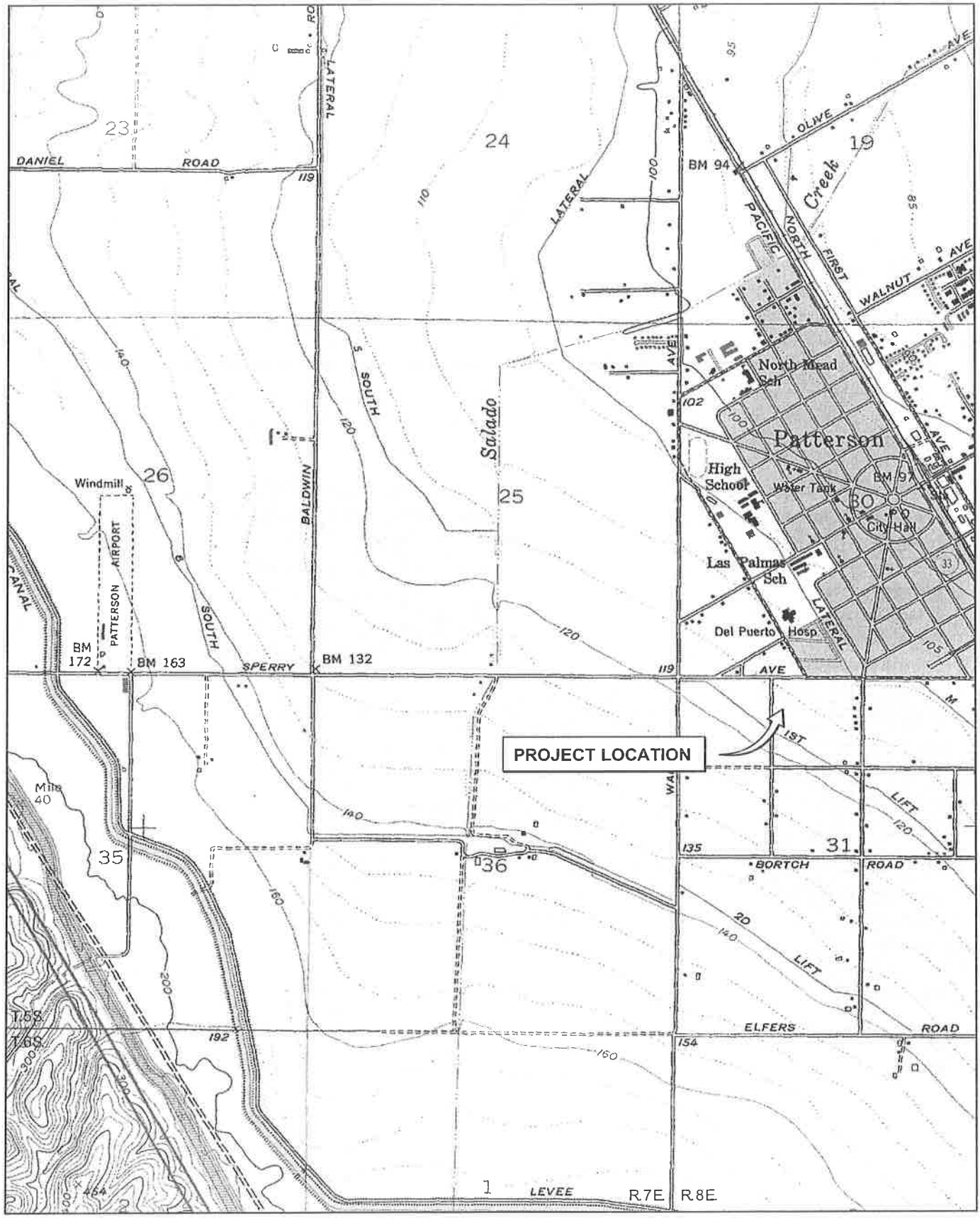
Person	Position
Brian Ludwig, Ph.D.	Cultural Resources Manager
Angel Tomes	Architectural Historian, Report Author
Sherrie Gadreault	Archaeological Technician
Gayiety Hasbrouck	Word Processor
Lorrie Jo Williams	Graphics

SITE CONTEXT

The Archaeological Inventory Report for the Patterson Wastewater Treatment Facility Expansion Project completed by EDAW in July 2002 provides a discussion of the natural and historic background for the project area (Deis 2002: 1-8). The information relative to this investigation is shown in the following section.

NATURAL SETTING

Geologically, the San Joaquin Valley is filled with alluvial soils washed from the Sierra Nevada Range, to a depth of several kilometers. Several major river systems including the Tuolumne, Stanislaus, and Mokelumne merge with the north-flowing San Joaquin River. Because these waterways supported rich and diverse biological and botanical resources, prehistorically, peoples were concentrated along the river channels and surrounding wetlands. Historically, this network of waterways was used as a transportation route, enabling the movement of goods and markets within the region and throughout the world.



Source: U.S.G.S. Patterson Quad 1953 (photo revised 1971, photo inspected 1978) – Contour Interval 20 Feet

Project Location Map

FIGURE 2

City of Patterson Wastewater Master Plan EIR

G 2T008.01 4/03

0 1000 2000 FEET

NORTH

EDAW

The climate pattern on the west side of the San Joaquin Valley is characterized as Mediterranean, with cool, wet winters and hot, dry summers. Locally, this consists of approximately 17 inches of annual rainfall, high summer temperatures, and low humidity. Historically, the dominant vegetative communities in this area are prairie grassland and tule marshes, with some areas of riparian woodland (Kuchler 1977). Valley oak (*Quercus lobata*), cottonwood (*Populus fremontii*), sycamore (*Platanus racemosa*) and willow trees (*Salix* spp.) once grew on the verge of streams and rivers. Tule marshes consisted of stands of tule, cattail, sedge, rush and clumps of willow trees. Vegetation tended to be sparse within the prairie grasslands, limited to grasses and flowering herbs.

European settlers practicing intensive agriculture have redesigned the natural environment. Currently the project area is characteristic of the Cropland environment outlined by Zeiner (1988), consisting of row crops such as field corn, tomatoes, and alfalfa.

Ethnographic Context

The Patterson area appears to have been inhabited by the Northern Valley Yokuts whose territory extended from the large bend in the San Joaquin River near Mendota, north to the confluence of the San Joaquin and Calaveras Rivers.

The word Yokut roughly translates to "person" or "people" in the western or valley dialects. Their language belonged to the California Penutian family, which included the languages of four other central and coastal California groups: the Miwok, Costanoan, Maiduan, and Wintuan (Wallace 1978:446).

Much of what is known about the Yokuts must be inferred from the archaeological record because of a deficiency in historical documentation (Wallace 1978:462). Year-round tribelet centers were established in the western sub-area of the Northern Valley Yokuts. However, because of the limited range of resources, these centers were dependent upon exchange relationships with larger villages located along the San Joaquin River (Olsen 1972:7). It is inferred that both tribelet centers and large villages maintained a similar sociopolitical organization where groups were organized on the basis of totemic moieties: chieftainship was based on inheritance along patrilineal lines, and secondarily by popular vote.

The acorn was an important staple, being processed in both stone and wood mortars. Buckeye nuts were also processed for consumption. Deer, antelope, rabbits, and gophers were hunted year-round, while ducks and other waterfowl, fish, and various insects, including grasshoppers and caterpillars were available on a seasonal basis (Kroeber 1925:524).

Historic Context

The following principal historic themes are observed within or adjacent to the project area: ranching, farming and settlement, railroading, and mining.

Ranching, Farming, and Settlement

The history of the community of Patterson and vicinity began with the grant of land known as Rancho Del Puerto by the Mexican governor Manuel Micheltorene on January 20, 1844. This land grant extended from the present Highway 33 to the San Joaquin River, and was bounded by Del Puerto

Creek on the north to just south of the present Marshall Road. Samuel G. Reed and Ruben S. Wade laid claim to the land on January 7, 1855, and a patent encompassing 13,340 acres, including the original grant, was signed by President Abraham Lincoln on August 15, 1864. Reed and Wade subsequently sold the land to J.O. Eldredge on June 18, 1866 for a sum of $5,000. Two months later Eldredge sold the land to John Patterson for $5,400. Upon his death in 1902, Patterson willed the land to his heirs Thomas W. Patterson and William W. Patterson, executors of his estate. Thomas Patterson, owner of the Patterson Ranch Company, purchased the land and subdivided it into lots, mostly 10 to 20 acres in size, and laid out a town to serve as a hub of the farming community.

Railroading and Mining

The community of Patterson was located adjacent to the Southern Pacific Railroad, which was originally the San Pablo and Tulare Extension Railroad Company, constructed in 1888-1889, and linked the town of Tracy with destinations in Kern County (Fickewirth 1992:133). Another railroad of importance to the region is the Patterson and Western Railroad that operated between 1916 and 1920. This operation primarily hauled ore from chromite and manganese deposits in Del Puerto Canyon to Patterson where the Mineral Products Company established a factory for the production of manganese dioxide.

METHODOLOGY

The inventory of the project area was undertaken to determine the presence or absence of archaeological resources, and to determine the significance of recorded historic buildings located within the project area. Because the buildings identified in this survey are over 45 years of age, their potential significance with reference to CEQA was evaluated as part of this study.

Prefield Research

EDAW's research into cultural resource issues for the Patterson Wastewater Master Plan EIR began with a record search conducted at the Central California Information Center (CCIC), of the California Historical Resources Information System. The record search included a review of the following publications and sources:

> *National Register of Historic Places* (National Park Service 1996, and Computer 1966 through July 2000)
>
> *California Register of Historical Resources* (State of California 2001)
>
> *California Points of Historical Interest* (State of California 1992 and updates)
>
> *California Historical Landmarks* (State of California 1996)
>
> *Directory of Properties in the Historical Resources Inventory* (State of California 1976)

Preliminary background research for historic buildings was done through First American Real Estate Solutions commercial database, Stanislaus County Assessor's Office, the historic General Land Office Plat Map for Township 5 South, Range 8 East, as well as a search of Sanborn Fire Insurance Maps.

The CCIC files indicated that the following inventories were previously conducted within the project area:

IC File No.	Author & Date
2789	Napton 1984
896	Napton 1996
3622	Wachtel 1999
1846	Canaday et al. 1992
621	Morratto et al. 1990
3551	Werner 1999

Holman and Associates Archaeological Consultants conducted a cultural resources investigation within and adjacent to the current project area (Ambro et. al 2002) that identified Lateral 6S and Salado Creek as possible historic resources. These resources are discussed and evaluated in the Results section.

No sites have been recorded within the project area, and only two sites are known to be within a ½ mile radius of the proposed project. Site CA-STA-386H, recorded by Dougherty in 1994, documented the presence of a trash scatter containing ceramics, glass, galvanized iron and metal cans. Grazing and erosion were seen to have disturbed the site. Site CA-STA-041, recorded by Latta in 1950, documented the presence of an occupation site.

Field Research

The areas surveyed for this project (Figure 3) consist of a linear corridor, located on the south side of the road within the shoulder from the Diablo Grande Parkway, along Sperry Avenue to Ward Avenue, a distance approximately nine miles in length. The survey area for the proposed Diablo Grande pump station, expanded outward approximately 70 feet from the shoulder, is included within this linear corridor. The linear survey area from I-5 to Rogers Road was expanded out to approximately two hundred feet south of Sperry Road to cover possible future construction related activities near the California Aqueduct. In an effort to examine undisturbed (non-gravel) areas, fieldwork was conducted approximately 10 feet from the shoulder in all other areas of the linear corridor. One eight-acre parcel, located on Olive Avenue, was also surveyed as part of this project. A pedestrian survey using parallel transects at 20 meter intervals was used.

As part of the standards of the California Department of Parks and Recreation, Office of Historic Preservation, historic buildings and features were inspected in the field, photographed, and described in detail on DPR-523 forms in Appendix A.

APPLICATION OF SIGNIFICANCE CRITERIA

The criteria for significance outlined in CEQA offers guidelines regarding impacts to historic and prehistoric cultural resources. CEQA states that if a project results in significant impacts to important cultural resources, then alternative plans or mitigation measures must be considered. However, only significant cultural resources need to be addressed.



Survey Coverage

City of Patterson Wastewater Master Plan EIR

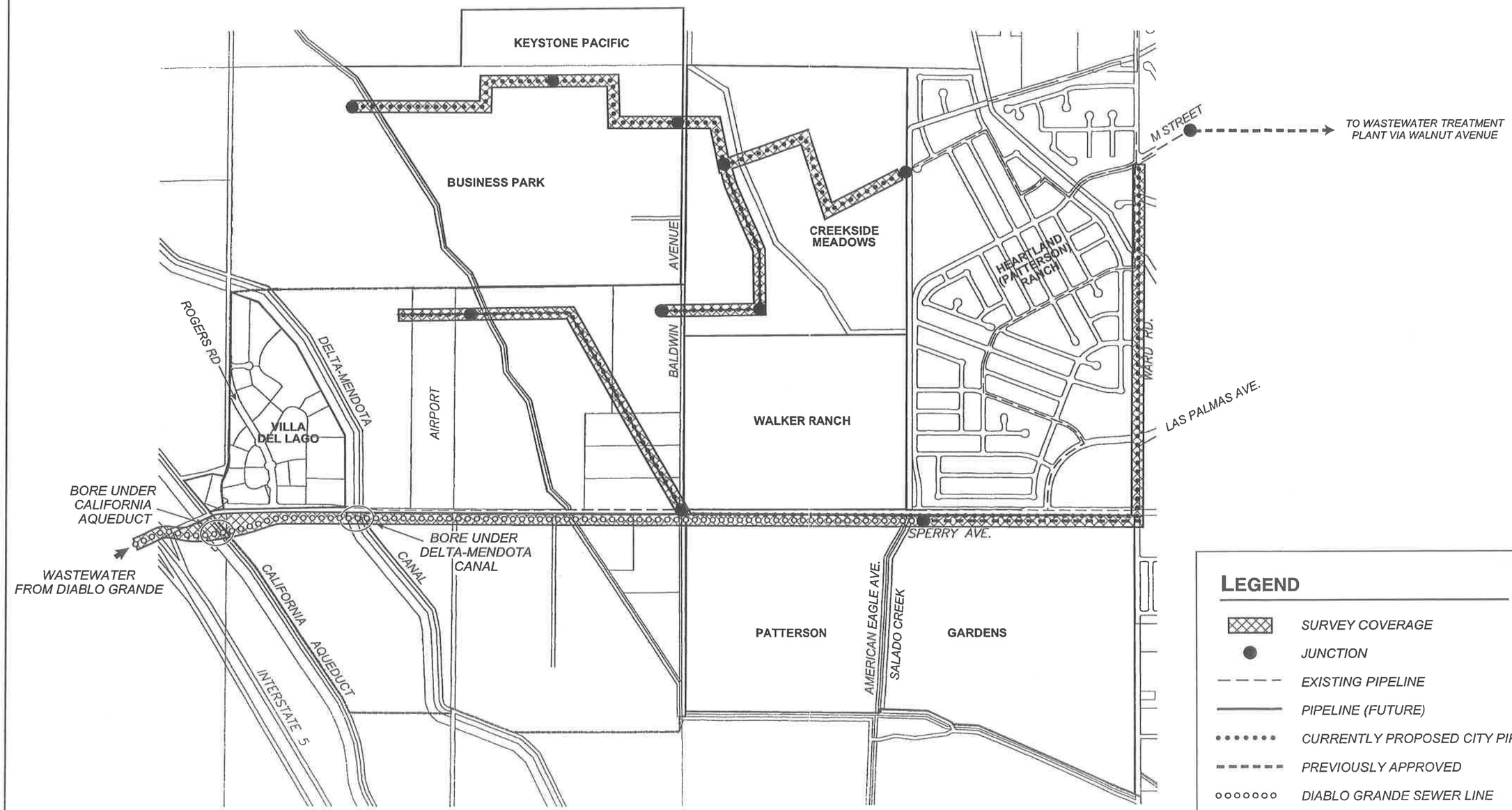
X 2T008.01 2/03

FIGURE 3-A

0 0.5 1 MILE

NORTH

EDAW



Source: Stoddard & Associates 2001; EDAW, Inc. From: *Western Area Sanitary Sewer Trunk Improvements*

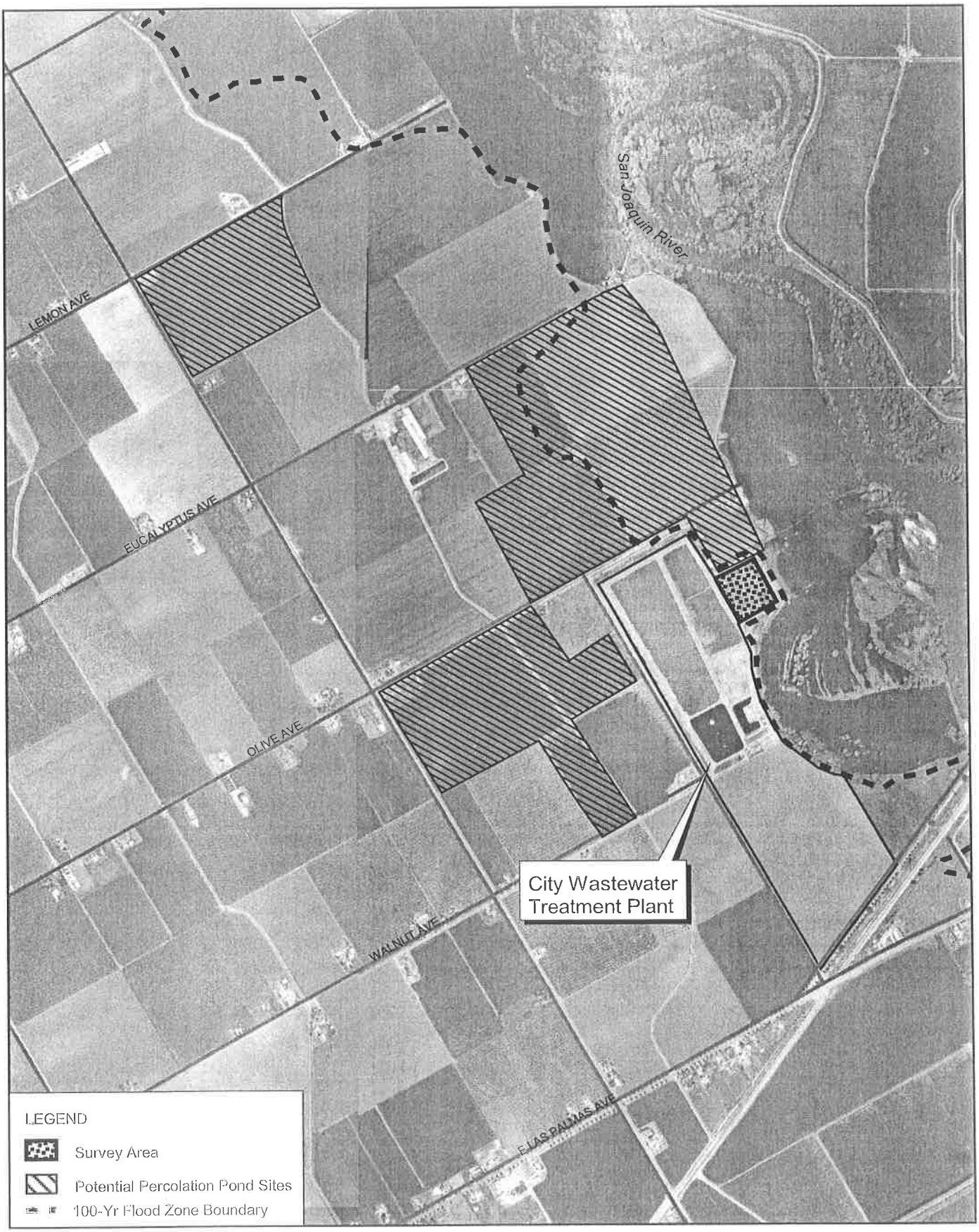
Survey Coverage

FIGURE 3B

City of Patterson Wastewater Master Plan EIR

G 2T008.01 4/03

0 1000 2000 FEET NORTH



Survey Coverage

FIGURE 3-C

City of Patterson Wastewater Master Plan EIR
2T008.01 2/03

0 2000 FEET NORTH

EDAW

CEQA guidelines define a significant historical resource as "a resource listed or eligible for listing on the California Register of Historical Resources (CRHR) (Public Resources Code Section 5024.1). A resource may be eligible for inclusion in the CRHR if it:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history.

CEQA guidelines also require consideration of unique archaeological resources (Section 15064.5). As used in Public Resources Code (Section 21083.2), a unique archaeological resource means an archaeological artifact, object, or site about that it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- has a special and particular quality such as being the oldest of its type or the best available example of its type.
- is directly associated with a scientifically recognized important prehistoric or historic event or person.

In addition to meeting one or more of the above criteria, historical resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, materials, setting, workmanship, feeling and association (Office of Historic Preservation 1999:69-70).

INVENTORY RESULTS

The cultural resources survey, conducted on January 27, 2003, resulted in no archaeological resource identification. Ground visibility in the linear survey area along the Diablo Grande Parkway ranged from 0–40%. Most of the area is covered with grasses used for grazing. The shoulder itself is graveled along much of its length. Visibility in the proposed pump area location was less than 5% because of the coverage of grasses. Where grass cover was light, modern debris (beer bottles, paper, etc.) littered the area. When discovered, archaeologists inspected the dirt from rodent burrows. Ground visibility in the linear survey area from American Eagle Avenue to Ward Avenue, as well as linear corridors jetting west of Baldwin Road, was near 100% as the fields were either barren or

contained sporadic light grass. Ground visibility in the linear survey area from Ward Avenue to M street was 0-5% because of grass cover. The adjacent land use along this section is agricultural (orchard). The eight acre parcel provided approximately 35% ground visibility. This parcel has an agricultural land use. According to the owner, hay, corn, tomatoes, and alfalfa are grown throughout the year.

Two properties within the study area contained historic-era buildings that were evaluated. One of these properties contains two residences and ancillary sheds. The other property is a homestead with a shed that sits within the study area. A historically realigned section of the Salado Creek was also evaluated.

2818 Olive Avenue, APN: 047-28-15-000

This two-story, wood-frame building has horizontal exterior wood siding, and a cross-gable roof with an exterior mounted brick chimney. The full-width brick porch is supported by simple square wood columns. The window treatments are a combination of fixed, bay, and sash. The connecting two car garage structure also has an extra bay for workspace, and is covered with corrugated metal. A combination of deciduous and conifer trees are dotted around the property. According to the owner, this home was constructed ca. 1916, and moved from Modesto, California. The assessor's records show a construction date of 1925. The home has been extensively modified as evidenced in the connecting garage structure, and the brick porch. The assessor's office noted several thousand dollars worth of improvements for this property.

Four dilapidated ancillary buildings sit on this property. Each of the buildings is of wood-frame construction with exterior wood siding. Three of the structures are sheds and feature gable roofs with deteriorating wood shingles. One of the structures is an old milking shed, and features a shed roof with a corrugated metal covering. Each of these buildings is used for storage, and is surrounded by farming equipment and debris. Although no exact date of construction was found for these ancillary buildings, the owner estimates that they were built between 1925 and 1940.

According to the owner, Mr. Charles Ferry, the property on these buildings sits has been in their family for 80 years. The field adjacent to the house is used for agricultural purposes, and is currently filled with hay. Corn, tomatoes, and alfalfa are also grown throughout the year. Although these buildings are associated with agricultural development in the town of Patterson, none of them are significant within that context (Criterion A). The buildings are not associated with a historically significant person (Criterion B), nor do they represent the work of a master or display distinguishing architectural characteristics (Criterion C). In certain instances, buildings themselves can serve as important sources of information about historic construction styles (Criterion D), however these types of buildings are well documented, and do not appear to be sources of significant information. Currently, the ancillary buildings appear ready to collapse, and are lacking integrity, thereby hindering their eligibility potential to the CRHR. The home has been heavily modified, as well as having been moved to its current location. Lacking historic integrity of location, feeling, and design, this building does not appear to meet the eligibility criteria for inclusion in the CRHR.

2830 Olive, APN: 047-28-15-000

This single-story wood-frame building has a stucco exterior and a built-in garage. The cross-gabled roof, as well as the gabled entry porch is shingled. Casement and sash windows are featured on this

home. A porch with a corrugated metal roof and simple wood beam supports is attached on the eastern façade of the house, possibly by the owner. Although a different address, this house sits on the same property as the above-mentioned property, and has no separate parcel number. The assessor's office has no information about the building at this address. According to the owner, this house was built ca. 1940.

Little information could be found about this building, other than that provided by the property owner, Charles Ferry. The building does not appear to be associated with a historically significant person (Criterion B), nor does it represent the work of a master (Criterion C). This type of building is well documented and represented throughout Patterson, so it does not appear to be a source of primary information (Criterion D). A lack of thorough documentation also limits the building's potential to yield important information. This home does not appear to meet the eligibility criteria for inclusion in the CRHR.

1524 Sperry Avenue, APN: 021-27-06-000

This shed has a wood-frame, with exterior board and batten siding. The moderately sloped gable roof features open eaves. Window openings, minus glazing, are featured on each façade. According to the owner, the shed was built ca. 1952, and was originally used to store hay. It is currently used to store equipment. Tires and modern refuse is littered around the exterior of the shed.

This building is part of a larger home site that sits further away from the study area, however the shed is closer to the proposed project area, sitting approximately 15 feet south of Sperry Avenue. Although this building is in good condition, it is not significant within a particular historic context associated with Patterson (Criterion A). This shed is not known to be associated with a historically significant person (Criterion B), nor does it represent the work of a master or display distinguishing architectural characteristics (Criterion C). This type of building is otherwise well documented, and does not appear to be a source of primary information (Criterion D). This shed does not appear to meet the eligibility criteria for inclusion in the CRHR.

Salado Creek

Holman and Associates identified the Salado Creek as a potential historic resource in 2002 (Ambro 2002:14). Although a natural watercourse, archival research indicates that the section that sits within the study area may represent a man-made realignment. Historic maps (1855-1870) show that the creek flowed northeast rather than completely northward. It is believed that sometime between 1906 and 1912, an effort was made to change the course of the creek, probably for irrigation purposes and flood control.

The section of Salado Creek that lies within the project area (south of Sperry Avenue) no longer retains enough historic integrity to the period of this realignment to meet the criteria for eligibility to the CRHR. Modern improvements such as periodic maintenance and improvements of the roadway, rip-rap, and added abutments have compromised the feeling of place and time, as well as its ability to yield primary information (Criterion D). This realigned feature is not associated with historically significant persons (Criterion B), nor does it represent the work of a master (Criterion C). This resource does not appear to meet the criteria to be eligible for inclusion in the CRHR.

Lateral 6S

The Lateral 6S canal runs diagonally southeast underneath Sperry Avenue between Rogers Road and Baldwin Road. The portion of the canal that is within the project area is underground, not visible, and therefore was not recorded. According to the West Stanislaus Irrigation District, most of this canal is piped. Holman and Associates discussed this canal in their cultural resource investigation (Ambro 2002:14). According to their assessment, the Lateral 6S is not seen on the 1916 USGS map, however it is on the 1953 USGS update, potentially qualifying it as a historic resource. This canal is unlined for most of its length, except for a portion that crosses into the northern half of Section 26 of the 1953 topographic map. This small portion is now lined with crumpling concrete slabs. Holman and Associates concluded that this resource was likely ineligible for the CRHR because of a loss of integrity.

CONCLUSIONS

The three resources and associated features identified during the cultural resources investigation for the proposed project have been evaluated for significance using the criteria outlined in the CRHR eligibility section of this report. All are recommended as not significant based upon a lack of integrity, association, and/or limited research potential. While these properties are associated with historic developments that have influenced the growth of Patterson, none of the properties are significant within those contexts. The proposed project, therefore, will not have an effect on the evaluated resources located within the properties studied for this report.

In the event that unrecorded cultural resources are uncovered during the clearing of crop cover, or other construction related activities, work in the vicinity of the find should halt until a qualified archaeologist can evaluate the nature and significance of the find.

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Kroeber, Alfred L.
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Kuchler, A.W.
1977 Map of the Natural Vegetation of California. In M.G. Barbour and J. Major, eds., *Terrestrial Vegetation of California*: New York: Wiley.

State of California
Instructions for Nominating Historical Resources to the California Register of Historical Resources. California Office of Historic Preservation.

Wallace, William J.
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Zeiner, David C.
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PERSONAL INTERVIEWS

Ferry, Charles, Patterson Resident, Interviewed by Angel Tomes, January 27, 2003, Patterson, California.

Hansen, Lois, Patterson Resident, Phone interview by Angel Tomes, February 3, 2003, Sacramento, California

appendix A

DEPARTMENT OF PARKS AND RECREATION FORMS

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

*Resource Name or #: 2818 Olive Avenue

P1. **Other Identifier:** Ferry House

*P2. **Location:** ☒Not for Publication ☐Unrestricted *a. **County:** Stanislaus

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. **USGS 7.5' Quad:** Brush Lake **Date:** 1969 **T** 5S; **R** 8E; NW ¼ **of** SE ¼ **of Sec** Unsectioned ; Mount Diablo **B.M.**

c. Address: 2818 Olive Avenue City: Patterson, CA Zip: 95363

d. UTM: Zone ; mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
APN: 047-28-15-000

*P3a. **Description:** (Describe resource and major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This property contains a residence and four dilapidated ancillary buildings. The residence is a two-story, wood-frame building with horizontal exterior wood siding. The cross-gable roof has an exterior mounted brick chimney. The full-width brick porch is supported by simple square wood columns. Various window treatments are featured including: fixed, bay, and sash. The connecting two car garage structure has an additional bay for workspace, and is covered with corrugated metal. All of the ancillary buildings are of wood-frame construction with exterior wood siding. Three of the structures are sheds, and feature gable roofs with deteriorating wood shingles. One of the structures is an old milking barn, and features a shed roof with a corrugated metal covering.

*P3b. **Resource Attributes:** HP33 – Farm

*P4. **Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)



P5b. Description of Photo:
Roll 1, Frame 18, Lkg. NW

*P6. **Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both

*P7. **Owner and Address:**
Charles Ferry
2818 Olive Avenue
Patterson, CA 95363

*P8. **Recorded by:**
Angel Tomes
EDAW, Inc.
2022 J Street
Sacramento, CA 95814

*P9. **Date Recorded:**
January 27, 2003

*P10. **Survey Type:** (Describe)
Reconnaissance

*P11. **Report Citation:** Cultural Resources Inventory for the Patterson Wastewater Master Plan EIR Project, Stanislaus County, CA, by A. Tomes

*Attachments:
☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet
☒Building, Structure/Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record
☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record
☐Other (List):

*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary #
HRI #
*NRHP Status Code

*Resource Name or #: 2818 Olive Avenue

B1. Historic Name:
Ferry House

B2. Common Name:
none

B3. Original Use: House

B4. Present Use: House

***B5. Architectural Style:**

n/a

***B6. Construction History:** (Construction date, alterations, and date of alterations)
Construction date of the home according to Assessor's records is 1925.
Construction date of the home according to the owner is 1916.

***B7. Moved?** ☐No ☒Yes ☐Unknown **Date:** unknown **Original Location:** Modesto, CA

***B8. Related Features:**
Three dilapidated wood frame sheds, and one dilapidated milking structure are located on this property.

B9a. Architect: unknown

B9b. Builder: unknown

*B10. **Significance:** **Theme** Agricultural Development **Area** Patterson, CA

Period of Significance	Property Type	Applicable Criteria
1920 - 1950	Farm complex	n/a

(Discuss importance in terms of historical or architectural context as defined by theme, period and geographic scope. Also address integrity.)
According to the owner of the property, Charles Ferry, the parcel on which these buildings sit has been in their family for 80 years. Although these buildings are associated with agricultural development in the town of Patterson, none of them are significant within that context (Criterion A). The buildings are not associated with a historically significant person (Criterion B), nor do they represent the work of a master or display distinguishing architectural characteristics (Criterion C). In certain instances, buildings themselves can serve as important sources of information about historic construction technologies (Criterion D), however these types of buildings are well documented, and do not appear to be primary sources of information. Currently the ancillary buildings appear ready to collapse. The home as been heavily modified, as well as having been moved to its current location. Lacking integrity of location and design, this building does not appear eligible for the California Register of Historical Resources.

B11. Additional Resource Attributes: (List attributes and codes)
n/a

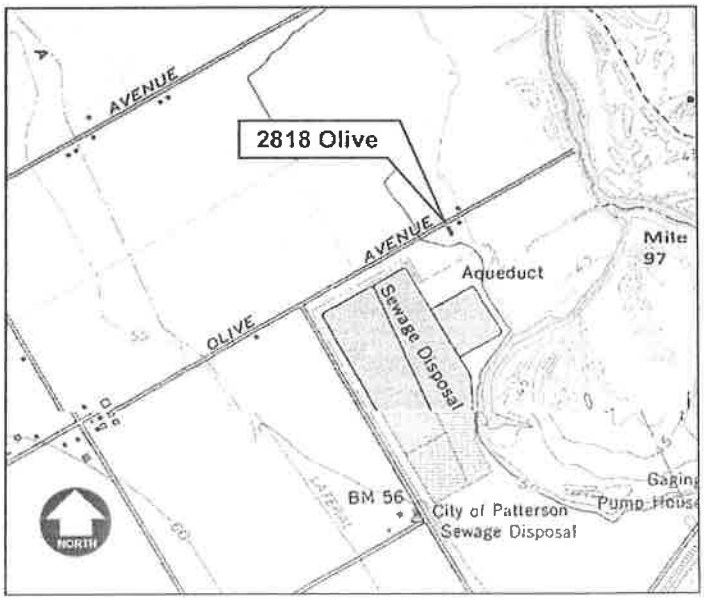
***B12. References:**
Charles Ferry, Property owner.
Stanislaus County Assessor's Office

B13. Remarks:

***B14. Evaluator:**
Angel Tomes

***Date of Evaluation:**
January 27, 2003

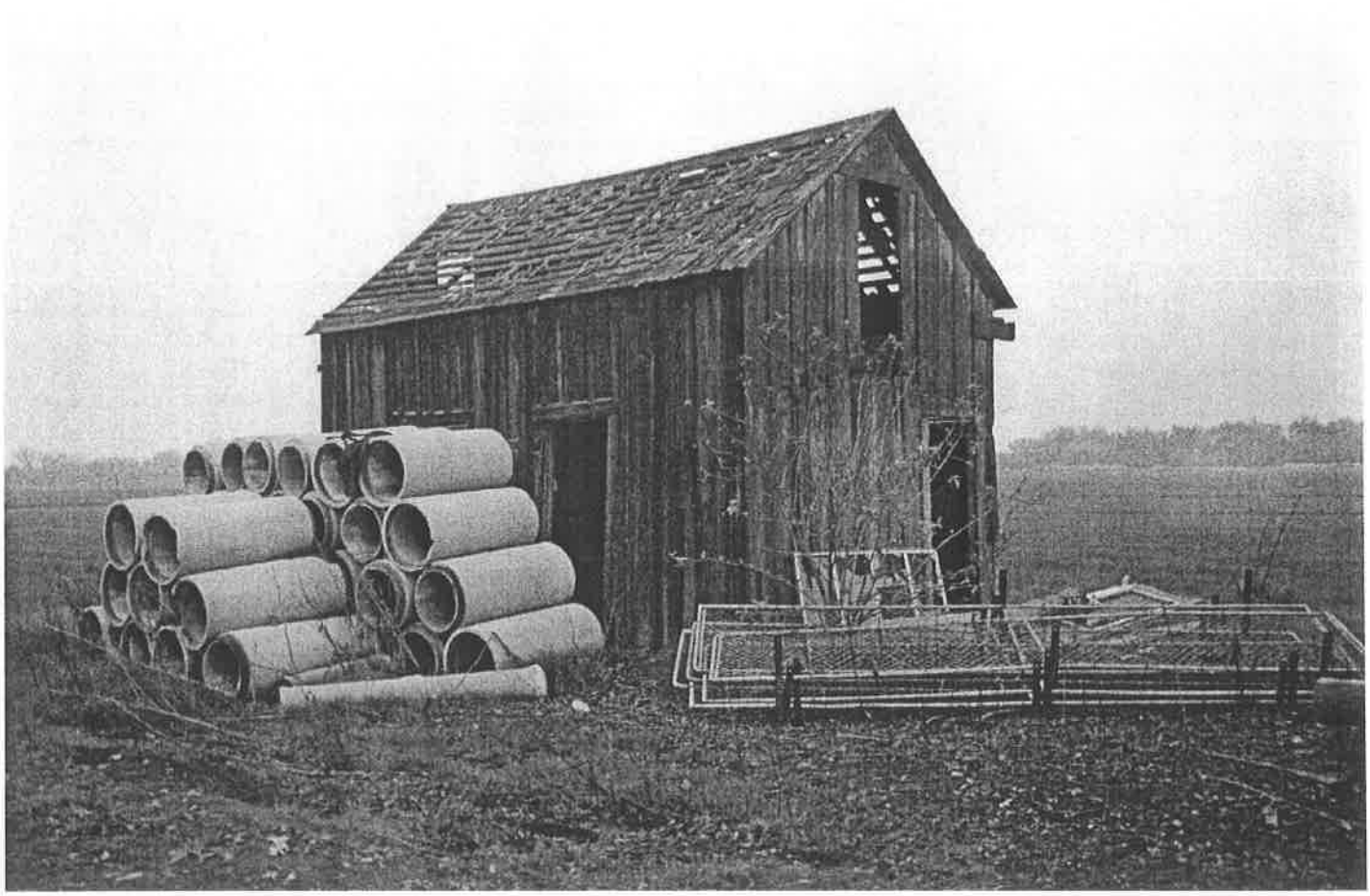
(This space reserved for official comments.)



*Required information

***Recorded by:** A. Tomes ***Date:** 1/27/03 ☒ Continuation ☐ Update

Affiliation: EDAW, 2022 J Street, Sacramento, CA



***Recorded by:** A. Tomes ***Date:** 1/27/03 ☒ Continuation ☐ Update

Affiliation: EDAW, 2022 J Street, Sacramento, CA



***Recorded by:** A. Tomes ***Date:** 1/27/03 ☒ Continuation ☐ Update

Affiliation: EDAW, 2022 J Street, Sacramento, CA



State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

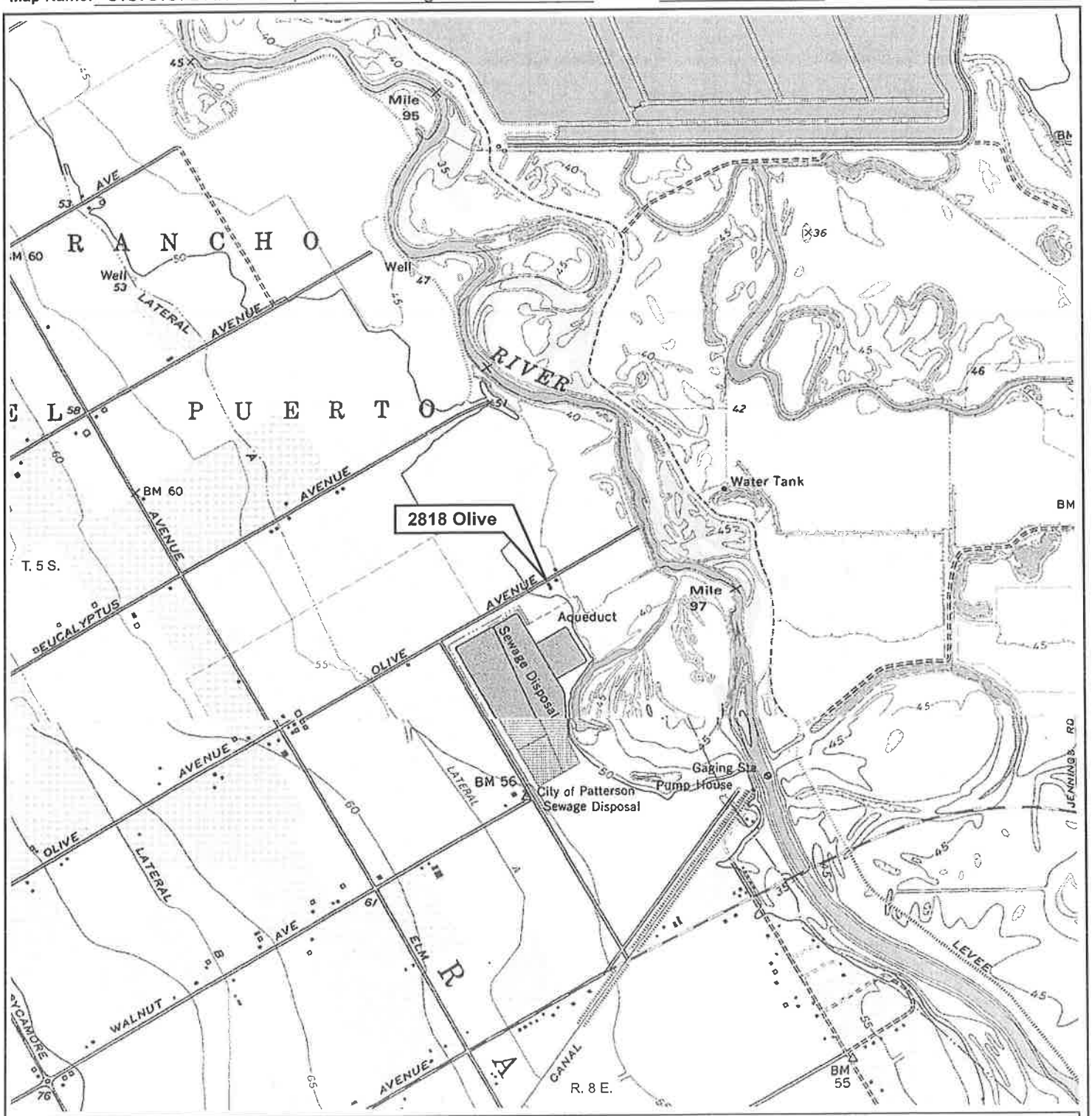
LOCATION MAP

Primary # _____
HRI# _____
Trinomial _____

Page 3 of 3

*Resource Name or # (Assigned by recorder) 2818 Olive Ave

*Map Name: U.S.G.S. Brush Lake, Crows Landing Quad *Scale: 1:24 000 *Date of Map: 1976



Source: U.S.G.S. Brush Lake Quad 1969 (photo revised 1976) -- Contour Interval 5 Feet
U.S.G.S. Crows Landing Quad 1952 (photo revised 1980) -- Contour Interval 5 Feet

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

NORTH

CALIF

QUADRANGLE LOCATION

DPR 523J (1/95)

*Required Information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

*Resource Name or #: 2830 Olive Avenue

P1. Other Identifier:

*P2. Location: ☒Not for Publication ☐Unrestricted *a. County: Stanislaus

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: Brush Lake Date: 1969 T 5S ; R 8E ; NW ¼ of SE ¼ of Sec Unsectioned ; Mount Diablo B.M.

c. Address: 2830 Olive Avenue City: Patterson Zip: 95363

d. UTM: Zone ; mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
APN: 047-28-15-000

*P3a. Description: (Describe resource and major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This single-story wood-frame building has a stucco exterior and a built-in garage. The cross-gable roof is shingled, as well as the gabled porch entry. Casement and sash windows are featured on this home. A porch with a corrugated metal roof and simple wood beam supports has been attached on the eastern façade of the house, mostly likely by the owner. Although a different address, this house sits on the same property as 2818 Olive Avenue, and has no separate parcel number.

*P3b. Resource Attributes: (List attributes and codes)
HP2 – Single Family House

*P4. Resources Present: ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)



Wastewater Master Plan EIR Project, Stanislaus County, CA. by A. Tomes

P5b. Description of Photo:
(View, date, accession #)
Roll 1, Frame 16, Lkg. W

*P6. Date Constructed/Age and Sources: ☒Historic ☐Prehistoric ☐Both

*P7. Owner and Address:
Withheld by Owner

*P8. Recorded by:
Angel Tomes
EDAW, Inc.
2022 J Street
Sacramento, CA 95814

*P9. Date Recorded:
January 27, 2003

*P10. Survey Type: (Describe)
Reconnaissance

*P11. Report Citation: Cultural Resources Inventory for the Patterson

*Attachments:
☐NONE ☒Location Map ☐Sketch Map ☐Continuation Sheet
☒Building, Structure/Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record
☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record
☐Other (List):

*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary #
HRI #
*NRHP Status Code

 *Resource Name or #: 2830 Olive Avenue

B1. Historic Name:
none

B2. Common Name:
none

B3. Original Use: House B4. Present Use: House

*B5. **Architectural Style:**
n/a

*B6. **Construction History:** (Construction date, alterations, and date of alterations)
Construction date of the home according to the owner is ca. 1940

*B7. **Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**

*B8. **Related Features:**

B9a. Architect: Unknown B9b. Builder: Unknown

*B10. **Significance:** **Theme** Residential Architecture **Area** Patterson, CA

Period of Significance 1940-1950 **Property Type** Single Family Dwelling **Applicable Criteria** n/a

(Discuss importance in terms of historical or architectural context as defined by theme, period and geographic scope. Also address integrity.)

Little information could be found about this building other than that provided by the property owner, Charles Ferry. According to him, this house was built ca. 1940. The assessor's office has no information about the building at this address. This house does not appear to be associated with a historically significant person (Criterion B), nor does it represent the work of a master (Criterion C). This type of building is well documented and represented throughout Patterson, so it does not appear to be a source of primary information (Criterion D). A lack of thorough documentation also limit the building's potential to yield important information. This house does not appear to meet the eligibility criteria for inclusion in the California Register of Historical Resources.

B11. Additional Resource Attributes: (List attributes and codes)
n/a

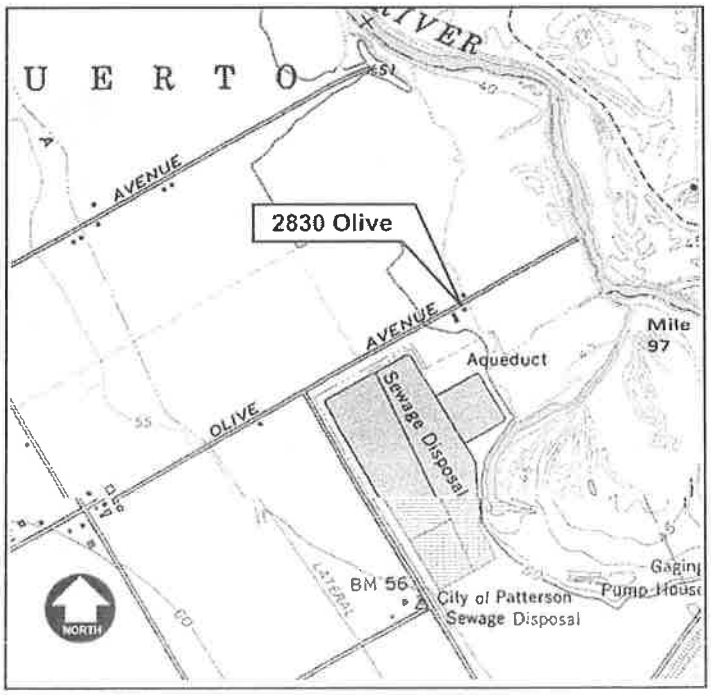
*B12. **References:**
Charles Ferry, property owner
Stanislaus County Assessor's Office

B13. Remarks:

*B14. **Evaluator:**
Angel Tomes

*Date of Evaluation:
January 27, 2003

(This space reserved for official comments.)



*Required information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

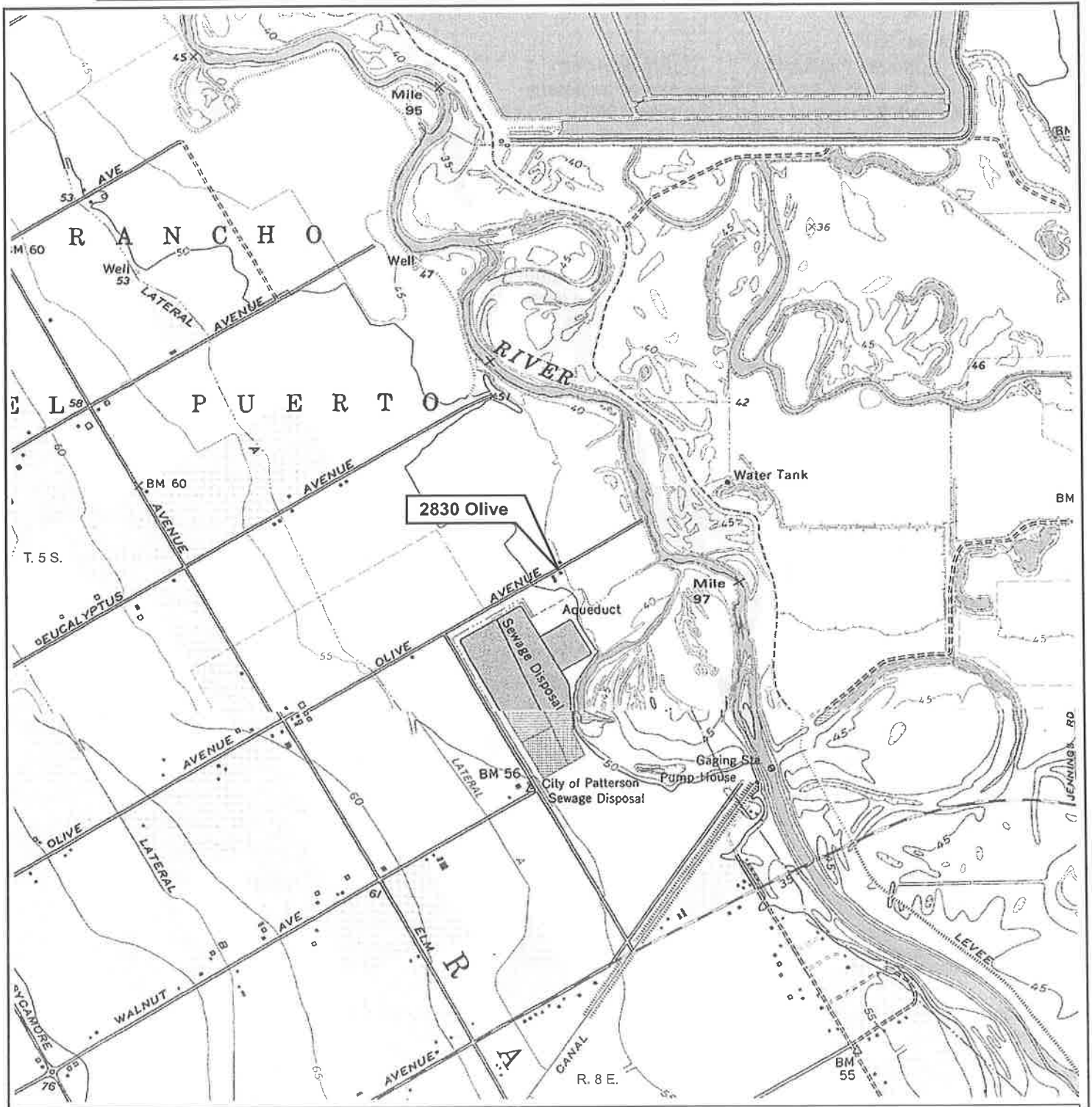
LOCATION MAP

Primary #
HRI#
Trinomial

Page 3 of 3

*Resource Name or # (Assigned by recorder) 2830 Olive Ave

*Map Name: U.S.G.S. Brush Lake, Crows Landing Quad *Scale: 1:24 000 *Date of Map: 1976



Source: U.S.G.S. Brush Lake Quad 1969 (photo revised 1976) -- Contour Interval 5 Feet
U.S.G.S. Crows Landing Quad 1952 (photo revised 1980) -- Contour Interval 5 Feet

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1. 5 0 1 KILOMETER

NORTH

CALIF QUADRANGLE LOCATION

*Required Information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

***Resource Name or #:** 1524 Sperry Avenue - Shed

P1. Other Identifier: Shed

***P2. Location:** ☒**Not for Publication** ☐**Unrestricted** ***a. County:** Stanislaus
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Patterson **Date:** 1953 **T** 5S; **R** 8E; NE ¼ **of** NW ¼ **of Sec** 36; Mount Diablo **B.M.**

c. Address: 1524 Sperry Avenue City: Patterson Zip: 95363

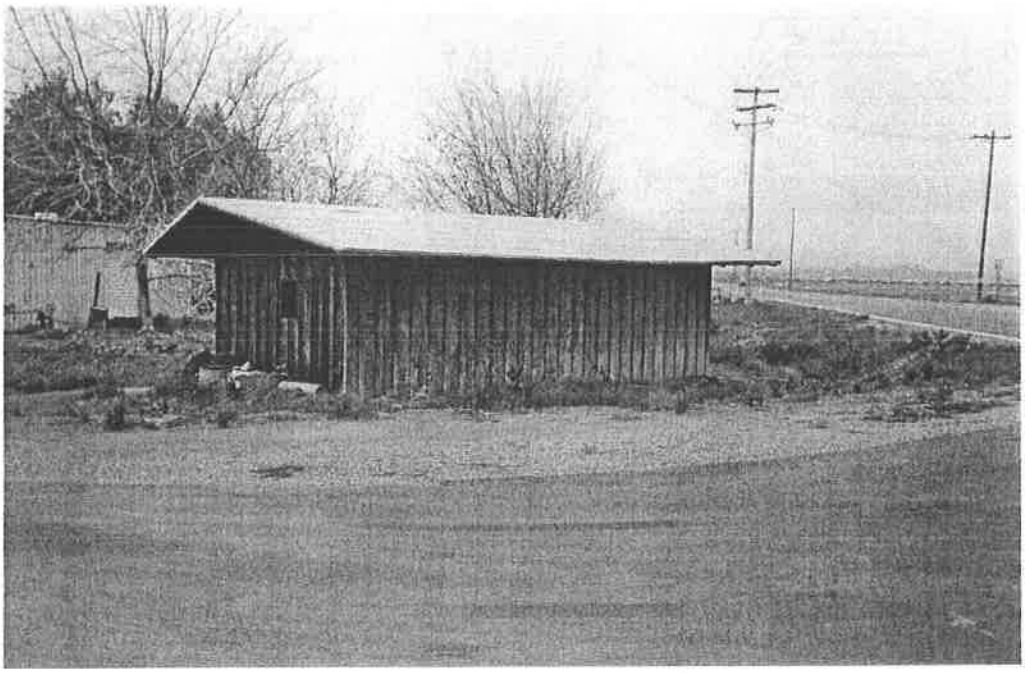
d. UTM: Zone ; mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
South side of Sperry Avenue, just before American Eagle Avenue, approximately 15 feet from the edge of the road.

***P3a. Description:** (Describe resource and major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This shed has a wood-frame with exterior board and batten siding. The moderately sloped gable roof features open eaves. Window openings with wood closures, minus glazing, are featured on this building. Tires and modern refuse is littered around the exterior of the shed. This building is currently used to store equipment.

***P3b. Resource Attributes:** AP4 – Shed

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)



P5b. Description of Photo:
(View, date, accession #)
Roll 1, Frame 8, Lkg. NW

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both

***P7. Owner and Address:**
Charles and Lois Hansen
1524 Sperry Avenue
Patterson, CA 95363

***P8. Recorded by:**
Angel Tomes
EDAW, Inc.
2022 J Street
Sacramento, CA 95814

***P9. Date Recorded:**
January 27, 2003

***P10. Survey Type:** (Describe)
Reconnaissance

***P11. Report Citation:** Cultural Resources Inventory for the Patterson Wastewater Master Plan EIR Project, Stanislaus County, CA. by A. Tomes

***Attachments:**
☐NONE ☒Location Map ☐Sketch Map ☐Continuation Sheet
☒Building, Structure/Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record
☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record
☐Other (List):

*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
BUILDING, STRUCTURE, AND OBJECT RECORD

Primary #
HRI #
*NRHP Status Code

***Resource Name or #:** (Assigned by recorder) 1524 Sperry Avenue - Shed

B1. Historic Name:
None

B2. Common Name:
None

B3. Original Use: Shed

B4. Present Use: Shed

***B5. Architectural Style:**
n/a

***B6. Construction History:** (Construction date, alterations, and date of alterations)

Construction date of the shed according to the owner is ca. 1952.

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**

***B8. Related Features:**
Other ancillary buildings and a house also sit further back on this parcel.

B9a. Architect: unknown

B9b. Builder:

*B10. **Significance:** **Theme**
Agricultural Development

Area
Patterson, CA

Period of Significance
1950 - 1955

Property Type
Homestead

Applicable Criteria
n/a

(Discuss importance in terms of historical or architectural context as defined by theme, period and geographic scope. Also address integrity.)

This building is part of a larger home site which sits further away from Sperry Avenue (outside of the project area). The shed, however, is closer to the project study area, sitting approximately 15 feet south of Sperry Avenue. Although this building is in good condition, it is not significant within a particular historic context associated with Patterson (Criterion A). This shed is not known to be associated with a historically significant person (Criterion B), nor does it represent the work of a master or display distinguishing architectural characteristics (Criterion C). This type of building is otherwise well documented, and does not appear to be a source of primary information (Criterion D). This shed does not appear to meet the eligibility criteria for inclusion in the California Register of Historical Resources.

B11. Additional Resource Attributes: (List attributes and codes)
n/a

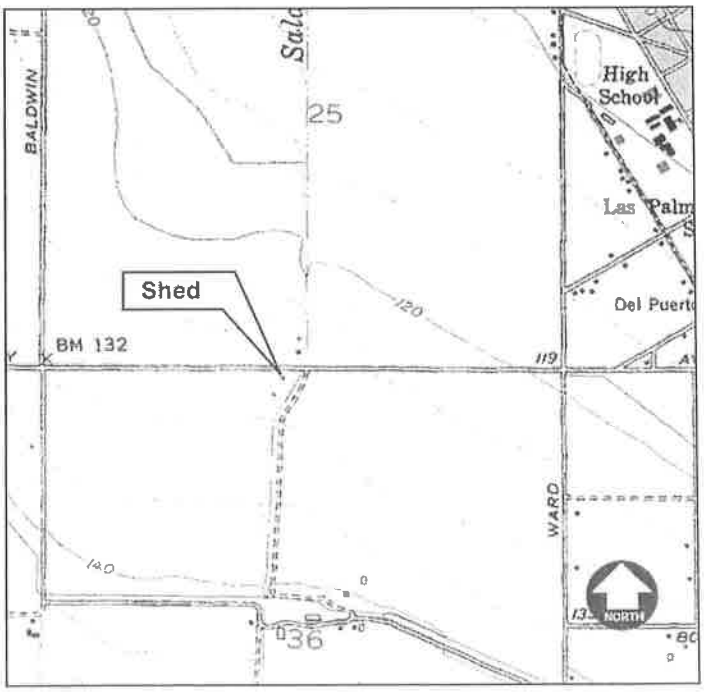
***B12. References:**
Lois Hansen, property owner
Stanislaus County Assessor's Office

B13. Remarks:

***B14. Evaluator:**
Angel Tomes

***Date of Evaluation:**
January 27, 2003

(This space reserved for official comments.)



*Required information

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

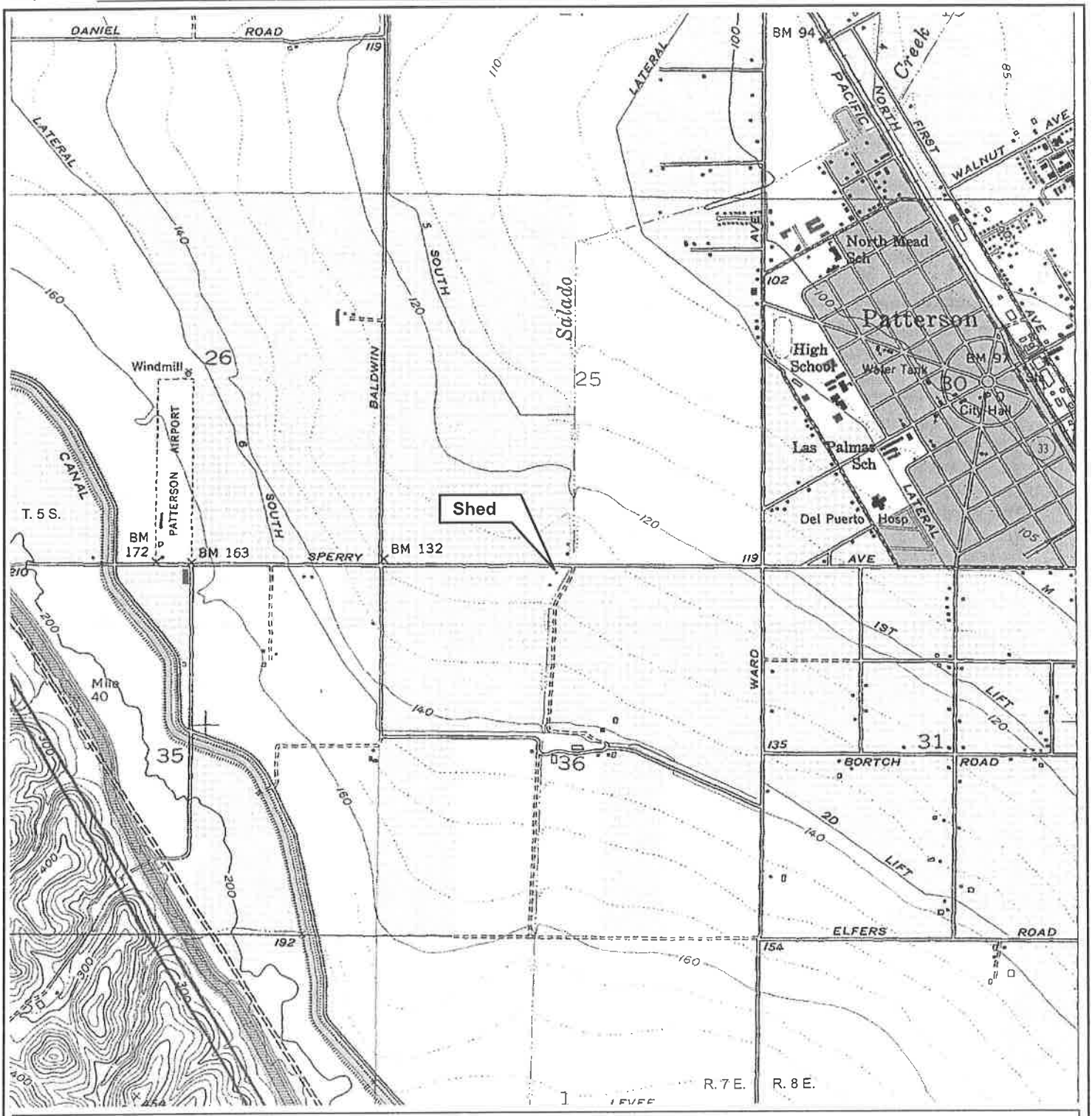
LOCATION MAP

Primary #
HRI#
Trinomial

Page 3 of 3

*Resource Name or # (Assigned by recorder) Shed

*Map Name: U.S.G.S. Patterson Quad *Scale: 1:24 000 *Date of Map: 1978



Source: U.S.G.S. Patterson Quad 1953 (photo revised 1971, photo inspected 1978) -- Contour Interval 20 Feet

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1. 5 0 1 KILOMETER

NORTH

CALIF QUADRANGLE LOCATION

DPR 523J (1/95)

*Required Information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

***Resource Name or #:** Salado Creek

P1. Other Identifier:

***P2. Location:** ☐**Not for Publication** ☒**Unrestricted**
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***a. County:** Stanislaus

***b. USGS 7.5' Quad:** Patterson **Date:** 1953 **T** 5S; **R** 8E; NE ¼ **of** NW ¼ **of Sec** 36; Mount Diablo **B.M.**

c. Address: City: Zip:

d. UTM: Zone ; mE/ mN

e. Other Locational Data:
This section of Salado Creek lies on the south side of Sperry Avenue (running underneath the road), just before American Eagle Avenue.

***P3a. Description:**
Although a natural watercourse, archival research indicates that the section of Salado Creek which lies within the study area may represent a man-made realignment. Historic maps show that the creek flowed northeast rather than completely northward. It is believed that sometime between 1906 and 1912; an effort was made to change the course of the creek, probably for irrigation and flood control purposes. Currently, this section of the creek is unlined and filled with rip-rap and other modern maintenance improvements.

***P3b. Resource Attributes:** HP20 – Ditch

***P4. Resources Present:** ☐Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☒Other (Isolates, etc.)



P5b. Description of Photo:
Roll 1, Frame 9, Lkg. S

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both

***P7. Owner and Address:**
Unknown

***P8. Recorded by:**
Angel Tomes
EDAW, Inc.
2022 J Street
Sacramento, CA 95814

***P9. Date Recorded:**
January 27, 2003

***P10. Survey Type:** (Describe)
Reconnaissance

***P11. Report Citation:** Cultural Resources Inventory for the Patterson Wastewater Master Plan, Stanislaus County, CA. by A. Tomes

***Attachments:** ☐NONE ☒Location Map ☐Sketch Map ☐Continuation Sheet
☐Building, Structure/Object Record ☐Archaeological Record ☐District Record ☒Linear Feature Record
☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record
☐Other (List):

*Required information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LINEAR FEATURE RECORD

Primary #
HRI #
Trinomial

*Resource Name or #: Salado Creek

L1. **Historic and/or Common Name:**
Salado Creek

L2a. **Portion Described:** ☐Entire Resource ☒Segment ☐Point Observation **Designation:**

b. **Location of point or segment:** (Provide UTM coordinates, legal description, and any other useful locational data. Show the area that has been field inspected on a Location Map)
UTM: 4147450 mN / 663540 mE

L3. **Description:** (Describe construction details, materials, and artifacts found at this segment/point. Provide plans/sections as appropriate.)
This is an unlined section of the realigned portion of Salado Creek. The section of the creek which sits within the project area (south of Sperry Avenue) runs underneath the road surface. Although a natural watercourse, archival research indicates that this section of the creek may represent a man-made realignment. Historic maps show that the creek flowed northeast rather than completely northward. It is believed that sometime between 1906 and 1912, an effort was made to change the course of the creek for irrigation and flood control purposes.

L4. **Dimensions**: (In feet for historic features and meters for prehistoric features)
a. **Top Width:** 25 feet
b. **Bottom Width:** 25 feet
c. **Height or Depth:** 10 feet
d. **Length of Segment:** 2000 feet

L4e. Sketch of Cross-Section (include scale) **Facing:** _____

L5. **Associated Resources:**
none

L6. **Setting:** (Describe natural features, landscape characteristics, slope, etc., as appropriate.)
This ditch segment is situated on the south side of Sperry Avenue, running underneath the road.

L7. **Integrity Considerations:**
Modern improvements and periodic maintenance of the ditch and roadway have compromised the integrity of this linear feature.



L8B. Description of Photo, Map, or Drawing (View, scale, etc.)
Roll 1, Frame 9, Lkg. S

L9. Remarks:
References Used: Report of Historic Archival Research and Field Inspection of the West Patterson Master Development Plan and Patterson Gardens Project, by Holman and Associates, by R. Ambro et al. 2002.

L10. Form Prepared by:
Angel Tomes
EDAW, Inc.
2022 J Street
Sacramento, CA 95814

L11. Date:
1/27/03

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary # _____
HRI# _____
Trinomial _____

*Resource Name or # (Assigned by recorder) Salado Creek Realignment

*Map Name: U.S.G.S. Patterson Quad *Scale: 1:24 000 *Date of Map: 1978



Source: U.S.G.S. Patterson Quad 1953 (photo revised 1971, photo inspected 1978) -- Contour Interval 20 Feet

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1. 5 0 1 KILOMETER

NORTH

CALIF. QUADRANGLE LOCATION

*Required Information

Gray Davis, Governor

STATE OF CALIFORNIA

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

February 26, 2003

Angel Tomes
EDAW

Sent by Fax: 619-233-0952
No of Pages: 2

RE: Proposed Pattersn Wastewater Master Plan, Stanislaus County.

Dear Mr. Tomes:

A record search of the sacred lands file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend other with specific knowledge. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

NATIVE AMERICAN CONTACTS
Stanislaus County
February 26, 2003

Katherine Erolinda Perez
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Ohlone/Costanoan
Northern Valley Yokut
Bay Miwok

Tuolumne Band of Me-Wuk
Reba Fuller
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Me-Wuk - Miwok

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regards to the cultural assessmet for the proposed Patterson Wastewater Master Plan, Stanislaus County

EDAW INC
2022 J STREET
SACRAMENTO CALIFORNIA
95814
TEL 916 414 5800
FAX 916 414 5850
www.edaw.com

March 6, 2003

Reba Fuller
P.O. Box 699
Tuolumne, CA 95379

RE: PATTERSON WASTEWATER MASTER PLAN PROJECT, STANISLAUS COUNTY, CALIFORNIA

Dear Ms. Fuller:

EDAW, Inc. (EDAW) has been retained to conduct a cultural resources investigation for the above-referenced project in Patterson, Stanislaus County, CA (see map).

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

If you have any comments or questions, feel free to call me at my office.

Sincerely,

Angel Tomes
Archaeologist

enclosure