CARMICHAEL WATER DISTRICT

SPECIAL BOARD MEETING AGENDA PACKET

APRIL 2, 2007

POSTED 3/29/07

CARMICHAEL WATER DISTRICT

Special Meeting – April 2, 2007
7:00p.m.
Carmichael Water District Board Room
7837 Fair Oaks Boulevard
Carmichael, CA 95608

AGENDA

The Board will discuss all items on its agenda, and may take action on any of those items, including information items and continued items. The Board may also discuss other items that do not appear on its agenda, but will not act on those items unless action is urgent, and a resolution is passed by a two-thirds vote declaring the need for action arose after posting of the agenda.

The Board of Directors welcomes and encourages participation in meetings. Public testimony may be given on any agenda item as it is called and should be limited to three minutes per speaker. Matters not on the posted agenda may be addressed under Item #1, Public Comment. Please fill out a Speaker Card and turn it in at the staff table, either before or during the meeting.

CALL TO ORDER – President Selsky

1. **Public Comment:**

   Any member of the public may address the Board on this item of interest to the public that is within the subject matter jurisdiction of the Board.

ACTION ITEM:

2. **Resolution 04022007-1: A Resolution adopting the Initial Study- Mitigated Negative Declaration document for the Ancil Hoffman Groundwater Extraction and Treatment "L" system project.**

   This item was presented to the Board for information on the March 19, 2007 agenda and is brought back to the board for approval on the April 2, 2007. It is recommended that the Board of Directors approve Resolution 04022007-1.

The next Board of Directors Meeting is scheduled for Monday, April 16, 2007 at 7:00 p.m.

CARMICHAEL WATER DISTRICT

RESOLUTION 04022007-1

Resolution of Findings
for the
Ancil Hoffman Park Get "L" Project

Whereas, In accordance with the California Environmental Quality Act (CEQA) of 1970 (as amended) codified at California Public Resources Code Sections 21000 et seq. and the State CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3, Carmichael Water District, as Lead Agency, has prepared an Initial Study/Mitigated Negative Declaration (IS/MND) for the Ancil Hoffman Park Get "L" Project; and

Whereas, The Carmichael Water District's Board of Directors has considered the proposed IS/MND together with any comments received during the public review process; and

Whereas, Carmichael Water District's Board of Directors finds on the basis of the whole record before it that there is no substantial evidence that the project will have a significant effect on the environment and that the IS/MND reflects the Carmichael Water District's independent judgment and analysis; and

Whereas, In accordance with CEQA Guidelines, the adoption of the IS/MND shall include adoption of the "Ancil Hoffman Park Get "L" Project: Mitigation Monitoring and Reporting Program" (MMRP); and

Whereas, The IS/MND, MMRP, and all other documents that constitute the record of proceedings upon which the decision to adopt the IS/MDN and MMRP will be available at the Carmichael Water District.

Now, therefore, be it resolved, that the Carmichael Water District adopts the Resolution of Findings for the Ancil Hoffman Park Get "L" Project.

PASSED AND ADOPTED by the Board of Directors on this 2nd day of April 2007 by the following vote:

Mark Emmerson	Aye_____	No_____	Absent _____	Abstain _____
Paul Selsky	Aye_____	No_____	Absent _____	Abstain _____
Ron Greenwood	Aye_____	No_____	Absent _____	Abstain _____
Sanford Kozlen	Aye_____	No_____	Absent _____	Abstain _____
John Wallace	Aye_____	No_____	Absent _____	Abstain _____

Board Totals: AYES:_____ NOES:_____ ABSENT:_____ ABSTAIN:_____
Passed Unanimously: Yes_____

Signed after its passage this 2nd day of April 2007:

_____
President, Paul Selsky
Board of Directors

ATTEST: _____
Steve Nugent, Secretary

Ancil Hoffman Groundwater Extraction and Treatment "L" System Project
Mitigated Negative Declaration (SCH #2007022100)

FINDINGS

1. In accordance with CEQA *Guidelines* 15070, Carmichael Water District (CWD), as Lead Agency, has prepared an Initial Study/Mitigated Negative Declaration (IS/MND) for the Bajamont Groundwater Extraction and Treatment "L1" System Project.

2. The CWD Board of Directors has considered the proposed IS/MND together with all comments received during the public review process.

3. The CWD Board of Directors finds on the basis of the whole record before it that there is no substantial evidence that the project will have a significant effect on the environment and that the IS/MND reflects the Carmichael Water District's independent judgment and analysis.

4. In accordance with CEQA *Guidelines* 15074, the adoption of the IS/MND shall include adoption of the "Ancil Hoffman Groundwater Extraction and Treatment "L" System Project: Mitigation Monitoring and Reporting Program" (MMRP).

5. The IS/MND, MMRP, and all other documents that constitute the record of proceedings upon which the decision to adopt the IS/MND and MMRP will be available at the Carmichael Water District.

Ancil Hoffman Groundwater Extraction and Treatment "L" System Project

Mitigated Negative Declaration (SCH #2007022100)

MITIGATION MONITORING AND REPORTING PROGRAM

Introduction

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared pursuant to Section 21081.6 of the California Public Resources Code. A MMRP is required for the Proposed Project because the Mitigated Negative Declaration (MND) has identified potential adverse effects that will be reduced to less-than-significant levels through the implementation of mitigation measures.

The numbering of the individual mitigation measures follows the numbering sequence as found in the MND.

Mitigation Monitoring and Reporting Program

The MMRP, as outlined in the following table, describes mitigation timing, monitoring responsibilities, and compliance verification responsibility for all mitigation measures identified in the MND.

Carmichael Water District (CWD) will be the primary agency responsible for implementing the mitigation measures. CWD may choose to require the project contractor to implement specific mitigation measures prior to and/or during construction. In some cases, the County or other public agencies will implement measures.

The MMRP is presented in tabular form on the following pages. The components of the MMRP are described briefly below:

- **Mitigation Measures:** The mitigation measures are taken verbatim from the MND, in the same order that they appear in the MND.

- **Mitigation Timing and Implementation:** Identifies at which stage of the project mitigation must be completed and how it will be implemented.

- **Monitoring and Enforcement Responsibility:** Identifies the agency or department within the County responsible for mitigation monitoring and enforcement.

- **Compliance Verification Responsibility:** Identifies the agency responsible for verifying compliance with the mitigation.

TABLE 1
MITIGATION MONITORING AND REPORTING PROGRAM

Proposed Mitigation	Summary of Measure	Enforcement and Monitoring Responsibility	Timing/ Implementation	Verification (Date and Initials)
3.3 Air Quality				
Mitigation Measure AQ-1	During dry weather, earthwork construction areas shall be kept moist via regular watering to reduce fugitive dust emissions.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure AQ-2	Trucks hauling soil and other loose materials shall be covered to reduce dust emissions and spillage onto paved roads.	Carmichael Water District and project contractor.	During construction activities	
Mitigation Measure AQ-3	Paved roads in the construction area or leading to the construction area shall be washed or swept daily during the construction period.	Carmichael Water District and project contractor.	During construction activities	
Mitigation Measure AQ-4	Excavation and grading activities shall be suspended when winds (instantaneous gusts) exceed 25 miles per hour.	Carmichael Water District and project contractor.	During construction activities	
Mitigation Measure AQ-5	Equipment shall be maintained according to the manufacturers' specifications to prevent emissions of unburned fuel or noxious fumes.	Carmichael Water District and project contractor.	During construction activities	
Mitigation Measure AQ-6	Idling of construction equipment and vehicles shall be restricted to 10 minutes.	Carmichael Water District and project contractor.	During construction activities	
Mitigation Measure AQ-7	Gasoline-powered equipment and vehicles shall have catalytic converters installed prior to their use on the project site.	Carmichael Water District and project contractor.	During construction activities	
3.4 Biological Resources				
Mitigation Measure BR-1	Following final project design and prior to any disturbance within 100 ft. of elderberry plants, the District will consult with the Fish and Wildlife Service as set forth in the *Conservation Guidelines*. At a minimum, the District will implement all feasible protective measures recommended during consultation. These will include fencing and flaging of all elderberry plants within the 100-ft. buffer, briefing contractors on the need to avoid damaging elderberry plants and the	Carmichael Water District and project contractor.	Immediately prior to construction activities.	

Proposed Mitigation	Summary of Measure	Enforcement and Monitoring Responsibility	Timing/ Implementation	Verification (Date and Initials)
	penalties for not complying with these requirements, and erecting signs identifying the area as habitat for a species protected by the Endangered Species Act.			
Mitigation Measure BR-2	A qualified wildlife biologist shall inform all construction personnel that protected turtles may occur in the area. A description of their natural history and identifying characteristics shall be provided. The personnel shall be instructed on the proper techniques for handling and relocating turtles, should relocation be required. If a turtle of any species enters an active construction area, or is in imminent danger, construction personnel (or an on-call wildlife biologist) shall carefully remove the turtle to a point at least 300 ft. downstream of the project limits and within similar habitat.	Carmichael Water District and California Department of Fish and Game.	During the March-May bloom period, prior to construction activities.	
Mitigation Measure BR-3	A qualified biologist shall conduct a pre-construction survey for nests within .25 miles of the project site. If active nests are identified, the project proponent shall initiate consultation with CDFG to establish appropriate avoidance measures. Avoidance measures may include subsequent biological monitoring and the establishment of buffer areas around identified nests, with no disturbances within the buffer between April 1 and September 30, or until the young have fledged.			
3.5 Cultural Resources				
Mitigation Measure CR-1	In the event of the unanticipated discovery of buried or concealed heritage resources, project activities will cease in the area of the find, and consultation with a qualified archaeologist will be initiated for recommended procedures. If human remains are inadvertently discovered, work will cease immediately and the County coroner will be notified in accordance with California law. A professional archaeologist will also be hired to assist in the development of appropriate mitigation of site impacts.	Carmichael Water District, Sacramento County Coroner, and Native American Heritage Commission.	During construction activities.	
3.6 Geology and Soils				
Mitigation Measure GS-1	Vegetation removal shall be limited to the minimum amount necessary to accommodate the project. As the permanent vegetation cover is maturing, temporary native vegetation or other erosion control measures sufficient to stabilize the soil shall be established on all disturbed areas. New planting shall be protected by using such	Carmichael Water District and project contractor.	During construction activities.	

Proposed Mitigation	Summary of Measure	Enforcement and Monitoring Responsibility	Timing/ Implementation	Verification (Date and Initials)
	measures as jute netting, straw mulching and fertilizing.			
Mitigation Measure GS-2	Temporary erosion control measures, such as silt fences, staked straw bales, and temporary revegetation, shall be employed for disturbed areas.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure GS-3	No disturbed surfaces shall be left without erosion control measures in place during the winter and spring months.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure GS-4	Sediment shall be retained on site by a system of sediment basins, traps, or other appropriate measures.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure GS-5	Prior to and during on-site development of the Proposed Project, the contractor shall address slope stability, excavation, retaining wall backfill, and grading through the oversight of a professional, licensed geologist or engineer.	Carmichael Water District and project contractor.	During construction activities.	
3.7 Hazards and Hazardous Materials				
Mitigation Measure HM-1	To reduce the potential for accidental releases, fuel, oil, and hydraulic fluids shall be transferred directly from a service truck to construction equipment tanks and shall not otherwise be stored on site.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure HM-2	Personnel shall follow written standard operating procedures (SOPs) for filling and servicing construction equipment and vehicles. The SOPs, which are designed to reduce the potential for incidents involving the hazardous materials, shall include the following: *A. Refueling shall be conducted only with approved pumps, hoses, and nozzles.* *B. Catch pans shall be placed under equipment to catch potential spills during servicing.* *C. All disconnected hoses shall be placed in containers to collect residual fuel from the hose.* *D. Vehicle engines shall be shut down during refueling.* *E. No smoking, open flames, or welding shall be allowed in refueling or service areas.*	Carmichael Water District and project contractor.	During construction activities.	

Proposed Mitigation	Summary of Measure	Enforcement and Monitoring Responsibility	Timing/ Implementation	Verification (Date and Initials)
	F. Refueling shall be performed away from bodies of water to prevent contamination of water in the event of a leak or spill. *G. Service trucks shall be provided with fire extinguishers and spill containment equipment, such as absorbents.* *H. Should a spill contaminate soil, the soil shall be put into containers and disposed of in accordance with local, State, and Federal regulations.* *I. All containers used to store hazardous materials shall be inspected at least once per week for signs of leaking or failure. All maintenance and refueling areas shall be inspected monthly. Results of inspections shall be recorded in a logbook that would be maintained on site.* *J. The amount of hazardous materials used in project construction and operation shall be consistently kept at the lowest volumes needed.*			
Mitigation Measure HM-3	The use of pesticides and toxic chemicals shall be minimized or less toxic alternatives shall be used to the greatest extent feasible in landscaping.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure HM-4	If suspected soil contamination is encountered during excavation and grading activities, all work shall be halted and a qualified individual, in consultation with the RWQCB, shall determine the appropriate course of action.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure HM-5	All construction equipment shall include spark arresters in good working order.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure HM-6	Staging areas, welding areas, or areas slated for construction using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure HM-7	To the extent feasible, the contractor shall keep areas around the construction site clear of combustible materials in order to maintain a firebreak.	Carmichael Water District and project contractor.	During construction activities.	

Proposed Mitigation	Summary of Measure	Enforcement and Monitoring Responsibility	Timing/ Implementation	Verification (Date and Initials)
3.8 Water Resources				
	See mitigation measures in the Soils and Geology Section (**GS-1 to GS-4**).	Carmichael Water District and project contractor.	During construction activities.	
	Prior to construction, CWD will consult with the Reclamation Board to determine whether portions of the Proposed Project encroach on a designated floodway and is therefore subject to permitting. If necessary, CWD will obtain encroachment permit to construct within the floodway prior to construction.	Carmichael Water District	Prior to project construction	
3.15 Transportation				
Mitigation Measure TT-1	Consistent with the Circulation Element, all construction related trips will be coordinated with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the nature of construction activities within access routes, as well as the timing, location, and duration of construction related truck trips.	Carmichael Water District and project contractor.	During construction activities.	

Ancil Hoffman Groundwater Extraction and Treatment "L" System Project
Mitigated Negative Declaration (SCH #2007022100)

RESPONSE TO COMMENTS

The Carmichael Water District (CWD) issued a Notice of Intent (NOI) to prepare a Mitigated Negative Declaration (MND) for the Ancil Hoffman Groundwater Extraction and Treatment "L" System Project (Proposed Project) on February 23, 2007. Publication of the NOI initiated a 30-day public review period in which all interested individuals and public agencies were invited to submit written comments on the document.

CWD received a total of four written comments on the Proposed Project (attached). A summary of each comment letter is provided below and followed by an appropriate response. The CWD will consider each comment and response in deciding whether to adopt the MND.

1). Alexander MacDonald, Senior Engineer. California Regional Water Quality Control Board, Central Valley Region. March 23, 2007.

Summary: Mr. MacDonald references page 3-23, Section 3.6, Question E, third sentence of the MND, noting that the Proposed Project would require a General Permit for Construction of a linear pipeline project.

Response: The comment is based on an assumption that the .75 acres of ground disturbance described in the MND is limited to the construction of the treatment facility. In fact, it is estimated that the entirety of the Proposed Project will result in ground disturbance of less than an acre and therefore a General Permit would not be required. In the event ground disturbance exceeds an acre, the project proponent will apply for the appropriate permits.

2) Christopher Huitt, Staff Environmental Scientist, Floodway Protection Section. State of California Department of Water Resources. March 12, 2007.

Summary: Mr. Huitt comments that the Proposed Project could encroach on the State Adopted Plan for Flood Control and recommends review of the Designated Floodway Maps at http://recbd.ca.gov. If the Proposed Project would encroach on an adopted flood control plan, an encroachment permit will need to be issued from the Reclamation Board prior to project initiation.

Response: Upon review of the on-line maps referenced above, it appears that portions of the Proposed Project may encroach on a designated floodway. If the project encroaches on the State Adopted Plan for Flood Control, CWD will obtain the necessary encroachment permit to construct within a designated floodway. Prior to initiating construction, CWD will consult with

the Reclamation Board to determine whether aspects of the Proposed Project would be subject to permitting. A requirement to consult and obtain appropriate permits has been added to the Water Resources section of the Mitigation Monitoring and Reporting Program (MMRP).

3) Katherine Mrowka, Chief Watershed Unit 3. State of California Water Resources Control Board. March 19, 2007.

Summary: Ms. Mrowka comments that an appropriative water right is required for diversion of water from surface streams or subterranean streams flowing through known and definite channels.

Response: The Proposed Project will not divert water from surface streams or subterranean streams flowing through known channels. The Proposed Project would pump contaminated groundwater that has gradually migrated through aquifers from the Aeroject property south of the American River northwesterly beneath the American River. Consequently, no appropriative water right is required.

4) Kevin Freibott, Environmental Planner. City of Rancho Cordova Planning Department. March 20, 2007.

Summary: Mr. Freibott notes that one of the previously discarded alternatives would require a pipeline beneath the American River, which would result in greater environmental impacts than the Proposed Project. Mr. Freibott also questions the analysis of impacts resulting from trenching activities within the driplines of native valley oaks and recommends that trenching within the driplines be done by hand.

Response: Assessment of impacts to native valley oaks followed guidance provided by Sacramento County Department of Environmental Review and Assessment (DERA), which provided comment on the administrative draft of the MND. As noted on page 3-16 of the MND, trenching in existing roadbeds that already encroach within driplines is considered a less-than-significant impact that does not require compensatory mitigation. All tree removal and grading activities will be undertaken as set forth in the Tree Ordinance. In particular, the project proponent will consult with the County Director of Public Works to determine whether a tree permit is necessary for the removal of non-native tree species identified on site or grading beneath the drip lines.

CITY OF RANCHO CORDOVA
CALIFORNIA
Incorporated 2003
Planning Department

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MAR 26 2007
CARMICHAEL WATER DISTRICT

David Sander
Mayor
Linda Budge
Vice Mayor
Ken Cooley
Councilmember
Robert McGarvey
Councilmember
Dan Skoglund
Councilmember

March 23, 2007

Mr. Steve Nugent
General Manager
Carmichael Water District
7837 Fair Oaks Boulevard
Carmichael, CA 95608

Re: Ancil Hoffman Park GET "L" Project Mitigated Negative Declaration
State Clearinghouse #2007022100

Mr. Nugent:

Thank you for the opportunity to review and provide comments on the Mitigated Negative Declaration (MND) for the Ancil Hoffman Park GET "L" Project (State Clearinghouse #2007022100). The City of Rancho Cordova provides the following comments on the MND:

Comment 1 It appears that project Alternative 7, as shown in the project description (p. 2-20) as well as in Figure 2-11, would require pipelines under the American River and the American River Parkway area. Additionally, encroachment permits would be required from the City Public Works Department for trenching within City Streets to the proposed treatment plant on Coloma Road.

After speaking with you previously, it appears that Alternative 7 is unlikely. However, the City wishes to formally comment that such an alternative would be difficult and the City agrees with the assertion in the MND that Alternative 7 would result in a greater environmental impact than the proposed "L" facility.

Comment 2 The MND states on page 3-11 that trenching will be required within the dripline of three native valley oaks (*Quercus lobata*) and three interior live oaks (*Quercus wislizenii*). Discussion on page 3-16 goes on to state that such trenching within the dripline of these six trees would not have a significant effect on those trees due to fact that trenching will occur within the existing roadway alignment.

According to information provided by our staff Arborist, Rochelle Amrhein, structural roots for those trees are likely to exist within the roadway alignment, below the roadway improvements. Feeder roots are unlikely, due to the limited gas exchange that occurs under pavement, but structural roots

generally extend as low as three feet below the ground and even lower if the roots encounter an obstruction such as the road bed.

Such structural roots have been found to extend under roadways. As such, it is expected that the roots of these trees could underlie the roadway and the trees may be adversely affected by trenching to install the pipelines shown in Figures 2-3a and 2-3b. The City recommends that trenching within the dripline of those trees be conducted by hand. Hand trenching has been shown to provide superior protection to roots, even when compared to extreme measures such as boring and jacking below the tree.

Thank you again for the opportunity to comment on the Mitigated Negative Declaration for the proposed GET "L" project. If you have any questions regarding the comments provided above, please feel free to contact me by email at kfreibott@cityofranchocordova.org or by phone at (916) 851-8753.

Sincerely,

Kevin Freibott
Environmental Planner
City of Rancho Cordova
kfreibott@cityofranchocordova.org
(916) 851-8753

State Water Resources Control Board

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

Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

MAR 1 6 2007

In Reply Refer to:334:KDM:12367

RECEIVED
MAR 1 6 2007
CARMICHAEL WATER DISTRICT

Steve Nugent
Carmichael Water District
7837 Fair Oaks Boulevard
Carmichael, CA 95608

Dear Mr. Nugent:

CARMICHAEL WATER DISTRICT ANCIL HOFFMAN PARK GROUNDWATER EXTRACTION TREATMENT SYSTEM PROJECT, INITIAL STUDY/MITIGATED NEGATIVE DECLARATION, SCH 3 2007022100, PERMIT 7356 (APPLICATION 12367)

The Division of Water Rights (Division) received Carmichael Water District's (CWD) Initial Study/Mitigated Negative Declaration (MND) regarding the proposed Ancil Hoffman Park Groundwater Extraction and Treatment System project (Proposed Project) on February 27, 2007. The Proposed Project consists of the construction of a Groundwater Treatment Plant (GWTP), extraction wells, and pipelines for conveyance of untreated and treated groundwater.

The GWTP will be constructed on a grassy area located between Tarshes Drive on the southeast and the parking lot for the Ancil Hoffman Golf Course Clubhouse on the northwest. The pipelines will mainly be located within the existing roadbeds of Tashes Drive and access roads leading to the existing golf course irrigation pump station. An existing monitoring well located adjacent to the golf course irrigation pump station will be converted into an extraction well. A second extraction well may be constructed next to the Tarshes Drive and San Lorenzo Way intersection. The Proposed Project also includes two possible concrete outfalls, the first being located immediately east of the most downstream crossing of Tarshes Drive. A second outfall may be constructed on the northern bank of the American River in the vicinity of the existing Ranney water collector. Proposed Outfall A would be located on Carmichael Creek. Treated water would be discharged into Carmichael Creek thence the American River during periods when there is no irrigation demand. Potential Outfall B would be located on the American River near the existing Ranney Collector. The project would provide for beneficial reuse of treated groundwater by connecting the GWTP to the existing golf course irrigation system.

An appropriative water right issued by the State Water Resources Control Board (State Water Board) is required for diversion of water from a surface stream or subterranean stream flowing through a known and definite channel. A permit is not required for use of percolating groundwater.

The State Water Board undertook extensive investigation into whether the groundwater on the Aerojet property contributed to stream recharge. The draft decision regarding the request to revise the Declaration of Fully Appropriated Streams listing for the American River identifies the aquifers from which Aerojet is pumping that are tributary and the aquifers which are not tributary to the stream system. Pages 14 through 19 of the draft decision are enclosed for your use.

Although it is unclear whether CWD intends to divert water from the groundwater basins included in the Aeroject study, this information may be useful to you. Diversion of percolating groundwater which, under natural conditions, would not reach or recharge the stream is considered foreign and developed water. A person or entity that by his or her own efforts makes such water available is entitled to use it, so long as the use does not infringe on the prior rights of others.

If you intend to purse the project pursuant to Permit 7356 (Application 12367), the MND should indicate that the document will be used for purposes of a change petition to be filed with the State Water Board.

If you have any further questions, please contact me at (916) 541-5363.

Sincerely,

Katherine Mrowka

Katherine Mrowka, Chief
Watershed Unit 3

Enclosure

6.0 STATUS OF THE WATER AT ISSUE

Several parties argue in their closing briefs that the SWRCB should find that the water at issue in this proceeding retains its legal status as groundwater even if the water is discharged into a surface water channel. Interested parties, including Sacramento County and Cal-Am ask the SWRCB to determine and allocate rights to this water according to California groundwater law.

For purposes of determining whether to revise the Declaration, and whether the statutory water right process applies, the issue is whether the water is in a natural channel, not what the original source of the water was before it found its way into the channel. (See Wat. Code, § 1201.) Indeed, if the character of water was determined by its original source, that characterization would mean that little, if any water is, or ever was, available for appropriation under the Water Code. Virtually all surface water originates from sources – including groundwater, unchannelized sheetflow, and rivers flowing from other states – that are not subject to appropriation under the Water Code until after the water enters a natural channel. In fact, all waters of the state originate as rain and snow, which is not subject to the statutory appropriation procedures if it is captured before it enters a stream, lake or other body of water. If waters retained their original character even after they flow into a natural channel, virtually all of the water flowing in natural channels would be considered off limits to appropriation under the Water Code.

Water as it relates to applications to appropriate water refers only to surface water and to subterranean streams flowing through known and definite channels. (Wat. Code, § 1200.) Under Water Code section 1205, a "stream system" designated fully appropriated includes a stream, lake, or other body of water, and tributaries and contributory sources, but does not include an underground water supply other than a subterranean stream following through known and definite channels. The Declaration and petitions to revise the Declaration are determinations made primarily in the context of surface water permits. Issues concerning groundwater not flowing through known and definite channels, often referred to as "percolating groundwater," are relevant in this proceeding only to the extent that the SWRCB considered in the decisions that provide the basis for finding the American River fully appropriated: (1) the amount of water flowing between the stream system and the interconnected aquifers and (2) how much water in the stream system is necessary to recharge the aquifers. In addition, the hearing notice included a key issue asking whether the groundwater is tributary to the American River. Other issues concerning percolating groundwater and the rights thereto are irrelevant and outside the scope of this proceeding.

The closest comparison we can make of the water at issue here is to developed, or foreign water that is subsequently abandoned. Developed water consists of new waters added to a stream by means of artificial works, which would not under natural conditions enter the stream. (*Cohen v. La Canada Land & Water Co.* (1907) 151 Cal. 680, 692.) Similarly, foreign water is defined as water brought by artificial means into an area from a different watershed. (*E. Clemens Horst Co. v. New Blue Point Mining Co.* (1918) 177 Cal. 631, 634.) Percolating groundwater extracted from the ground and then added to a stream is foreign if the groundwater is not in hydrologic continuity with the stream and would not reach the stream under natural conditions. (*Mayberry*

v. Alhambra Addition Water Co. (1899) 125 Cal. 444, 449.) Conversely, percolating groundwater should be treated as native water if under natural conditions the groundwater would reach or recharge the stream. To the extent that the groundwater Aerojet pumps, treats and discharges into the American River is not contributory to the surface stream, and would not be contributory under natural conditions, this water is foreign and developed because it would not have reached the stream otherwise and is imported by artificial means.

A person or entity that by his or her own efforts makes such water available is entitled to use it, so long as the use does not infringe on the prior rights of others. Water Code section 7075 allows the use of a natural stream channel as a conduit for delivering water to another location downstream.[10] The rule codified by the statute applies to the addition and withdrawal of water in an underground basin. (*City of Los Angeles v. City of San Fernando* (1975) 123 Cal.Rptr. 1.) If the owner chooses not to maintain a claim to the water, the water must be considered abandoned into a natural watercourse and can be appropriated by downstream water right holders in order of priority.[11] Of course, such rights are subject to the contingency that the artificial supply may be limited or terminated at any time by the producer. (See *Stevens v. Oakdale Irrigation Dist.* (1939), 13 Cal. 2d 343, 349.) The producer of foreign water can stop abandoning the water at any time and instead dispose of the water pursuant to a contract or otherwise. (*Haun v. De Vaurs* (1950) 97 Cal.App. 2d 841.) Aerojet has expressed no intention to recapture its pumped, treated and discharged groundwater. For our purposes, this water must be viewed as developed and abandoned into the natural channel (water not tributary to the stream under natural conditions), and thus subject to appropriation in accordance with the Water Code provisions.

Based on the foregoing, we conclude that the water at issue in this proceeding is public water of the State under Water Code section 1201. Any issues concerning alleged injury to groundwater rights occurring prior to this water finding itself in a natural channel, and in connection with where this water originated and how, are outside the scope of this proceeding. At a point where water enters the American River or a tributary thereto, it becomes water subject to the SWRCB's permitting authority for the purpose of deciding whether to revise the Declaration to allow parties to file applications to appropriate this water.

7.0 CHANGED CIRCUMSTANCES IN THE LOWER AMERICAN RIVER STREAM SYSTEM AFFECTING THE AMOUNT OF WATER AVAILABLE FOR APPROPRIATION

A major key issue for this hearing was, "Has adequate information been provided to demonstrate that there is a change in circumstances since the American River system was included in the FAS Declaration?" The "change in circumstances" refers to a change in circumstances from those

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[10] Water Code section 7075 provides:

"Water which has been appropriated may be turned into the channel of another stream, mingled with its water, and then reclaimed; but in reclaiming it the water already appropriated by another shall not be diminished."

[11] The term "abandonment" in this sense should be distinguished from the abandonment of a water right, which requires the elements of intent, relinquishment of possession, and a valid water right. Here we refer to the term for the abandonment of the *corpus* of water, the actual particles of water relinquished.

considered in previous water right decisions determining that no water remains available for appropriation. (Cal. Code Regs., tit. 23, § 871 (b).) This consists of two elements. First, the petitioner must show whether the water at issue is "new water" -- water that would not have reached the stream at the time the orders were made that support the declaration that the American River is fully appropriated. This includes not only showing that there is a new discharge to the River, but also requires evidence that the pumped groundwater being discharged would not have been tributary to the River during the relevant time period. Second, the petitioner must show that if the water is new water, circumstances have changed so that it would have been available for appropriation by new users during the relevant time period. Thus, appropriate testimony for the hearing included limitations, including environmental terms and conditions, on water right holders that existed at the time the decisions were issued that support the Declaration.

7.1 New Water

To assist us in making a determination of whether the pumped and treated water discharged to the American River is new water, we asked the parties to address the key issue, "How much, if any, of the water discharged by groundwater treatment operations is water that was not considered at the time the American River system was included in the FAS declaration?" We also asked, "To what extent, if any, have flows in the American River been affected by groundwater treatment operations, including both pumping and discharging since the American River system was included in the FAS Declaration?" Petitioner needed to establish that the pumped groundwater would not otherwise reach the River now *and* would not have reached the River during the relevant time period. We find that groundwater in Layers B through E beneath the WGSA is new water, and that groundwater in Aquifers C through E beneath the ARGET is new water.

7.1.1 Western Groundwater Study Area

The evidence shows that groundwater in the vicinity of the GET E/F system and the proposed 4C location (together referred to as the WGSA) is currently not tributary to the American River. In addition, it appears that the groundwater at the depth and distance from the River that Aerojet is currently pumping and proposing to pump under alternative 4C was not tributary to the American River during 1958-1964. The groundwater underlying the ARGET system presents some unique characteristics and is discussed separately in section 7.1.2.

Petitioner provided uncontroverted testimony that the groundwater in the WGSA is currently not contributing to the American River. In this area, the American River is a losing stream evidenced by low groundwater elevation, the interpretation of the groundwater level contour lines, extensive unsaturated layers above the relevant aquifers, and the tendency for downward movement of groundwater. While this evidence establishes that the water is "new" or not reaching the stream now, this does not end our inquiry. Petitioner must show that this condition existed during the relevant time period, which is when the orders were issued that support the Declaration.

To establish that the groundwater was not tributary to the American River historically, SCWC contends that groundwater conditions at that time were similar to conditions that currently exist. (R.T. p. 63; SCWC 9a, pp. 29, 38-39, 42, 45.) Both DFG and the City of Sacramento contend that the petitioner did not provide sufficient historical evidence to show that the groundwater was not tributary during the relevant time period. Based on the evidence, it appears that the groundwater may have been seasonally tributary to the river; however, due to the depth of the proposed and existing extraction wells and the distance from the wells to the American River, we find that water in Layers B through E can be considered new water for the purposes of this proceeding.

The majority of the current and proposed GET E/F extraction wells would pump groundwater from Layers C and D, which occur at depths of approximately 150 feet bgs or more. (AGC 1(s)&(t).) The three wells pumping from Layers A and B are located over two and one-half miles from the River and present a small fraction of the total volume of pumped water. The proposed extraction wells in the 4C area will extract groundwater only from Layers C, D, and E. (AGC 1, p. 28.) The extraction wells will be installed at least 6,000 feet south of the American River and will pump from minimum depths of approximately 240 feet bgs. (*Ibid.*) The shallowest layer (Layer C) that will be pumped by these wells is overlain by at least 30 to 40 feet of unsaturated sediments, and over 200 feet of saturated sediments. (*Ibid.*) Based on the distance from the American River and the depths of the proposed extraction wells, even if the American River were seasonally gaining in the relevant time period, groundwater extracted from this area would not have reached the River.

Petitioner's testimony was inadequate to show that the River was historically a losing stream year-round and, in particular, during the summer months when the river is listed on the Declaration. Aquifer A is the only aquifer layer that could have had a direct hydraulic connection with the River. Therefore, water pumped from Layer A might have historically reached the River, and cannot be classified as new water.

We conclude that the American River in the WGSA was an annually losing stream during the relevant time period for purposes of this proceeding. Excluding Layer A, even if the River were seasonally gaining, groundwater at the depth and distance from the stream reach that Aerojet will pump would not have reached the River and thus, can be considered new water.

7.1.2 ARGET

The groundwater underlying the ARGET system differs from that in the WGSA because in some areas, the groundwater elevations are currently at or above River elevations indicating that the American River is a gaining stream in this reach. Like the WGSA, in order to show that this water is new, petitioner had the burden to show that the water would not otherwise have reached the River under current and historical conditions. In areas where groundwater is tributary to the River, we cannot find that it is new water. For reasons similarly stated for the WGSA, much of the water in the ARGET area may be considered new.

Petitioner provided testimony that the American River is a losing stream along two-thirds of the ARGET area. (SCWC 9a, p. 32.) In the remaining third, an area in the eastern portion of the

ARGET system near Nimbus Dam, groundwater levels are at or slightly above the River elevation, indicating that groundwater is discharging to the American River. (R.T. pp. 60, 72, 79-80; SCWC 9a, pp. 31-32; SCWC 17, Figure A-7.) Petitioner concedes, because of higher groundwater levels at the eastern end of ARGET area, that it is likely that a portion of the water extracted from two of the 15 wells is tributary to the American River. (R.T. pp. 93-94; SCWC 9a, p.43.) These two wells are screened in Aquifers A and B and are located approximately 3,000 feet downstream from Nimbus Dam. (DFG 32, p. 11; AGC 1 (c), Figure 2-1.) We are persuaded by the evidence that Aquifer A and the American River are sufficiently interconnected to determine that this is not new water, especially because the petitioner concedes that it is not new water, at least 3,000 feet downstream of Nimbus Dam. Also, there is some evidence to support the conclusion that Aquifer B is interconnected with Aquifer A in this area, including petitioner's own evidence that one of the wells in Aquifer B is tributary to the River. Thus Aquifer B should also be excluded from the finding of new water. (AGC 2, Figures [3-22] - [3-27]; SCWC 9a, p. 11.)

Some evidence exists to support the finding that groundwater may be tributary to the River beyond the reach between Nimbus Dam and 3,000 feet downstream from Nimbus Dam. Hydrographs of Well 1478 (Aquifer A), located about 3,500 feet downstream of Nimbus Dam, show that the groundwater elevation is above the River elevation. (City I, pp. 1-2.) In addition, Aerojet testified that the potentiometric surface for Layer A is close to the elevation of the American River from Nimbus Dam to approximately 6,000 feet down-river, indicating that the American River may, at times, be a gaining stream in that reach. (AGC 6, Appendix A, p. 9.) Aerojet testified that in the area of Wells 4370 through 4380, the groundwater levels are far below the levels of the American River, indicating separation between the groundwater table and the River by an unsaturated zone that increases westward. (R.T. p. 163.) These wells are located approximately 6,300 feet downstream from Nimbus Dam. (AGC 1 (d), Figure 3-1.) The separation distance increases towards the west, and near Well 4340 groundwater levels are 25-30 feet below the River. (R.T. p. 163.) Well 4340 is located about 8,000 feet downstream of Nimbus Dam. (AGC 1 (d), Figure 3-1.) We conclude from this information that water pumped from Aquifers A and B within a 6,000-foot stretch below Nimbus Dam may reach the River and thus cannot be considered new water.

The arguments discussed in section 7.1.1 generally apply to the ARGET area as well as the WGSA. Substantial evidence exists to support the conclusion that the American River is currently a losing stream beyond 6,000 feet downstream of Nimbus Dam. Evidence in the record, including historic documents prepared by the SWRB and DWR, supports the conclusion that the American River, outside of the reach near Nimbus Dam, was at least an annually losing stream during the relevant time period. (SCWC 12; DFG 28; 29.) As discussed in the section 7.1.1, petitioner did not present sufficient data and analysis to show that the River was not a gaining stream during some months of the relevant time period and therefore, water from Aquifers A and B will not be considered new water. As in the case for the lower zones in the WGSA, we find it unlikely that water pumped from the lower aquifers (Aquifers C and D) in ARGET would have historically reached the River. Thus, water from those aquifers can be considered new water. Petitioner did not demonstrate to our satisfaction that water from Aquifers A and B was not tributary to the River further downstream in the past at a distance more than 3,000 feet downstream of Nimbus Dam, but we have allowed for this possibility with

a conservative estimate of 6,000 feet. Excluding all of Aquifer A, and Aquifer B within 6,000 feet of Nimbus Dam, groundwater found at the depth that Aerojet pumps would not have reached the River during the period from 1958 to 1964 and can therefore be considered new water.

7.2 Changed Circumstances: Basin Entitlements at the Time Decisions were Issued

The SWRCB placed the American River on the Declaration based on two decisions in which the SWRB determined the River was fully appropriated from July 1 through October 31 (SWRCB 3a, p. 40; R.T. p. 104), specifically D 1108 and D 1211. Those decisions relied on evidence presented during various water right hearings, and resulted in findings that water is unavailable in the American River from August through October, the Sacramento River from July through August, and the Delta from June 15 through October. Upon review of these existing decisions and the evidence presented in this hearing, we find that regardless of whether the water pumped, treated, and discharged to the American River by Aerojet is new water, the petitioner did not provide sufficient evidence to show that circumstances have changed since the time the decisions were adopted to warrant revising the Declaration for the months of July through October. Based on the evidence in the hearing record, the amount of water added to the American River stream system by Aerojet is not sufficient to both make up for the flow deficiencies that existed at the time the prior decisions were adopted and provide significant additional flow that may be available for appropriation.

7.2.1 August through October

Both D 1108 and D 1211 cite D 893 for the finding of water unavailable in the American River during the months of August, September, and October. The USBR's Exhibit 1 is a plate from D 1400, a decision specifically excluded from this hearing.[12] The exhibit does contain, however, relevant flow information from D 893, a previous water right decision that we are to consider in this proceeding as it provided a basis for including the American River on the Declaration. Figure 2 (attached) is a modified version of the USBR's Exhibit 1 and compares the mean flow of the American River[13] to demand downstream from Folsom Dam including flow requirements that were in place at the time the SWRB issued D 893. During the periods when demand exceeds available flow, unappropriated water ceases to exist in the American River. Using the data and analyses presented in D 893, and assuming all of the water discharged from Aerojet's groundwater extraction and treatment system is new water (with the exception of 350 gpm that

[12] In 1972, SWRCB issued D 1400, setting fisheries flows in the American River higher than those in D 893, as a condition of the permits issued for the proposed Auburn Dam. Auburn Dam was never constructed and the D 1400 flows were never imposed. The March 6, 2002 Hearing Notice specifically excluded this and other decisions from this proceeding because they do not serve as a basis for the American River listing on the Declaration. (Hearing Notice, p. 2; see also April 26, 2002 letter from Hearing Officer Peter S. Silva regarding revised schedule and clarification of scope of proceeding at 1.)

[13] The mean flow in Figure 2 represents the mean flow passing the Fair Oaks gage over the period of record considered in D 893. (D 893 at 27.) The gage data, however, do not represent the fully impaired flow in the American River at that time. The fully impaired flow is equal to the gaged flows less the difference between the actual upstream diversions and the authorized upstream diversions, assuming that not all water right permittees had made full beneficial use of the water they could take. Using the gage data is more favorable to the petitioner's case and is therefore more conservative.

California Regional Water Quality Control Board
Central Valley Region
Karl Longley, ScD, P.E., Chair

Linda Adams
Secretary for Environmental Protection

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Arnold Schwarzenegger
Governor

23 March 2007

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MAR 26 2007
CARMICHAEL WATER DISTRICT

Steve Nugent
Carmichael Water District
7838 Fair Oaks Boulevard
Carmichael, CA 95608

DRAFT INIITAL STUDY AND MITIGATED NEGATIVE DECLARATION, CARMICHAEL WATER DISTRICT, ANICL HOOFMAN PARK GET L PROJECT, SACRAMENTO COUNTY (SCH# 2007022100)

Thank you for the opportunity to review the subject document. Regional Board staff completed their review and we present the following minor comment:

1. Page 3-23, Section 3.6, Question E, third sentence. The project will require a General Permit for Construction of a linear pipeline project issued by the Regional Water Quality Control Board/State Water Resources Control Board. Along with the proposed pipeline, the 0.75 acres of disturbance for the treatment facility should be included in that application.

If you have any questions regarding this matter, please call me at (916) 464-4625 or by e-mail at amacdonald@waterboards.ca.gov.

ALEXANDER MACDONALD
Senior Engineer

cc: State Clearinghouse, Sacramento
Craig Fegan, Aerojet-General Corporation, Sacramento

STATE OF CALIFORNIA -- THE RESOURCES AGENCY

ARNOLD SCHWARZENEGGER, *Governor*

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 942360001
(916) 653-5791

March 12, 2007

Steve Nugent
Carmichael Water District
7837 Fair Oaks Boulevard
Carmichael, California 95608

Ancil Hoffman Groundwater Extraction and Treatment "L" System Project
State Clearinghouse (SCH) Number: 2007022100

The project corresponding to the subject SCH identification number has come to our attention. The limited project description suggests your project may be an encroachment on the State Adopted Plan of Flood Control. You may refer to the California Code of Regulations, Title 23 and Designated Floodway maps at http://recbd.ca.gov/. Please be advised that your county office also has copies of the Board's designated floodways for your review. If indeed your project encroaches on an adopted food control plan, you will need to obtain an encroachment permit from the Reclamation Board prior to initiating any activities. The attached Fact Sheet explains the permitting process. Please note that the permitting process may take as much as 45 to 60 days to process. Also note that a condition of the permit requires the securing all of the appropriate additional permits before initiating work. This information is provided so that you may plan accordingly.

If after careful evaluation, it is your assessment that your project is not within the authority of the Reclamation Board, you may disregard this notice. For further information, please contact me at (916) 574-1249.

Sincerely,

Christopher Huitt
Staff Environmental Scientist
Floodway Protection Section

cc: Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

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CARMICHAEL WATER DISTRICT

Encroachment Permits Fact Sheet

Basis for Authority

State law (Water Code Sections 8534, 8608, 8609, and 8710 – 8723) tasks the Reclamation Board with enforcing appropriate standards for the construction, maintenance, and protection of adopted flood control plans. Regulations implementing these directives are found in California Code of Regulations (CCR) Title 23, Division 1.

Area of Reclamation Board Jurisdiction

The adopted plan of flood control under the jurisdiction and authority of the Reclamation Board includes the Sacramento and San Joaquin Rivers and their tributaries and distributaries and the designated floodways.

Streams regulated by the Reclamation Board can be found in Title 23 Section 112. Information on designated floodways can be found on the Reclamation Board's website at http://recbd.ca.gov/designated_floodway/ and CCR Title 23 Sections 101 - 107.

Regulatory Process

The Reclamation Board ensures the integrity of the flood control system through a permit process (Water Code Section 8710). A permit must be obtained prior to initiating any activity, including excavation and construction, removal or planting of landscaping within floodways, levees, and 10 feet landward of the landside levee toes. Additionally, activities located outside of the adopted plan of flood control but which may foreseeable interfere with the functioning or operation of the plan of flood control is also subject to a permit of the Reclamation Board.

Details regarding the permitting process and the regulations can be found on the Reclamation Board's website at http://recbd.ca.gov/ under "Frequently Asked Questions" and "Regulations," respectively. The application form and the accompanying environmental questionnaire can be found on the Reclamation Board's website at http://recbd.ca.gov/forms.cfm.

Application Review Process

Applications when deemed complete will undergo technical and environmental review by Reclamation Board and/or Department of Water Resources staff.

Technical Review

A technical review is conducted of the application to ensure consistency with the regulatory standards designed to ensure the function and structural integrity of the adopted plan of flood control for the protection of public welfare and safety. Standards and permitted uses of designated floodways are found in CCR Title 23 Sections 107 and Article 8 (Sections 111 to 137). The permit contains 12 standard conditions and additional special conditions may be placed on the permit as the situation warrants. Special conditions, for example, may include mitigation for the hydraulic impacts of the project by reducing or eliminating the additional flood risk to third parties that may caused by the project.

Additional information may be requested in support of the technical review of

your application pursuant to CCR Title 23 Section 8(b)(4). This information may include but not limited to geotechnical exploration, soil testing, hydraulic or sediment transport studies, and other analyses may be required at any time prior to a determination on the application.

Environmental Review

A determination on an encroachment application is a discretionary action by the Reclamation Board and its staff and subject to the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code 21000 et seq.). Additional environmental considerations are placed on the issuance of the encroachment permit by Water Code Section 8608 and the corresponding implementing regulations (California Code of Regulations – CCR Title 23 Sections 10 and 16).

In most cases, the Reclamation Board will be assuming the role of a "responsible agency" within the meaning of CEQA. In these situations, the application must include a certified CEQA document by the "lead agency" [CCR Title 23 Section 8(b)(2)]. We emphasize that such a document must include within its project description and environmental assessment of the activities for which are being considered under the permit.

Encroachment applications will also undergo a review by an interagency Environmental Review Committee (ERC) pursuant to CCR Title 23 Section 10. Review of your application will be facilitated by providing as much additional environmental information as pertinent and available to the applicant at the time of submission of the encroachment application.

These additional documentations may include the following documentation:

- California Department of Fish and Game Streambed Alteration Notification (http://www.dfg.ca.gov/1600/),
- Clean Water Act Section 404 applications, and Rivers and Harbors Section 10 application (US Army Corp of Engineers),
- Clean Water Act Section 401 Water Quality Certification, and
- corresponding determinations by the respective regulatory agencies to the aforementioned applications, including Biological Opinions, if available at the time of submission of your application.

The submission of this information, if pertinent to your application, will expedite review and prevent overlapping requirements. This information should be made available as a supplement to your application as it becomes available. Transmittal information should reference the application number provided by the Reclamation Board.

In some limited situations, such as for minor projects, there may be no other agency with approval authority over the project, other than the encroachment permit by Reclamation Board. In these limited instances, the Reclamation Board

may choose to serve as the "lead agency" within the meaning of CEQA and in most cases the projects are of such a nature that a categorical or statutory exemption will apply. The Reclamation Board cannot invest staff resources to prepare complex environmental documentation.

Additional information may be requested in support of the environmental review of your application pursuant to CCR Title 23 Section 8(b)(4). This information may include biological surveys or other environmental surveys and may be required at anytime prior to a determination on the application.

INITIAL STUDY
MITIGATED NEGATIVE DECLARATION

CARMICHAEL WATER DISTRICT
ANCIL HOFFMAN PARK GET "L" PROJECT

FEBRUARY 2007

Prepared For:

Carmichael Water District
7837 Fair Oaks Boulevard
Carmichael, CA 95608

Prepared By:

Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95814

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SECTION 1.0

INTRODUCTION

SECTION 1.0

INTRODUCTION

1.1 PURPOSE OF STUDY

This Initial Study examines the potential environmental effects of the proposed Ancil Hoffman Park NDMA Groundwater Extraction and Treatment "GET L" System Project (Proposed Project). The Proposed Project is needed to prevent groundwater contamination from entering the Carmichael Water District (CWD) municipal water supply. The document has been prepared for CWD (Lead Agency) in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended) codified at California Public Resources Code Sections 21000 et seq. and the State CEQA *Guidelines* in the Code of Regulations, Title 14, Division 6, Chapter 3.

This Initial Study identifies potentially significant impacts and provides associated mitigation measures that when implemented will reduce all identified environmental impacts to less than significant levels as defined below. Therefore, as discussed in **Section 4.0**, this Initial Study would support a Mitigated Negative Declaration as defined under CEQA *Guidelines* Section 15070.

1.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by the Proposed Project, involving at least one impact requiring mitigation to bring it to a less than significant level. Impacts to these resources are evaluated using the checklist included in **Section 3.0**. The Proposed Project was determined to have a less than significant impact or no impact even without mitigation on unchecked resource areas.

- ☐ Aesthetics
- ☐ Agriculture
- ☒ Air Quality
- ☒ Biological Resources
- ☒ Cultural Resources
- ☒ Geology and Soils
- ☒ Hazards and Hazardous Materials
- ☒ Water Resources
- ☒ Land Use and Planning
- ☐ Mineral Resources
- ☐ Noise
- ☐ Population
- ☐ Public Services
- ☐ Recreation
- ☒ Transportation/Traffic
- ☒ Mandatory Findings of Significance

1.3 EVALUATION TERMINOLOGY

The following terminology is used to describe the levels of significance for impacts identified for each resource area discussed in **Section 3.0**.

- A conclusion of *no impact* is used when it is determined the Proposed Project would not impact the resource area under evaluation.
- A conclusion of *less than significant impact* is used when it is determined the Proposed Project's impacts to a resource area would not exceed established thresholds of significance.
- A conclusion of *less than significant impact with mitigation* is used when it is determined that mitigation measures would be required to reduce the Proposed Project's impacts to below established thresholds of significance.

1.4 ORGANIZATION OF THE INITIAL STUDY

This Initial Study is organized into the following sections:

Section 2.0 - Project Description: Includes a detailed description of the Proposed Project.

Section 3.0 - Environmental Checklist and Discussion: Contains the Environmental Checklist with a discussion of the environmental issues. Mitigation measures, if necessary, are noted following each impact discussion.

Section 4.0 – Significance Determination and Mitigation Summary: Identifies the determination of whether impacts associated with development of the Proposed Project are significant, and what, if any, additional environmental documentation may be required. A summary of mitigation measures required for the Proposed Project is also included.

Section 5.0 – List of Preparers

Section 6.0 – References

Appendices: Contain technical reports, permits, and other information to supplement **Section 2.0** and **Section 3.0**.

SECTION 2.0

PROJECT DESCRIPTION

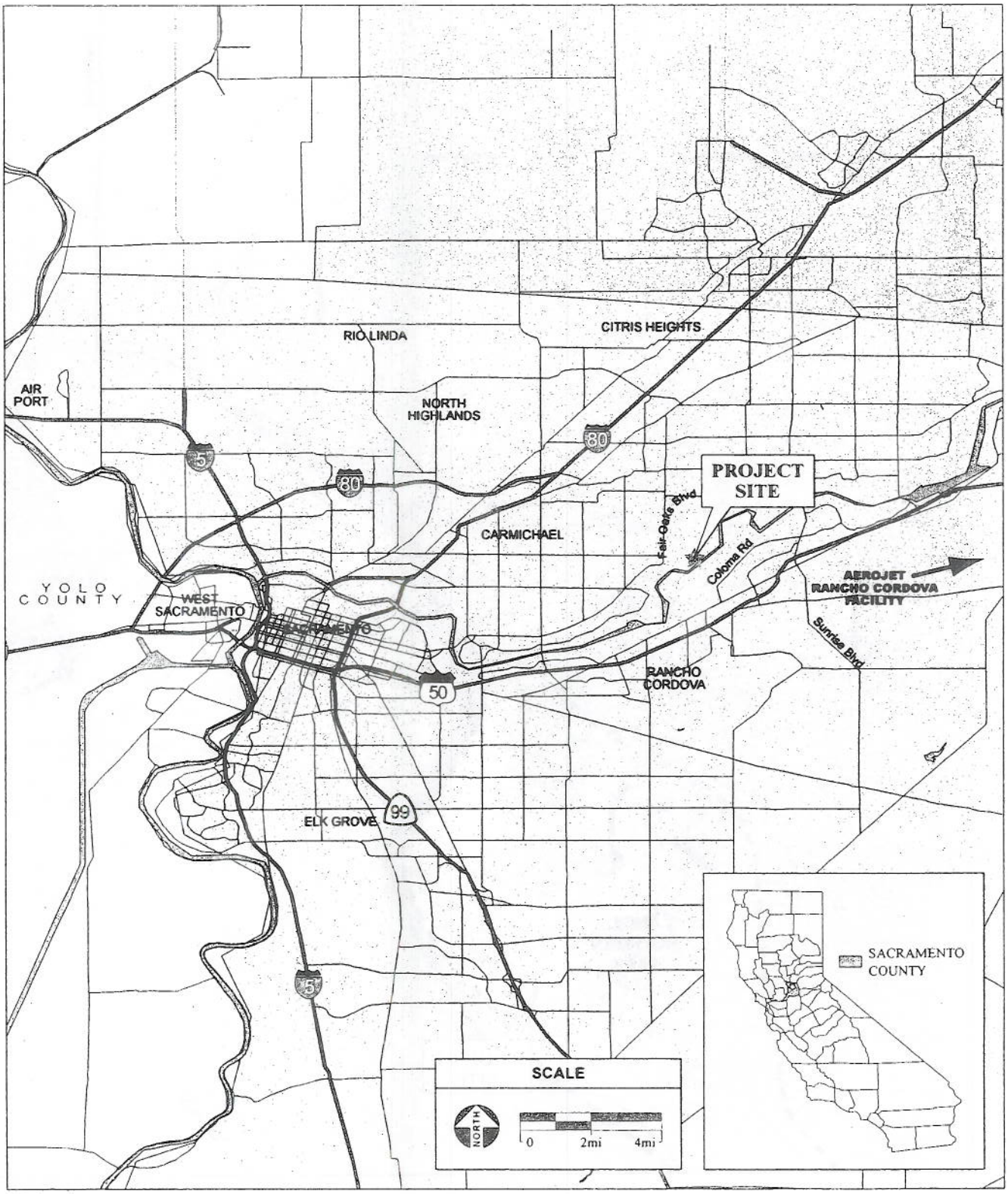
SECTION 2.0

PROJECT DESCRIPTION

2.1 PROJECT LOCATION AND SETTING

The proposed Ancil Hoffman Park Groundwater Extraction and Treatment "GET L" System Project (Proposed Project) is located in the unincorporated community of Carmichael, Sacramento County, California, approximately 5 miles (mi.) from the Gencorp/Aerojet's (Aerojet) Rancho Cordova facility (**Figure 2-1**). The project site is within Ancil Hoffman Park (Park), a 396-acre recreational area owned and operated by Sacramento County. Park amenities include picnic grounds, nature center, and a golf course. The Park, which is within the service area of the Carmichael Water District (CWD), is located on the northern bank of the American River. The primary area of development is approximately 400 feet (ft.) from the American River (**Figure 2-2**).

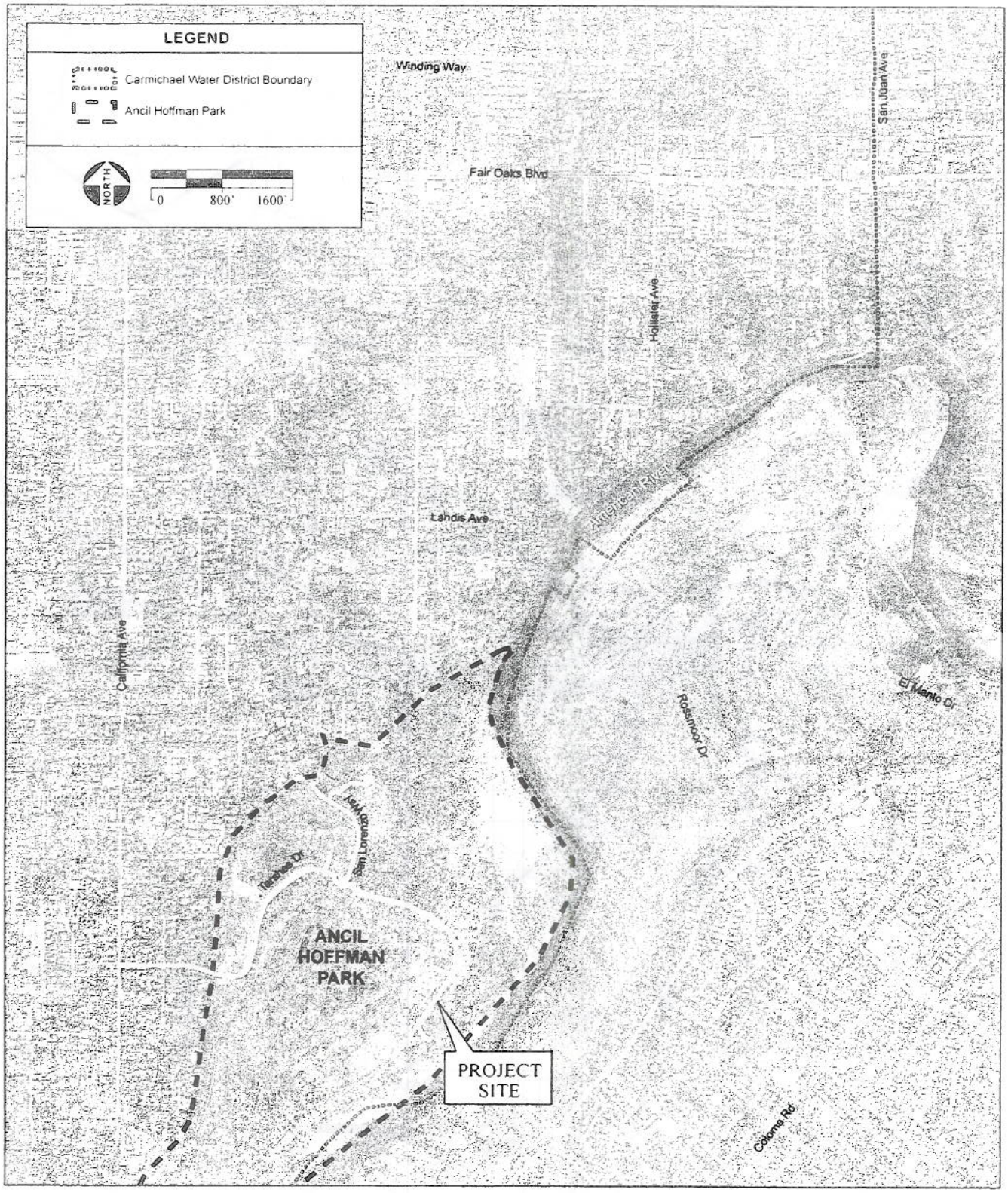
Components of the Proposed Project are located primarily along Tarshes Drive and San Lorenzo Way the two main roadways through the Park (**Figures 2-3a and 2-3b**). Site photographs are included as **Figures 2-4 through 2-8** and each component is discussed in more detail in **Section 2.4** below. The primary area of development for the Groundwater Treatment Plant (GWTP) is on a landscaped island of grass between Tarshes Drive on the southeast and the asphalt parking lot for the Ancil Hoffman Golf Course Clubhouse (Clubhouse) on the northwest (**Figure 2-4; Photo 1, 2, 3, 4**). Pipelines for conveyance of untreated and treated groundwater from extraction wells to the treatment facility will be located largely within the existing roadbeds of Tashes Drive and access roads to an existing golf course irrigation pump station (**Figure 2-5; Photo 5, 6, 7, 8**). An existing monitor well located in a grassy area adjacent to the golf course irrigation pump station will be converted into an extraction well (**Figure 2-6; Photo 9**). A second extraction well might be sited in a grass field northwest of the intersection of Tarshes Drive and San Lorenzo Way (**Figure 2-6; Photo 10, 11**) following monitoring and testing of the contamination plume capture of the initial well. The Proposed Project includes the possibility of two concrete outfalls. The first will be constructed on the southern bank of Carmichael Creek, immediately east of the most downstream crossing of Tarshes Drive (**Figure 2-6: Photo 12**). A second outfall might be constructed on the northern bank of the American River in the vicinity of the existing Ranney water collector (**Figure 2-7; Photo 13, 14**). The Proposed Project includes two potable water pipelines. The first pipeline would originate off California Avenue in the vicinity of the Park entrance and extend to the treatment facility (**Figure 2-7, Photo 15, 16**). The second pipeline would run from the Effie Yeaw Interpretive Buildings (Interpretive Buildings) and continue to the first alignment at the intersection of Tarshes Drive and San Lorenzo Way (**Figure 2-8; Photo 17, 18**).



SOURCE: ESRI Data, 2002; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

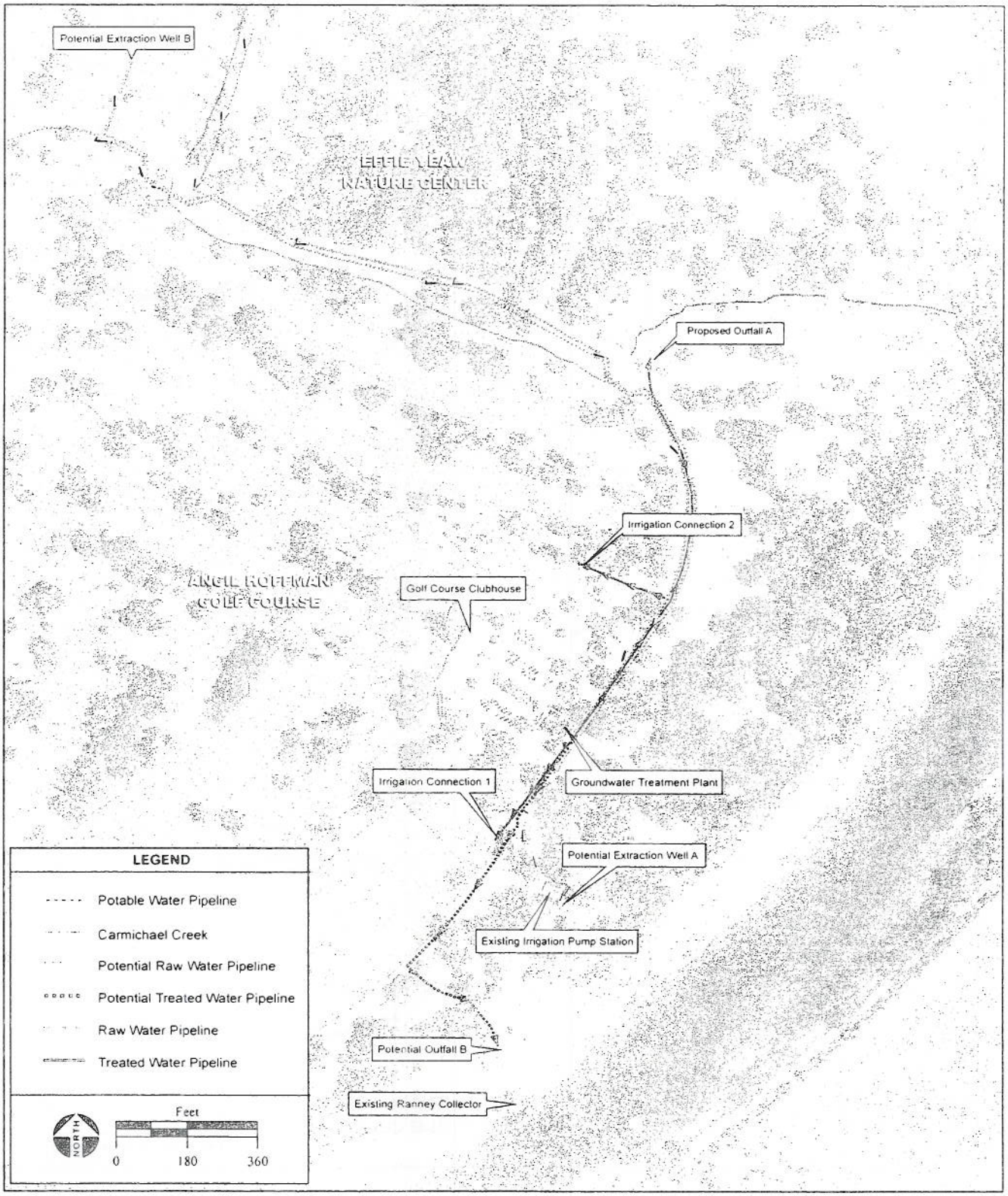
Figure 2-1
Regional Location



SOURCE: CWD Aerial Data, 11/04/2004; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

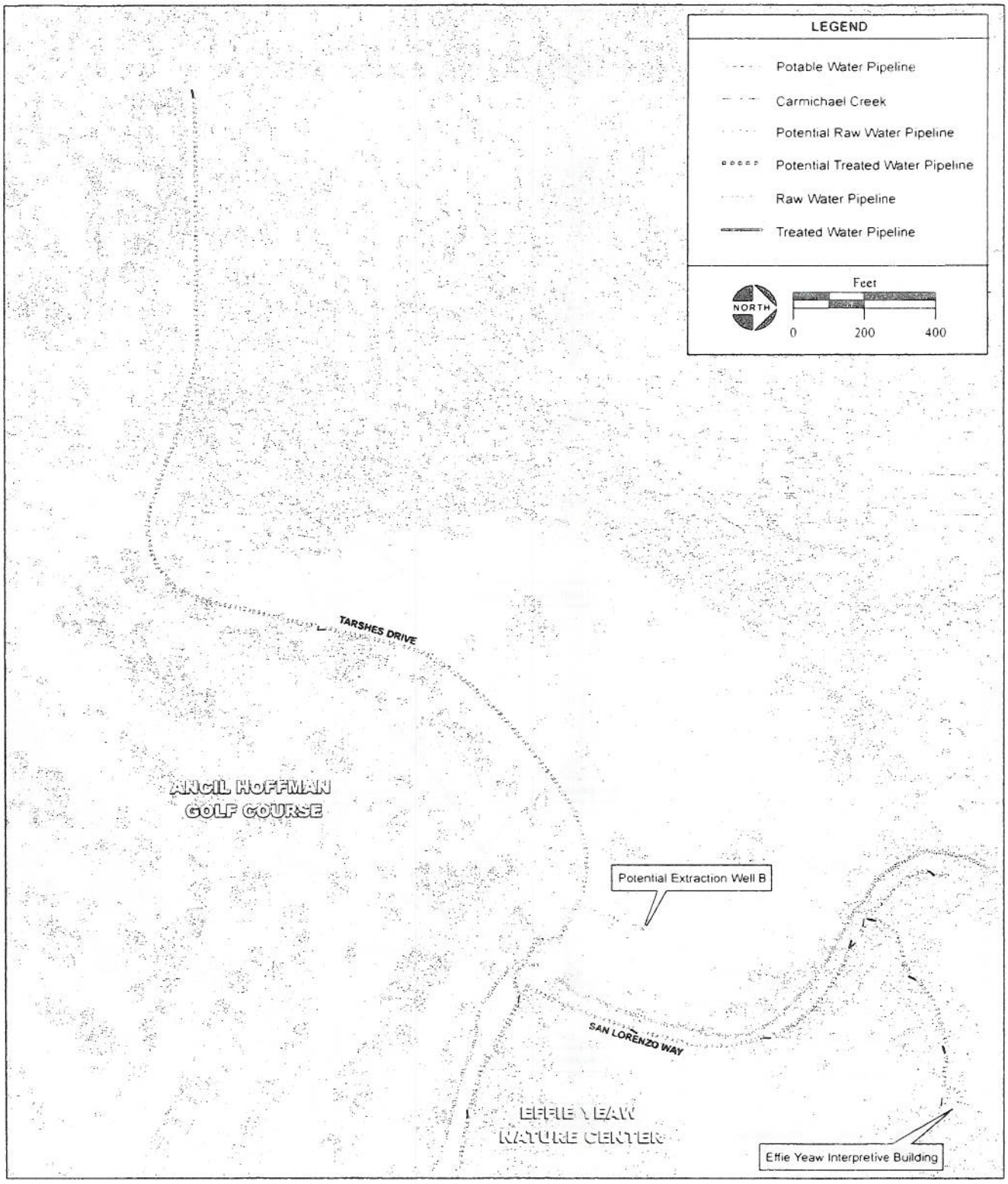
Figure 2-2
Project Vicinity



SOURCE: CWD / Gencorp Aerojet, 2006; GoogleEarth, 2005; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

Figure 2-3a
Proposed Project Components



SOURCE: CWD / Gencorp Aerojet, 2006; GoogleEarth, 2005; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

Figure 2-3b
Proposed Project Components

The linear project site is generally level, with an elevation of approximately 72 ft. above mean sea level. The proposed site for the groundwater treatment facility is flanked on the northwest by golf course, with the Clubhouse and parking lot adjacent to the primary area of development. On the southeast, the project site is bounded by a landscaped park area that abuts the American River. Landscaped park areas are also present on the northeast and southwest ends of the project site. The Park's Effie Yeaw Nature Center (Nature Center) is located within the Park at the northern end of the project site. Carmichael Creek crosses through the project site, flowing underneath Tarshes Drive via a concrete box culvert once near the intersection with San Lorenzo Way and again via a concrete box culvert approximately 1,600 ft. downstream to the southeast (**Figure 2-8: Photo 19, 20**). After crossing Tarshes Drive the second time, Carmichael Creek flows through a seasonally ponded area northeast of the project site thence to the American River.

2.2 PROJECT BACKGROUND

SOURCES OF GROUNDWATER CONTAMINATION

Since the early 1950s, the Aerojet facility has manufactured rocket propulsion systems in support of national defense, space exploration, and satellite deployment activities. Activities at the facility have included the development and testing of solid rocket motors and liquid rocket engines, and the manufacture of chemicals. Chemicals used in the manufacturing and testing of propulsion systems include chlorinated solvents, propellants, metals, and oxidizers.

Historic activities at the Aerojet site have resulted in the release of Contaminants of Concern (COC) into the aquifers underlying the Aerojet site. The main COCs that have potentially resulted in contaminant plumes from historical activities at the Aerojet site are Trichloroethene (TCE), perchlorate, N-Nitrosodimethylamine (NDMA), and other Volatile Organic Compounds (VOCs). Groundwater extraction and treatment facilities (GETs) were constructed in the mid 1980s to contain and treat volatile organic compound (VOC) contamination on the western side of the Aerojet property. The GETs were successful in removing much of the chemical from the groundwater, but the extent of NDMA contamination at that time was unknown. As a result, one potential source of the NDMA contamination may have been the use of reinjection wells as a component of the GETs, which resulted in reinjection of COCs into the groundwater. Reinjection wells are no longer utilized for discharge of treated groundwater.

CONTAMINANT TRANSPORT AND EXTENT

Initially, the remediation approach by Aerojet was designed to limit the contamination plumes to the Aerojet facility. Subsequent to the discovery of contamination beyond the limits of the facility, Aerojet has installed monitor and extraction wells on and off the Aerojet property in an attempt to identify, classify, and contain the contaminant plumes. Monitor wells installed in the western off-

PHOTO 1: Location of proposed GWTP. View to northwest.

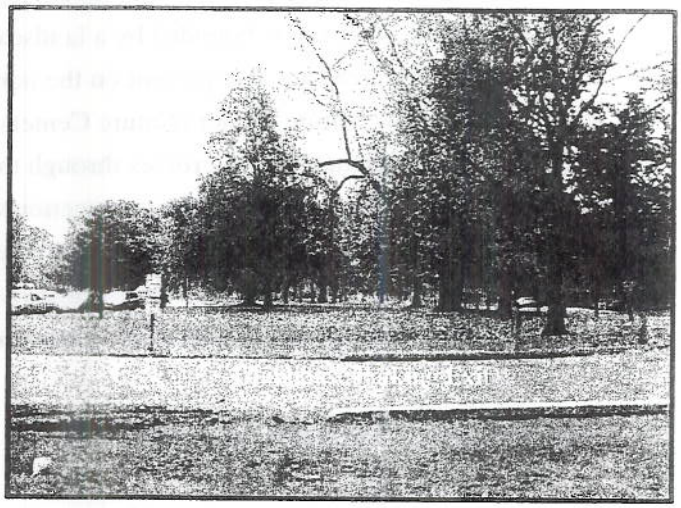


PHOTO 2: Location of proposed GWTP. View to northeast.

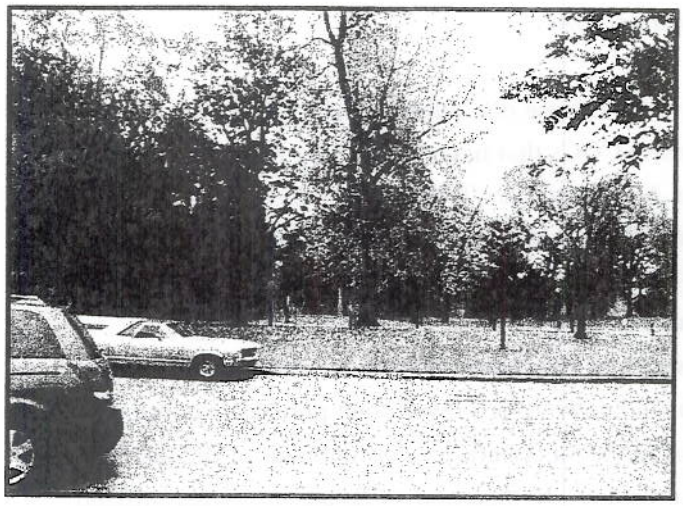


PHOTO 3: Location of proposed GWTP. View to southeast.

PHOTO 4: Location of proposed GWTP. View to southwest.

Source: AES, 2006

Ancil Hoffman Park GET "L" Project

Figure 2-4

Site Photographs (1, 2, 3, 4)

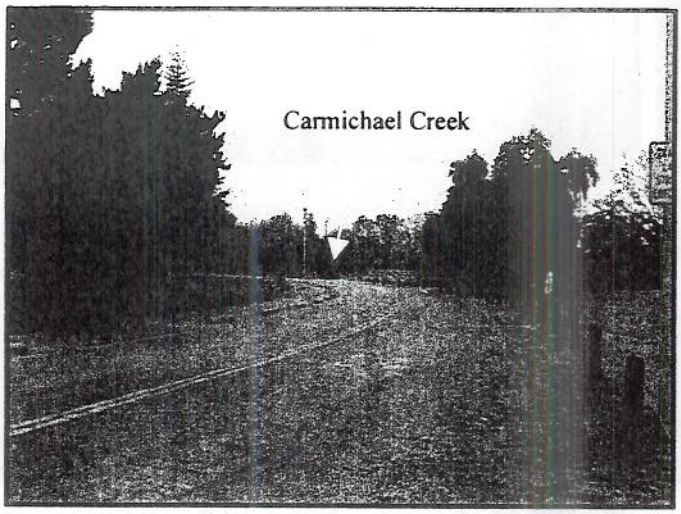


PHOTO 5: Tarshes Drive from vicinity of proposed GWTP. View to northwest.

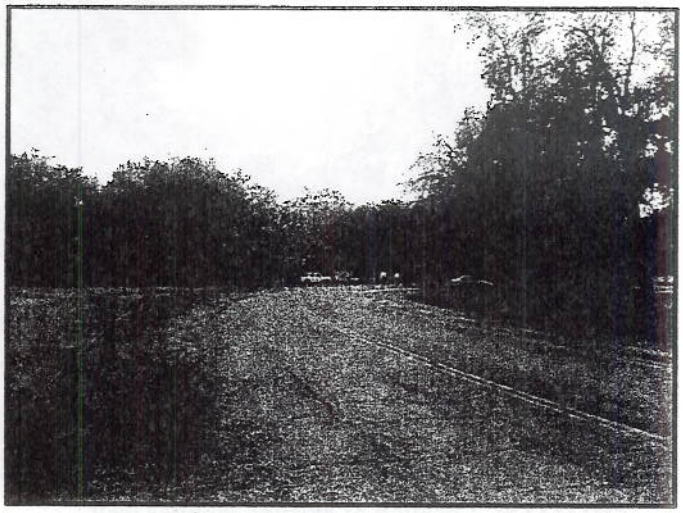


PHOTO 6: Tarshes Drive from vicinity of proposed GWTP. View to southwest.

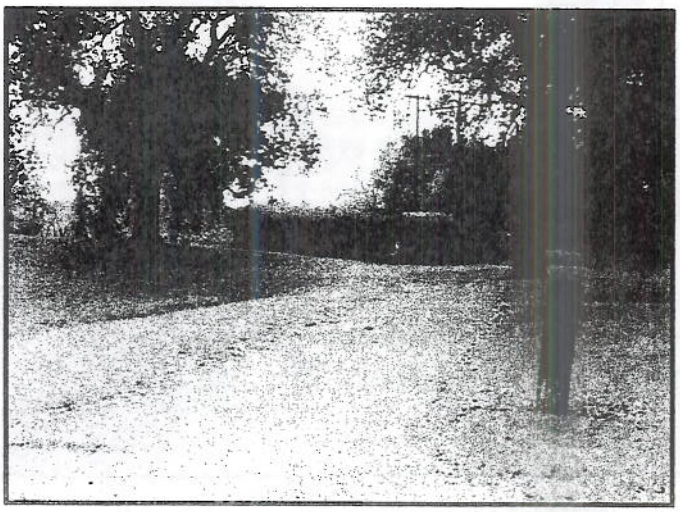


PHOTO 7: Access road to irrigation pump station. View to southeast.

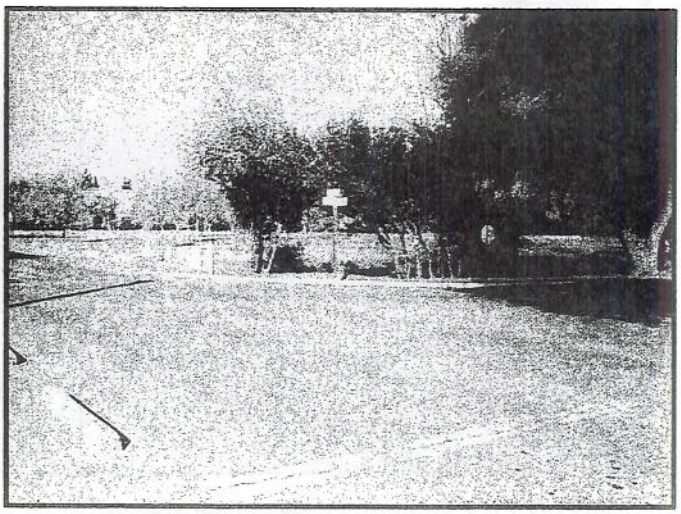


PHOTO 8: Intersection of Tarshes Drive and San Lorenzo Way. View to north.

Source: AES, 2007

Ancil Hoffman Park GET "L" Project

Figure 2-5

Site Photographs (5, 6, 7, 8)

PHOTO 9: Location of existing monitor well (proposed Extraction Well A) near existing irrigation pump station. View to northwest.

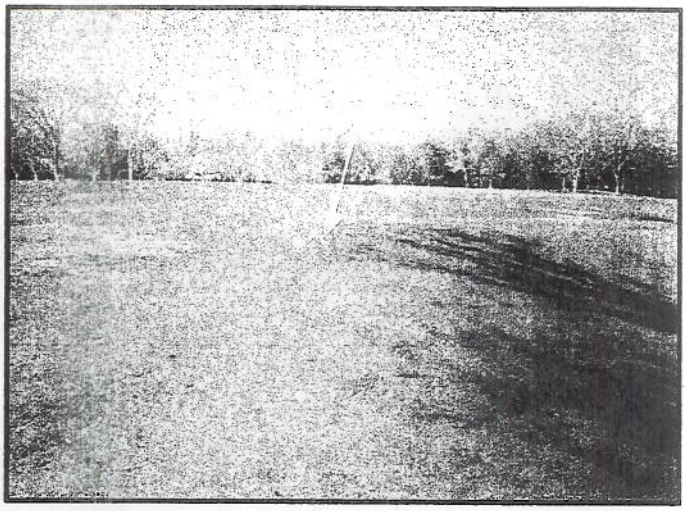


PHOTO 10: Location of potential Extraction Well B near the intersection of Tarshes Drive and San Lorenzo Way. View to northeast.

PHOTO 11: Carmichael Creek along Tarshes Drive. View to northwest

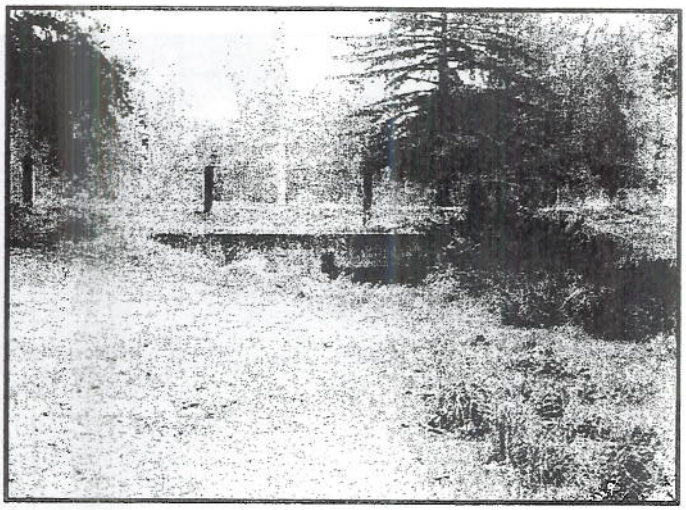


PHOTO 12: Location of proposed Outfall A on Carmichael Creek. View to west.

Source: AES, 2007

Ancil Hoffman Park GET "L" Project

Figure 2-6

Site Photographs (9, 10, 11, 12)

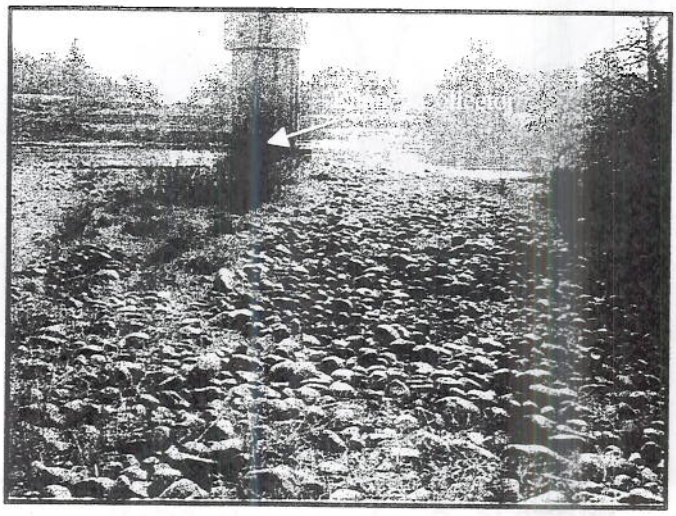


PHOTO 13: Location of Potential Outfall B on the American River near the Ranney Collector. View to southeast.

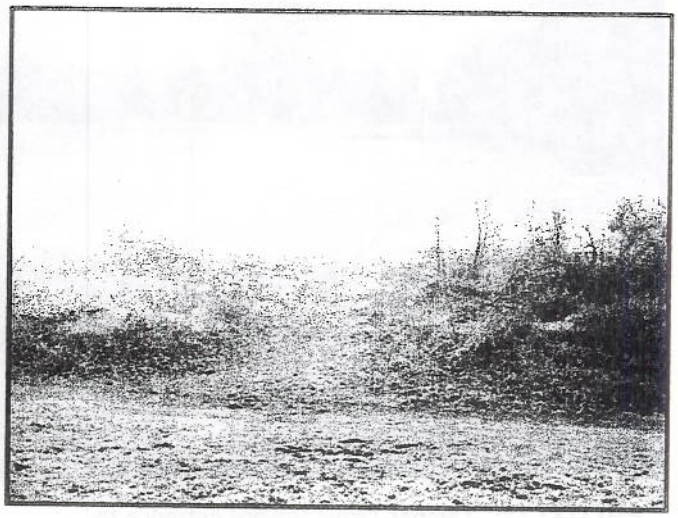


PHOTO 14: View from Ancil Hoffman Park to potential Outfall B. View to south.

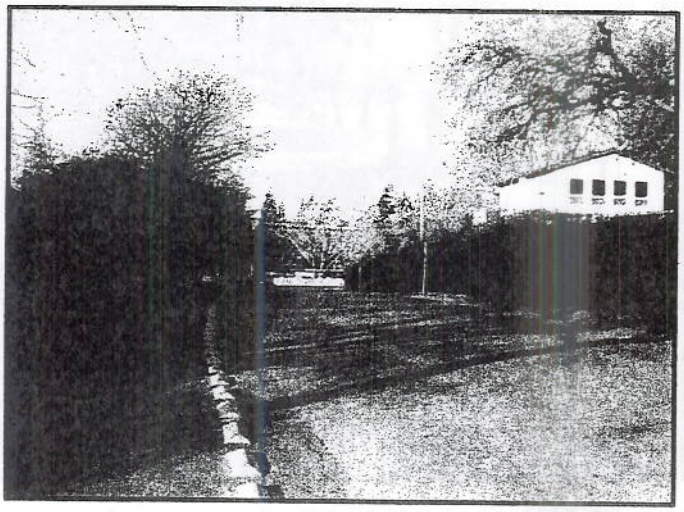


PHOTO 15: View to California Avenue from entrance to Ancil Hoffman Park. View to West.

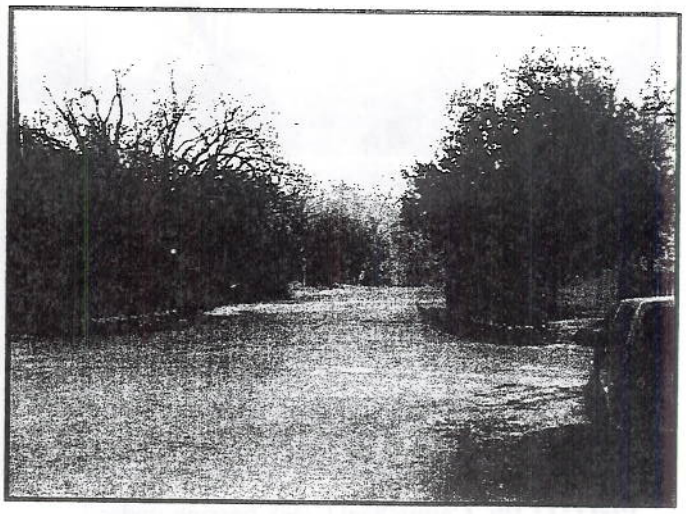


PHOTO 16: Entrance to Ancil Hoffman Park. View to east.

Source: AES, 2006

Ancil Hoffman Park GET "L" Project

Figure 2-7

Site Photographs (13, 14, 15, 16)

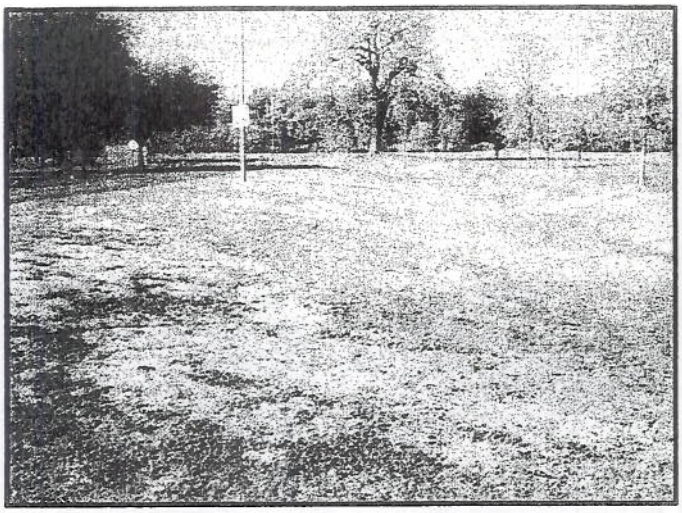


PHOTO 17: Tarshes Drive toward entrance to Ancil Hoffman Park. View to west

PHOTO 18: Gravel access road to Effie Yeaw Interpretive Building. View to northeast.

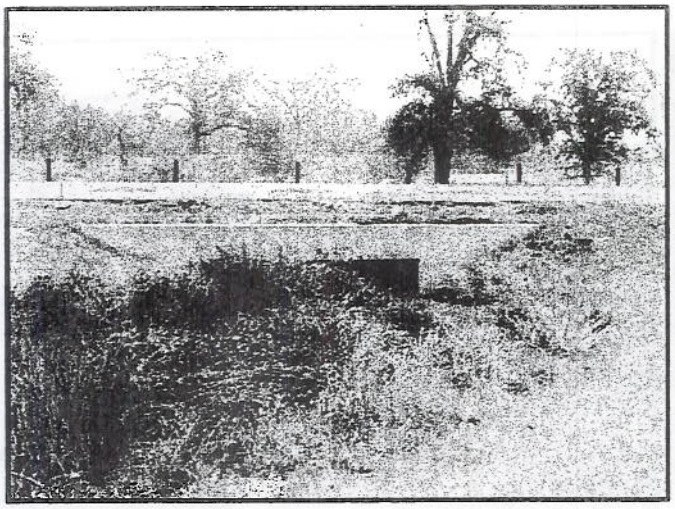


PHOTO 19: Carmichael Creek passing under Tarshes Drive in the vicinity of proposed Outfall A. View to west.

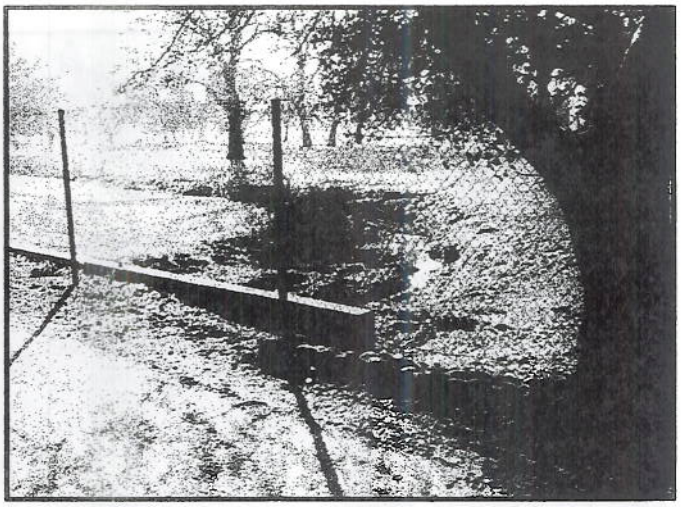


PHOTO 20: Carmichael Creek passing under Tarshes Drive near the intersection with San Lorenzo Way in the vicinity of potential Extraction Well B. View to southwest.

Source: AES, 2007

Ancil Hoffman Park GET "L" Project

Figure 2-8

Site Photographs (17, 18, 19, 20)

property areas indicate the groundwater flow from the western portion of the Aerojet site is in the northwesterly direction.

REGULATORY OVERSIGHT

Regulatory oversight for the containment and cleanup of the groundwater contamination has been conducted by the U.S. Environmental Protection Agency (USEPA), the Central Valley Regional Water Quality Control Board, and the California Department of Toxic Substances Control in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and as amended by the Superfund Amendments and Reauthorization Act (SARA).

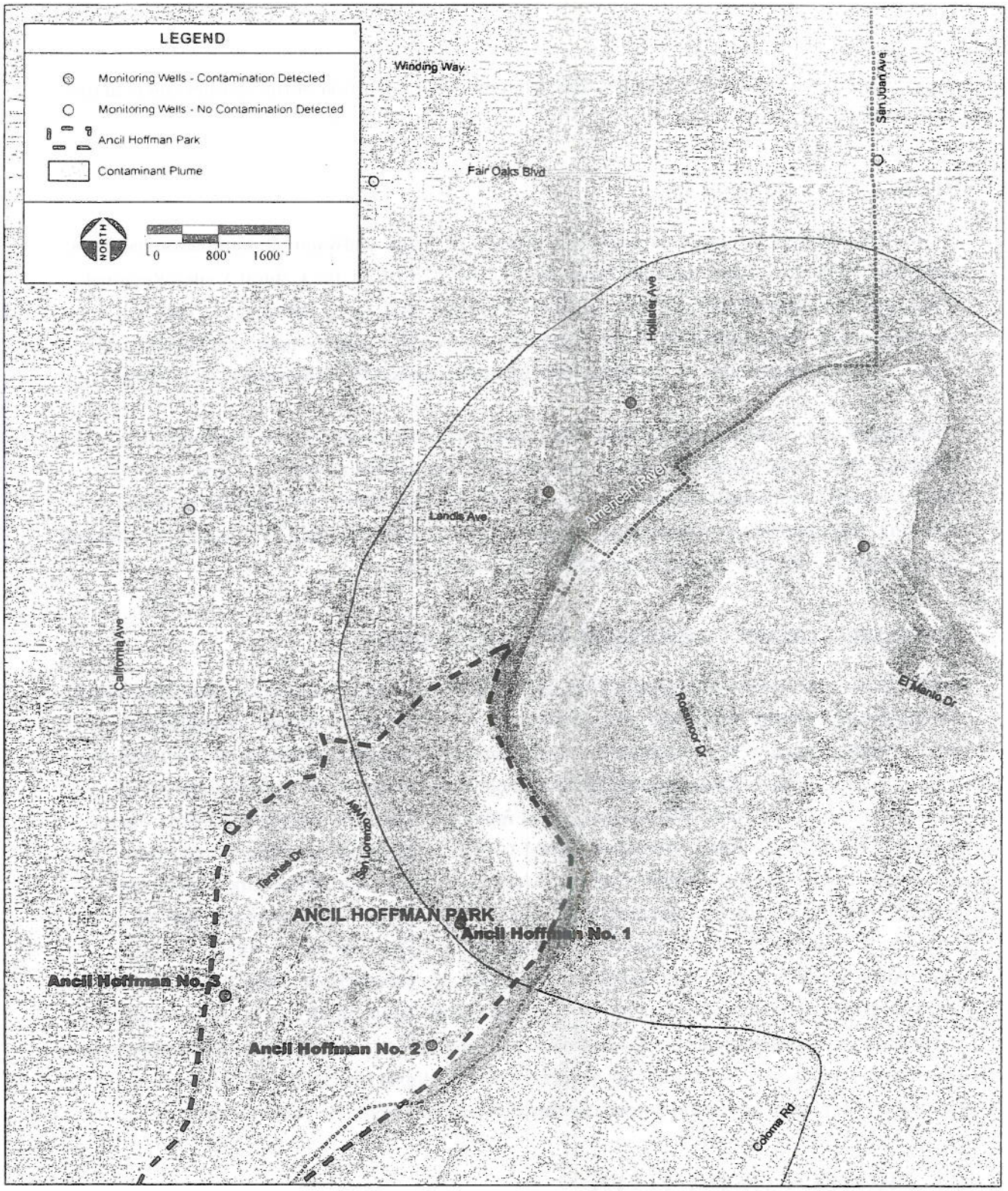
Containment and cleanup of the western off-property areas of the Aerojet site contamination, which includes CWD, is classified as Western Groundwater Operable Unit 3 (OU-3), Area 4. In 2002, USEPA issued a Unilateral Administrative Order that directed Aerojet to undertake remedial actions, including: containment of contaminated groundwater off property within OU-3 in all contaminated layers of the aquifer; and treatment of extracted groundwater.

CONTAMINATION IN CARMICHAEL WATER DISTRICT

In 2001 analytical results from groundwater monitor wells along the south side of the American River showed positive results for NDMA and perchlorate. This data indicated that contamination was moving north to northwest, away from the Aerojet property. An additional monitor well was installed in Sacramento County's Rossmoor Bar Park, located on the south side of the American River immediately south from the CWD service area (**Figure 2-9**). In 2004 analytical results from the Rossmoor Bar Park monitor wells showed NDMA, TCE, and perchlorate in the groundwater. This subsequently led to the installation of monitor wells on the north side of the American River. Samples from these wells confirmed the migration of chemicals in the groundwater beneath and to the north of the American River into the CWD. In an attempt to prevent further migration of the contaminant plumes, Aerojet initiated projects to install groundwater extraction wells and pipelines upgradient of the CWD service area on the south side of the American River to convey extracted groundwater to treatment facilities located on the Aerojet property. Development of these projects has yet to be completed. Until the Proposed Project is developed the chemicals will continue to migrate downgradient and could potentially threaten additional potable water supply wells.

2.3 PROJECT OBJECTIVES

The Proposed Project was initiated in response to detection of NDMA groundwater contamination within the CWD. The Proposed Project is designed to arrest the downgradient spread of the contaminant plumes, thereby protecting the downgradient quality of the aquifer, remediating the contaminated portions of the aquifer, and preventing additional impacts to public drinking water supply wells, including existing CWD wells. In order to provide for the beneficial use of remediated



SOURCE: CWD Aerial Data, 11/04/2004; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

Figure 2-9
Estimated Contaminant Plume

water the Proposed Project has been designed to offset existing demands on the CWD potable water system for non-potable uses within Ancil Hoffman Park. The Proposed Project is a joint endeavor by CWD and Aerojet. However, CWD is responsible for neither the contamination present in the aquifers nor cleanup of the contamination. CWD entered into a cooperative agreement with Aerojet in 2004 to proactively support and expedite installation of the cleanup system in order to protect CWD's water supply wells from the Aerojet contaminant plumes.

2.4 PROJECT DESCRIPTION

The Proposed Project is comprised of six primary physical components: (1) a groundwater treatment plant (GWTP) with an underground storage reservoir; (2) one proposed and one potential extraction well; (3) underground pipelines for conveyance of untreated and treated groundwater; (4) one proposed and one potential outfall; (5) connection to the existing golf course irrigation system; (6) and underground pipelines to provide potable water supply and fire protection. Each of these components, as well as the nature of construction and operational activities related to the Proposed Project, is discussed below.

CONSTRUCTION

GRADING AND GROUND DISTURBANCE

Development of the Proposed Project will involve grading, excavation, and trenching activities associated with the construction of the GWTP, the laying of pipelines, and the installation of at least one concrete outfall. Construction of the GWTP includes installing an approximately 750,000-gallon buried concrete reservoir to store treated groundwater. The reservoir will be located beneath the GWTP. Installation of the reservoir will require excavation of approximately 6,967 cubic yards of soil, an estimated 523 truckloads, to be used as clean fill at a yet-to-be-determined off-site location. Construction of the GWTP will require the removal of one or more non-native trees, as discussed more fully in **Section 3.4**, and other ground disturbing activities within the drip lines of several trees. Installation of the pipelines will require trenching in the previously disturbed roadbed of Tarshes Drive, San Lorenzo Way, the Clubhouse parking lot, a paved access road to the irrigation pump station, and a gravel drive to the Interpretive Buildings. Trenching outside of previously disturbed areas will be limited to two crossings of Carmichael Creek and the development of pipeline extensions necessary to reach extraction wells and outfalls. Any off-roadway ground disturbance will be subject to 100 percent habitat restoration. Pipelines will be routed to avoid, as feasible, trenching beneath the drip lines of native trees or the removal of riparian vegetation. Construction of pipelines and outfalls may involve excavation and fill within the bed, bank, or channel of Carmichael Creek and the American River. Construction within the bed, bank, or channel of either watercourse will be subject to any required permitting conditions, as discussed more fully in **Section 3.4**.

Staging Area

Construction equipment and construction employee parking will be staged on a paved overflow parking lot adjacent to the entrance kiosk to the Park and/or at a temporary staging area created by fencing the segment of Tarshes Drive between the entrance and exit to the Clubhouse parking lot.

Construction Schedule

Development of the Proposed Project is scheduled to begin in Fall 2007 and is anticipated to last approximately one year. All construction activities will take place between 6:00 AM and 8:00 PM, Monday through Friday, and between 7:00 AM and 8:00 PM, Saturday and Sunday. The District will coordinate with the Sacramento County Department of Parks to minimize construction activities during scheduled special events or other particularly high use time periods at the Park and Nature Center.

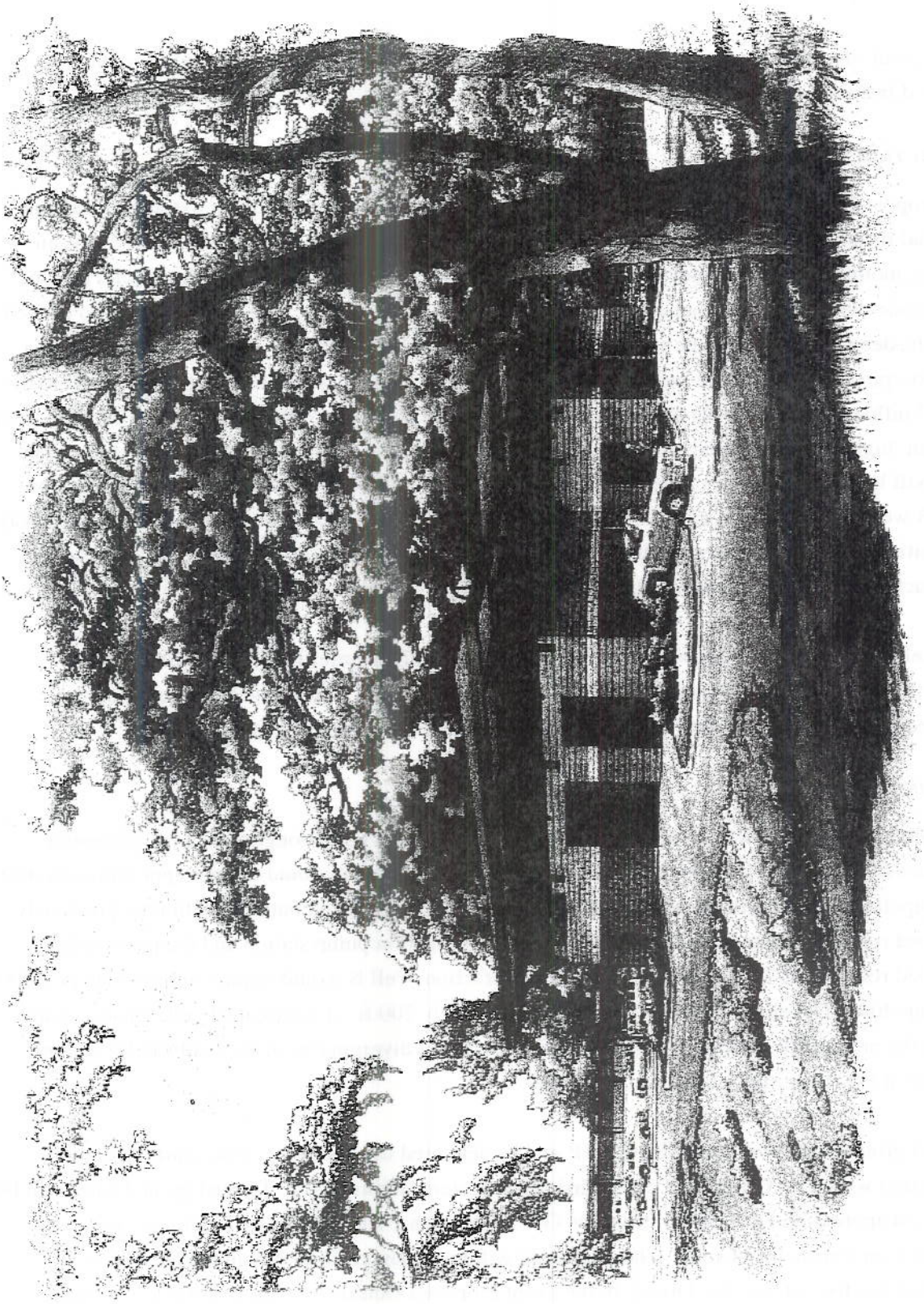
Project Components

Groundwater Treatment Plant

The floor plan of the proposed GWTP will be approximately 8,000 square ft. The height from foundation to eaves will be approximately 23 ft. The exterior of the GWTP will be designed to complement the architectural style employed in the nearby Clubhouse (**Figure 2-10**). The proposed GWTP will be constructed on non-reflective materials and employ downcast lighting systems. HVAC equipment and the new irrigation pump station will be housed inside the building. As discussed above, a 750,000 to 1,000,000 gallon concreted storage reservoir will be located beneath the GWTP. The reservoir is discussed more fully under Beneficial Reuse below.

The initial treatment processes will be for NDMA, TCE, and perchlorate only, and consist of ultraviolet light reactors, hydrogen peroxide chemical addition, granular activated carbon (GAC) pressurized filter vessels, and ion exchange pressurized filter vessels. Incidental equipment includes recirculation pumps, a backwash holding tank, bag filter vessels, and effluent strainers. The GWTP will be hydraulically operational at up to 2,000 gallons per minute (gpm) and reliably treat NDMA in groundwater from up to 300 parts per trillion (ppt) influent concentration to less than 1.3 ppt effluent concentration, perchlorate to below 4 parts per billion, and TCE from up to 5 parts per billion (ppb) to less than 0.5 ppb. The structure will include spill containment and recovery for incidental loss of unprocessed water within the building. On-site chemicals will be limited to UV lamp quartz sleeve cleaning solutions, hydrogen peroxide, and carbon dioxide gas canisters for providing pH adjustment as needed.

The planned facility includes an approximately 1,500-gallon hydrogen peroxide tank. The hydrogen peroxide solution will be necessary to destroy volatile organic compounds (VOCs) if they are detected in the extracted groundwater and to inhibit NDMA reformation following UV destruction. The tank will be located inside the GWTP building on a concrete slab with secondary containment.



SOURCE: Kennedy / Jenks Consultants, 2006; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

Figure 2-10
GWTP Architectural Rendering

In the event of a spill, the hydrogen peroxide will drain into a sump and then be pumped out and removed from the site.

EXTRACTION WELLS

The Proposed Project includes the conversion of an existing monitor well to an extraction well and potential installation of a second extraction well (**Figure 2-3**). Proposed Extraction Well A is an existing monitor well (4701) located approximately 750 ft. southeast of the Clubhouse and parking lot, outside the southeast corner of an existing irrigation pump station. The wellhead will be housed in a 5-ft.-deep pre-cast concrete vault measuring approximately 5 by 8 ft. The vault will drain to a pre-cast epoxy-lined concrete manhole in which a pump will be installed to return drain waste to the GWTP influent pipelines. An above ground electrical panel (approximately 36 in. long by 18 in. deep by 72 in. high) will be housed within a secured location adjacent to the extraction well vaults. The vault will be equipped with a pole-mounted transformer for flood protection. Potential Extraction Well B would be located in a grass area near the intersection of Tarshes Drive and San Lorenzo Way. Final siting will be dependent on monitoring and modeling of the aquifer. This well would be constructed similarly to proposed Extraction Well A.

The preliminary rate at which water will be pumped from the aquifer is 600 gpm for proposed Extraction Well A and 350 gpm for potential Extraction Well B. The extraction rates could be adjusted depending on aquifer response to the extraction and treatment processes.

PIPELINES

Untreated groundwater will be conveyed from the extraction wells through 6-inch (in.) diameter pipelines to the GWTP (**Figure 2-3**). Proposed Extraction Well A would require approximately 400 ft. of pipeline. The alignment would cross about 25 ft. of grass then continue within the previously disturbed roadbed of the access road for the existing irrigation pump station and the previously disturbed roadbed of Tarshes Drive. Potential Extraction Well B would require approximately 2,800 ft. of pipeline. The alignment would cross approximately 200 ft. of landscaped grass then continue within the previously disturbed roadbed of Tarshes Drive, diverging from the roadway for a short distance at two crossings on Carmichael Creek.

Treated groundwater will leave the GWTP and be delivered to either one of two outfalls or to a connection with the existing golf course irrigation system (**Figure 2-3**). Treated groundwater will be conveyed approximately 1,200 ft. from the GWTP through a 10-in. diameter pipeline to proposed Outfall A on Carmichael Creek. The alignment will be almost entirely within the previously disturbed roadbed of Tarshes Drive. In the event proposed Outfall A is not constructed, treated groundwater would be conveyed approximately 1,000 ft. through a 10-in.-diameter pipeline to potential Outfall B on the American River. The alignment would be within the previously disturbed roadbed of Tarshes Drive for approximately 600 ft. then cross about 200 ft. of landscaped grass before continuing for approximately 100 ft. along a gravel access road to the Ranney Collector.

Connection of the GWTP to the existing golf course irrigation system would require approximately 500 ft. laid within the previously disturbed roadbed of Tarshes Drive and the north end of the Clubhouse parking lot.

All pipelines will be ductile iron or polyvinylchloride (PVC) and will meet AWWA C151 and AWWA C900 standards, respectively, as well as ASTM standards. Pipeline trenches for the treated and untreated groundwater shall include detectable warning tape labeled "NON-POTABLE WATER," a ten-gauge locating wire, and will meet backfill requirements in accordance with Sacramento County standards.

Potable water will be supplied to the GWTP through two 12-inch-diameter pipelines. The first pipeline will originate at the intersection of California Avenue and Tarshes Drive. The pipeline will follow Tarshes Drive through the entrance to the Park and join a second proposed pipeline at the intersection of Tarshes Drive and San Lorenzo Way. The second pipeline will originate in the vicinity of San Lorenzo Way and Palm Drive. From the intersection, the potable water pipeline will follow Tarshes Drive and connect to the buried reservoir beneath the GWTP. In addition to providing a backup to the proposed use of remediated water for golf course irrigation, the potable water connection would also supply the fire suppression system and the Clubhouse. The connection to the storage reservoir will be equipped with an air gap backflow prevention device to protect against cross contamination between groundwater and the public water supply. An 8-in.-diameter ancillary potable water pipeline will be connected to the 12-in.-diameter pipeline at the intersection of San Lorenzo way and the gravel access road to the Interpretive Buildings. The 8-in. pipeline will terminate at the Interpretive Building. A 4-in.-diameter pipeline will connect the GWTP with the Clubhouse via an alignment through the parking lot.

OUTFALLS

The Proposed Project includes one proposed and one potential outfall (**Figure 2-3**). Proposed Outfall A would be located on Carmichael Creek on the southern bank immediately east of the most downstream crossing of Tarshes Drive. Treated effluent would be discharged into Carmichael Creek thence the American River during periods when there is not any irrigation demand. Potential Outfall B would be located on the American River near the existing Ranney Collector. Treated effluent would be discharged directly to the American River during periods when there is not any irrigation demand. Both outfalls would be constructed of reinforced concrete and be equipped with energy dissipaters.

BENEFICIAL REUSE

The Proposed Project would provide for the beneficial reuse of treated groundwater by connecting the GWTP to the existing golf course irrigation system. Treated groundwater will offset current potable water use required to sustain the greens, fairways, driving range, and other landscaped areas. Application methods and areas of irrigation would remain as under current conditions. Peak

irrigation demands that exceed the well production rate would require a storage system. The approximately 750,000-gallon concrete reservoir is sized for the 24-hour accumulation of volumes sufficient to meet peak golf course irrigation demands. The irrigation component of the Proposed Project also entails relocation of irrigation pumping facilities to the GWTP and potential abandonment of the existing irrigation pump station.

OPERATION AND MAINTENANCE

Operation of the proposed GWTP will require approximately one site visit per day. Employee vehicles will be parked within a designated new parking space. Operation of the proposed irrigation pump station and reservoir facility will require additional maintenance visits. Neither the GWTP nor irrigation system will be staffed on a fulltime basis.

NPDES PERMIT

The Proposed Project will result in discharge of treated effluent into the nearby Carmichael Creek and the American River. Currently, Aerojet operates six Groundwater Extraction and Treatment (GET) systems under Order No. R5-2004-0027 (NPDES Permit No. CA0083861) (**Appendix A**). The NPDES permit revision (NPDES NO. 0083861), which was adopted by RWQCB on February 6, 2006, allows for the discharge of 34.65 million gallons per day (mgd) from 11 GETs operated by Aerojet. The permit for GET 'L' allows Aerojet to discharge a combined 1.73 mgd from the Proposed Project to Carmichael Creek.

2.5 REGULATORY REQUIREMENTS, PERMITS, AND APPROVALS

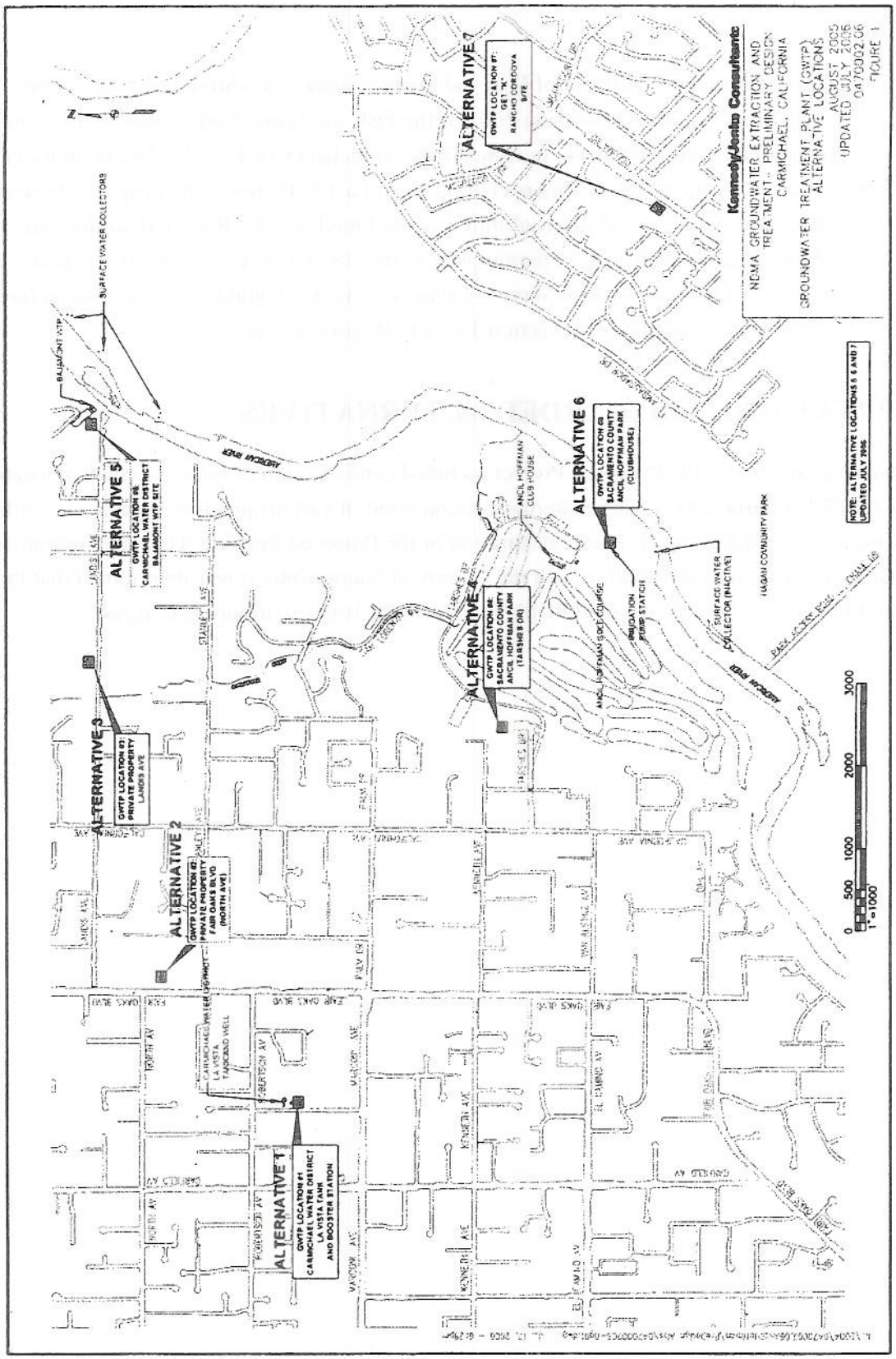
This Initial Study could be used for the following direct and indirect actions regarding the Proposed Project:

- Sacramento County Board of Supervisors approval of a long-term lease for location of the Proposed Project within Ancil Hoffman Park and easements or temporary encroachment permits.
- Sacramento County Municipal Services Agency approval of a grading permit.
- Sacramento County Department of Public Works issuance of Floodplain Management Permit for development activities within a federally designated special flood area.
- The Sacramento County Director of Public Works determination whether a permit is required pursuant to the Sacramento County Tree Ordinance.
- The Central Valley Regional Water Quality Control Board ensurance of compliance with the existing NPDES permit and approval of any changes to the permit required to accommodate the design of the Propose Project (Order No. 99-08-DWQ).

- The California Department of Fish and Game issuance of a Streambed Alteration Agreement pursuant to Section 1601 of the Fish and Game Code, if the project causes alterations to the bed, bank, or channel of Carmichael Creek or the American River.
- The U.S. Army Corps of Engineers issuance of a 404 Permit if the Proposed Project will discharge dredge or fill material into waters of the US. The RWQCB would issue a 401 Water Quality Certification permit prior to the USACE issuance of a 404 permit.
- The U.S. Fish and Wildlife Service issuance of an incidental take authorization through a Section 7 consultation or a section 10(a)(1)(B) permit if necessary.

2.6 PREVIOUSLY DISCARDED ALTERNATIVES

Preliminary planning for the Proposed Project included consideration of seven alternative locations for the GWTP (**Figure 2-11**). These alternatives consisted of various pipeline alignments, outfall areas, and other modifications to the configuration of the Proposed Project. Through preliminary constraints analyses and consultation with the County of Sacramento, it was determined that the Proposed Project configuration would be likely to have the least environmental impact.



Source: KJC, 2006; AES, 2006

Ancil Hoffman Park GET "L" Project

Figure 2-11

Preliminary Alternatives

SECTION 3.0

ENVIRONMENTAL CHECKLIST AND DISCUSSION

SECTION 3.0

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Pursuant to CEQA *Guidelines* Section 15063, a brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the projects outside a fault rupture zone). A "No Impact" answer should be explained where 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).

3.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 croppings, 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 that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

SETTING

The project site is located in Ancil Hoffman Park (Park) within the American River Parkway (Parkway). The primary area of proposed development is located in a previously developed area of the Park that includes several existing structures, access roads, and an asphalt parking lot associated with the adjacent golf course. The primary area of development is surrounded by landscaped park areas that abut the Effie Yeaw Nature Center (Nature Center) to the north and the riparian corridor of the American River to the east.

The American River Parkway Plan (Parkway Plan), a component of the Sacramento County General Plan, guides land use decisions affecting the American River Parkway, specifically addressing its preservation, use, development, and administration (Sacramento County, 1985). Chapter 5 of the Parkway Plan includes policies for the non-recreational use of the Parkway. The Parkway Plan includes the following polices that would apply to the Proposed Project:

Policy 5.7: Structures that are in the Parkway or visible from the Parkway shall be of a design, color, texture, and scale that minimizes adverse visual intrusion into the Parkway.

Policy 5.7.1: Structures shall be constructed of naturalistic materials which blend with the natural environment.

Policy 5.7.2: Colors shall be earth tones, or shall blend with the colors of surrounding vegetation.

Policy 5.7.4: To the extent possible, structures shall be screened from view by native landscaping or other naturally occurring features.

Policy 5.7.6: Structures shall be located so that neither they, nor activities associated with them, cause damage to native plants or wildlife.

Policy 5.7.7: Structures shall be located so that neither they, nor activities associated with them, disrupt the recreational use of the Parkway, and such structures shall be consistent with the goals and policies of this Plan.

The lower American River has been listed as a federally and state listed "Wild and Scenic River," which affords protection to aesthetic resources of the area. Designating the lower American River as a recreational river under the Federal Wild and Scenic Rivers Act results in a prohibition of Federal construction, assistance, or licensing of water projects "adversely affecting the characteristics qualifying the river for the national system."

IMPACT DISCUSSION

Question A

The proposed groundwater treatment plant (GWTP) would be developed on a landscaped island between Tarshes Drive and the golf course parking lot and thereby visible to users of the Park, primarily patrons of the golf course. The GWTP would not be visible to users of the Parkway. Users of the Park and the Parkway might notice the concrete outfalls—one proposed on Carmichael Creek and another potentially located on the American River—and the electrical panels associate with the extraction wells. The remaining components of the Proposed Project would be developed underground and thus, following the

construction phase, would not pose an aesthetic intrusion. The effects of the Proposed Project on scenic vistas will be less than significant. No mitigation is required.

Question B

The project site is not located near a state scenic highway. The Proposed Project will have no impact on scenic resources within a state scenic highway. No mitigation is required.

Question C

The primary area of proposed development is located in a previously developed area of the Park. The primary visible component of the Proposed Project, the GWTP, will be designed to complement the architectural style employed in the nearby Clubhouse. The Proposed Project will have a less than significant impact on the existing visual character or quality of the site and its surrounds. No mitigation is required.

Question D

The proposed GWTP will be constructed on non-reflective materials and employ downcast lighting systems. The Proposed Project will have a less than significant impact on day or nighttime views in the area. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have a **less than significant** impact on aesthetic resources.

3.2 AGRICULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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, as shown on the maps prepared pursuant to the farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
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 result in conversion of farmland, to non-agricultural use?	☐	☐	☐	☒

SETTING

The California Department of Conservation, Division of Land Resource Protection administers programs to protect and conserve agricultural resources. Agricultural land is rated according to soil quality and irrigation status, with the highest quality land designated as Prime Farmland. The soil must meet the physical and chemical criteria for Prime Farmland or Farmland of Statewide Importance as determined by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS). NRCS compiles lists of which soils in each survey area meet the quality criteria. Factors considered in qualification of a soil by NRCS include: water moisture regimes, available water capacity, developed irrigation water supply; soil temperature range; acid-alkali balance; water table; soil sodium content; flooding (uncontrolled runoff from natural precipitation); erodibility; permeability rate; rock fragment content; and soil rooting depth.

IMPACT DISCUSSION

Question A

The project site is characterized by Rossmoor Fine Sandy Loam, a Prime Farmland soil if irrigated. Although the area of primary development is irrigated, it is not currently used for agricultural purposes.

The Proposed Project will have no impact on the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. No mitigation is required.

Question B

The project site is currently zoned recreational and is not subject to a Williamson Act contract. The Proposed Project will have no impact on zoned agricultural use or a Williamson Act contract. No mitigation is required.

Question C

Agricultural production does not take place within or adjacent to the project site. The Proposed Project will have no impact on the conversion of farmland to non-agricultural use. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have **no impact** on agricultural resources.

3.3 AIR QUALITY

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
AIR QUALITY: Where applicable, 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 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?	☐	☐	☒	☐

SETTING

The project site is located within the Sacramento Valley Air Basin (SVAB), which encompasses the northern half of the Central Valley from Sacramento County to Shasta County. Three mountain ranges surround the SVAB: the Coast Range to the west, the Cascade Range to the north, and the Sierra Nevada to the east. Hot dry summers and wet mild winters characterize the regional climate of the SVAB. High-pressure systems frequently trap warm air in the Sacramento Valley, which inhibits the cooler Pacific air from cooling the valley. This weather pattern is most predominant in the warmer summer months. As a result, temperatures exceeding 100 degrees Fahrenheit are common in the Sacramento Valley. The delta breeze originating in the San Francisco Bay provides some relief from the hot dry summer nights to the lower portion of the SVAB, including Sacramento County. The delta breeze provides cool air from the Bay Area; however, it also provides a medium for pollutant dispersion from the Bay Area to the SVAB. Regional temperature averages are in the middle 70s (Fahrenheit) for highs and the upper 30s (Fahrenheit) for lows. Precipitation averages approximately 18 inches per year (1931 to 2005) (Western Regional Climate Center, 2006).

The project site is located within the Sacramento Metropolitan Air Quality Management District (SMAQMD). Pursuant to the Federal Clean Air Act (FCAA), the project site is located in an area of the

SMAQMD that is in attainment (or unclassified) for the following National Ambient Air Quality Standards (NAAQS): carbon monoxide, nitrogen oxides, lead, and sulfur oxides. The project site is located within the Sacramento Federal Ozone Nonattainment Area (SFNA). This area, which includes Sacramento and Yolo counties and parts of El Dorado, Placer, Sutter, and Solano counties, is classified as "severe" nonattainment for the 8-hour ozone NAAQS. Sacramento County is also considered nonattainment for particulate matter of 10 μm (PM_{10}) and 2.5 μm ($PM_{2.5}$) diameters. Pursuant to the California Clean Air Act (CCAA), the project site is located within an area of the SMAQMD that is considered in attainment (or unclassified) for most of the California Ambient Air Quality Standards (carbon monoxide, $PM_{2.5}$, nitrogen oxides, sulfur oxides, lead, sulfates, hydrogen sulfide, and visibility-reducing particles). The area is classified as non-attainment for ozone and PM_{10} (SMAQMD, 2006a).

According to the FCAA, when a state's air quality exceeds NAAQS, a State Implementation Plan (SIP) must be prepared. The SIP outlines strategies to reduce air contaminants in compliance with NAAQS. As part of the SIP, the SMAQMD has developed an attainment plan for ozone that includes thresholds for emissions of the precursor chemicals that cause ozone formation (**Table AQ-1**). Ozone is not directly emitted into the air, but is formed through a chemical reaction involving oxides of nitrogen (NO_x), reactive organic gasses (ROG), and sunlight. Sources of NO_x and ROG include fossil fuel combustion from heavy machinery and vehicles. For particulate matter, the SMAQMD requires reduction by all feasible means including standard Best Management Practices (BMPs) during construction.

TABLE AQ-1
OZONE PRECURSORS SIGNIFICANCE THRESHOLDS

Project Phase	Ozone Precursor Emissions Thresholds (pounds per day)	
	ROG	NOx
Construction	None	85
Operation	65	65

Source: SMAQMD, 2006b,

IMPACT DISCUSSION

Questions A-C

Construction

Construction of the Proposed Project will include the use of heavy machinery and require construction vehicles to travel to and from the site. SMAQMD has identified screening techniques to identify projects that can be conservatively assumed not to be associated with significant emissions of criteria pollutants (SMAQMD, 2004). One of the screening techniques involves comparing the project size and activity to modeled development size cut points (**Table AQ-2**). Projects of development size approximately 10 percent and below of the published cut point would not be considered to generate significant emissions of

NO_x, ROG, CO, and particulate matter. The proposed GWTP would be approximately 8,000 square feet. According to **Table AQ-2**, this is would be slightly above the cut point for the construction of industrial park developments.

TABLE AQ-2
MODELED DEVELOPMENT SIZE CUT POINTS

Development Type	Cut Point (Construction) (Square Feet)	Cut Point (Operation) (Square Feet)
General Office	77,000	841,000
Warehouse	57,000	2,100,000
Manufacturing	56,000	1,600,000
Industrial Park	56,000	1,215,000

Source: SMAQMD, 2004.

The Proposed Project is therefore expected to emit moderate levels of NO_x, ROG, CO, and particulate matter. According to Sacramento County, a project should not be considered cumulatively significant if the project is not significant for project-alone emissions and does not conflict with any regional air quality plan (SMAQMD, 2004). Construction of the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan, violate any air quality standard or contribute substantially to an existing or projected air quality violation, or 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. The Proposed Project would have a less than significant impact. No mitigation is required. **Mitigation Measures AQ-1** through **AQ-7** below will implement BMPs to reduce nuisance dust generation and the emission of criteria air pollutants to less than significant levels.

Operation

Operation of the GWTP has two main sources of pollutants, pumps that provide the GWTP with water and maintenance vehicle trips. Based cut point screening for operation of an industrial park, operation of the Proposed Project would not contribute to an increase in the generation of considerable quantities of ozone precursors or other criteria air pollutants (**Table AQ-2**). According to Sacramento County, a project should not be considered cumulatively significant if the project is not significant for project-alone emissions and does not conflict with any regional air quality plan (SMAQMD, 2004). Therefore, operation of the proposed GWTP would not conflict with or obstruct implementation of the applicable air quality plan, violate any air quality standard, contribute substantially to an existing or projected air quality violation, or 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. The Proposed Project would have a less than significant impact. No mitigation is required.

Question D

Sensitive receptors are generally defined as land uses that house people who are susceptible to experience adverse impacts from air pollution emissions, and as such, should be given special consideration when evaluating air quality impacts from projects. Sensitive receptors include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, convalescent facilities, and residential areas are examples of sensitive receptors. The residential areas bordering the Park are expected to contain sensitive receptors. Given the distance between the nearest potential sensitive receptors and the area of primary development, the Proposed Project is not expected to expose sensitive receptors to substantial pollutant concentrations.

Question E

Construction of the Proposed Project will be temporary and is not expected to subject a substantial number of people to objectionable odors. Operation of the UV treatment system will not produce objectionable odors that would impact a substantial number of people. The Proposed Project will have a less than significant impact. No mitigation is required.

MITIGATION MEASURES

AQ-1 During dry weather, earthwork construction areas shall be kept moist via regular watering to reduce fugitive dust emissions.

AQ-2 Trucks hauling soil and other loose materials shall be covered to reduce dust emissions and spillage onto paved roads.

AQ-3 Paved roads in the construction area or leading to the construction area shall be washed or swept daily during the construction period.

AQ-4 Excavation and grading activities shall be suspended when winds (instantaneous gusts) exceed 25 miles per hour.

AQ-5 Equipment shall be maintained according to the manufacturers' specifications to prevent emissions of unburned fuel or noxious fumes.

AQ-6 Idling of construction equipment and vehicles shall be restricted to 10 minutes.

AQ-7 Gasoline-powered equipment and vehicles shall have catalytic converters installed prior to their use on the project site.

FINDINGS

The Proposed Project will have a **less than significant** impact on air quality.

3.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 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 effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, or 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 native resident or migratory wildlife corridors, or impede the use of native 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?	☐	☐	☐	☒

SETTING

The project site is located within the boundaries of Ancil Hoffman Park (Park). Components of the project (the groundwater treatment plant [GWTP], extraction wells, pipelines, and outfall structures) are sited in previously developed areas of the Park, primarily within manicured lawns and existing roadbeds. The GWTP is located on an island of landscaped surrounded by an asphalt parking lot, entryway, and Tarshes Drive. Proposed Extraction Well A is located at the site of an existing monitor well, approximately 80-90 feet from a stretch of the American River that has been designated as critical habitat

for the valley elderberry longhorn beetle (VELB [FWS, 2002]). Potential Outfall B would be located within the riparian corridor of the American River. The pipeline route from the proposed Extraction Well A to the GWTP will be aligned within the outer edge of the drip lines of three native valley oaks (*Quercus lobata*) and three interior live oaks (*Quercus wislizenii*). With the exception of a small segment of pipeline connecting to potential Outfall B, which will be aligned along a gravel access road to the Ranney Collector, a segment crossing an open area of landscaped grass to connect with potential Extraction Well B, and two crossings of Carmichael Creek, the remaining pipeline routes will be located within existing roadways.

The following habitat types have been identified within or adjacent to the Proposed Project (**Appendix B: Habitat Map**). Landscaped Park is vegetated with manicured lawn, valley and interior live oak trees, and a variety of horticultural trees. Mixed Oak Woodland is characterized by a canopy of valley oak and interior live oak trees, and an understory of annual herbaceous vegetation. This section of the American River Riparian Corridor is dominated by blue elderberry shrubs. This section of the American River Floodplain is outside the normal-flow channel of the American River. It is a very sparsely vegetated area that primarily comprises loose cobbles. Carmichael Creek is an ephemeral tributary to the perennial American River.

Question A

For the purposes of this assessment, "special status" is defined to be species of management concern to State and Federal resource agencies, and include those species that are:

- Listed as endangered, threatened, or candidate for listing under the Federal Endangered Species Act
- Listed as endangered, threatened, rare, or proposed for listing, under the California Endangered Species Act of 1970
- Designated as endangered or rare, pursuant to California Fish and Game Code (§ 1901)
- Designated as fully protected, pursuant to California Fish and Game Code (§§ 3511, 4700, or 5050)
- Designated as species of concern or species of local concern by the California Department of Fish and Game (CDFG)
- Plants or animals that meet the definitions of rare or endangered under CEQA, including plants ranked by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (Lists 1A, 1B, and 2)
- Plants listed as rare under the California Native Plant Protection Act

Prior to conducting the field assessment the following information sources were reviewed:

- USGS "Carmichael and Citrus Heights, California" 7.5-minute topographic quadrangle
- CDFG California Natural Diversity Database (CNDDB) (RareFind 3, Version 3.1.0) (**Appendix B**)

- U.S. Fish and Wildlife Service (FWS), Federally Endangered and Threatened Species that occur in the "Carmichael and Citrus Heights, California" 7.5-minute quadrangle. November 29, 2006 (**Appendix B**)
- CNPS Inventory of Rare and Endangered Plants, USGS "Carmichael and Citrus Heights, California" 7.5-minute quadrangle (**Appendix B**)

Field Surveys

AES biologists performed a reconnaissance-level field assessment of the project site on November 30, 2006. The field assessment involved complete coverage of the site and included an assessment of the stretch of Carmichael Creek to the point of discharge at the American River. All visible fauna and flora were noted and identified to the lowest possible taxon; habitat types occurring in the study area were characterized and evaluated for their potential to support regionally occurring special-status species; and the study area was assessed for the presence of jurisdictional water features and other biologically sensitive features.

Special Status Plant Species

Special status plant species reported to occur in the Carmichael and Citrus Heights, California, USGS quadrangles include: Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), legenere (*Legenere limosa*), slender orcutt grass (*Orcuttia tenuis*), Sacramento orcutt grass (*Orcuttia viscida*), and Sanford's arrowhead (*Sagittaria sanfordii*). With the exception of Sanford's arrowhead, these species are endemic to vernal pools that are not found on the site. Sanford's arrowhead is found in perennial ponds and ditches. Carmichael Creek is an ephemeral creek and does not provide suitable habitat for Sanford's arrowhead. The project site does not provide suitable habitat for special status plant species reported in the relevant USGS quadrangles. No impacts to these species will occur as a result of the Proposed Project. No mitigation is required.

Special-Status Invertebrate Species

Special status invertebrate species reported to occur in the Carmichael and Citrus Heights quadrangles include "fairy shrimp" species (*Branchinecta conservatio*, *B. lynchi*, and *Lepidurus packardi*) and VELB. "Fairy shrimp" species are associated with vernal pools that do not occur on the site. The project site does not provide suitable habitat for special "fairy shrimp." No impact to these species will occur as a result of the Proposed Project. No mitigation is required.

Elderberry shrubs with stems greater than 1 in. provide suitable habitat for the Federally threatened VELB (in September 2206, the Sacramento Fish and Wildlife Office recommended the valley elderberry longhorn beetle be delisted, based on the number of sightings throughout the Central Valley and the reduction of the primary threats to the species). Critical habitat for the VELB was identified during field survey approximately 90 ft. from the location of proposed Extraction Well A, within 10 ft. of the pipeline alignment to potential Outfall B, and adjacent to the alignment of the potable water pipeline running from San Lorenzo Way to the Effie Yeaw Interpretive Facilities (**Appendix B: Habitat Map**). According to

the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* ([*Conservation Guidelines*] FWSa, 1999), complete avoidance (i.e., no adverse effects) is assumed when a 100 ft. or greater buffer is established and maintained around elderberry plants containing stems measuring 1in. or greater at ground level (**Appendix C**). The minor construction activities associated with conversion of the existing monitor well to proposed Extraction Well A will be temporary and will not involve removal of existing vegetation from a landscaped grass area. No significant adverse impacts to VELB or VELB critical habitat are expected as a result of this minor encroachment into the 100-ft. buffer. Construction activities associated with the pipeline alignment to potential Outfall B will be temporary, within an existing gravel access road to the Ranney Collector and will not involve removal of existing vegetation. Construction activities associated with the pipeline alignment from San Lorenzo Way to the Effie Yeaw Interpretive Facilities will be temporary, within an existing gravel access road, and will not involve removal of existing vegetation. In both cases, construction activities will be limited to roadbeds that already encroach within the 100-ft. buffer. Therefore, no significant adverse impacts to VELB or VELB critical habitat are expected. According to the *Conservation Guidelines*, however, any intrusion into the 100-ft. buffer must be considered an impact. **Mitigation Measure BR-1** below will ensure the Proposed Project will have a less than significant impact.

Special-Status Fish Species

Special-status fish species reported in the Carmichael and Citrus Heights quadrangles include: Central Valley fall/late fall-run, winter-run, and spring-run Chinook salmon, delta smelt (*Hypomesus transpacificus*), and Central Valley steelhead. Delta smelt's range does not extend this far upstream. Central Valley fall/late fall-run, winter-run, and spring-run Chinook salmon, and Central Valley steelhead occur within this stretch of the American River, which is critical habitat for steelhead and fall/late fall-run Chinook.

Treated groundwater will be used to offset the existing demand for golf course irrigation. During the wet season when irrigation is not required, treated groundwater will be discharged to Carmichael Creek thence the American River via proposed Outfall A and possibly to the American River directly via potential Outfall B. Water quality discharge shall be monitored as part of the existing National Pollutant Discharge Elimination System (NPDES) Permit discussed in **Section 3.8**. As noted in the existing NPDES Permit, discharge to the American River is considered a beneficial and recommended use of treated groundwater water. No impact to these species will occur as a result of the Proposed Project. No mitigation is required.

Special-Status Amphibian and Reptile Species

Special-status amphibians and reptile species reported to occur in the Carmichael and Citrus Heights quadrangles include: western spadefoot toad (*Scaphiopus hammondii*), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana aurora draytonii*), giant garter snake (*Thamnophis gigas*), and northwestern pond turtle (*Clemmys marmorata marmorata*).

The project site does not provide suitable habitat for the first two of these species. Western spadefoot toads reside in burrows constructed in loose soil and emerge during warm rains in the winter, spring, and fall only to breed. Breeding is almost entirely within seasonal ponds such as vernal pools and seasonal wetlands that do not occur on site. California tiger salamanders are found in association with long duration vernal pools, and dry season refugia occurring within 1.6 miles (e.g. gopher burrows, and ground squirrel dens). California red-legged frog is now found primarily in coastal drainages of central California, from Marin County south to northern Baja, California-Mexico, and in isolated drainages in the Sierra Nevada, northern coast, and northern Transverse Ranges (FWS, 1996). Giant garter snake are found in slow moving waters, sloughs, and marshes of the Central Valley. An occurrence of northwestern pond turtle (CNDDB occurrence #34) has been reported at a ponded section of Carmichael Creek, downstream of proposed Outfall A. No impact to these species will occur as a result of the Proposed Project. No mitigation is required. Northwestern pond turtle are found in perennially inundated ponds and wetlands. Dry at the time of the site survey, the ponded area downstream from proposed Outfall A would not generally provide the species permanently suitable habitat. However, the species is known to exist within the Nature Center and could relocate to Carmichael Creek or the ponded area during periods of inundation. **Mitigation Measure BR-2** below will ensure the Proposed Project will have a less than significant impact.

Special-Status Bird Species

Special-status bird species reported to occur in the Carmichael and Citrus Heights quadrangles include: bald eagle (*Haliaeetus leucocephalus*), Cooper's hawk (*Accipiter cooperii*), tricolored blackbird (*Agelaius tricolor*), burrowing owl (*Athene cunicularia*), white-tailed kite (*Elanus leucurus*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), bank swallow (*Riparia riparia*), and rookery habitat for the great egret (*Ardea alba*) and great blue heron (*Ardea herodias*). No heron or egret rookeries were observed in the study area. It is unlikely these species would nest in the vicinity of the project site due to high amounts of human disturbances. No special-status bird species were observed on site; however, nesting habitat for Cooper's hawk, Swainson's hawk, and white-tailed kite is present within and in the vicinity of the proposed site. **Mitigation Measure BR-3** below will ensure the Proposed Project will have a less than significant impact.

Special-Status Mammal Species

The American badger (*Taxidea taxus*) is the only special-status mammal species reported to occur in the Carmichael and Citrus Heights quadrangles. Badgers typically inhabit dry, open grasslands, fields, and pastures remote from human presence. The project site does not provide suitable habitat for the American Badger. No impact to this species will occur as a result of the Proposed Project. No mitigation is required.

Question B

The CNDDB reports two sensitive communities within the Carmichael and Citrus Heights quadrangles: northern hardpan vernal pool and northern volcanic mudflow vernal pool (**Appendix B**). Neither of these

sensitive habitats occurs within the project site or within the immediate vicinity. Riparian habitat is located along Carmichael Creek and the American River. Intrusions into riparian corridors will be limited to the development of proposed Outfall A on Carmichael Creek and potential Outfall B on the American River, and two pipeline crossings of Carmichael Creek where the creek flows under Tarshes Drive.

The Proposed Project has been designed to minimize intrusions into riparian habitats and includes 100-percent restoration of any sensitive habitats altered by off-roadway ground disturbance. Consequently, impacts are considered to be less than significant. Alteration to the bed, bank, or channel of eligible drainages requires a Streambed Alteration Agreement (1600 Permit) pursuant to Section 1600 of the California Fish and Game Code. USACE requires that a 404 Permit be obtained if a project proposes placing structures within, over, or under navigable waters and/or discharging dredged or fill material into waters of the US below the ordinary high-water mark. Depending on final design of the outfall structures and creek crossings, development of the Proposed Project may be subject to a 1600 Permit and/or 404 Permit. The project proponent shall comply will all terms and conditions of any required 1600 Permit or 404 Permit, including any stipulated compensatory mitigation. Permit compliance will further ensure the Proposed Project will have a less than significant impact.

Question C

Wetlands are areas that meet the definition set forth in the *Corps of Engineers Field Guide for Wetland Delineation* (1987) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." The methodology employed to define a wetland encompasses a three-parameter test based on (1) hydrology, (2) vegetation, and (3) soil characteristics. Conversely, upland (non-wetland) habitat is seldom or never inundated, or if frequently inundated, the soils are saturated for a brief period. If vegetated, the prevalence of vegetation is adapted for life within aerobic soils. With the exception of Carmichael Creek and the American River, the project site falls within the definition of an upland area; it supports a prevalent upland vegetation mix, lacks redoximorphic soil conditions, and lacks hydrology (i.e., inundation). Depending on final design of the outfall structures, development of the Proposed Project may be subject to a 404 Permit. Intrusions into wetlands would be minimal and impacts are considered to be less than significant. The project proponent shall comply will all terms and conditions of any required 404 Permit, including any stipulated compensatory mitigation. Permit compliance will further ensure the Proposed Project will have a less than significant impact. No mitigation is required.

Question D

The project site is located within a semi-urban area subject to a moderate level of human activity, including automobile traffic. The Proposed Project consists largely of underground pipelines that will not be visible following the construction. Surface components will not alter the characteristics or use of the area. The Proposed Project will not interfere substantially with the movement of wildlife species, or with

established native residents or migratory wildlife corridors; nor will it impede the use of native wildlife nursery sites. No impact will occur as a result of the Proposed Project. No mitigation is required.

Questions E-F

The Conservation Element of the *County of Sacramento General Plan* provides for the protection of riparian areas, urban stream corridors, and native oak trees (Section V Parts A, C, D). The conservation element contains a variety of policies designed to prevent net loss of riparian habitat, fill of urban stream corridors, and removal of native oak trees. As discussed above, the project design and permit compliance will ensure the Proposed Project will have a less than significant impact on riparian areas.

The Sacramento County Tree Ordinance (Section 19.12.040) provides further protection of native oak trees, defined as valley oak (*Quercus lobata*), interior live oak (*Quercus wislizenii*), blue oak (*Quercus douglasii*), or oracle oak (*Quercus morehus*). The Proposed Project has been designed to minimize tree removal and trenching within the drip lines. Nevertheless, construction of the GWTP will require the removal of one black oak (*Quercus kelloggii*) (24 in diameter at breast height (dbh)) and three horticultural species: a 4-in dbh redwood (*Sequoia sempervirens*); a 27-in. dbh sweetgum (*Liquidamber styraciflua*); and a 19-in. dbh white alder (*Alnus rhombifolia*). According to guidance provided by the County Department of Environmental Review and Assessment (DERA), these species are not subject to in-kind compensatory mitigation (Sacramento County, 2006c). The installation of the pipelines will require trenching within the drip lines of six native oaks, three valley oaks, and three interior live oaks. However, since trenching will be in existing roadbeds that already encroach within driplines, DERA does not deem compensatory mitigation necessary.

All tree removal and grading activities will be undertaken as set forth in the Tree Ordinance. In particular, the project proponent will consult with the County Director of Public Works to determine whether a tree permit is necessary for the removal of non-native tree species identified on site or grading beneath the drip lines. The Proposed Project would therefore not conflict with any local policies or ordinances protecting biological resources or with any adopted local, regional, or state habitat plan. No impact will occur as a result of the Proposed Project. No mitigation is required.

MITIGATION MEASURES

BR-1 Following final project design and prior to any disturbance within 100 ft. of elderberry plants, the District will consult with the Fish and Wildlife Service as set forth in the *Conservation Guidelines*. At a minimum, the District will implement all feasible protective measures recommended during consultation. These will include fencing and flaging of all elderberry plants within the 100-ft. buffer, briefing contractors on the need to avoid damaging elderberry plants and the penalties for not complying with these requirements, and erecting signs identifying the area as habitat for a species protected by the Endangered Species Act.

BR-2 A qualified wildlife biologist shall inform all construction personnel that protected turtles may occur in the area. A description of their natural history and identifying characteristics shall be provided. The personnel shall be instructed on the proper techniques for handling and relocating turtles, should relocation be required. If a turtle of any species enters an active construction area, or is in imminent danger, construction personnel (or an on-call wildlife biologist) shall carefully remove the turtle to a point at least 300 ft. downstream of the project limits and within similar habitat.

BR-3 A qualified biologist shall conduct a pre-construction survey for nests within .25 mi. of the project site. If active nests are identified, the project proponent shall initiate consultation with CDFG to establish appropriate avoidance measures. Avoidance measures may include subsequent biological monitoring and establishment of buffer areas around identified nests, with no disturbances within the buffer between April 1 and September 30, or until the young have fledged.

FINDINGS

With the incorporation of the **Mitigation Measures BR-1** through **BR-3**, the Proposed Project would result in ***less than significant*** impact to biological resources.

3.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐

SETTING

A records search was conducted on September 9, 2005, at the North Central Information Center (NCIC) of the California Historical Resources Information System, by NCIC staff, which is housed at Sacramento State University. The NCIC is the official State repository of archaeological and historic records and reports for a six-county area that includes Sacramento County.

The records search found that no cultural resource sites or studies have been recorded or conducted within the project site. Several sites have been recorded within .5-mi. radius of the project site. CA-SAC-155/156, a multi-component archaeological site, was identified and recorded by Dames & Moore (Kelly and Flint, 1995) approximately 0.8-mi. east of the current project site. This same inventory identified a prehistoric habitation site, CA-SAC-476, approximately 0.25-mi. south of the project site. Located approximately 0.8-mi. north of the project site, CA-SAC-220, a large prehistoric village site, was identified by Peak Associates in 1973 (Peak, 1978) and later rerecorded by Dames & Moore (1995). Also identified north of the project site, CA-SAC-317/H, another multi-component archaeological site, was recorded by Dougherty in 2005 as part of a parcel subdivision survey.

IMPACT DISCUSSION

The Proposed Project is considered to result in a significant impact if significant archaeological and/or historic site characteristics are affected (Public Resources Code [PRC] Section 21083.2 and California Environmental Quality Act [CEQA] Guidelines 15064.5). Adverse effects may include, but are not limited to:

- Loss or degradation of significant known or undiscovered prehistoric, archaeological, and historic resources;
- Physical destruction, damage, or alteration of all or part of a significant historic property, as could occur if a site were subjected to direct construction impacts; and
- Isolation of a significant historic property or alteration of the character of its setting when that character contributes to the property's cultural significance.

The thresholds of significance for cultural resources are based on (1) association with an event or person of recognized significance in California or American history; (2) association with an event or person of recognized scientific importance in prehistory; (3) whether the resource can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions; (4) whether the resource has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind; (5) whether the resource is at least 50 years old and possesses substantial stratigraphic integrity; (6) whether the resource involves important research questions that historical research has shown can be answered only with archaeological methods.

Resources must also be evaluated in terms of their eligibility for inclusion in the California Register of Historical Resources (PRC 5.24.1). The Register supplements the CEQA in defining what constitutes a significant cultural resource and contains guidelines and criteria for determining the significance at the local level. Properties eligible for listing in the National Register of Historic Places automatically qualify for the California Register. Resources that do not meet National Register criteria, but retain State or local values may also be included in the California Register. In light of these criteria and guidelines, impacts to resources located within the project site are discussed below.

Questions A-D

No historical resources were identified during the September 9 and 28, 2005 site visits (**Appendix D**). However, given the overall sensitivity for archaeological and historical resources in the general area, there is a possibility that unidentified buried archeological deposits are present at the project site and accidental discovery during ground-disturbing activities could occur. Prehistoric archaeological deposits may include obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g. slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Historic period deposits generally include fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g. wells, privy pits, dumps). Though much of the project site has been previously disturbed, thereby reducing the likelihood that intact archaeological sites exist, impacts related to the development of the Proposed Project could affect previously unidentified significant historical resources. This is a potentially significant impact. **Mitigation Measure CR-1** below will ensure the Proposed Project will have a less than significant impact.

MITIGATION MEASURES

CR-1 In the event of the unanticipated discovery of buried or concealed heritage resources, project activities will cease in the area of the find, and a qualified archaeologist will be consulted to determine the extent and significance of the resource and to develop any necessary mitigation measures. If human remains are inadvertently discovered, work will cease immediately and the County Coroner will be notified in accordance with California law. A professional archaeologist will also be hired to assist in the development of appropriate mitigation of site impacts.

FINDINGS

With the incorporation of the **Mitigation Measures CR-1**, the Proposed Project would result in ***less than significant*** impact on cultural resources.

3.6 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
GEOLOGY & SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving 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 Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
b) Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving strong seismic ground shaking?	☐	☐	☒	☐
c) Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
d) Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving landslides?	☐	☐	☐	☒
e) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
f) 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?	☐	☒	☐	☐
g) 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?	☐	☐	☐	☒
h) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

SETTING

The project site is situated in the Great Valley geomorphic province on a floodplain of the American River. The soils of the site are composed of Rossmoor fine sandy loam, (0 to 2 percent slopes) and Xerofluvents (0 to 2 percent slopes)(NRCS, 2006). Rossmoor fine sandy loam soils are very deep and

well drained. Rossmoor and Xerofluvent soils formed in alluvium derived from mixed rock sources. Typically, the surface layers of Rossmoor soils are brown fine sandy loam about 6 inches thick. The underlying material to a depth of 62 inches is yellowish brown and brown fine sandy loam. Permeability is moderately rapid, runoff is slow, and the hazard of water erosion is slight in the Rossmoor soils. Xerofluvents are excessively drained to well-drained soils. The unit is channeled by small drainage ways that are flooded during periods of high water flow. Permeability is very rapid to moderately rapid, runoff is very slow to slow, and the hazard of water erosion is slight to moderate.

Earthquake faults are a major hazard for development in California; however, no major active faults transect Sacramento County (Sacramento County, 1993). Active and potentially active regional faults identified include: Midland Fault (approximately 30 miles west), Dunnigan Hills Faults (approximately 30 miles northwest), Unnamed Faults (approximately 40 miles west), Green Valley-Concord Fault (approximately 55 miles west), and Foothills Fault System (approximately 20 miles east).

Liquefaction is a type of ground deformation associated with unconsolidated soils. Water in such soils is subjected to pressure, usually produced by ground motion like that of earthquakes, which causes the soil to behave like quicksand and to flow out from underneath buildings. Factors determining the liquefaction potential are soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands and peat deposits are susceptible to liquefaction, while clays and silt deposits in a freshwater environment are generally stable during seismic activity. Two areas in Sacramento County have a possibility of liquefaction occurring, downtown and delta areas. The Proposed Project site is not within either of the areas (Sacramento County, 1993).

IMPACT DISCUSSION

Questions A-C

There are no known active faults in the immediate vicinity of the project site. Sacramento County is not listed on Alquist-Priolo Earthquake Fault Zoning Maps (CGS, 1999). According to the Seismic Shaking Hazards in California Map (SSHCM), the project site is located in an area of low hazard (CGS, 2002). The SSHCM indicates that the ground-shaking hazard at the project site is 10 percent. Therefore, 1 out of every 475 earthquakes per year will have a 10 percent greater movement than the average gravity-induced ground motion (CGS, 2002). Liquefaction of the soils in and around the project site is low due to the low percentage of seismic activity and the composition of the soil.

The project site is located in a low hazard area for ground shaking, although a medium to large earthquake on any of the faults in the southwestern Sacramento Valley, the Coast Ranges, and the San Francisco Bay Area may cause strong ground shaking. Since the Proposed Project will be designed to current seismic standards, impacts are considered to be less than significant. No mitigation is required.

Question D

The project site is level and is therefore not considered to be a landslide hazard. No impact is expected. No mitigation is required.

Question E

Construction of the Proposed Project will require grading and removal of topsoil for the placement of the GWTP footprint. A grading and erosion control permit will be required from Sacramento County because the Proposed Project will grade, fill, excavate, store or dispose of 350 cubic yards or more of soil or earthly material. The Proposed Project will not require a General Permit for storm water discharges associated with construction activities from the Regional Water Quality Control Board-Central Valley Region (RWQCB-CVR) because the area of disturbance (approximately .75 acres) is less than one acre (RWQCB, 1999). **Mitigation Measures GS-1** through **GS-4** below will implement Best Management Practices to ensure the Proposed Project will have a less than significant impact.

Questions F-G

Due to the level nature of the project site, the Proposed Project is not likely to result in on- or off-site landslides. The soil composition is not at risk to experience lateral spreading, subsidence, liquefaction, or collapse of the soil structure. On-site soils are not categorized as expansive soils. **Mitigation Measure GS-5** below will ensure impacts will be less than significant.

Question H

The Proposed Project does not include installation of septic tanks or alternative wastewater disposal systems. No impact is expected. No mitigation is required.

MITIGATION MEASURES

GS-1 Vegetation removal shall be limited to the minimum amount necessary to accommodate the project. As the permanent vegetation cover is maturing, temporary native vegetation or other erosion control measures sufficient to stabilize the soil shall be established on all disturbed areas. New planting shall be protected by using such measures as jute netting, straw mulching and fertilizing.

GS-2 Temporary erosion control measures, such as silt fences, staked straw bales, and temporary revegetation, shall be employed for disturbed areas.

GS-3 No disturbed surfaces shall be left without erosion control measures in place during the winter and spring months.

GS-4 Sediment shall be retained on site by a system of sediment basins, traps, or other appropriate measures.

GS-5 Project design shall incorporate recommendations of a geotechnic study to be completed prior to construction of the Proposed Project.

FINDINGS

With the incorporation of the **Mitigation Measures GS-1** through **GS-5**, the Proposed Project would result in ***less than significant*** impacts.

3.7 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
HAZARDS & 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 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 two 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 within 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?	☐	☒	☐	☐

SETTING

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22 of the California Code of Regulations (CCR) as: "a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed" (CCR, Title 22, Section 66260.10).

IMPACT DISCUSSION

Questions A-B

The Propose Project does not involve any routine transport, use, or disposal of hazardous materials. On-site chemicals stored in the GWTP would be limited to UV lamp quartz sleeve cleaning solutions (hydrogen peroxide) and carbon dioxide gas canisters for providing pH adjustment as needed. It is anticipated that equipment will be temporarily stored on site during construction and will require periodic maintenance and fueling. **Mitigation Measures HM-1** through **HM-5** will ensure impacts will be less than significant.

Question C

The Proposed Project would not result in hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The nearest school is the Mary Deterding Elementary School approximately 0.75 miles northwest of the project site. No impacts are anticipated. No mitigation is required.

Question D

The project site is not listed on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment. No mitigation is required.

Question E

The Proposed Project is not located within an area covered by an airport land use plan or within two miles of a public airport and therefore would not pose a hazard to people residing or working in the project area.

Question F

There is no private airstrip in the project vicinity. No impact is anticipated. No mitigation is required.

Question G

During construction of the Proposed Project it is expected that construction traffic will be present on Tarshes Drive and San Lorenzo Way, but it is anticipated to be insignificant, and therefore would not prevent the implementation of an emergency response plan. Operation of the Proposed Project would not generate significant amounts of traffic or impair roadways, preventing the implementation of adopted emergency response or evacuation plans. No impact is anticipated. No mitigation is required.

Question H

The American River Parkway is an open and scenic parkway that has dry grasses that could pose a fire danger. **Mitigation Measures HM-6** and **HM-7** will ensure impacts will be less than significant.

MITIGATION MEASURES

HM-1 To reduce the potential for accidental releases, fuel, oil, and hydraulic fluids shall be transferred directly from a service truck to construction equipment tanks and shall not otherwise be stored on site.

HM-2 Personnel shall follow written Standard Operating Procedures (SOPs) for filling and servicing construction equipment and vehicles. The SOPs, which are designed to reduce the potential for incidents involving the hazardous materials, shall include the following:

A. Refueling shall be conducted only with approved pumps, hoses, and nozzles.

B. Catch pans shall be placed under equipment to catch potential spills during servicing.

C. All disconnected hoses shall be placed in containers to collect residual fuel from the hose.

D. Vehicle engines shall be shut down during refueling.

E. No smoking, open flames, or welding shall be allowed in refueling or service areas.

F. Refueling shall be performed away from bodies of water to prevent contamination of water in the event of a leak or spill.

G. Service trucks shall be provided with fire extinguishers and spill containment equipment, such as absorbents.

H. Should a spill contaminate soil, the soil shall be put into containers and disposed of in accordance with local, State, and Federal regulations.

I. All containers used to store hazardous materials shall be inspected at least once per week for signs of leaking or failure. All maintenance and refueling areas shall be inspected monthly. Results of inspections shall be recorded in a logbook that would be maintained on site.

J. The amount of hazardous materials used in project construction and operation shall be consistently kept at the lowest volumes needed.

HM-3 The use of pesticides and toxic chemicals shall be minimized or less toxic alternatives shall be used to the greatest extent feasible in landscaping.

HM-4 If suspected soil contamination is encountered during excavation and grading activities, all work shall be halted and a qualified individual, in consultation with the RWQCB, shall determine the appropriate course of action.

HM-5 All construction equipment shall include spark arresters in good working order.

HM-6 Staging areas, welding areas, or areas slated for construction using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel.

HM-7 To the extent feasible, the contractor shall keep areas around the construction site clear of combustible materials in order to maintain a firebreak.

FINDINGS

With the incorporation of the **Mitigation Measures HM-1** through **HM-7**, the Proposed Project would result in ***less than significant*** impacts.

3.8 WATER RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Water Resources: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
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 that 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 that would result in flooding on or off site?	☐	☐	☒	☐
e) Create or contribute runoff that 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 100-year flood hazard area structures that 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?	☐	☐	☐	☒

SETTING

The Proposed Project is located within the American River watershed, which drains approximately 1,875 square miles of land from the Sierra Nevada mountain range to the Sacramento Delta. Carmichael Creek flows though the project site, approximately 1,200 ft. northeast of the proposed GWTP. The Mehrten groundwater basin exists below the site and has a very high groundwater recharge rate (Sacramento County, 1993).

Groundwater extraction and treatment was chosen as the most effective remedial system to prevent contaminants of concern from migrating northwest into the Carmichael Water District (CWD) (WGOU-3, AREA 4). The goals of the groundwater extraction and treatment system are to create drawdown of the water table (level below which the ground is completely saturated with water) via the extraction wells. Drawdown will change the direction and gradient of groundwater flow, causing groundwater to be pulled towards the extraction wells. The drawdown will create a radius of influence around the extraction wells that would move affected groundwater towards the extraction wells.

IMPACT DISCUSSION

Question A

Treated effluent will be in compliance with an existing NPDES permit (**Appendix A**), which may need to be amended to cover an alternative discharge location and reuse of remediated water to offset existing irrigation demands. No impacts are anticipated. No mitigation is required. There is potential for violating water quality standards during the construction of the Proposed Project by sedimentation of the adjacent seasonal stream. **Mitigation Measures GS-1** through **GS-4** in the Soils and Geology section will ensure impacts will be less than significant

Question B

Groundwater recharge is rapid in the vicinity of the project site because of the proximity to the American River and the lithology of the Merhten groundwater basin. Treated groundwater will be discharged to Carmichael Creek and directly to the American River, thereby potentially recharging the lower groundwater-bearing zones. The Proposed Project is designed to prevent further contamination of the groundwater supply. Without implementation of the Proposed Project, the area of contamination is likely to expand, thereby reducing the net supply of groundwater available for drinking water and other existing or planned land uses. Impacts to the groundwater supply are therefore considered to be beneficial. No mitigation is required.

Questions C-D

The existing drainage pattern of the site includes surface runoff into landscaped areas and percolation of storm water into the ground surfaces. Construction of the GWTP would result in a minimal increase of impervious surfaces that would not substantially alter existing drainage patterns in a manner that would

result in substantial erosion or siltation or cause flooding on or off site. Nor would the Proposed Project create or contribute runoff that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. The Proposed Project would have no impact. No mitigation is required.

Question E-F

Construction of the GWTP would result in a minimal increase of impervious surfaces that would not exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Additional sources of polluted runoff from soil erosion may occur temporarily during construction of the Proposed Project. **Mitigation Measures GS-1** through **GS-4** in the Soils and Geology section will ensure impacts will be less than significant

Question G

The Proposed Project will not construct housing. No impact will occur. No mitigation is required.

Question H-J

The GWTP building is located on an elevated area outside the designated 100-year flood zone; however, the pipelines, outfalls, and extraction are within a 100-year flood zone (FEMA, 1998). Construction of these underground utilities would neither impede or redirect flood flows nor expose people or structures to a significant risk of loss, injury, or death involving flooding, including as a result of the failure of a levee or dam. The Propose Project is subject to issuance of Floodplain Management Permit from the Sacramento County Department of Public Works for development activities within a federally designated special flood area. Any conditions of this permit will further reduce the potential for impacts. The project site is not located in an area exposed to inundation by seiches, tsunamis, or mudflows. The Propose Project would have a less than significant impacts. No mitigation is required.

MITIGATION MEASURES

See **Mitigation Measures GS-1** to **GS-4** in the Geology and Soils Section.

FINDINGS

With the incorporation of the **Mitigation Measures GS-1** through **GS-4**, the Proposed Project would result in ***less than significant*** impacts.

3.9 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
LAND USE & 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?	☐	☒	☐	☐

SETTING

The Proposed Project is located in the 396-acre Park operated by the Sacramento County Department of Regional Parks. Ancil Hoffman Park consists of an 18-hole golf course, the 77-acre Effie Yeaw Nature Center, trails, and picnic areas. The project site is located in the American River Parkway (Parkway) as designated by the American River Parkway Plan (Sacramento County, 1985).

Zoning Ordinances

The project site is zoned as Recreation and Open Space with Flood and Parkway Corridor Combining Use Zones (Sacramento Zoning Code, 2006). The general purposes of the Recreation Land Use Zone include:

- To preserve the open space and other areas of unusual scenic beauty and recreational potential which are unique to Sacramento County and California and to protect the physical, social, recreational, aesthetic, and economic resources which are of great value to the people of Sacramento County.
- To protect the scenic and recreational areas within Sacramento County, whenever feasible, from urban development and other types of development that jeopardize the values of these areas.
- To encourage and protect Sacramento County's growing tourist and recreation resources.

The Flood Combining Zone is intended to comprise all land covered by rivers, creeks, and streams and land subject to flooding within the unincorporated area of Sacramento County. The following purposes of the Flood Combining Land Use Zone apply to the Proposed Project:

- The promotion of the orderly development and beneficial use of lands subject to recurrent flooding is necessary if the potential property damage which results from improper development is to be minimized.
- The health, general welfare and safety of the public of Sacramento County as a whole requires that lands subject to flooding be strictly regulated.
- Inundation frequently causes extensive property damage.

The Parkway Corridor Combining Zone regulates property along the American River within the unincorporated area of Sacramento County. Goals of the Parkway Corridor that apply to the Proposed Project include:

- Preserve and enhance the American River and its immediate environment consistent with the goals and policies of the American River Parkway Plan, an element of the Sacramento County General Plan.
- Ensure that development with access within and adjacent to the American River parkway is designed to reduce as much as possible, any visible intrusion into the Parkway and to complement the naturalistic amenities of the Parkway.
- Minimize risks to public health, safety and welfare in areas which are potentially threatened by erosional processes.

The Sacramento Zoning code prohibits any building, structure, vehicle, or sign in any Recreation Land Use Zone, unless designated in the Sacramento Zoning Code (Sacramento Zoning Code, 2006).

American River Parkway Plan

The American River Parkway Plan (Parkway Plan) provides a guide to land use decisions affecting the Parkway (Sacramento County, 1985). The conservation element of the Sacramento County General Plan includes implementation measures to incorporate habitat conservation measures in the Parkway Plan. Land use activities identified in the Parkway Plan that apply to the Proposed Project include:

- Brush clearing, mowing of natural vegetation, fire breaks, or similar activities shall be prohibited in the Open Space Preserve Areas, Nature Study Areas, Protected Areas and Recreation Areas, unless a demonstrated need exists to protect the public health, safety, or welfare, as determined by the appropriate fire agency.
- Human developments and facilities, including but not limited to, buildings, fences, trails, sprinkler systems, and gates shall be prohibited in Open Space Preserve Areas, except as necessary to protect the public health, safety, and welfare.

IMPACT DISCUSSION

Question A

The Proposed Project involves construction of moderately sized treatment facility in the vicinity of existing structures associated with the Ancil Hoffman Golf Course. The majority of the Proposed Project would be developed underground and does not have the potential to physically divide an established community. No impact would occur. No mitigation is required.

Question B-C

California Government Code Section 53091(d)(e) states that building and zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency. The consistency of the Proposed Project with land use plans, policies, or regulations of agencies adopted for the purpose of avoiding or mitigating environmental effects is discussed under the relevant environmental sections of this checklist. The consistency of the Proposed Project with applicable habitat conservation plans or natural community conservation plans is also discussed under the relevant environmental sections of this checklist (i.e. Aesthetics, Biological Resources, Geology and Soils, Water Resources, etc.). When appropriate, mitigation measures are provided to reduce all potential impacts to less than significant. No additional mitigation is required.

MITIGATION MEASURES

See **Mitigation Measures AQ-1** to **AQ-7**, **BR-1** to **BR-2**, **CR-1**, **GS-1** to **GS-5**, **HM-1** to **HM-7**, and **TT-1**.

FINDINGS

With the incorporation of the **Mitigation Measures AQ-1** to **AQ-7**, **BR-1** to **BR-2**, **CR-1**, **GS-1** to **GS-5**, **HM-1** to **HM-7**, and **TT-1**, the Proposed Project would result in ***less than significant*** impacts.

3.10 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

SETTING

Sacramento County does not contain mineral resources classified by the California Division of Mines and Geology (CDMG) as regionally significant according to the California Code of Regulations, Title 14(2)(8)(1)(2. Locally significant mineral resources in Sacramento County include sand, gravel, clay, natural gas, gold, silver, peat, topsoil, lignite, and petroleum. Aggregate (sand and gravel) and natural gas resources account for a majority of production in the area. According to the General Plan, resource conservation issues associated with natural gas production and the other locally significant mineral resources are not significant compared to those concerning aggregate production. The old American River channel is an area located to the south of the project site, south of the City of Rancho Cordova, and contains Sacramento County's primary remaining aggregate deposits (Sacramento County, 1993).

IMPACT DISCUSSION

Questions A-B

The project site is not located within an area classified as having regionally significant mineral resources and would not result in the loss of a locally important mineral resource recovery site. No impact would occur. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have a **less than significant** impact on mineral resources.

3.11 NOISE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 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 two 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?	☐	☐	☐	☒

SETTING

Noise is often described as unwanted sound and thus is a subjective reaction to the physical phenomenon of sound. Sound is variations in air pressure that the ear can detect. The ear responds to pressure variations in the air from about 20 times per second to about 20,000 times per second. The ear does not respond equally to all frequencies. For example, we do not hear very low frequency sounds as well as we hear higher frequency sounds, nor do we hear very high frequency sounds very well. The threshold of hearing is considered to be zero (0) decibels (dB), and the range of sounds in normal human experience is 0 to 140 dB. To compensate for the fact that the ear is not as sensitive at some frequencies and sound pressure levels as at others, a number of frequency weighting scales have been developed. The "A" weighting scale is most commonly used for environmental noise assessment, as sound pressure levels measured using an A-weighting filter correlate well with community response to noise sources such as aircraft and traffic.

The ambient noise level is defined as the existing range of noise levels from all sources near and distant from a particular area. A synonymous term is pre-project noise level. A similar term is background noise level, which usually refers the ambient noise level that is present when any intermittent noise sources are absent.

Sensitive noise receptors near the project site include the golf course and park users located to the northwest and potentially sensitive biological resources found in the surrounding park area. Ambient noise in the vicinity of the project site is a result of operations of the golf course and minor traffic on Tarshes Drive.

Noise Ordinance

The Sacramento County Noise Ordinance (Noise Ordinance) establishes exterior noise standards of 55 dBA during the hours of 7 AM to 10 PM and 50 dBA during the hours of 10 PM to 7 AM (Sacramento County, 2006b). Table N-1 shows exceedances of the established exterior noise standards that are allowed for short durations. The maximum operational noise level allowed during daytime hours is 75 dBA. The Noise Ordinance exempts construction noise from standards during the hours of 6:00 AM to 8:00 PM on Monday through Friday and 7:00 AM to 8:00 PM on Saturday and Sunday (Sacramento County, 2006b).

TABLE N-1
SACRMENTO COUNTY NOISE ORDINANCE STANDARDS

Duration of Noise Level Above Noise Standards	Decibels Allowed Above Noise Standard	Corresponding Noise Level	
		7am-10pm	10pm-7am
Cumulative period of 30 minutes per hour	0	55 dBA	50 dBA
Cumulative period of 15 minutes per hour	+5	60 dBA	55 dBA
Cumulative period of 5 minutes per hour	+10	65 dBA	60 dBA
Cumulative period of 1 minute per hour	+15	70 dBA	65 dBA
Level not to be exceeded for any time per hour	+20	75 dBA	70 dBA

Source: Sacramento County, 2006b.

IMPACT DISCUSSION

Questions A-D

Construction

The golf course and surrounding park adjacent to the project site will be exposed to a temporary increase in background noise levels during construction of the Proposed Project. Noise would be generated by construction machinery during the grading, trenching, and development of the Proposed Project. **Table N-2** shows typical construction noise levels for various types of equipment.

TABLE N-2
TYPICAL CONSTRUCTION NOISE LEVELS

Type of Equipment	Maximum Noise Level, dBA at 50 feet
Scrapers	88
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85
Forklifts	75

Source: AES, 2006.

As discussed in **Section 2.4**, construction will occur only during the exemption hours set forth in the Noise Ordinance and the District will coordinate with the Sacramento County Department of Parks to minimize construction activities during scheduled special events or high use time periods at the Park and Nature Center. The Proposed Project will therefore have no impact. No mitigation is required.

Operations

The GWTP and associated facilities would be designed with noise reducing features. These measures will include, but are not limited to, equipment enclosures (including location of the HVAC and pump inside the GWTP), fan silencers, noise barriers, acoustical panels. The design of the Project Design will reduce potential impacts to less than significant levels. No mitigation is required.

Questions E-F

The Proposed Project is not located in the vicinity of a public airport or private airstrip. No impacts will occur. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have a **less than significant** on ambient noise levels.

3.12 POPULATION

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
POPULATION: Would the project:				
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through he 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?	☐	☐	☐	☒

SETTING

Carmichael is an unincorporated suburb of Sacramento and covers approximately 17 square miles with a zip code population of 72,000. The area is served by the CWD District, which encompasses approximately eight square miles and serves a population of approximately 39,000. The CWD service area is predominantly residential in character, with interspersed commercial areas (CWD, 2006). The area immediately surrounding the Proposed Project consists of the 396-acre Ancil Hoffman Park.

Questions A-C

The Proposed Project does not propose construction of new homes or businesses or the demolition of existing housing. The Proposed Project would not cause a displacement of people requiring the construction of replacement housing. No impacts would occur. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have **no impact** on population or housing.

3.13 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
PUBLIC SERVICES: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response time or other performance objectives for any of these public services:				
a) Fire protection?	☐	☐	☐	☒
b) Police Protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

SETTING

Fire Protection

The Sacramento Metropolitan Fire Department provides fire protection to the Proposed Project property. Station 109 serves the Carmichael area and is located at 5634 Robertson Avenue, Carmichael, California, approximately 1.6 miles (2.4 driving miles) northwest of the project site. Station 109 provides medical, fire, and hazmat services to the surrounding community (SMFD, 2006).

Law Enforcement

The Northeast Division of the Sacramento County Sheriff's Department provides law enforcement to the proposed site. The Northeast Division has over 100 sworn offices with a support staff of 19 and is headquartered at the Garfield Station located approximately 3 miles northwest of the project site. The Garfield Station provides patrol and investigative services to the communities of Carmichael, Fair Oaks, Foothill Farms, and Orangevale. The Northeast Division also maintains a Carmichael Services center providing various non-patrol services.

Schools

The San Juan Unified School District provides public education services for various communities including Carmichael. Within a 1-mile radius of the Proposed Project property there are three public schools – two elementary and one college preparatory school. The closest school is Mary Deterding Elementary School, which is approximately 1.1 miles northwest of the core project site.

Parks

The proposed project is located within the boundaries of Ancil Hoffman Park. The park comprises 396-acres of recreation, which contains the Ancil Hoffman golf course and the Effie Yew nature center. The park provides horseback riding, hiking, nature studies, golf, and many other activities. Ancil Hoffman Park is owned by the County of Sacramento and is part of the American River Parkway. The American River borders the park on the south and is bound by residences on the north, east, and west.

Power and Natural Gas

Electricity is supplied to the proposed site and surrounding area by the Sacramento Municipal Utility District. Pacific Gas and Electric Company provides natural gas service to the project site.

Communications

AT&T provides telephone communication services to the Proposed Project property and surrounding area.

Questions A through E

The Proposed Project would require minimal public services that would not result in a measurable demand on public services, including fire protection, police protection, schools, parks or other public facilities. No impacts will occur. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have **no impact** on public services.

3.14 RECREATION

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 that might have an adverse physical effect on the environment?	☐	☐	☐	☒

SETTING

The project site is located within Ancil Hoffman Park in the American River Parkway. Ancil Hoffman Park is a Sacramento County Park that includes a golf course, several hiking trails, and a nature preserve.

IMPACT DISCUSSION

Questions A-B

The Proposed Project would not result in population growth that would increase the use of regional parks and other recreational facilities. The Proposed Project does not include or require construction of recreational facilities that might have an adverse effect on the environment. As discussed in **Section 2.4**, the District will coordinate with the Sacramento County Department of Parks to minimize construction activities during scheduled special events or other particularly high use time periods at the Park and Nature Center. The will ensure the Proposed Project will not have an adverse effect on current use of the Park and Nature Center.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have **no impact** on recreational opportunities.

3.15 TRANSPORTATION/TRAFFIC

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
TRANSPORTATION/TRAFFIC: Would the project:				
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase on 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 due 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)?	☐	☐	☐	☒

SETTING

The project site is accessed from the west via Tarshes Drive, a paved two-lane street maintained by the County that originates on California Avenue. Fair Oaks Boulevard and California Avenue are the main arterials in the project area. Fair Oaks Boulevard, Sunrise Boulevard, Watt Avenue, and U.S. Highway 50 provide regional access to the project area.

The Sacramento County General Plan (1993) includes a Circulation Element (Circulation Element) identifying major transportation facilities within Sacramento County and planning for their rehabilitation and expansion as transportation demands increase in the area over time. The circulation element includes policies designed to prevent degradation of existing roadway networks, including decline in physical condition and level of service. Development projects have the potential to impact the existing roadway network surrounding the project site, and in accordance with the general plan, a traffic impact analysis

may be necessary if the impacts are significant. The County has developed traffic impact analysis guidelines to determine the potential impact on transportation in the area (Sacramento County, 2006a). A traffic impact study is typically required if any of the following are true:

- The project will generate 100 or more new AM or PM peak hour vehicle trips (one-way)
- The project will generate 1,000 or more daily vehicle trips (one-way)
- New project traffic will substantially affect an intersection or a roadway segment already identified as operating at an unacceptable level of service
- The project may create a hazard to public safety
- The project will substantially change the off-site transportation system or connections to it.

IMPACT DISCUSSION

Questions A-B

Construction

Construction of the Proposed Project would temporarily increase the use of Tarshes Drive, the main access road to the project site. The increase in vehicular traffic would be from the arrival and departure of construction crews, delivery of heavy equipment and constructions materials, and removal of soil excavated for the storage reservoir. It is anticipated that a combined maximum of approximately 60 trips per day would result from the construction of Proposed Project. The impact of this minimal temporary increase would be less than significant. No mitigation is required.

Operation

It is anticipated that operation of the GWTP would require one part-time employee, which would result in less than 10 trips per week. The impact of this minimal increase would be less than significant. No mitigation is required.

Question C

The Proposed Project has no impact on air traffic. No mitigation is required.

Question D

The Proposed Project will not change the design of existing roadways and does not include any operational features that would impact traffic or increase hazards. No impacts will occur. No mitigation is required.

Question E

Construction equipment would be staged on site away from access roads and would not interfere with the provision of emergency services. However, trenching activities within existing roadways and access road could temporarily impede in roadways. **Mitigation Measure TT-1** below will ensure the Proposed Project will have a less than significant impact.

Question F

Construction equipment and construction employee parking will be staged on a paved overflow parking lot adjacent to the entrance kiosk to the Park and/or at a temporary staging area created by fencing the segment of Tarshes Drive between the entrance and exit to the Clubhouse parking lot. If the staging area is located near the GWTP building, the existing exit from the clubhouse parking lot will be closed and exiting traffic will be redirected to the entry point. A temporary stop sign and restriping would be installed to control traffic flow. This would not result in a net loss in parking capacity. Use of the overflow parking lot for staging of construction equipment would result in a net loss in parking capacity; however, this impact would be temporary and would not result in inadequate capacity to serve the existing demand. The impact to parking would be less than significant. No mitigation is required.

Question G

The Proposed Project would not conflict with any adopted policies, plans, or programs supporting alternative transportation. No mitigation is required.

MITIGATION MEASURES

TT-1 Consistent with the Circulation Element, all construction related trips will be coordinated with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the nature of construction activities within access routes, as well as the timing, location, and duration of construction related truck trips.

FINDINGS

With the incorporation of the **Mitigation Measure TT-1**, the Proposed Project would result in ***less than significant*** impacts to transportation and traffic.

3.16 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
UTILITIES & SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Result in a determination by the wastewater treatment provider that 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?	☐	☐	☐	☒
c) 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?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
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?	☐	☐	☐	☒

SETTING

The Sacramento Regional County Sanitation District, County Sanitation District-1 (CSD-1), provides wastewater service to the Proposed Project property. Wastewater is collected through approximately 2,400 linear mi. of sewer lines and transported to the Sacramento Regional Wastewater Treatment Plant (SRWWTP). The SRWWTP receives approximately 165 million gallons per day (MGD) and has a capacity of 281 MGD (SRCSD, 2006).

Potable water is provided by the CWD, which encompasses approximately eight square miles and serves a population of approximately 39,000. The CWD service area is predominantly residential in character, with interspersed commercial areas (CWD, 2006).

Questions A through D

The proposed GWTP does not include sanitary facilities that would generate substantial volumes of wastewater. Potable water would be supplied to the GWTP from the CWD. The Proposed Project has an irrigation reuse component that will offset existing demands on the potable water. The Proposed Project will have a beneficial impact. No mitigation is required.

Question E

Implementation of the Proposed Project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities that could cause significant environmental impacts. No impacts will occur. No mitigation is required.

Questions F through G

Operation of the Proposed Project would require one part-time employee. The increase in solid waste for one additional employee plus the operation of the GWTP is less than significant. The Proposed Project will comply with all federal, state, and local statutes and regulations related to solid waste. No impact will occur. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have **no impact** on utilities and service systems.

3.17 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 a 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 that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Questions A-C

The potential for the Proposed Project to degrade the quality of the environment, reduce habitats or species, or destroy cultural resources is discussed in detail in the corresponding sections above. Cumulative impacts and indirect effects for each issue area have been considered for each issue area and when salient are discussed in detail in the appropriate section of the checklist. When appropriate, mitigation measures are provided to reduce all potential impacts to less than significant levels. No additional mitigation measures are required.

MITIGATION MEASURES

See **Mitigation Measures AQ-1** to **AQ-7**, **BR-1** to **BR-2**, **CR-1**, **GS-1** to **GS-5**, **HM-1** to **HM-7**, and **TT-1**.

FINDINGS

With the incorporation of the **Mitigation Measures AQ-1** to **AQ-7**, **BR-1** to **BR-2**, **CR-1**, **GS-1** to **GS-5**, **HM-1** to **HM-7**, and **TT-1**, the Proposed Project would result in ***less than significant*** impacts.

SECTION 4.0

SIGNIFICANCE DETERMINATION AND MITIGATION SUMMARY

SECTION 4.0

SIGNIFICANCE DETERMINATION AND MITIGATION SUMMARY

4.1 DETERMINATION

On the basis of the evaluation presented in Section 3.0:

☐ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project design and project-specific mitigation measures described in Section 3.0 and summarized below have been agreed to by the project proponent. A NEGATIVE DECLARATION is recommended to be adopted.

☐ I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Steven M. Nugent

Signature

February 21, 2007

Date

Steve M. Nugent

Printed Name

Carmichael Water District

Lead Agency

4.2 SUMMARY OF MITIGATION MEASURES

The following mitigation measures are extracted from Section 3.0. These mitigation measures will be incorporated into the Proposed Project in order to reduce all potential environmental effects to less than significant levels.

3.3 AIR QUALITY

AQ-1 During dry weather, earthwork construction areas shall be kept moist via regular watering to reduce fugitive dust emissions.

AQ-2 Trucks hauling soil and other loose materials shall be covered to reduce dust emissions and spillage onto paved roads.

AQ-3 Paved roads in the construction area or leading to the construction area shall be washed or swept daily during the construction period.

AQ-4 Excavation and grading activities shall be suspended when winds (instantaneous gusts) exceed 25 miles per hour.

AQ-5 Equipment shall be maintained according to the manufacturers' specifications to prevent emissions of unburned fuel or noxious fumes.

AQ-6 Idling of construction equipment and vehicles shall be restricted to 10 minutes.

AQ-7 Gasoline-powered equipment and vehicles shall have catalytic converters installed prior to their use on the project site.

3.4 BIOLOGICAL RESOURCES

BR-1 Following final project design and prior to any disturbance within 100 ft. of elderberry plants, the District will consult with the Fish and Wildlife Service as set forth in the *Conservation Guidelines*. At a minimum, the District will implement all feasible protective measures recommended during consultation. These will include fencing and flaging of all elderberry plants within the 100-ft. buffer, briefing contractors on the need to avoid damaging elderberry plants and the penalties for not complying with these requirements, and erecting signs identifying the area as habitat for a species protected by the Endangered Species Act

BR-2 A qualified wildlife biologist shall inform all construction personnel that protected turtles may occur in the area. A description of their natural history and identifying characteristics shall be provided. The personnel shall be instructed on the proper techniques for handling and relocating turtles, should relocation be required. If a turtle of any species enters an active construction area, or is in imminent danger, construction personnel (or an on-call wildlife biologist) shall carefully remove the turtle to a point at least 300 ft. downstream of the project limits and within similar habitat.

BR-3 A qualified biologist shall conduct a pre-construction survey for nests within .25 miles of the project site. If active nests are identified, the project proponent shall initiate consultation with CDFG to establish appropriate avoidance measures. Avoidance measures may include subsequent biological monitoring and the establishment of buffer areas around identified

nests, with no disturbances within the buffer between April 1 and September 30, or until the young have fledged.

3.5 CULTURAL RESOURCES

CR-1 In the event of the unanticipated discovery of buried or concealed heritage resources, project activities will cease in the area of the find, and consultation with a qualified archaeologist will be initiated for recommended procedures. If human remains are inadvertently discovered, work will cease immediately and the county coroner will be notified in accordance with California law. A professional archaeologist will also be hired to assist in the development of appropriate mitigation of site impacts.

3.6 GEOLOGY AND SOILS

GS-1 Vegetation removal shall be limited to the minimum amount necessary to accommodate the project. As the permanent vegetation cover is maturing, temporary native vegetation or other erosion control measures sufficient to stabilize the soil shall be established on all disturbed areas. New planting shall be protected by using such measures as jute netting, straw mulching and fertilizing.

GS-2 Temporary erosion control measures, such as silt fences, straw waddles, staked straw bales, and temporary revegetation, shall be employed for disturbed areas.

GS-3 No disturbed surfaces shall be left without erosion control measures in place during the winter and spring months.

GS-4 Sediment shall be retained onsite by a system of sediment basins, traps, or other appropriate measures during and after construction.

GS-5 Prior to and during onsite development of the Proposed Project, the contractor shall address excavation and grading through the oversight of a professional, licensed geologist or engineer.

3.7 HAZARDS AND HAZARDOUS MATERIALS

HM-1 To reduce the potential for accidental releases, fuel, oil, and hydraulic fluids shall be transferred directly from a service truck to construction equipment tanks and shall not otherwise be stored on-site.

HM-2 Personnel shall follow written Standard Operating Procedures (SOPs) for filling and servicing construction equipment and vehicles. The SOPs, which are designed to reduce the potential for incidents involving the hazardous materials, shall include, but not limited to the following:

A. Refueling shall be conducted only with approved pumps, hoses, and nozzles.
B. Catch-pans shall be placed under equipment to catch potential spills during servicing.
C. All disconnected hoses shall be placed in containers to collect residual fuel from the hose.
D. Vehicle engines shall be shut down during refueling.
E. No smoking, open flames, or welding shall be allowed in refueling or service areas.
F. Refueling shall be performed on a predesiginated flat area away from storm drains to prevent contamination of water bodies in the event of a leak or spill.
G. Service trucks shall be provided with fire extinguishers and spill containment equipment, such as absorbents.
H. Should a spill contaminate soil, the soil shall be put into containers and disposed of in accordance with local, state, and federal regulations.
I. All containers used to store hazardous materials shall be inspected at least once per week for signs of leaking or failure. All maintenance and refueling areas shall be inspected monthly. Results of inspections shall be recorded in a logbook that would be maintained on-site.
J. The amount of hazardous materials used in project construction and operation shall be consistently kept at the lowest volumes needed.

HM-3 The use of pesticides and toxic chemicals shall be minimized or less toxic alternatives shall be used to the greatest extent feasible in landscaping.

HM-4 If suspected groundwater contamination is encountered during excavation and grading activities, all work shall be halted and a qualified individual, in consultation with the RWQCB, shall determine the appropriate course of action.

HM-5 All construction equipment shall include spark arresters in good working order.

HM-6 Staging areas, welding areas, or areas slated for construction using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel.

HM-7 To the extent feasible, the contractor shall keep areas around the construction site clear of combustible materials in order to maintain a firebreak.

3.8 WATER RESOURCES

See Mitigation measures **GS-1** through **GS-5**

3.9 LAND USE AND PLANNING

See Mitigation Measures **AQ-1** to **AQ-7**, **BR-1** to **BR-3**, **CR-1**, **GS-1** to **GS-5**, **HM-1** to **HM-7**, and **TT-1**.

3.15 TRANSPORTATION AND TRAFFIC

TT-1 Consistent with the Circulation Element, all construction related trips will be coordinated with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the nature of construction activities within access routes, as well as the timing, location, and duration of construction related truck trips.

3.17 MANDATORY FINDING OF SIGNIFICANCE

Mitigation Measures:

See Mitigation Measures **AQ-1** to **AQ-7**, **BR-1** to **BR-3**, **CR-1**, **GS-1** to **GS-5**, **HM-1** to **HM-7**, and **TT-1**.

SECTION 5.0

LIST OF PREPARERS

SECTION 5.0

LIST OF PREPARERS

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SECTION 6.0

REFERENCES

SECTION 6.0

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APPENDICES

APPENDIX A

NPDES PERMIT

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

Alan C. Lloyd Ph.D.
Secretary for Environmental Protection

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Arnold Schwarzenegger
Governor

6 February 2006

Mr. Craig Fegan
Environmental Management
Aerojet-General Corporation
P.O. Box 13222
Sacramento, CA 95813-6000

Certified Mail No.
70030500000479079492

ADOPTED REVISED NPDES PERMIT, GROUNDWATER EXTRACTION AND TREATMENT SYSTEMS, ARGET, GET E/F, GET H, INTERIM GET H, GET J, GET K, INTERIM GET K, GET L/L1, CHETTENHAM WELL AND SAILRO BAR PARK POND, AEROJET-GENERAL CORPORATION (NPDES NO. CA0083861)

Enclosed is a copy of the subject Waste Discharge Requirements adopted at the 26 January 2006 meeting of the Regional Board. The requirements were adopted with only minor revisions to the tentative permit, as previously discussed with you.

The addopted requirements have been posted on the Regional Board website (http://www.swrcb.ca.gov/rwqcb5/tentative).

If you have any questions regarding this matter please contact me (916) 464-4625 or by email at amacdonald@waterboards.ca.gov.

Alexander MacDonald

ALEXANDER MACDONALD
Senior Engineer

cc/with enclosure:

Doug Eberhardt, United States Environmental Protection Agency, San Francisco
Phil Isorena, Div. of Water Quality, State Water Resources Control Board, Sacramento
Lee Solomon, Tetratech, Fairfax, Virginia

cc/without enclosure:

Charles Berrey, United States Environmental Protection Agency, San Francisco
U.S. Army Corps of Engineers, Sacramento
United States Fish and Wildlife Service, Sacramento
National Marine Fisheries Service, Santa Rosa
Brian Kinney, Dept. of Health Services, Office of Drinking Water, Sacramento
Dept. of Fish and Game, Region II, Rancho Cordova
Dept. of Water Resources, Central District, Sacramento
Sacramento County Environmental Management, Sacramento
Sacramento County Planning Department, Sacramento
Leo Winternitz, Metropolitan Water Planning, Sacramento
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Steve Nugent, Carmichael Water District, Carmichael
Paul Schubert, Southern California Water Company, Rancho Cordova
Jeffery Stark, California-American Water Company, Sacramento
Gary Reents, City of Sacramento Department of Utilities, Sacarmento
Shawn Oliver, US Bureau of Reclamation, Central California Office, Folsom

California Regional Water Quality Control Board
Central Valley Region

ORDER NO. R5-2006-0013
NPDES NO. CA0083861

WASTE DISCHARGE REQUIREMENTS
FOR
AEROJET-GENERAL CORPORATION
INTERIM GROUNDWATER EXTRACTION AND TREATMENT SYSTEMS
ARGET, GET E/F, GET H, INTERIM GET H, GET K, INTERIM GET K,
GET L, GET L1, SAILOR BAR PARK WELL, CHETTENHAM WELL,
AND LOW THREAT DISCHARGES
SACRAMENTO COUNTY

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

Discharger	Aerojet-General Corporation
Name of Facility	Interim Groundwater Extraction and Treatment Systems ARGET, GET E/F, GET H, Interim GET H, GET J, GET K, Interim GET K, GET L, GET L1, Sailor Bar Park Well, Chettenham and Low-Threat Discharges
Facility Address	Aerojet Road
	Sacramento, CA 95813-6000
	Sacramento County

The Discharger is authorized to discharge from the following discharge points as set forth below:

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
Outfall 001	Treated Groundwater from ARGET, GETE/F, GET J	38°, 38', 01" N	121°, 16', 05" W	Buffalo Creek to American River
Outfall 002*	Treated Groundwater from GET L	38°, 36', 45" N	121°, 18', 20" W	Drainage Ditch to American River
Outfall 002A*	Treated Groundwater from GET L1	38°, 37', 32" N	121°, 18', 15" W	Drainage Ditch to American River
Outfall 003*	Treated Groundwater from GET K	38°, 36', 52" N	121°, 18', 14" W	Drainage Ditch to American River
Outfall 004	Treated Groundwater from Interim GET K	38°, 36', 05" N	121°, 18', 57" W	Drainage Ditch to American River

Outfall 005*	Treated Groundwater from Chettenham Well and Future GET H	38°, 34', 43" N	121°, 19', 37" W	Boyd Station Channel to American River
Outfall 006	Treated Groundwater from GET H and Interim GET H	38°, 31', 53" N	121°, 19', 36" W	Morrison Creek
Outfall 007	Treated Groundwater from Sailor Bar Well	38°, 37', 59" N	121°, 14', 21" W	Sailor Bar Pond
Outfall 008*	Treated Groundwater from Various GETs	38°, 38', 6" N	121°, 13', 13" W	Drainage Ditch to American River at Natomas Stilling Basin
Outfall 009*	Treated Groundwater from Various GETs			Alder Creek – Tributary to the American River

*Future outfall

This Order was adopted by the Regional Board on:	**26 January 2006**
This Order shall become effective on:	**26 January 2006**
This Order shall expire on:	**1 January 2011**
The U.S. Environmental Protection Agency (U.S. EPA) and the Regional Board have classified this discharge as a major discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, **not later than 180 days in advance of the Order expiration date** as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that Order No.R5-2004-0027 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, and the provisions of the federal CWA, and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements herein.

I, Kenneth D. Landau, Acting Executive Officer, do hereby certify the following is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 26 January 2006.

KENNETH D. LANDAU, Acting Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
REGION 5, CENTRAL VALLEY REGION

ORDER NO. R5-2006-0013
NPDES NO. CA0083861

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I. FACILITY INFORMATION

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

Discharger	Aerojet-General Corporation
Name of Facility	Interim Groundwater Extraction and Treatment Systems
Facility Address	Aerojet Road Sacramento, CA 95814-6000 Sacramento County
Facility Contact, Title, and Phone	Mr. Chris Fennessey, (916) 355-3341
Mailing Address	P.O. Box 13200 Sacramento, CA 95813-6000
Type of Facility	Groundwater Extraction and Treatment Plants
Facility Design Flows	ARGET – 5.4 million gallons per day (mgd) – Discharge 001,Outfall 001 GET E/F – 8.64 mgd – Discharge 002, Outfall 001 GET H – 6.39 mgd – Interim Discharge 003, Outfall 006, longterm – Discharge 004, Outfall 006 and/or 005 GET J – 7.17 mgd – Discharge 005, Outfall 001 GET K – 0.72 mgd interim – Discharge 006, Outfall 004; 5.76 mgd long-term – Discharge 007, Outfall 004 GET L/L1 – 2.88 mgd – Discharge 008/009, Outfall 002/002A Sailor Bar Pond – 0.36 mgd – Discharge 010, Outfall 007 Chettenham – 0.86 mgd, Discharge 011, Outfall 005

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Regional Water Board), finds:

A. **Background.** The Aerojet-General Corporation (hereafter, Discharger) is currently discharging under Order No. R5-2004-0027 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0083861. The Discharger submitted a Report of Waste Discharge, dated 11 April 2005 and supplemental information dated 28 April 2005 and 12 May 2005, and applied for a NPDES permit revision to discharge up to 34.65 mgd of treated groundwater from up to eleven groundwater extraction and treatment systems (GETs), with two of them being temporary.

This permit also allows Aerojet to discharge low-threat discharges consisting of such monitor well, extraction well and water supply well development water, purge water and extraction and supply well aquifer test water. Those discharges are subject to similar effluent limitations as established for the GETs.

B. **Facility Descriptions.** The Discharger currently owns and operates six groundwater extraction and treatment systems (hereafter "Facilities") that discharge treated groundwater to surface waters in accordance with an NPDES permit. Five additional facilities are being designed for construction in 2005/6.

a. ARGET (Discharge 001). The American River Study Area (ARSA) treatment system is on the Aerojet site. The facility consists of ultraviolet/peroxide treatment to reduce concentrations of

volatile organic compounds (VOCs) and 1,4-dioxane, and air-stripping to remove any remaining VOCs. See Attachment C-1.

b. GET E/F (Discharge 002). The GET E/F facility is also on Aerojet property. It uses biological reduction to remove perchlorate, ultraviolet light to destroy NDMA, and air stripping to remove VOCs from up to 6000 gpm of influent. There is also a sand filter, clarifier and bag filters for solids control. The solids from the clarifier are discharged to the sanitary sewer under a permit. The GET E/F facility has been in operating in its current configuration since 2000. See Attachment C-2.

c. GET H (Discharge 003/004). The interim GET H facility (Discharge 003) found on Reserve Drive in Rancho Cordova uses resin-adsorption to remove perchlorate and granular activated carbon (GAC) to remove VOCs gpm. The interim system is being expanded to include a second temporary treatment system on Reserve Drive. The long-term GET H system (Discharge 004), currently being designed and constructed, utilizes the same treatment methods, but will treat a greater flow of extracted groundwater, approximately 4450 gpm. The long-term GET H system is anticipated to be on-line by January 2006 and will be in the north-central section of Mather Field. See Attachments C-3 and C-4.

d. GET J (Discharge 005). The GET J system is similar to GET H, but with the addition of ultraviolet treatment for the destruction of NDMA and particulate filtration to help the ultraviolet system. The system is designed to treat 4950 gpm and is found on Pyrites Way in Gold River. See Attachment C-5.

e. GET K (Discharge 006/007). The interim GET K (Discharge 006) uses ion-exchange (resin bed adsorption) to remove perchlorate and GAC to remove VOCs. The long-term GET K system (Discharge 007) will add ultraviolet light and particulate removal for treatment of NDMA from an influent of 4000 gpm. The interim GET K facility is on Zinfandel Drive and the long-term facility will be closer to the river, both in Rancho Cordova. See Attachment C-6 and C-7.

f. GET L/L1 (Discharge 008/009). GET L (Discharge 008) is in Carmichael, near Ancil Hoffman Park and GET L1 (Discharge 009) is northeast of GET L. The facility will initially treat for NDMA using ultraviolet light. If, in the future, VOCs and/or perchlorate are determined to found to be approaching the extraction wells in the groundwater, VOC and/or perchlorate treatment will be added utilizing the same processes described above. See Attachments C-8 and C-9.

g. Sailor Bar Park (Discharge 010). The Sailor Bar Park system provides for removal of VOCs by GAC on a water supply well for the pond on Sailor Bar Park. The park is on the north side of the American River adjacent to the village of Fair Oaks.

h. Chettenham (Discharge 011). The Discharger is currently negotiating with California American Water Company (CalAm), owner of the Chettenham Well, to use the Chettenham Well on an interim basis as an extraction point to control a portion of the groundwater pollution. Wellhead treatment consisting of ion exchange for perchlorate removal would be installed on the well and the discharge to the Boyd Station Channel. Currently there are only trace levels of perchlorate below the effluent limitation in the well and the Discharger may choose to operate the Chettenham well without wellhead treatment for a period of time. See Attachment C-11.

i. Purge and Aquifer Test Waters. The Discharger develops and purges wells prior to sampling and conducts aquifer tests on extraction/supply wells to determine aquifer characteristics to allow GET systems to be designed. These activities take place over vast areas on and off the Discharger's property. The purge water is generally low in volume (100's – 5000 gallons) and is

provided treatment prior to discharge. Treatment is provided on the discharges to remove the pollutants of concern.

Treated groundwater is discharged from Discharges 001, 002 and 005 to Buffalo Creek (tributary to the American River), from Discharges 003 and 004 to Morrison Creek (tributary to the Sacramento River), from Discharges 006, 007, 008, 009 and 011 are to drainage channels to the American River, and Discharge 010 is to a pond in Sailor Bar Park (see table on cover page), waters of the United States and part of the Sacramento-San Joaquin Delta (Delta) within the American River and Sacramento River watersheds. Sacramento County requested during development of the previous permit to allow for the potential discharge from some or all of the GETs covered in this permit to Alder Creek, to assist in their reuse of the treated groundwater. The previous permit and this permit include a provision allowing for the discharge to Alder Creek pending completion of an acceptable study of the potential thermal impacts on Alder Creek. Attachment B-1provides a map describing the locations of the Facilities. Attachments C-1 through C-11 provide wastewater flow schematics of the Facilities.

C. **Legal Authorities.** This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.

D. **Background and Rationale for Requirements**. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and through special studies. Attachments A through G,which contain background information and rationale for Order requirements, are hereby incorporated into this Order and, thus, constitute part of the Findings for this Order.

E. **California Environmental Quality Act (CEQA).** This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC. The Department of Toxic Substances Control certified a final Negative Declaration and Initial Study for the American River Study Area project in accordance with CEQA and State CEQA Guidelines. The Board has reviewed the negative declaration and these waste discharge requirements will mitigate or avoid any significant impacts on water quality due to the discharges from the ARGET facility.

F. **Technology-based Effluent Limitations.** The Code of Federal Regulations (CFR) at 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations that protect the beneficial uses of the receiving waters. The Regional Water Board has considered the factors listed in CWC §13241 in establishing these requirements. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. **Water Quality-based Effluent Limitations.** Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable

numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter.

H. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan.

The Basin Plan at page II-2.00 states that the beneficial uses of any specifically identified water body generally applies to its tributary streams. The Basin Plan does not specifically identify beneficial uses for Buffalo Creek and Alder Creek, or Morrison Creek, tributary to the American River and Sacramento River, respectively, but does identify present and potential uses for the American and Sacramento Rivers. These beneficial uses are municipal and domestic supply (MUN); agricultural supply, irrigation and stock watering (AGR); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); warm and cold migration of aquatic organisms (MIGR); warm and cold spawning (SPWN); wildlife habitat (WILD). In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Thus, as discussed in detail in this Fact Sheet, beneficial uses applicable to the American River, Sacramento River, Buffalo Creek, Alder Creek, Morrison Creek and Sailor Bar Park Pond are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
001, 002 and 005	Buffalo Creek and Alder Creek, Tributary of the American River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
003	Morrison Creek, Tributary of the Sacramento River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
004, 006, 007, 008, 009, 011 and 012	American River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
010	Sailor Bar Pond, Potentially tributary to American River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.

The Basin Plan includes a Wastewater Reuse Policy that encourages the reclamation and reuse of wastewater, including treated groundwater resulting from a cleanup action, where practicable. Those reuse options include municipal and industrial supply, crop irrigation, groundwater recharge, and wetland restoration. At this time, demonstrated cost-effective options that provides for reuse of the treated groundwater have been identified in the Discharger's Reuse Plan, but will likely not be implemented until Spring 2009. The Discharger and Sacramento County have entered into an agreement whereby the water discharged from the GETs is transferred to the County. The County is

currently developing a project for reuse of the treated groundwater that will proceed through the CEQA process.

Until it is feasible for the GET discharges to be reused, discharge to the American River and Sacramento River, and their tributaries, for a limited duration is a reasonable use of the treated groundwater on an interim basis since it implements the goals of cleaning up the aquifer, restoring its beneficial uses, and preventing additional public supply wells from being polluted as other alternatives are considered.

The remediation project has a potential effect on the sustainable yield of the groundwater basin from which the extraction fields takes its water. The Discharger, in accordance with requirements of a previous version of this Order, evaluated the sustainable yield of the aquifer south of the American River in a report dated 12 September 2003. That report stated that there would be an additional drawdown in the eastern part of Sacramento County in the vicinity of OU-3 of up to 30 feet. Implementation of the reuse alternatives contained in the Reuse Plan will help substantially mitigate the impact of the withdrawal of groundwater for remediation purposes. The required evaluations allowed the Regional Board to determine whether there are additional environmental impacts of the Discharger's pumping and will encourage the reuse of treated groundwater consistent with the Wastewater Reuse Policy set forth in the Basin Plan.

The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal* and *Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.

Requirements of this Order specifically implement the applicable Water Quality Control Plans.

I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995 and November 9, 1999, and the CTR on May 18, 2000, which was amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.

J. **State Implementation Policy.** On March 2, 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The SIP includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so.

K. **Compliance Schedules and Interim Requirements.** This permit has interim effluent limits for perchlorate at ARGET and for NDMA at GET J. The interim effluent limitation for perchlorate at ARGET is 8 μg/L until 1 January 2009, or earlier if perchlorate treatment has been added to

ARGET. The interim effluent for NDMA at GET J is 0.008 µg/L until 1 January 2008. See Attachment F, Sections IV(E)(1) and VII(1)(3).

L. **Antidegradation Policy.** Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. As discussed in detail in the Fact Sheet (Attachment F) the permitted discharge is consistent with the antidegradation provision of 40 CFR Section 131.12 and State Water Board Resolution 68-16.

M. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR § 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

N. **Monitoring and Reporting.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

O. **Standard and Special Provisions.** Standard Provisions, which in accordance with 40 CFR §§122.41and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet (Attachment F).

P. **Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity for a public hearing and to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F) of this Order.

Q. **Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet (Attachment F) of this Order.

R. This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on VOCs, perchlorate, and NDMA. Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent

limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on May 1, 2001. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the [Clean Water] Act" pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

III. DISCHARGE PROHIBITIONS

A. Discharge of wastewater at a location or in a manner different from that described in the Findings is prohibited.

B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision I.G of Attachment D, Federal Standard Provisions.

C. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.

D. Discharge of wastewater to Outfall 008 and 009 is prohibited until approved by the Executive Officer. Completion of an adequate assessment of the thermal impacts associated with those discharges at those two outfalls is required before consideration of approval by the Executive Officer.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points 001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012

1. **Final Effluent Limitations**

   a. **Discharger Point 001.**

      i. The discharge of effluent from the ARGET facilities shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location M-001, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 001	mgd	5.0	5.4	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.02	0.03	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.016	0.022	--	--
1,4-Dioxane	µg/L	3	6	--	--
	lbs/day	0.125	0.26	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.000083	0.00043	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.167	0.26	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.46	0.73	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

b. **Discharge Point 002**

i. The discharge of effluent from the GET E/F facilities shall maintain compliance with the following effluent limitations at Discharge Point 002, with compliance measured at Monitoring Location M-002, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 002	mgd	8.64	8.64	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.037	0.050	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.028	0.036	--	--
1,4-Dioxane	µg/L	3	6	--	--
	lbs/day	0.23	0.43	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.00015	0.00072	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.300	0.43	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Copper	µg/L	11	17	--	--
	lbs/day	0.82	1.22	--	--
Acetaldehyde	µg/L	5	5	--	--
	lbs/day	0.38	0.36	--	--
Formaldehyde	µg/L	50	50	--	--
	lbs/day	3.7	3.6		
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

c. **Discharge Point 003**

i. The discharge of effluent from the Interim GET H facilities shall maintain compliance with the following effluent limitations at Discharge Point 003, with compliance measured at Monitoring Location M-003, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 003	mgd	6.39	6.5	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.027	0.038	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.020	0.027	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.21	0.33	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.59	0.92	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

d. **Discharge Point 004**

i. The discharge of effluent from the GET H facilities shall maintain compliance with the following effluent limitations at Discharge Point 004, with compliance measured at Monitoring Location M-004, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 004	mgd	6.39	6.5	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.027	0.038	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.020	0.027	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.21	0.33	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.59	0.92	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

e. **Discharge Point 005**

i. The discharge of effluent from the GET J facilities shall maintain compliance with the following effluent limitations at Discharge Point 005, with compliance measured at Monitoring Location M-005, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 005	mgd	7.17	7.2	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.03	0.042	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.023	0.030	--	--
1,4-Dioxane	µg/L	3	6	--	--
	lbs/day	0.18	0.36	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.00012	0.00060	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.24	0.36	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.66	1.02	--	--
pH	standard units	--	--	6.5	8.5
Chlorform	µg/L	3.0	5.0		
	lbs/day	0.18	0.3		

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

f. **Discharge Point 006**

i. The discharge of effluent from the Interim GET K facilities shall maintain compliance with the following effluent limitations at Discharge Point 006, when measured at Monitoring Location M-006, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 006	mgd	0.58	0.72	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.0024	0.0042	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.0018	0.003	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.000001	0.00006	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.019	0.036	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.053	0.10	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

g. **Discharge Point 007**

i. The discharge of effluent from the GET K facilities shall maintain compliance with the following effluent limitations at Discharge Point 007, with compliance measured at Monitoring Location M-007, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 007	mgd	5.76	5.8	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.024	0.027	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.015	0.020	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.000078	0.00039	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.16	0.235	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.43	0.67	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

h. **Discharge Point 008**

i. The discharge of effluent from the GET L facilities shall maintain compliance with the following effluent limitations at Discharge Point 008, with compliance measured at Monitoring Location M-008, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 008	mgd	1.73	1.73	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.0072	0.010	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.00055	0.0072	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.000029	0.00014	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.058	0.087	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.16	0.22	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

i. **Discharge Point 009**

i. The discharge of effluent from the GET L1 facilities shall maintain compliance with the following effluent limitations at Discharge Point 009, with compliance measured at Monitoring Location M-009, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 009	mgd	1.3	1.3	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.0054	0.076	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.004	0.0054	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.00002	0.0001	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.043	0.065	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.12	0.18	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

j. **Discharge Point 010**

i. The discharge of effluent from the Sailor Bar Park Well facilities shall maintain compliance with the following effluent limitations at Discharge Point 010, with compliance measured at Monitoring Location M-010, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 010	mgd	0.18	0.36	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	010	--	--
	lbs/day	0.00076	0.00152	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.00057	0.0015	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.006	0.018	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

k. **Discharge Point 011**

i. The discharge of effluent from the Chettenham Well facilities shall maintain compliance with the following effluent limitations at Discharge Point 011, with compliance measured at Monitoring Location M-011, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 011	mgd	0.86	1.1	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.0036	0.0064	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.0027	0.0046	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.029	0.055	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

l. **Discharge Point 012 - Purge and Aquifer Test Waters**

i. The discharge of purge water and aquifer test water from monitor wells, extraction wells, and supply wells shall maintain compliance with the following effluent limitations with compliance measured at Monitoring Point M-012, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Total Maximum Discharge[1]	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Per Monitor Well	mgd	0.01	0.01		
Flow – Per Aquifer Test[1]	million gallons	11.5	1.15		
Volatile Organic Contaminants[2]	µg/L	--	5.0	--	--
1,4-Dioxane	µg/L		10		
N-nitrosodimethylamine	µg/L		0.020	--	--
Perchlorate	µg/L		12		
pH	standard units	--	--	6.5	8.5

[1] Based on an aquifer test at 800 gpm for a duration of 4 days.
[2] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

2. **Interim Effluent Limitations**

a. **Effective immediately and ending on 1 January 2009, or until the treatment system to remove perchlorate at the ARGET facility is constructed, whichever is sooner,** the discharge of treated effluent from the ARGET facility shall maintain compliance with the following effluent limitation for perchlorate at Discharge Point 001, as described in the attached Monitoring and Reporting Program (Attachment E). This interim effluent limitation shall apply in lieu of the corresponding final effluent limitation for perchlorate specified during the time period indicated in this Order.

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
perchlorate	µg/L	11	11	--	--

b. **Effective immediately and ending on 1 January 2008,** the discharge of treated effluent from the GET J facility shall maintain compliance with the following effluent limitation for NDMA at Discharge Point 005, as described in the attached Monitoring and

Reporting Program (Attachment E). This interim effluent limitation shall apply in lieu of the corresponding final effluent limitation for perchlorate specified during the time period indicated in this Order.

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
N-nitrosodimethylamine	µg/L	0.008	0.010	--	--

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving surface water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in Alder Creek, Buffalo Creek, Morrison Creek, and the American River:

1. **Bacteria**: The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.

2. **Dissolved Oxygen**: The monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation. The DO concentration shall not be reduced below 7.0 mg/L at any time.

3. **Oil and Grease**: Oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the water surface or on objects in the water, or otherwise adversely affect beneficial uses.

4. **Color**: Discoloration that causes nuisance or adversely affects beneficial uses.

5. **pH**: The ambient pH to be depressed below 6.5, nor raised above 8.5, nor changes in normal ambient pH levels to be exceeded by more than 0.5 units. A monthly averaging period may be used for determining compliance with the above 0.5 receiving water pH limitation.

6. **Temperature**: The natural receiving water temperature to increase more than 5°F.

7. **Settleable Matter**: Substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

8. **Radioactivity**:

   a. Radionuclides to be present in concentrations that are harmful to human, plant, animal or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life.

   b. Concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.

9. Toxicity: Toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

10. Biostimulatory Substances: Biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.

11. Floating Material: Floating material in amounts that cause nuisance or adversely affect beneficial uses.

12. Sediment: Suspended sediment load and suspended sediment discharge rate altered in such a manner to cause nuisance or adversely affect beneficial uses.

13. Suspended Sediment: Suspended sediment concentrations that cause nuisance or adversely affect beneficial uses.

14. Taste and Order: Taste- or odor-producing substances in concentrations that cause nuisance, adversely affect beneficial uses, or impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to domestic or municipal water supplies.

15. Turbidity: Changes in turbidity that cause nuisance or adversely affect beneficial uses. Turbidity attributable to controllable water quality factors to exceed the following:

    a. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.

    b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.

    c. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.

    d. More than 10 percent where natural turbidity is greater than 100 NTUs.

16. Pesticides:

    a. Pesticides in individual or combined concentrations that adversely affect beneficial uses.

b. Pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses.

c. Total identifiable persistent chlorinated hydrocarbon pesticides in concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer.

d. Concentrations exceeding those allowable by applicable antidegradation policies (see State Water Resources Control Board Resolution No. 68-16 and 40 C.F.R. Section 131.12.)

e. Concentrations exceeding the lowest levels technically and economically achievable.

f. Concentrations exceeding the Maximum Contaminant Levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.

g. Concentrations of thiobencarb in excess of 1.0 mg/L.

17. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. **Regional Water Board Standard Provisions.** The Discharger shall comply with the following provisions:

a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by the California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, California Code of Regulations (CCR), Division 3, Chapter 14.

b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

i. Violation of any term or condition contained in this Order;
ii. Obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;
iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and

iv. A material change in the character, location, or volume of discharge.

The causes for modification include:

i. **New regulations**. New regulations have been promulgated under Section 405(d) of the Clean Water Act, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

ii. **Land application plans**. When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.

iii. **Change in sludge use or disposal practice**. Under 40 Code of Federal Regulations (CFR) 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

The Regional Water Board may review and revise this Order at any time upon application of any affected person or the Regional Water Board's own motion.

c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Regional Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 04(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or

ii. Controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by USEPA under Section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.

h. The discharge of any radiological, chemical or biological warfare agent or high-level, radiological waste is prohibited.

i. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.

j. Safeguard to electric power failure:

   i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, failure of electric power, the discharge shall comply with the terms and conditions of this Order.

   ii. Upon written request by the Regional Water Board the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past five years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Regional Water Board.

   iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Regional Water Board not approve the existing safeguards, the Discharger shall, within ninety days of having been advised in writing by the Regional Water Board that the existing safeguards are inadequate, provide to the Regional Water Board and USEPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Regional Water Board, become a condition of this Order.

k. The Discharger, upon written request of the Regional Water Board, shall file with the Regional Water Board a technical report on its preventive (failsafe) and contingency

(cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events.

The technical report shall:

i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.

ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.

iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

The Regional Water Board, after review of the technical report, may establish conditions, which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

l. A publicly owned treatment works (POTW) whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the Discharger shall notify the Regional Water Board by **31 January.** A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Regional Water Board may extend the time for submitting the report.

m. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.

i. Unless otherwise specified, all metals shall be reported as Total Metals.

ii. Acute bioassays shall be performed in accordance with guidelines approved by the Regional Water Board and the Department of Fish and Game or in accordance with methods described in USEPA's manual for measuring acute toxicity of effluents (EPA-821-R-02-012 and subsequent amendments).

iii. Short-term chronic bioassays shall be performed in accordance with USEPA guidelines (EPA-821-R-02-013 and subsequent amendments).

n. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board and USEPA.

o. The Discharger shall conduct analysis on any sample provided by USEPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to USEPA's DMQA manager.

p. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, Sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, Sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

q. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

r. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, sections 13385, 13386, and 13387.

B. Monitoring and Reporting Program Requirements

The discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

a. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments

thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

b. If after review of effluent monitoring results it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective, or the discharge is causing groundwater degradation, this Order may be reopened and effluent limitations added for the subject constituents.

c. The Discharger may request the Executive Officer to reopen the permit to request a reduction in monitoring, if appropriate.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity Requirements.** For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E). Furthermore, this Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds numeric toxicity trigger levels established in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE workplan, and take actions to mitigate the impact of the discharge and prevent recurrence of the toxicity. A TRE is a site-specific study conducted in a stepwise process to identify source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes the requirements for the Discharger to develop and submit a TRE Workplan and also the procedures for accelerated chronic toxicity monitoring and TRE initiation.

(i) **Toxicity Reduction Evaluation (TRE) Workplan. Within 90 days of the effective date of this Order,** the Discharger shall submit to the Regional Water Board a TRE Workplan for approval by the Executive Officer. The TRE Workplan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Workplan shall be developed in accordance with EPA guidance and shall contain adequate detail to allow the Discharger to immediately implement a TRE as required in this Provision.

(ii) **Numeric Toxicity Trigger.** The numeric toxicity trigger is **1 TUc**[2] for any test species. The numeric toxicity trigger is not an effluent limitation, it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity

[1] See Attachment F (Fact Sheet) Section VII.B.2.a. for a list of EPA guidance documents that must be considered in development of the TRE Workplan.

[2] TUc – Chronic toxicity unit. The reciprocal of the effluent concentration that causes no observable effect on the test organism in a chronic toxicity test (TUc=100/NOEC)

monitoring to confirm effluent toxicity, as well as, the threshold to initiate a TRE. The accelerated monitoring specifications are described in subsection (iv), below.

(iii) **Accelerated Monitoring and TRE Initiation.** When the numeric toxicity trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring to confirm the effluent toxicity as required in the Accelerated Monitoring Specifications outlined in subsection iv, below. Any exceedance of the TRE Trigger during accelerated monitoring requires the Discharger to initiate a TRE in accordance with an approved TRE Work Plan. Notwithstanding the accelerated monitoring results, if there is adequate evidence of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.

(a) In the event the numeric toxicity trigger is exceeded during accelerated monitoring, specific actions the Discharger will take to investigate and identify the cause(s) of toxicity;

(b) In the event the numeric toxicity trigger is exceeded during accelerated monitoring, specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and

(c) A schedule for these actions.

(iv) **Accelerated Monitoring Specifications.** If the TRE Trigger is exceeded during regular chronic toxicity testing, within 14-days of notification by the laboratory of the exceedance, the Discharger shall initiate accelerated monitoring to confirm effluent toxicity. Accelerated monitoring shall consist of three (3) monthly chronic toxicity tests using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:

(a) If the results of three (3) consecutive accelerated monitoring tests do not exceed the TRE Trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. Notwithstanding the accelerated monitoring results, if there is adequate evidence of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.

(b) If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until three (3) consecutive accelerated tests do not exceed the TRE Trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

(c) If the result of any accelerated toxicity test exceeds the TRE Trigger, the Discharger shall cease accelerated monitoring and begin a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of the exceedance of the TRE Trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:

1. Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including TRE WET monitoring schedule;
2. Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
3. A schedule for these actions.

b. **Thermal Impacts Associated with Discharge to Outfall 008 or 009.** The Discharger is not permitted to discharge to Outfall 008 and/or 009 until an adequate thermal impact assessment is completed for Outfall 008 and/or 009 that demonstrates that the discharge will not cause an unacceptable thermal impact on the receiving water. The study must demonstrate that the discharge will meet the Water Quality Objectives for temperature found in the Basin Plan. Those objectives state "the natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not affect beneficial uses" and "at no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above the natural receiving water temperature".

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Compliance Schedules

a. Final Effluent Limitations for Perchlorate at Discharge 001

i. By **1 January 2009**, the Discharger shall provide treatment facilities at the ARGET facility to remove perchlorate to less than 4 µg/L, the AMEL found in IV(A)(1)(a).

b. Final Effluent Limitations for NDMA at Discharge 005

ii. By **1 January 2008**, the Discharger shall provide treatment facilities at the GET J facility to remove NDMA to less than 0.002 µg/L, the AMEL found in IV(A)(1)(e).

5. Construction, Operation and Maintenance Specifications

a. Operations and Maintenance Plan:

Within 60-days of startup of a GET, the Discharger shall certify in writing to the Regional Water Board that it has developed an Operation and Maintenance Plan (O&M). O&M plans have already developed for GET E/F, ARGET, Interim GET H and GET J under previous versions of the permit. The Discharger shall develop and implement the O&M plan to prevent or minimize the generation and discharge of wastes and pollutants to the waters of the United States and waters of the State. The Discharger shall develop and implement an O&M plan consistent with the following objectives:

i. Operations and Maintenance

1) Maintain in-system production and wastewater treatment technologies to prevent the overflow of any floating matter or bypassing of treatment technologies.

2) Inspect the treatment systems on a routine basis in order to identify and promptly repair any damage.

3) Ensure storage and containment of chemicals or other materials to prevent spillage or release into waters of the United States, or waters of the State.

4) Implement procedures for properly containing, cleaning, and disposing of any spilled material.

ii. Recordkeeping

1) Keep records documenting the frequency of cleaning, inspections, maintenance and repairs.

v. Training

1) Adequately train all relevant facility personnel in spill prevention and how to respond in the event of a spill in order to ensure the proper clean-up and disposal of spilled material.

2) Train staff on the proper operation and cleaning of production and wastewater treatment systems, including training in feeding procedures and proper use of equipment.

The Discharger shall ensure that its operations staff are familiar with the O&M Plan and have been adequately trained in the specific procedures it requires.

b. Solids disposal specifications:

i. Collected screenings, sludges, and other solids, shall be disposed of in a manner approved by the Executive Officer and consistent *with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.

ii. Any proposed change in solids disposal from a previously approved practice (as described in this Order) shall be reported to this office at least 90 days in advance of the change.

6. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

7. Other Special Provisions

a. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from the State Water Resources Control Board (Division of Water Rights).

b. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Water Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision V.B, Attachment D, and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

c. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition or limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Federal Standard Provision V.E.1 [40 CFR §122.41(l)(6)(i)].

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. Average Monthly Effluent Limitation (AMEL).
If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for that month only. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month. For NDMA and 1,4-dioxane, if the approved Practical Quantitation Level (PQL) is greater than the AMEL, then compliance is met if the monthly average is less than the PQL

B. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day. For NDMA and 1,4-dioxane, if the approved Practical Quantitation Level (PQL) is greater than the MDEL, then compliance is met if the daily value is less than the PQL

C. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

D. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

E. Maximum 1-Hour Average.

If the analytical result of a samples collected within 1-hour are higher than the maximum 1-hour average effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter.

ATTACHMENT A – DEFINITIONS

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

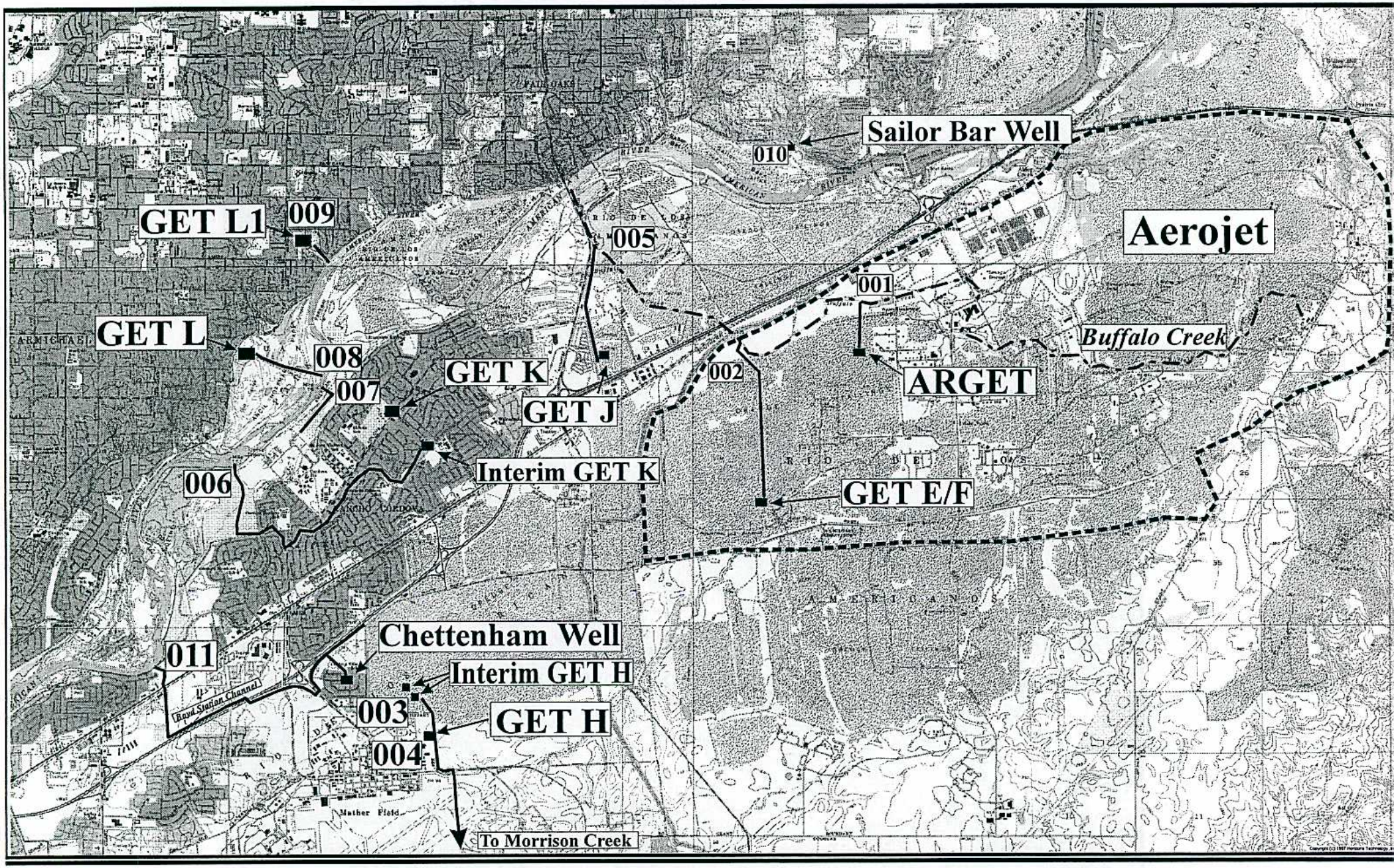
For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

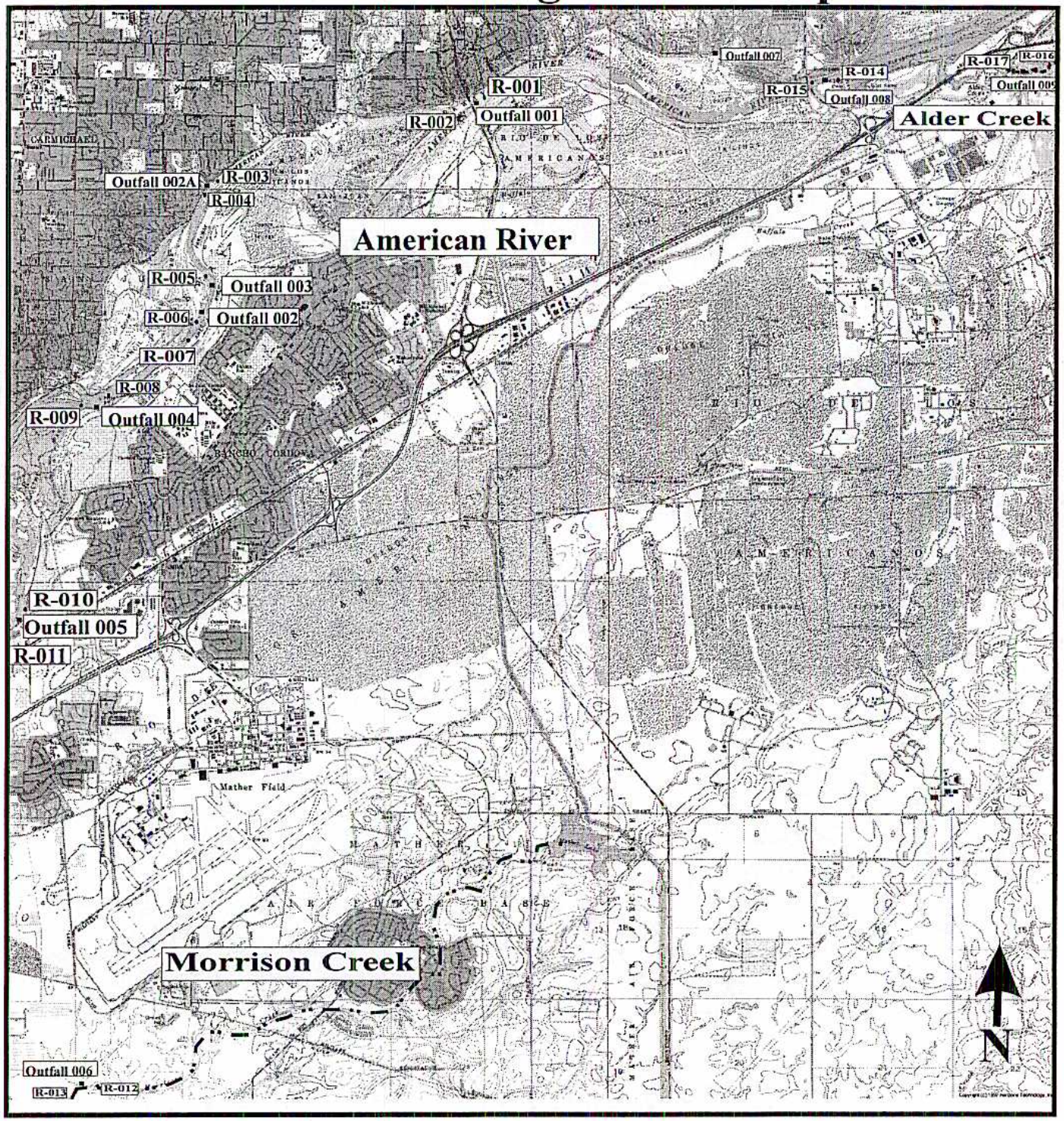
Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

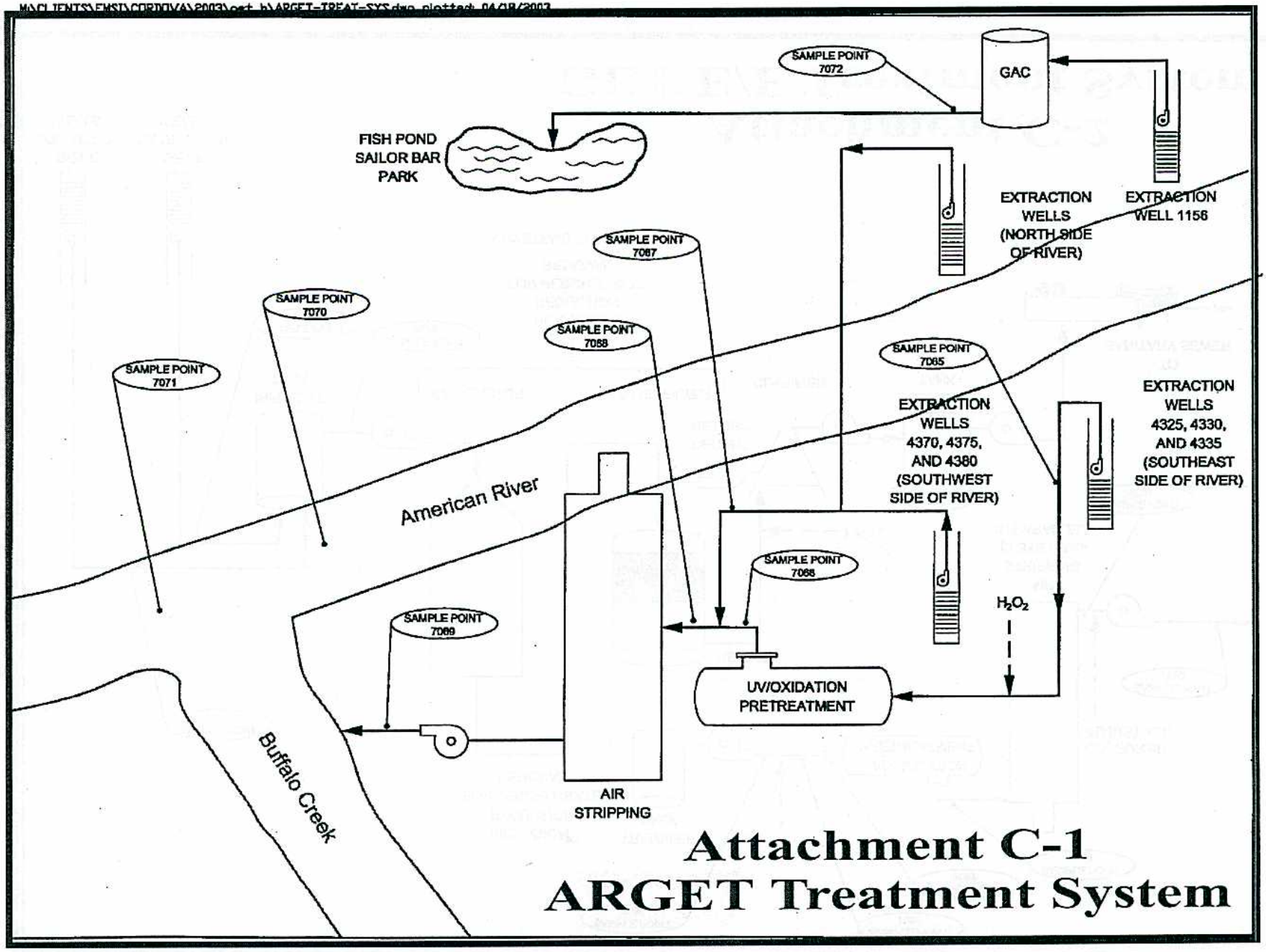
Maximum Daily Effluent Limitation (MDEL): the highest allowable daily discharge of a pollutant.

Attachment B-1 - Discharge and GET Locations

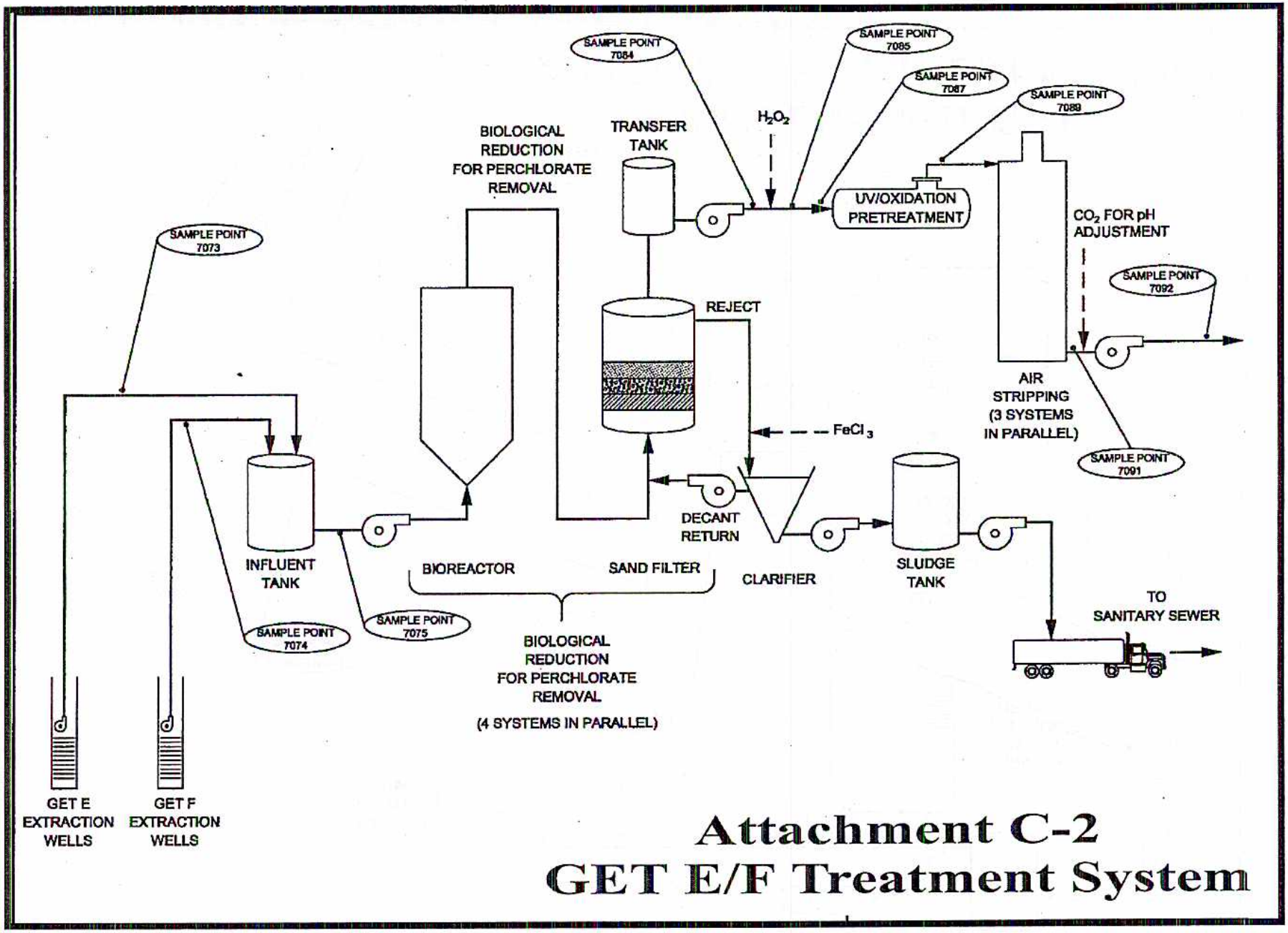


Attachment B-2 - Receiving Water Sample Locations

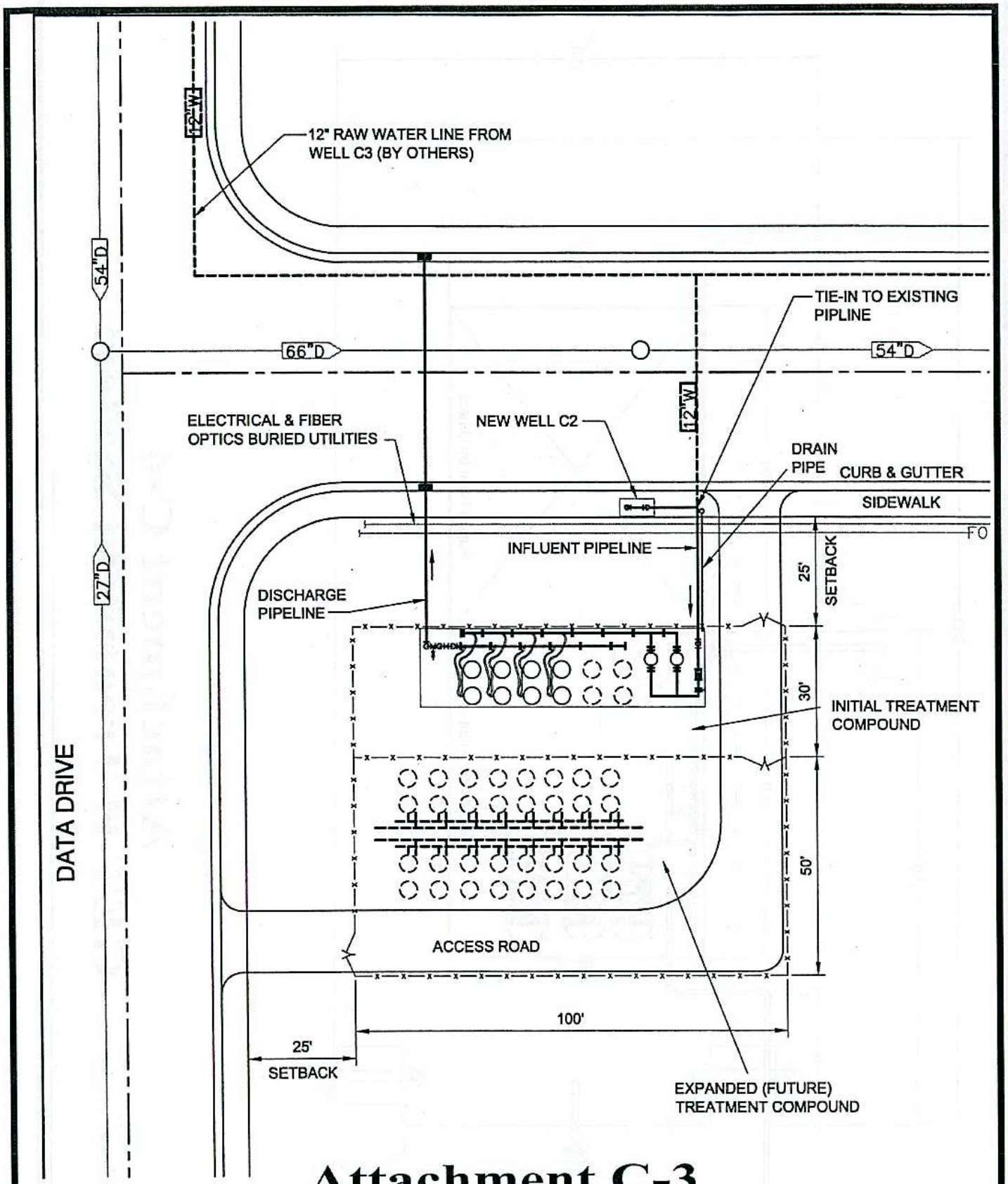




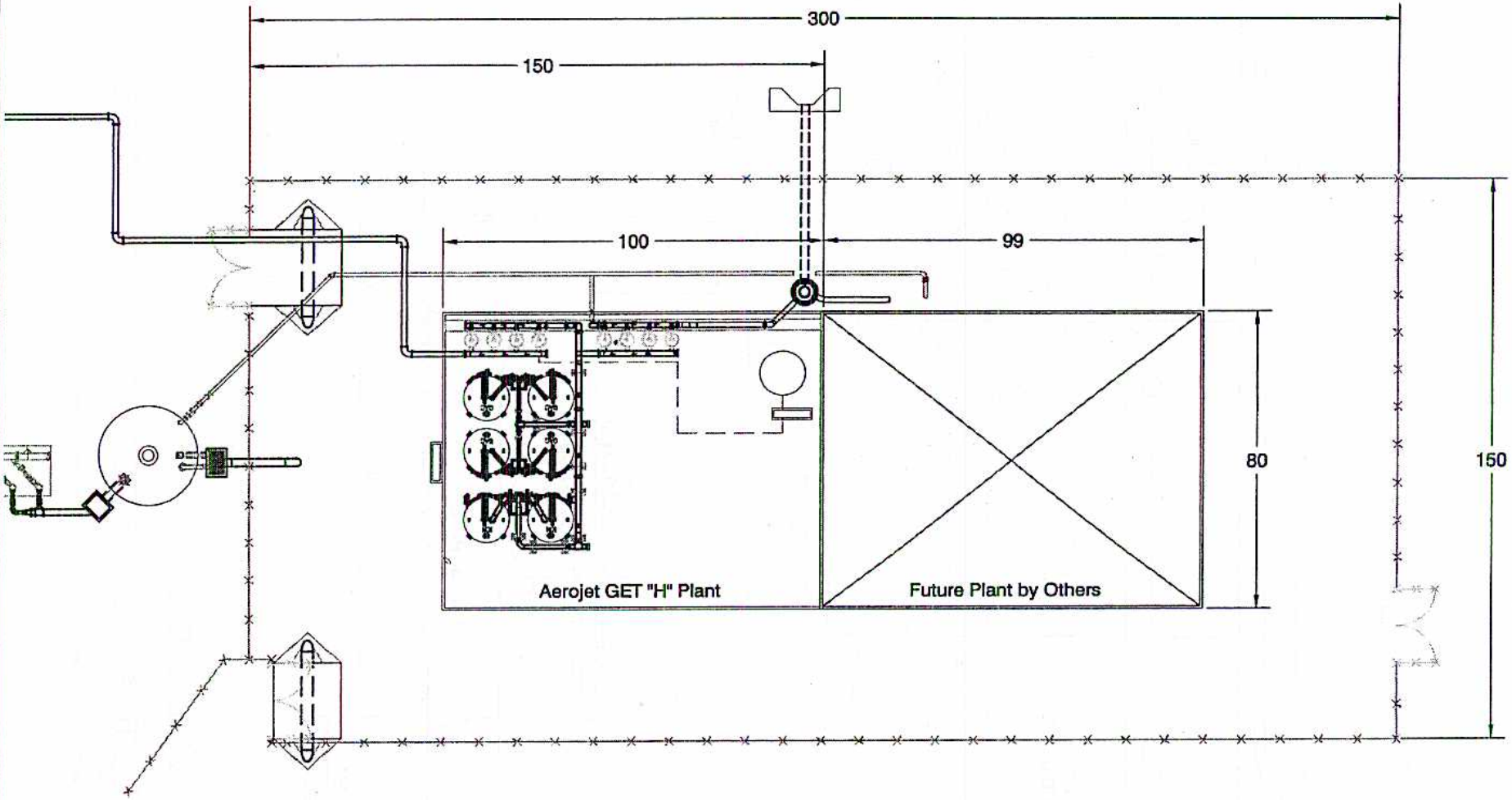
Attachment C-1
ARGET Treatment System



Attachment C-2
GET E/F Treatment System

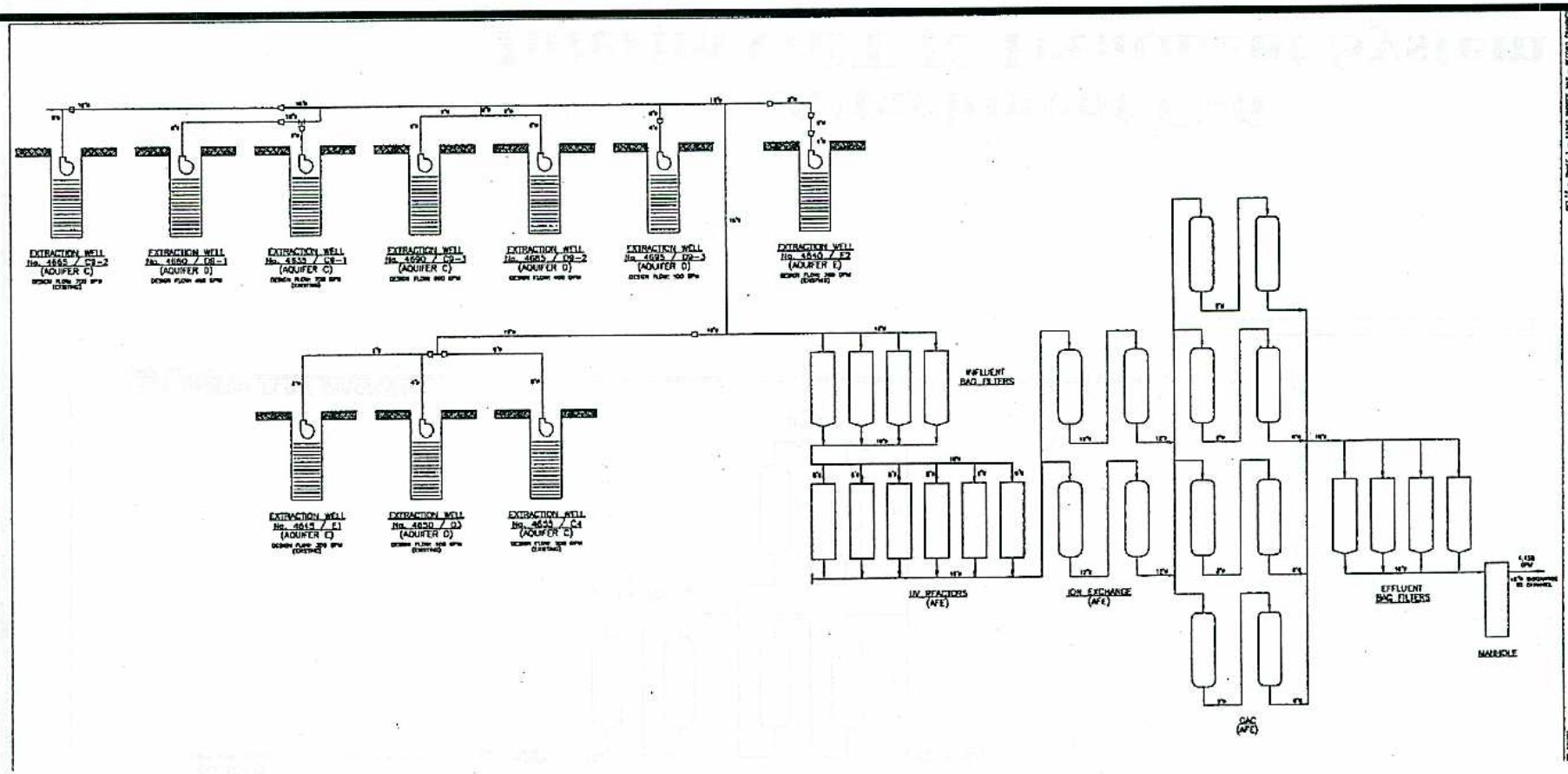


Attachment C-3
Interim GET H Treatment System

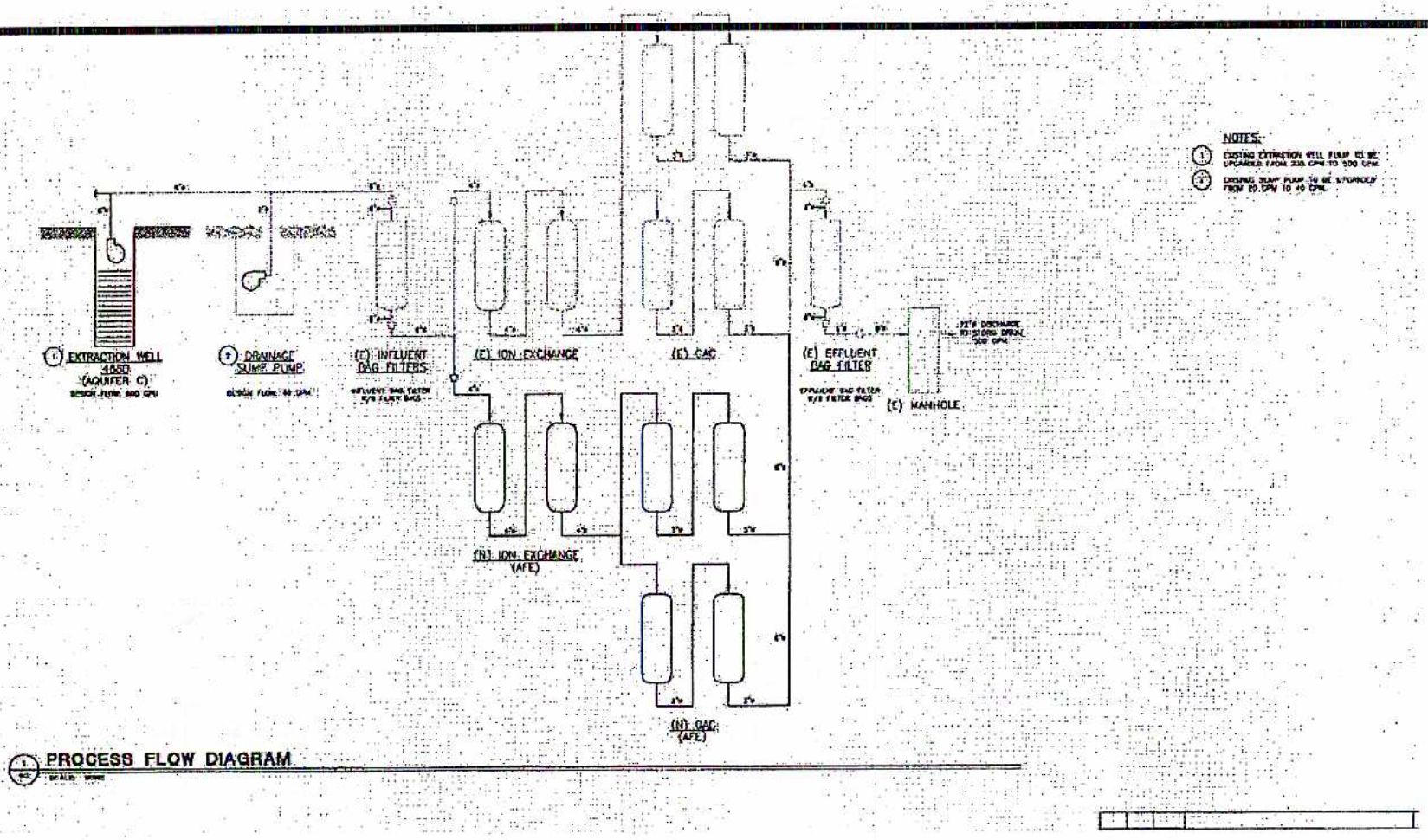


Scale: 1" = 40'

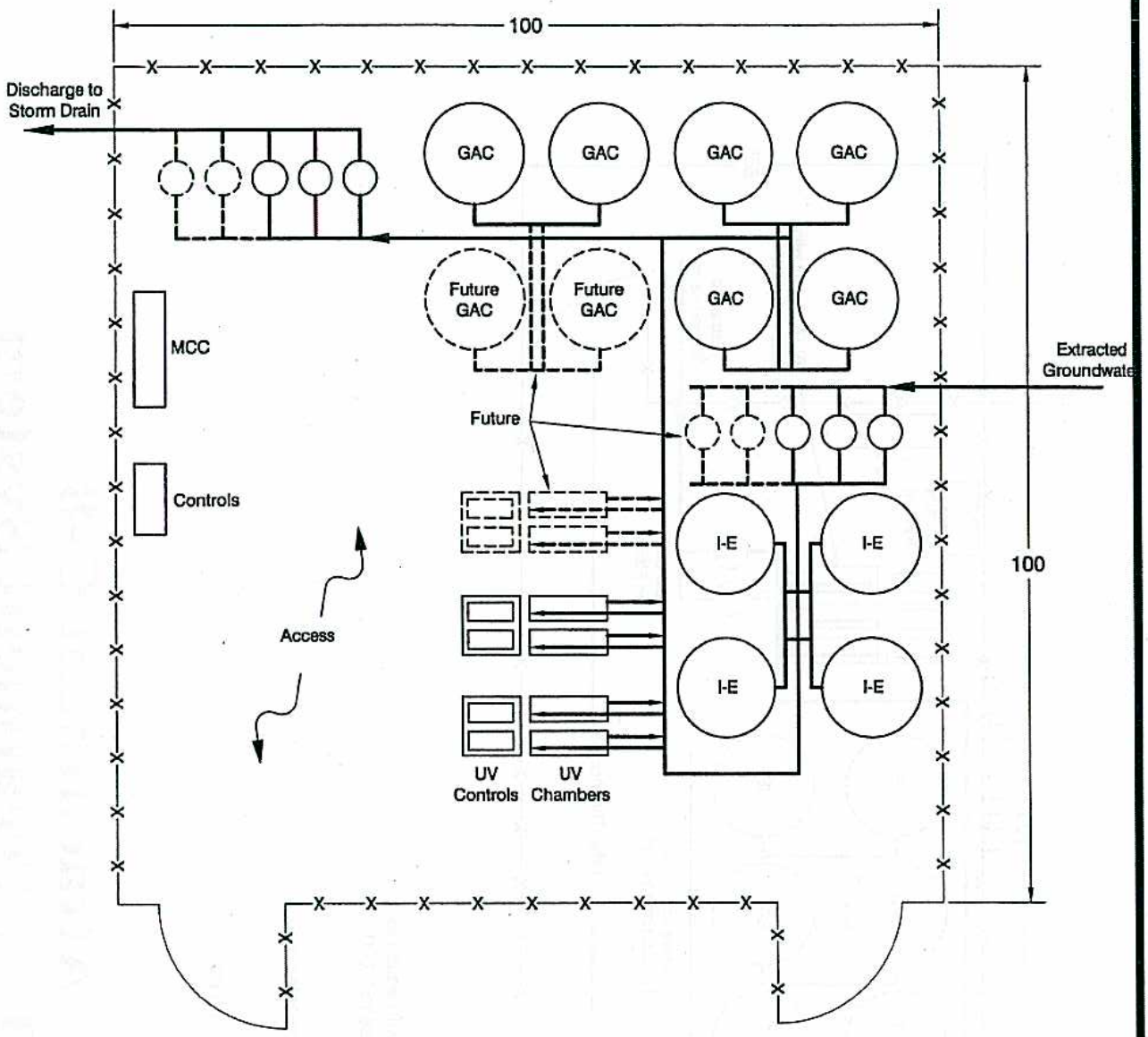
Attachment C-4
GET H Treatment System



Attachment C-5
GET J Treatment System



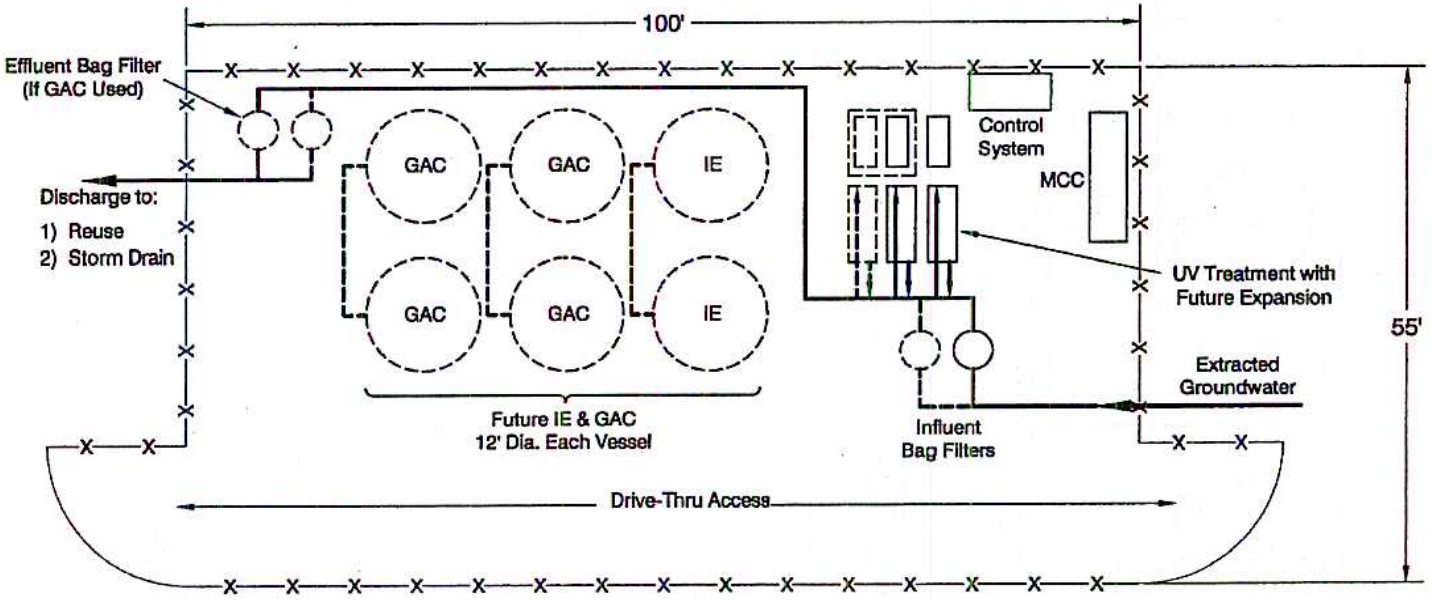
Attachment C-6
Interim GET K Treatment System



Notes: 1. Design capacity is for 3,000 gpm with space to expand to 4,000 gpm if required.

2. Anticipated to be installed outside; however, depending on use permit constraints may require exterior building.

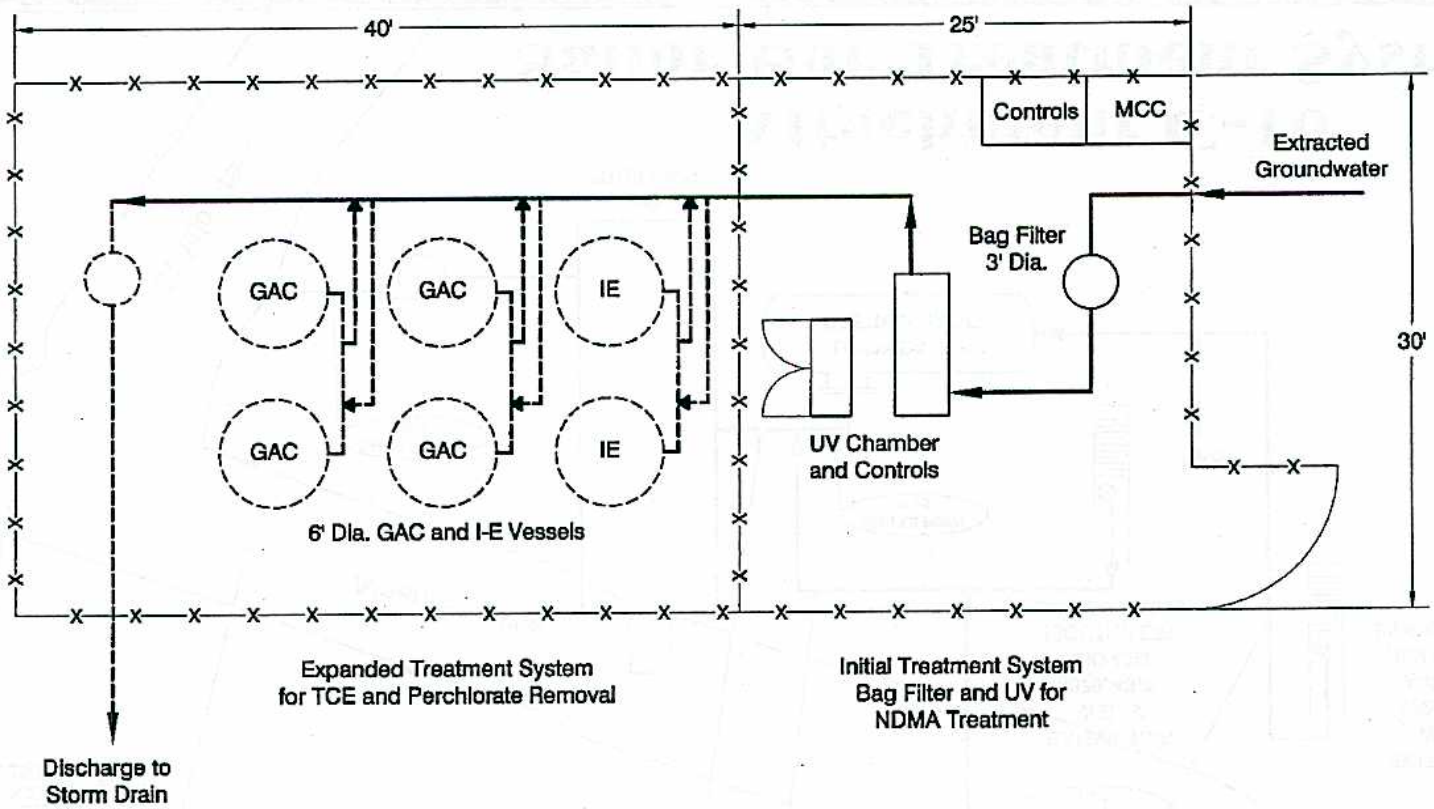
Attachment C-7
GET K Treatment System



Notes:

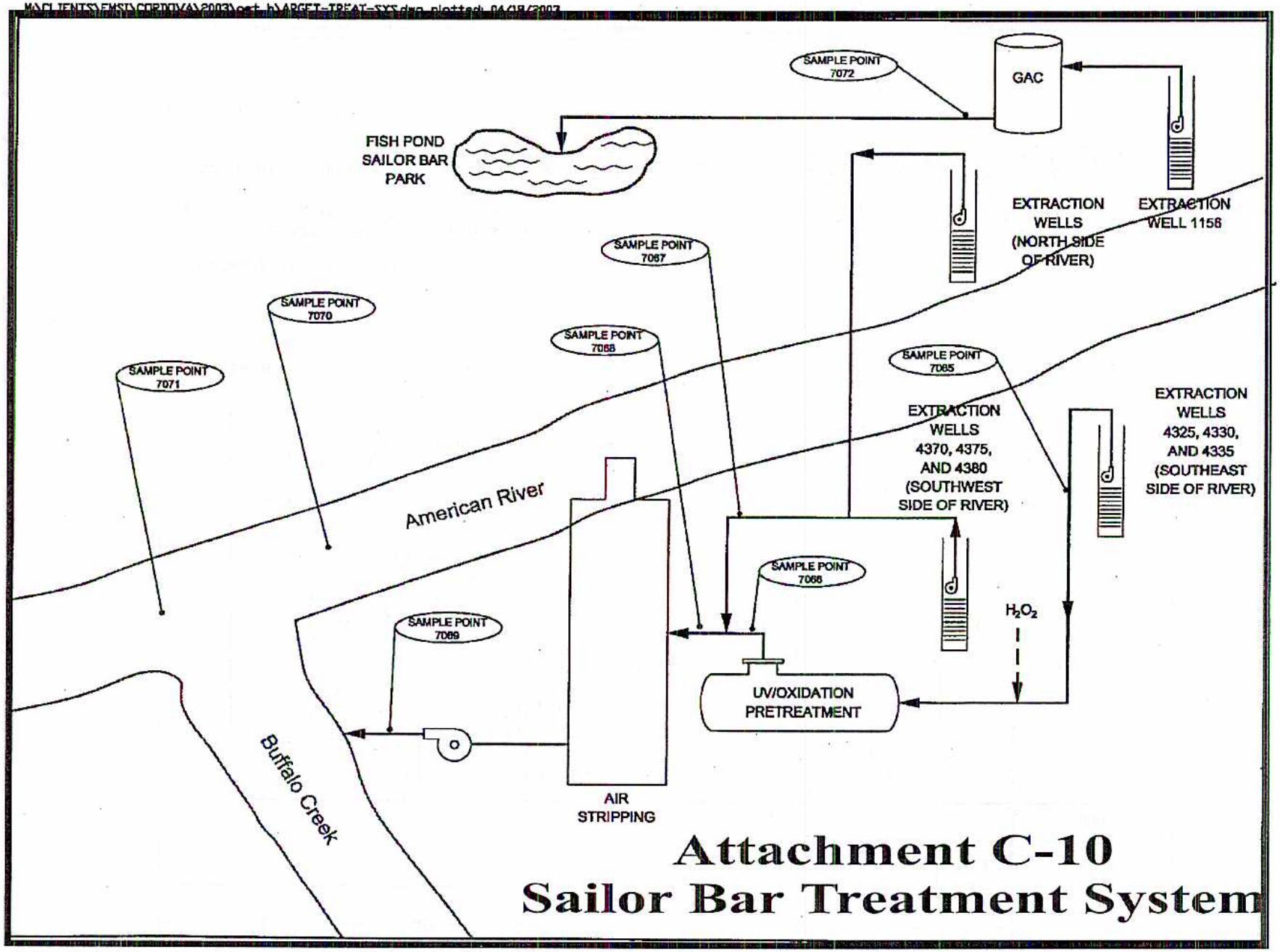
1. Design capacity set for 900 - 1,000 gpm with space to provided for future components to increase to 2,000 gpm.
2. Ion-exchange and GAC treatment not anticipated with initial start up.
3. Anticipated to be installed in fenced area with no building to house.

Attachment C-8
GET L Treatment System

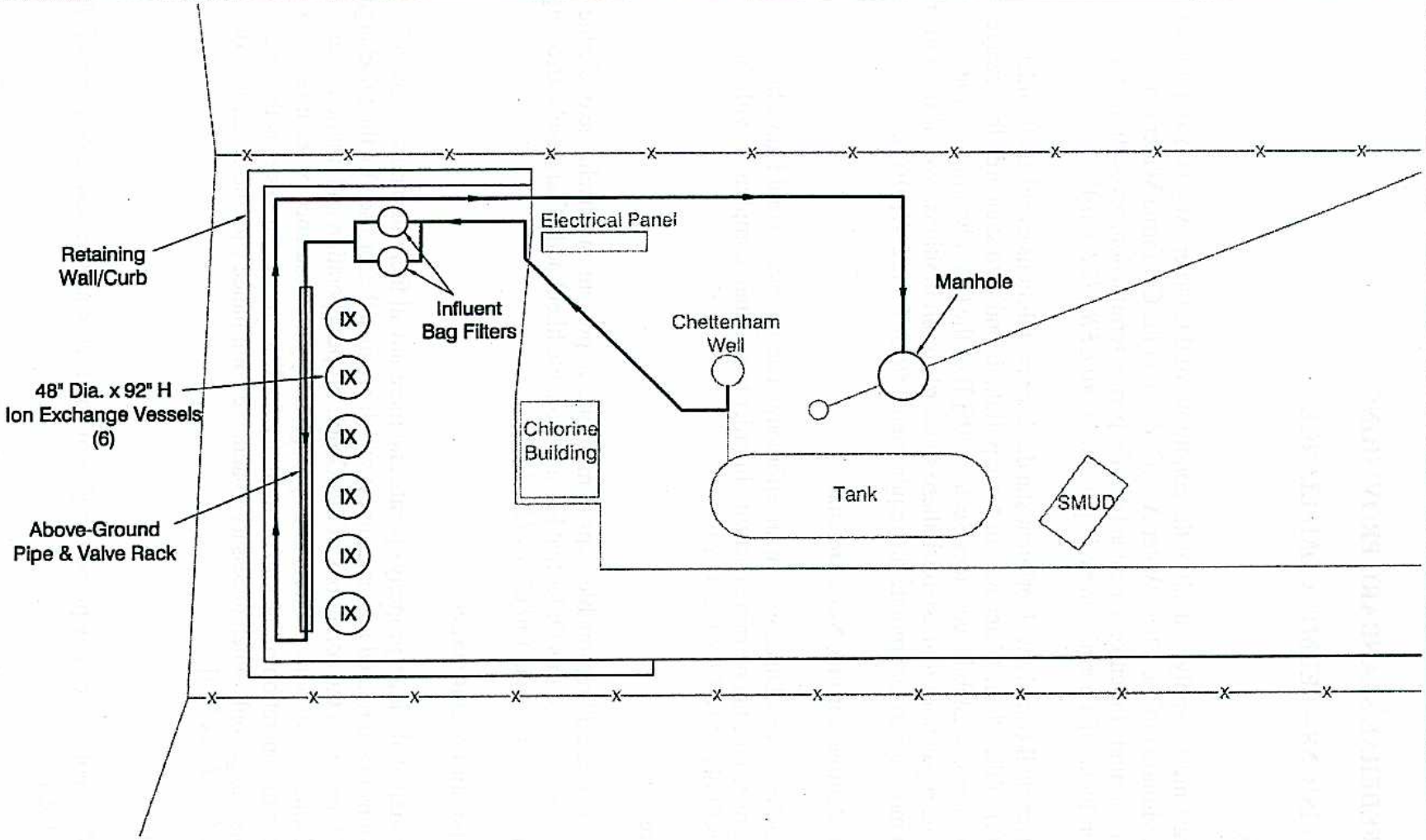


Notes:
1. Design capacity to treat up to 500 gpm.
2. Initial treatment for NDMA with space considerations for the addition of perchlorate and TCE treatment.
3. Anticipated to be installed in fenced area.

Attachment C-9
GET L1 Treatment System



Attachment C-10
Sailor Bar Treatment System



Attachment C-11
Chettenham Treatment System

ATTACHMENT D – FEDERAL STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [*40 CFR §122.41(a)*].

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not been modified to incorporate the requirement [*40 CFR §122.41(a)(1)*].

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order [*40 CFR §122.41(c)*].

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment [*40 CFR §122.41(d)*].

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order [*40 CFR §122.41(e)*].

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [*40 CFR §122.41(g)*].

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations [*40 CFR §122.5(c)*].

F. Inspection and Entry

The Discharger shall allow the Regional Water Quality Control Board (RWQCB), State Water Resources Control Board (SWRCB), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to [*40 CFR §122.41(i)*] [*CWC 13383(c)*]:

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order [*40 CFR §122.41(i)(1)*];

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [*40 CFR §122.41(i)(2)*];

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [*40 CFR §122.41(i)(3)*];

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location [*40 CFR §122.41(i)(4)*].

G. Bypass

1. Definitions

   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility [*40 CFR §122.41(m)(1)(i)*].

   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [*40 CFR §122.41(m)(1)(ii)*].

2. Bypass not exceeding limitations – The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3 and I.G.5 below [*40 CFR §122.41(m)(2)*].

3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [*40 CFR §122.41(m)(4)(i)*]:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [*40 CFR §122.41(m)(4)(A)*];

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [*40 CFR §122.41(m)(4)(B)*]; and

c. The Discharger submitted notice to the Regional Water Board as required under Standard Provision – Permit Compliance I.G.5 below [*40 CFR §122.41(m)(4)(C)*].

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above [*40 CFR §122.41(m)(4)(ii)*].

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass [*40 CFR §122.41(m)(3)(i)*].

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below [*40 CFR §122.41(m)(3)(ii)*].

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation [*40 CFR §122.41(n)(1)*].

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph H.2 of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review [*40 CFR §122.41(n)(2)*].

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that [*40 CFR §122.41(n)(3)*]:

a. An upset occurred and that the Discharger can identify the cause(s) of the upset [*40 CFR §122.41(n)(3)(i)*];

b. The permitted facility was, at the time, being properly operated [*40 CFR §122.41(n)(3)(i)*];

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b [*40 CFR §122.41(n)(3)(iii)*]; and

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [*40 CFR §122.41(n)(3)(iv)*].

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [*40 CFR §122.41(n)(4)*].

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition [*40 CFR §122.41(f)*].

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit [*40 CFR §122.41(b)*].

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the CWC [*40 CFR §122.41(l)(3)*] [*40 CFR §122.61*].

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [*40 CFR §122.41(j)(1)*].

B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [*40 CFR §122.41(j)(4)*] [*40 CFR §122.44(i)(1)(iv)*].

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [*40 CFR §122.41(j)(2)*].

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements [*40 CFR §122.41(j)(3)(i)*];
2. The individual(s) who performed the sampling or measurements [*40 CFR §122.41(j)(3)(ii)*];
3. The date(s) analyses were performed [*40 CFR §122.41(j)(3)(iii)*];
4. The individual(s) who performed the analyses [*40 CFR §122.41(j)(3)(iv)*];
5. The analytical techniques or methods used [*40 CFR §122.41(j)(3)(v)*]; and
6. The results of such analyses [*40 CFR §122.41(j)(3)(vi)*].

C. Claims of confidentiality for the following information will be denied [*40 CFR §122.7(b)*]:

1. The name and address of any permit applicant or Discharger [*40 CFR §122.7(b)(1)*]; and
2. Permit applications and attachments, permits and effluent data [*40 CFR §122.7(b)(2)*].

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, SWRCB, or USEPA within a reasonable time, any information which the Regional Water Board, SWRCB, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, SWRCB, or USEPA copies of records required to be kept by this Order [*40 CFR §122.41(h)*] [*CWC 13267*].

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, SWRCB, and/or USEPA shall be signed and certified in accordance with paragraph (2.) and (3.) of this provision [*40 CFR §122.41(k)*].

2. All permit applications shall be signed as follows:

   a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures [*40 CFR §122.22(a)(1)*];

   b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively [*40 CFR §122.22(a)(2)*]; or

   c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA) [*40 CFR §122.22(a)(3)*].

3. All reports required by this Order and other information requested by the Regional Water Board, SWRCB, or USEPA shall be signed by a person described in paragraph (b) of this

provision, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in paragraph (2.) of this provision [*40 CFR §122.22(b)(1)*];

b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company (a duly authorized representative may thus be either a named individual or any individual occupying a named position) [*40 CFR §122.22(b)(2)*]; and

c. The written authorization is submitted to the Regional Water Board, SWRCB, or USEPA [*40 CFR §122.22(b)(3)*].

4. If an authorization under paragraph (3.) of this provision is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (3.) of this provision must be submitted to the Regional Water Board, SWRCB or USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR §122.22(c)].

5. Any person signing a document under paragraph (2.) or (3.) of this provision shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations" [*40 CFR §122.22(d)*].

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order [*40 CFR §122.41(l)(4)*].

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or SWRCB for reporting results of monitoring of sludge use or disposal practices [*40 CFR §122.41(l)(4)(i)*].

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal,

approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board [*40 CFR §122.41(l)(4)(ii)*].

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order [*40 CFR §122.41(l)(4)(iii)*].

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date [*40 CFR §122.41(l)(5)*].

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [*40 CFR §122.41(l)(6)(i)*].

2. The following shall be included as information that must be reported within 24 hours under this paragraph [*40 CFR §122.41(l)(6)(ii)*]:

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(A)*].

   b. Any upset that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(B)*].

   c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [*40 CFR §122.41(l)(6)(ii)(C)*].

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours [*40 CFR §122.41(l)(6)(iii)*].

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when [*40 CFR §122.41(l)(1)*]:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b) [*40 CFR §122.41(l)(1)(i)*]; or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [*40 CFR §122.41(l)(1)(ii)*].

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan [*40 CFR §122.41(l)(1)(iii)*].

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or SWRCB of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements [*40 CFR §122.41(l)(2)]*.

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting E.3, E.4, and E.5 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E [*40 CFR §122.41(l)(7)*].

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, SWRCB, or USEPA, the Discharger shall promptly submit such facts or information [*40 CFR §122.41(l)(8)*].

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any

requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Clean Water Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions [*40 CFR §122.41(a)(2)*] [*CWC 13385 and 13387*].

B. Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000 [*40 CFR §122.41(a)(3)*].

C. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both [*40 CFR §122.41(j)(5)*].

D. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both [*40 CFR §122.41(k)(2)*].

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [*40 CFR §122.42(a)*]:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [*40 CFR §122.42(a)(1)*]:

    a. 100 micrograms per liter (µg/L) [*40 CFR §122.42(a)(1)(i)*];

    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [*40 CFR §122.42(a)(1)(ii)*];

    c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR §122.42(a)(1)(iii)*]; or

    d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [*40 CFR §122.42(a)(1)(iv)*].

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [*40 CFR §122.42(a)(2)*]:

    a. 500 micrograms per liter (µg/L) [*40 CFR §122.42(a)(2)(i)*];

    b. 1 milligram per liter (mg/L) for antimony [*40 CFR §122.42(a)(2)(ii)*];

    c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR §122.42(a)(2)(iii)*]; or

    d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [*40 CFR §122.42(a)(2)(iv)*].

B. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following [*40 CFR §122.42(b)*]:

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Sections 301 or 306 of the CWA if it were directly discharging those pollutants [*40 CFR §122.42(b)(1)*]; and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order [*40 CFR §122.42(b)(2)*].

Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW [*40 CFR §122.42(b)(3)*].

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR Section122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the Regional Water Quality Control Board (RWQCB) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.

B. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided the laboratory institutes a Quality Assurance-Quality Control Program. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.

C. All analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. Laboratories that perform sample analyses shall be identified in all monitoring reports.

D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

F. If the facility is not in operation, or there is no discharge during a required reporting period, the Discharger shall forward a letter to the Regional Water Board indicating that there has been no activity during the required reporting period.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
001	M-001	Effluent from ARGET.
002	M-002	Effluent from GET E/F.
003	M-003	Effluent from GET Interim GET H.
004	M-004	Effluent from GET H.
005	M-005	Effluent from GET J.
006	M-006	Effluent from Interim GET K.
007	M-007	Effluent from GET K.
008	M-008	Effluent from GET L.
009	M-009	Effluent from GET L1.
010	M-010	Effluent from Sailor Bar Park Well System.
011	M-011	Effluent from Chettenham Well System.
012	M-012	Effluent from Low-threat System.
	MINFA	Influent to ARGET
	MINFB	Influent to GET E/F
	MINFC	Influent to Interim GET H
	MINFD	Influent to GET H
	MINFE	Influent to GET J
	MINFF	Influent to Interim GET K
	MINFG	Influent to GET K
	MINFH	Influent to GET L
	MINFI	Influent to GET L1
	MINFJ	Influent to Sailor Bar Park Well System
	MINFK	Influent to Chettenham Well System
	R-001 and R-002	R-001 (upstream) and R-002 (downstream) on American River from discharge of Buffalo Creek into American River at Latitude 38°, 38', 01" N, Longitude 121°, 16', 05" W. Outfall 001 is representative of ARGET, GET E/F and GET J discharges (Discharges 001, 002, and 005, respectively.
	R-003 and R-004	R-003 (upstream) and R-004 (downstream) on American River from discharge water from GET L1 (Discharge 009) into American River at Latitude 38°, 37', 32" N, Longitude 121°, 18', 15" W.
	R-005 and R-006	R-005 (upstream) and R-006 (downstream) on American River from discharge water from GET L (Discharge 008) into American River at Latitude 38°, 36', 52" N, Longitude 121°, 18', 14" W.
	R-006 and R-007	R-006 (upstream) and R-007 (downstream) on American River from discharge water from long term GET K (Discharge 007) into American River at Latitude 38°, 36', 36" N, Longitude 121°, 18', 24" W.
	R-008 and R-009	R-008 (upstream) and R-009 (downstream) on American River from discharge water from Interim GET K (Discharge 006) into American River at Latitude 38°, 36', 05" N, Longitude 121°, 18', 57" W.
	R-010 and R-011	R-010 (upstream) and R-011 (downstream) on American River from discharge from Chettenham Well (Discharge 011) into American River via the Boyd Station Channel at Latitude 38°, 34', 43" N, Longitude 121°, 19', 37" W. May receive water from long term GET H (Discharge 004) in the future

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
	R-012 and R-013	R-012 (upstream) and R-013 (downstream) on Morrison Creek from discharge of drainage ditch to Morrison Creek at Latitude 38°, 31', 53" N, Longitude 121°, 19', 36" W. Outfall 006 represents discharge from interim GET H (Discharge 003 and long term GET H (Discharge 004).
	R-014 and R-015	R-014 (upstream) and R-015 (downstream) on American River from a potential discharge from various GETs into American River via pipeline at Latitude 38°, 38', 06" N, Longitude 121°, 13', 13" W.
	R-016 and R-017	R-016 (upstream) and R-017 (downstream) on Alder Creek from a potential discharge water from various GETs via pipeline into Alder Creek at American River at Latitude 38°, XX', XX" N, Longitude 121°, XX', XX" W.

III. INFLUENT MONITORING REQUIREMENTS

A. The Discharger shall monitor **MINFA, MINFB, and MINFJ** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
VOCs	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]
1,4-Dioxane	µg/L	Grab	Monthly	[5]
Total Copper	µg/L	Grab	Monthly	[6]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
5. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical level shall be reported as trace.
6. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

B. The Discharger shall monitor **MINFC, MINFD and MINFK** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
VOCs	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Monthly	[2]
Semi-Volatile Organics	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
3. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

C. The Discharger shall monitor **MINFE** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
VOCs	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]
Total Copper	µg/L	Grab	Monthly	[5]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
5. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

D. The Discharger shall monitor **MINFF, MINFG, MINFH and MINFI** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
VOCs	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations M-001 through M-012

1. The Discharger shall monitor wastewater discharged at **M-001** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[9]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]
1,4-Dioxane	µg/L	Grab	Monthly	[5]
Total Copper	µg/L	Grab	Monthly	[6]
Flow[7]	mgd	Measure	Continuous	--
Temperature[7]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[7]	µmhos/cm	Grab	Monthly	--
pH[7]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
Acute Toxicity	% Survival	Grab	Quarterly	[8]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
5. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
6. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
7. Field Measurements.
8. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
9. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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2. The Discharger shall monitor wastewater discharged at **M-002** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[13]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[13]
1,4-Dioxane	µg/L	Grab	Monthly	[5]
Total Copper	µg/L	Grab	Monthly	[6]
Flow[7]	mgd	Measure	Continuous	--
Temperature[7]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[7]	µmhos/cm	Grab	Monthly	--
pH[7]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
PROWL	µg/L	Grab	Monthly	[8]
Formaldehyde	µg/L	Grab	Monthly	[9]
Glyoxal	µg/L	Grab	Monthly	[10]
Acetaldehyde	µg/L	Grab	Monthly	[11]
Acute Toxicity	% Survival	Grab	Quarterly	[12]

3. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
5. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
6. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
7. Field Measurements.
8. PROWL analysis with a practical quanitation level no greater than 10 µg/L. All concentrations between the detection level and practical quanitiation level shall bereported as trace.
9. Formaldehyde analysis with a practical quanitation level no greater than 5 µg/L. All concentrations between the detection level and practical quanitiation level shall bereported as trace.
10. Glyoxal analysis with a practical quanitation level no greater than 5 µg/L. All concentrations between the detection level and practical quanitiation level shall bereported as trace.
11. Acetaldehyde analysis with a practical quanitation level no greater than 1µg/L. All concentrations between the detection level and practical quanitiation level shall bereported as trace.
12. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
13. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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2. The Discharger shall monitor wastewater discharged at **M-003 and M-004** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[7]
Volatile Organics	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Monthly	[2]
Semi-Volatile Organics	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[7]
Flow[5]	mgd	Measure	Continuous	--
Temperature[5]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[5]	µmhos/cm	Grab	Monthly	--
pH[5]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
Acute Toxicity	% Survival	Grab	Quarterly	[6]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
3. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
5. Field Measurements.
6. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
7. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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3. The Discharger shall monitor wastewater discharged at **M-005** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[8]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]
Total Copper	µg/L	Grab	Monthly	[5]
Flow[6]	mgd	Measure	Continuous	--
Temperature[6]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[6]	µmhos/cm	Grab	Monthly	--
pH[6]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
Acute Toxicity	% Survival	Grab	Quarterly	[7]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
5. Tst Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
6. Field Measurements.
7. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
8. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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4. The Discharger shall monitor wastewater discharged at **M-006, M-007, M-008 and M-009** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[7]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]
Flow[5]	mgd	Measure	Continuous	--
Temperature[5]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[5]	µmhos/cm	Grab	Monthly	--
pH[6]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
Acute Toxicity	% Survival	Grab	Quarterly	[6]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
5. Field Measurements.
6. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
7. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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5. The Discharger shall monitor wastewater discharged at **M-010** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[5]
Volatile Organics	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Monthly	[2]
1,4-Dioxane	µg/L	Grab	Monthly	[3]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[5]
Flow[4]	mgd	Measure	Continuous	--
Temperature[4]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen[	mg/L	Grab	Monthly	--
Electrical Conductivity[4]	µmhos/cm	Grab	Monthly	--
pH[4]	Standard	Grab	Monthly	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
3. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
4. Field Measurements.
5. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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5. The Discharger shall monitor wastewater discharged at **M-011** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[4]
Volatile Organics	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Weekly	[2]
Flow[3]	mgd	Measure	Continuous	--
Temperature[3]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Electrical Conductivity[3]	µmhos/cm	Grab	Monthly	--
pH[3]	Standard	Grab	Monthly	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
3. Field Measurements.
4. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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6. The Discharger shall monitor wastewater discharged at **M-012** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[4]
Volatile Organics	µg/L	Grab	Once per 10,000 gallons purge water for Well Purge Beginning, middle and end of Aquifer Test	[1]
N-nitrosodimethylamine	µg/L	Grab	Once per well purge Beginning, middle and end of Aquifer Test	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[4]
Perchlorate	µg/L	Grab	Once per well purge Beginning, middle and end of Aquifer Test	[3]
1,4-Dioxane	µg/L	Grab	Once per well purge Beginning, middle and end of Aquifer Test	[3]
Flow[4]	gallons	Measure	Continuous	--
Temperature[4]	°F(°C)	Grab	Once per well purge Beginning, middle and end of Aquifer Test	--
pH[4]	Standard	Grab	Once per well purge Beginning, middle and end of Aquifer Test	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Field Measurements.

7. If the discharge is intermittent rather than continuous, then on the first day of each such discharge, the Discharger shall monitor and record data for all of the constituents listed above, after which the frequency of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

8. If no discharge occurs at a particular discharge point during the monitoring period, then samples need not be collected for that particular discharge. It must be reported under the reporting program that no sampling was conducted at a particular monitoring point due to no discharge.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. **Acute Toxicity Testing.** The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

1. *Monitoring Frequency* – the Discharger shall perform quarterly acute toxicity testing, concurrent with effluent sampling for volatile organics and copper.

2. *Sample Types* – Effluent samples shall be grab samples taken at M-001, M-002, M-003, M-004, M-005, M-006, M-007, M-008 and M-009.

3. *Test Species* – Test species shall be larval stage (0 to 14 days old) fathead minnows (Pimephales promelas).

4. *Methods* – The acute bioassay tests samples shall be conducted in accordance with EPA-821-R-02-012, Fifth Edition, or later amendment with Executive Officer approval. Temperature and pH shall be recorded at the time of bioassay sample collection. No pH adjustment may be made unless approved by the Executive Officer.

5. *Test Failure* – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 3 business days following notification of test failure.

B. **Chronic Toxicity Testing.** The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:

1. *Monitoring Frequency* – the Discharger shall perform quarterly chronic toxicity testing for the first 4 quarters and annually thereafter.

2. *Sample Types* – Effluent samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at effluent monitoring locations M-001 and M-002. The receiving water control shall be a grab sample obtained from the R-001 sampling location.

3. *Sample Volumes* – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.

4. *Test Species* – Chronic toxicity testing measures either lethal or sublethal (e.g. reduced growth, reproduction) effects to experimental test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:

   - The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
   - The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
   - The green alga, *Selenastrum capricornutum* (growth test).

5. *Methods* – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition,* EPA/821-R-02-013, October 2002, or later amendment with Executive Officer approval.

6. *Reference Toxicant* – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.

7. *Dilutions* – The chronic toxicity testing shall be performed using the 100% effluent, 25% effluent/75% R-001, 10% effluent/90% R-001 and 5%effluent/95% R-001.

8. *Test Failure* – If either the reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002, and its subsequent amendments or revisions, the Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of test failure.

C. **WET Testing Notification Requirements.** The Discharger shall notify the Regional Board within 24-hrs after the receipt of the results of an exceedance of a toxicity trigger during regular or accelerated monitoring.

D. **WET Testing Reporting Requirements.** All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Regional Water Board within 30 days following completion of the test, and shall contain, at minimum:

   a. The results expressed in TUc, measured as 100/NOEC, and also measured as 100/LC50 $100/EC_{25}$, $100/IC_{25}$, and $100/IC_{50}$, as appropriate.

   b. The statistical methods used to calculate endpoints;

   c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);

   d. The dates of sample collection and initiation of each toxicity test; and

   e. The results compared to the numeric toxicity trigger.

   Additionally, the monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or TRE.

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports, reported as percent survival.

3. **TRE Reporting.** Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Workplan.

4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes:

   a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.

   b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.

c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Surface Water Monitoring – American River, Morrison Creek and Alder Creek

1. The Discharger shall monitor the American River at R-001, R-002, R-003, R-004, R-005, R-006, R-007, R-008, R-009, R-010, and R-011, R-014, R-015 and Alder Creek at R-016 and R-017 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[6]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethlyamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]
Temperature[5]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen[5]	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[5]	µmhos/cm	Grab	Monthly	--
pH[5]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
5. Field Measurements.
6. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-001 and R-016. Attention shall be given to the presence or absence of:

a. Floating or suspended matter
b. Discoloration
c. Bottom deposits
d. Aquatic life
e. Visible films, sheens or coatings
f. Fungi, slimes, or objectionable growths
g. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the monitoring report.

2. The Discharger shall monitor Morrison Creek R-012 and R-013 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[5]
Volatile Organics	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Monthly	[2]
Total Copper	µg/L	Grab	Monthly	[3]
Temperature[4]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen[4]	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[4]	µmhos/cm	Grab	Monthly	--
pH[4]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
3. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
4. Field Measurements.
5. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-012 and R-013. Attention shall be given to the presence or absence of:

a. Floating or suspended matter
b. Discoloration
c. Bottom deposits
d. Aquatic life
e. Visible films, sheens or coatings
f. Fungi, slimes, or objectionable growths
g. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the monitoring report.

3. If no discharge occurs at a particular discharge point during the monitoring period, then receiving water samples associated with that discharge need not be collected for that monitoring period. It must be reported under the reporting program that no sampling was conducted at a particular monitoring point due to no discharge.

B. Groundwater Monitoring – Not Applicable

IX. OTHER MONITORING REQUIREMENTS

A. State Implementation Plan Monitoring

The State Water Resources Control Board (SWRCB) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP). The SIP states that the Regional Water Boards will require periodic monitoring (at least once prior to issuance and reissuance of a permit) for pollutants for which criteria or objectives apply and for which no effluent limitations have been established.

Accordingly, the Regional Water Board is requiring, as part of this Monitoring and Reporting Program, that the Discharger monitor effluent and analyze the sample for all SIP constituents **one time at least 180 days but no more than 365 days prior to expiration of this Order.** The Discharger must analyze pH and hardness of the effluent at the same time as priority pollutant metals.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Regional Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.

3. The Discharger shall report to the Regional Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986.

4. **Within 24-hours** after the Discharger has received information that its discharge exceeds effluent limitations, the Discharger shall notify the Board, City of Sacramento Department of Utilities, and Carmichael Water District. Arden-Cordova Water Service shall be notified if the discharge that is in violation is to Lake Natoma.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is given,

the Discharger shall submit self-monitoring reports in accordance with the requirements described below.

2. The Discharger shall submit monthly, quarterly, and annual Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Monthly reports shall be due on the 15th day of the second month following the end of each calendar month.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Day after permit effective date	All	Fifteenth day of second calendar month following month of sampling
1 / week	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	Fifteenth day of second calendar month following month of sampling
1 / month	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	Fifteenth day of second calendar month following month of sampling
1 / quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 15 August 15 November 15 February 15
1/year	January 1 following (or on) permit effective date	January 1 through December 31	February 15

4. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

5. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations.

6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the standard provisions (Attachment D), to the address listed below:

Submit monitoring reports to:
Central Valley Regional Water Quality Control Board 11020 Sun Center Drive #200 Rancho Cordova, CA 95670-6114

C. Discharge Monitoring Reports (DMRs)

1. When requested by U.S. EPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self Monitoring Reports.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy to the address listed below:

   State Water Resources Control Board
   Discharge Monitoring Report Processing Center
   Post Office Box 671
   Sacramento, CA 95812

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self generated or modified cannot be accepted.

D. Other Reports

1. **Annual Solids Disposal Report.** An annual solids disposal report shall be submitted with annual self-monitoring reports. The report shall describe the annual volume of solids, including spent ion exchange resin and granular activated carbon, generated by the Facility and specify the disposal practices.

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ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

WDID	**5A342000006**
Discharger	Aerojet-General Corporation
Name of Facilities	ARGET, GET E/F, GET H, Interim GET H, GET J, GET K, Interim GET K, GET L, GET L1, Sailor Bar Park Well
Facility Address	Aerojet Road
	Sacramento, CA 95813-6000
	Sacramento County
Facility Contact, Title and Phone	Chris Fennessy, Project Manager, (916) 355-3341
Authorized Person to Sign and Submit Reports	Gerald Swanick, Director Environmental Operations, (916) 355-3558
Mailing Address	P.O. Box 13222, Sacramento, CA 95813-6000
Billing Address	P.O. Box 13222, Sacramento, CA 95813-6000
Type of Facility	Groundwater Extraction and Treatment Facilities
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	B
Pretreatment Program	Not Applicable
Reclamation Requirements	Not Applicable
Facilities Permitted Flow	34.65 million gallons per day (mgd)
Facilities Design Flow	Not Applicable
Watershed	American and Sacramento Rivers
Receiving Water	Buffalo Creek, Morrison Creek, American River, Alder Creek, Sailor Bar Park Pond
Receiving Water Type	Stream and Pond

A. Aerojet-General Corporation (Aerojet) operates a rocket testing and chemical manufacturing facility on 8500 acres in eastern Sacramento County. In order to address groundwater pollution beneath and beyond the Aerojet property, Aerojet has constructed many groundwater extraction and treatment facilities (GETs). GETs covered under this permit are on both Aerojet-owned property and property leased by Aerojet. Aerojet is responsible for maintaining compliance with this Order and is responsible for the Facilities' operations and discharge to surface waters

B. The Facilities discharge to Buffalo Creek, drainage canals, Alder Creek and Sailor Bar Park Pond, all tributary to the American River, and to Morrison Creek, tributary to the Sacramento River, waters of the United States. The Facilities are both existing facilities regulated by a

Regional Water Board Order and new facilities that are not currently regulated by a Regional Water Board Order.

C. The Discharger submitted a Report of Waste Discharge (RWD), dated 11 April 2005, and applied for a National Pollutant Discharge Elimination System (NPDES) permit authorization to discharge up to 32.57 mgd of treated groundwater from the Aerojet GET facilities. Supplemental Information was received on 28 April, 12 May and 15 May 2005.

II. FACILITIES DESCRIPTIONS

The Facilities are found both on and off Aerojet's 8500 acres in eastern Sacramento County, approximately 17 miles east of downtown Sacramento, in and around the City of Rancho Cordova, Sacramento County, as shown in Attachment B.

According to the Discharger's RWD, the Facilities treat extracted groundwater primarily containing volatile organics (VOCs) and/or perchlorate and/or n-nitrosodimethylamine (NDMA). These pollutants originated, for the most part, from historical rocket-testing and chemical manufacturing operations on the Aerojet site.

The groundwater the Facilities extract contains solvents consisting primarily of VOCs, such as trichloroethylene (TCE), chloroform, vinyl chloride (VC), 1,2-dichloroethylene (1,2-DCE), 1,1-dichloroethylene (1,1-DCE), and tetrachloroethylene (PCE), perchlorate, n-nitrosodimethylamine (NDMA), and 1,4-dioxane. Various treatment methods are used to reduce the pollutants down to acceptable levels prior to discharge

A. Description of Wastewater and Biosolids Treatment or Controls

1. VOCs can be easily removed from the extracted groundwater using a variety of treatment processes. Aerojet uses air-stripping, carbon adsorption (GAC), and ultraviolet or ozone oxidation in different combinations to remove the VOCs. At GET facilities that have high concentrations of VOCs Aerojet uses ultraviolet oxidation or oxidation using ozone, along with hydrogen peroxide, to destroy a majority of the VOCs, utilizing air stripping or GAC to remove residual VOCs. For lower concentrations of VOCs, GAC alone is utilized. Spent GAC is trucked to a permitted destruction facility.

2. Perchlorate is removed from the extracted groundwater using either biological reduction or ion-exchange. Biological reduction is performed by growing bacteria on carbon or sand in a fluidized bed reactor. Ethanol is injected into the influent to provide food for the bacteria. The bacteria will remove oxygen and nitrate prior to destroying the perchlorate. Biosolids are generated as bacteria material is removed from the system. The biosolids are collected on sand filters and the filters periodically backwashed. The backwash water proceeds through a clarifier to remove the solids prior to discharge. The solids collected in the clarifier and trucked to the sanitary sewer and the supernatant off of the clarifier is returned to the treatment process. The ion-exchange process uses a perchlorate-specific ion exchange resin that is disposed of when the resin's capacity for taking up perchlorate is

exhausted. The resin is then replaced with fresh resin and the spent resin taken to a permitted disposal facility.

3. Removal of NDMA is accomplished using ultraviolet light oxidation in combination with hydrogen peroxide.

4. ARGET Facility. The American River Study Area (ARSA) treatment system is on the Aerojet site. The facility was constructed in 1997 and originally consisted of ultraviolet/peroxide treatment to reduce concentrations of volatile organic compounds (VOCs) and 1,4-dioxane, and air-stripping to remove any remaining VOCs. This facility has been shown to remove VOCs to below detection levels (0.5 µg/L) and 1,4-dioxane to below its detection level (2-10 µg/L). This facility is designed to treat up to 3500 gallons per minute (gpm). Aerojet is modifying the VOC-removal portion of the facility to utilize ozone/hydrogen peroxide to remove the chlorinated ethene VOCs and 1,4-dioxane at a lower cost than the ultraviolet light system. Treatment for removal of low concentrations of perchlorate may be added in the future as the flow from new extraction wells are brought to the facility and the influent concentrations of perchlorate increase.

5. GET E/F Facility. The GET E/F facility is also on Aerojet property. GET E and GET F were originally constructed in the mid-1980's and were subsequently combined into one facility in 2000. The combined facility uses biological reduction to remove perchlorate, ultraviolet light/hydrogen peroxide to destroy NDMA and most of the VOCS, and air stripping to remove the remainder of VOCs from up to 6000 gpm of influent. There is also a sand filter and clarifier for solids control. The solids from the clarifier are discharged to the sanitary sewer under a permit. The treatment process has been shown to be effective in removing VOCs to below detection levels (0.5 µg/L), perchlorate to below 4 µg/L, and NDMA to below detection (0.002 –0.0075 µg/L). Testing of the influent and effluent to the treatment facility for full-scan analysis, including tentatively identified compound analysis, did not indicate additional contaminants of concern.

6. GET H Facilities. The interim GET H facility is found on Reserve Drive in Rancho Cordova. It treats up to 1500 gpm using resin-adsorption to remove perchlorate to less than 4 µg/L, and granular activated carbon (GAC) to remove VOCs to less than 0.5 µg/L. The interim system has been expanded to include a second temporary treatment system on Reserve Drive with the same outfall location. The long-term GET H system, currently being designed and constructed, utilizes the same treatment methods, but will treat a greater flow of extracted groundwater, approximately 4450 gpm. The long-term GET H system is anticipated to be on-line in summer 2006 and will be in the north-central section of Mather Field. The interim facility has shown to be able to consistently meet effluent limitations.

7. GET J Facility. The GET J system is similar to GET H, but with the addition of ultraviolet treatment for the destruction of NDMA to less than 0.002 µg/L and particulate filtration to help the ultraviolet system. The system is designed to treat 4950 gpm and is found on Pyrites Way in Gold River. The GET J facility has shown to be capable of consistently meeting effluent limitations though it has had difficulty meeting the effluent limitation

utilizing only ultraviolet light. Aerojet is evaluating the capabilities and potential improvements of the existing NDMA treatment system.

8. GET K Facilities. The interim GET K uses ion-exchange (resin bed adsorption) to remove perchlorate and GAC to remove VOCs from an influent of 400gpm. The long-term GET K system, anticipated to be operational in early 2007, will add ultraviolet light and particulate removal for treatment of NDMA to the ion-exchange and GAC treatment units, and treat approximately 4000 gpm. The interim GET K facility is on Zinfandel Drive and the long-term facility will be near Haggin Park, both in Rancho Cordova. The interim facility will be decommissioned when the long-term facility becomes operational. The interim GET K facility has consistently met effluent limitations.

9. GET L/L1 Facilities. GET L is currently being designed and constructed and will be in Carmichael, near Ancil Hoffman Park. The facility will initially treat for NDMA using ultraviolet light. If, in the future, VOCs and/or perchlorate are determined to be approaching the extraction wells in the groundwater, VOC and/or perchlorate treatment will be added utilizing the same processes described above. Flow to the plant, anticipated to commence operation in 2006, is 2100 gpm. A satellite treatment system, GET L1, will likely be constructed in order to reduce pipeline lengths from extraction wells to GET L. A portion of the extracted flow (estimated to be 900 gpm) would be sent to GET L1 for processing using the same type of treatment as GET L. The total treated flow remains the same.

10. Sailor Bar Park Facility. The Sailor Bar Park system provides for removal of VOCs by GAC on a water supply well that is used to maintain the water elevation in the pond on Sailor Bar Park. The flow through the treatment plant is intermittent and is a maximum of 250 gpm. The park is on the north side of the American River adjacent to the village of Fair Oaks.

11. Chettenham Facility. Aerojet is currently negotiating with California American Water Company (CalAm), owner of the Chettenham Well, to use the Chettenham Well on an interim basis as an extraction point to control a portion of the groundwater pollution. Wellhead treatment consisting of ion exchange for perchlorate removal would be installed on the well and the discharge would be to the Boyd Station Channel. If the Chettenham Well will not be used for control of the plume, a dedicated extraction may be constructed and the extracted groundwater piped to the GET H treatment system. The Chettenham Well currently contains no pollutants requiring treatment to meet effluent limitations. The well may be operated without treatment for a period of time prior to Aerojet committing to adding treatment as the upgradient GET J system may be providing sufficient plume containment to protect the Chettenhanm Well.

12. Groundwater Extraction Well Aquifer Test Water and Well purge and development water. After construction of an extraction well Aerojet will perform an aquifer test on the well for up to 4 days. The purpose of the test is to provide information that will allow design of a GET system for treatment of water generated by an extraction field. The aquifer test water is passed through a portable treatment system designed using the type of treatment systems

described above to remove the suspected pollutants. Under the previous permit, Aerojet was able to meet consistently meet effluent limitations with the portable system. Aerojet also develops and purges wells prior to sampling. Treatment is applied as needed to remove the pollutants.

B. Discharge Points and Receiving Waters

1. Treated groundwater is discharged from Discharges 001, 002 and 005 (respectively, ARGET, GET E/F, GET J) to Buffalo Creek (tributary to the American River). Discharges 003 and 004 (Interim GET H and GET H) are to Morrison Creek (tributary to the Sacramento River). Discharges 006 (Interim GET K) 007 (GET K), 008 (GET L), 009 (GET L1) and 011 (Chettentham Well) are to drainage channels to the American River between the Sunrise Boulevard and Watt Avenue overcrossings. Discharge 010 (Sailor Bar Park) is to a pond in Sailor Bar Park, with a potential for overflow to the American River. Sacramento County requested during development of the previous permit to allow for the potential discharge from some or all of the GETs covered in this permit to Alder Creek and/or the Natomas Stilling Basin, to assist in their reuse of treated groundwater. The previous permit and this permit included a provision allowing for the discharge to Alder Creek/Natomas Stilling Basin pending completion of an acceptable study of the potential thermal impacts on Alder Creek/American River. In addition, in the future the County may pipe the GET H discharge (004) to the Boyd Station Channel in order to better accommodate reuse projects for the water.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

1. Effluent limitations/Discharge Specifications contained in the existing Order for discharges from Discharge Point 001 and representative monitoring data since July 1998 from the term of the previous Order are as follows:

Parameter (units)	Average Monthly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
1,4-dioxane (µg/L)	3	10	<3	<3
Perchlorate (µg/L)	4	8	<4	<4
Copper (µg/L)	11	17	29	29
N-itrosodimethylamine (µg/L)	0.002	0.005	0.001	0.0023
Trichloroethylene (µg/L)	--	0.5	0.7	1.4
1,2-Dichloroethane (µg/L)	0.38	0.5	0.25	0.45
Lead (µg/L)	15	2.5	1.3	2.7
Acetaldehyde (µg/L)	--	5	5.0	7.0
Formaldehyde (µg/L)	--	50	30	36
Zinc (µg/L)	110	100	21	42

2. The RWD and Aerojet Monitoring describe the discharges as follows:

ARGET

Constituent	Units	Maximum Daily
Flow	mgd	5.4
pH	Standard Units	7.8-8.3
COD	mg/L	<3
Total Suspended Solids	mg/L	<6
Chlorides	mg/L	15
Sulfate	mg/L	12
Manganese	mg/L	0.02
Aluminum	mg/L	<0.030
Iron	mg/L	<0.040
Zinc	mg/L	0.020
Arsenic	mg/L	<0.002
Lead	mg/L	<0.005
Hardness (as $CaCO_3$)	mg/L	130
Barium	mg/L	0.07
Copper	mg/L	0.027
Chromium	mg/L	<0.002
Nickel	mg/L	<0.005
All VOCs	mg/L	<0.0005
Perchlorate	mg/L	0.007

GET E/F

Constituent	Units	Maximum Daily
Flow	mgd	8.64
pH	Standard Units	7.2-8.2
COD	mg/L	<3
Total Suspended Solids	mg/L	<6
Chlorides	mg/L	6.6
Sulfate	mg/L	15
Manganese	mg/L	0.07
Aluminum	mg/L	<0.050
Iron	mg/L	0.050
Zinc	mg/L	<0.050
Arsenic	mg/L	<0.002
Lead	mg/L	<0.002
Hardness (as $CaCO_3$)	mg/L	110
Barium	mg/L	0.1
Copper	mg/L	<0.003
Chromium	mg/L	<0.002
Nickel	mg/L	<0.005
All VOCs	mg/L	<0.0005
Perchlorate	mg/L	<0.004

GET H/CHETTENHAM WELL

Constituent	Units	Maximum Daily
Flow	mgd	6.39
pH	Standard Units	7.6-7.8
COD	mg/L	<3
Total Suspended Solids	mg/L	<6
Chlorides	mg/L	4.4
Sulfate	mg/L	3.3
Manganese	mg/L	0.07
Aluminum	mg/L	<0.050
Iron	mg/L	<0.050
Zinc	mg/L	<0.050
Arsenic	mg/L	<0.002
Lead	mg/L	<0.002
Hardness (as $CaCO_3$)	mg/L	53
Barium	mg/L	0.046
Copper	mg/L	<0.003
Chromium	mg/L	<0.002
Nickel	mg/L	<0.005
All VOCs	mg/L	<0.0005
Perchlorate	mg/L	<0.004

GET J

Constituent	Units	Maximum Daily
Flow	mgd	7.17
pH	Standard Units	6.8-7.6
COD	mg/L	<3
Total Suspended Solids	mg/L	<6
Chlorides	mg/L	6.6
Sulfate	mg/L	15
Manganese	mg/L	0.07
Aluminum	mg/L	<0.050
Iron	mg/L	0.050
Zinc	mg/L	<0.050
Arsenic	mg/L	<0.002
Lead	mg/L	<0.002
Hardness (as $CaCO_3$)	mg/L	160
Barium	mg/L	0.18
Copper	mg/L	<0.003
Chromium	mg/L	<0.002
Nickel	mg/L	<0.005
All VOCs	mg/L	<0.0005
Perchlorate	mg/L	<0.004

GET K

Constituent	Units	Maximum Daily
Flow	mgd	7.17
pH	Standard Units	7.7-7.8
COD	mg/L	<3
Total Suspended Solids	mg/L	<6
Chlorides	mg/L	4.4
Sulfate	mg/L	3.3
Manganese	mg/L	0.07
Aluminum	mg/L	<0.050
Iron	mg/L	0.050
Zinc	mg/L	<0.050
Arsenic	mg/L	<0.002
Lead	mg/L	<0.002
Hardness (as $CaCO_3$)	mg/L	110
Barium	mg/L	0.110
Copper	mg/L	<0.003
Chromium	mg/L	<0.002
Nickel	mg/L	<0.005
All VOCs	mg/L	<0.0005
Perchlorate	mg/L	<0.004

GET L/L1

Constituent	Units	Maximum Daily
Flow	mgd	3.0
pH	Standard Units	6.4-9.0
Chlorides	mg/L	6.4
Sulfate	mg/L	7.1
Manganese	mg/L	0.07
Aluminum	mg/L	<0.005
Iron	mg/L	0.050
Zinc	mg/L	<0.050
Arsenic	mg/L	<0.002
Lead	mg/L	<0.002
Hardness (as $CaCO_3$)	mg/L	110
Barium	mg/L	0.18
Copper	mg/L	<0.003
Chromium	mg/L	<0.002
Nickel	mg/L	<0.005
All VOCs	mg/L	<0.0005
Perchlorate	mg/L	<0.004

D. Compliance Summary

ARGET, GET E/F, GET H, GET J and Sailor Bar Park Well discharges have been in substantial compliance with effluent limitations since the inception of the discharges from

those facilities. There have been two detections of TCE in the GET E/F effluent at slightly above the effluent limitation of 0.50 µg/L (maximum 0.8 µg/L). These excursions were not verified by follow-up sampling by Aerojet or Regional Board staff. Other effluent limitation excursions were for exceedances of the daily maximum effluent limit for copper for the ARGET effluent. Twice in the past two years copper has been detected at up to 29 µg/L (limit of 17 µg/L). The effluent limitation does not allow for dilution in the receiving water. There have been no violations of receiving water limitations for any of the discharges.

E. Planned Changes

As stated above in Sections II(A) and II(B), Aerojet will be eliminating the two temporary GET facilities, Interim GET H (Discharge 003) and Interim GET K (Discharge 007), and replacing them with a larger facilities at new locations, GET H (Discharge 004) and GET K (Discharge 008) during the life of this permit. The interim GET K facility may operate longer depending on the need for additional pollutant removal. A treatment facility may be constructed on the Chettenham Water Supply Well (Discharge 011), the Chettenham Well may be operated without treatment, or a dedicated extraction well will be constructed near the Chettentham well with the extracted water being treated at GET H. This decision on whether or not to operate the Chettenham well should happen in the near future. In addition, in order to more easily reuse the treated groundwater, Sacramento County may redirect Discharge 004 to the Boyd Station Channel for ultimate discharge to the American River. The County is developing a plan for reuse of the treated groundwater and will develop the necessary CEQA documents. Revision of the permit will necessary prior to taking Discharge 004 to the Boyd Station Channel. The County may also redirect the discharges from ARGET and/or GET E/F to the Natomas Stilling Basin or Alder Creek. Prior to doing so, a thermal impact study will need to be completed that demonstrates that there are no adverse impacts with discharging to the new location(s). The CEQA document will evaluate the thermal impacts.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from these facilities to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.

B. California Environmental Quality Act (CEQA)

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with

Section 13389 of the CWC. The Department of Toxic Substances Control certified a final Negative Declaration and Initial Study for the American River Study Area project in accordance with CEQA and State CEQA Guidelines. The Board has reviewed the negative declaration and these waste discharge requirements will mitigate or avoid any significant impacts on water quality due to the discharges from the ARGET facility.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan.

   The Basin Plan at page II-2.00 states that the beneficial uses of any specifically identified water body generally applies to its tributary streams. The Basin Plan does not specifically identify beneficial uses for Buffalo Creek, Alder Creek or Sailor Bar Park Pond, but does identify present and potential uses for the American River, to which Buffalo Creek, Alder Creek and potentially Sailor Bar Park Pond are tributary. In addition the Basin Plan does not specifically identify beneficial uses for Morrison Creek, but does identify present and potential uses for the Sacramento River, to which Morrison Creek is tributary. These beneficial uses of the American and Sacramento Rivers are municipal and domestic supply (MUN); agricultural supply, irrigation and stock watering (AGR); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); warm and cold migration of aquatic organisms (MIGR); warm and cold spawning (SPWN); wildlife habitat (WILD). The Sacramento River has an additional designated beneficial use of navigation (NAV). In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Thus, as discussed in detail in this Fact Sheet, beneficial uses applicable to the American River, Buffalo Creek, Alder Creek, Morrison Creek and the Sailor Bar Park Pond are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
001, 002 and 005	Buffalo Creek and Alder Creek, Tributaries of the American River	Existing: MUN, AGR, IND, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
003/004	Morrison Creek, Tributary of the Sacramento River	Existing: MUN, AGR, IND, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
004, 006, 007, 008, 009 and 011	American River	Existing: MUN, AGR, IND, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
010	Sailor Bar Pond, Potentially tributary to American River	Existing: MUN, AGR, IND, REC-1, REC-2, WARM, COLD, WILD.

The Basin Plan on page II-1.00 states: "*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...*" *and with respect to disposal of wastewaters states that "...disposal of wastewaters is* [not] *a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*"
The federal Clean Water Act, Section 101(a)(2), states: "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983." Federal Regulations, developed to implement the requirements of the Clean Water Act, create a rebuttable presumption that all waters be designated as fishable and swimable. Federal Regulations, 40 CFR Sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after November 28, 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR Section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

In reviewing whether the existing and/or potential uses of the American and Sacramento River apply to Buffalo Creek, Alder Creek, and Sailor Bar Park Pond, and Morrison Creek, respectively, the Regional Water Board has considered the following facts:

a. **Domestic Supply and Agricultural Supply**

The Regional Water Board is required to apply the beneficial uses of municipal and domestic supply to Buffalo Creek, Alder Creek, Morrison Creek and Sailor Bar Park Pond based on State Water Board Resolution No. 88-63 which was incorporated in the Basin Plan pursuant to Regional Water Board Resolution No. 89-056.

b. **Water Contact and Noncontact Recreation and Esthetic Enjoyment**

The Regional Water Board finds that the discharges flow through residential areas, there is ready public access to the receiving waters, exclusion of the public is unrealistic and contact recreational activities currently exist along Buffalo Creek, Alder Creek, Morrison Creek and Sailor Bar Park Pond and downstream waters. Prior to flowing into the American River, Buffalo Creek, Alder Creek and Morrison Creek flow through areas of general public access, meadows, and residential and commercial areas. Sailor Bar Park Pond is accessible to the public and is used for fishing. The American and Sacramento Rivers offer considerable recreational opportunities.

c. **Preservation and Enhancement of Fish, Wildlife, and Other Aquatic Resources**

Buffalo Creek, Alder Creek and the Sailor Bar Park pond flow to the American River. It is highly unlikely that the overflow from Sailor Bar Park would ever directly reach

the American River due to the dredger tailings through which the overflow must traverse. However, there is a potential for the pond to indirectly discharge to the American River via a subsurface pathway. The Basin Plan (Table II-1) designates the American River as being both a cold and warm freshwater habitat; wildlife habitat; warm and cold migration of aquatic organisms; and warm and cold spawning, reproduction, and/or early development of freshwater organisms. The American River supports significant aquatic life, and therefore these beneficial uses apply to it's tributaries. Morrison Creek flows to the Sacramento River. The Basin Plan (Table II-1) designates the Sacramento River below the American the confluence with American River as being both a cold and warm freshwater habitat; wildlife habitat; warm and cold migration of aquatic organisms; and warm spawning, reproduction, and/or early development of freshwater organisms. The Sacramento River supports significant aquatic life, and therefore these beneficial uses apply to it's tributaries

Upon review of the flow conditions, habitat values, and beneficial uses of Buffalo Creek and Alder Creek, and Morrison Creek, and the facts described above, the Regional Water Board finds that the beneficial uses identified in the Basin Plan for the American River and Sacramento River are applicable to Buffalo Creek and Alder Creek, and Morrison Creek, respectively, in the vicinity of the discharges. Given the location of the Sailor Bar Park Pond, the beneficial uses of SPWN and MIGR are not applicable.

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.

3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995 and November 9, 1999, and the CTR on May 18, 2000, which was amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.

4. **State Implementation Policy.** On March 2, 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The SIP includes procedures for determining the need for and calculating water quality-based effluent limitations (WQBELs), and requires Dischargers to submit data sufficient to do so.

5. **Compliance Schedules and Interim Requirements.** In accordance with Section 2.1 of the SIP, compliance schedules and interim requirements may only be granted to existing

discharges. Two of the existing discharges, ARGET (Discharge 001) and GET J (Discharge 005) have compliance schedules and associated interim requirements.

The ARGET facility currently has 4 to 6 µg/L perchlorate in the influent to the facility. Concentrations of perchlorate have historically been as high as 8 µg/L in the effluent. The previous effluent limit was 12 µg/L perchlorate as it was determined not to be cost effective to reduce the concentrations from 6 µg/l to 4 µg/L and there was significant dilution available in the American River. The Discharger has proposed adding additional groundwater extraction wells in the future, with treatment at the ARGET facility. Those additional extraction wells currently are treated at the GET D facility, with discharge to land. The influent at the GET D facility contains approximately 200 µg/L perchlorate. Prior to adding those extraction wells the Discharger will add facilities to remove perchlorate at ARGET. Once the treatment facilities are added, the Discharger will be able to meet the same effluent limits established for the other GET facilities. Therefore, interim effluent limits (until January 2009) for perchlorate are established at 11 µg/L for daily maximum and monthly averages. In the interim, mixing of the ARGET effluent with the effluent from GETE/F in Buffalo Creek (<4 µg/L perchlorate) will keep the perchlorate concentration below the WQO fore perchlorate of 6 µg/L.

The GET J treatment system utilizes low-watt ultraviolet light for the destruction of NDMA. Operation of this system to date has shown that there are periodic detections (estimated >0.005 µg/L) in the effluent from the treatment facility. This is greater than the Monthly Average Limitation of 0.002 µg/L. The ability of the treatment system to consistently remove low concentrations of NDMA in the influent to at or below 0.002 µg/L is not certain. The design of the system was based on a pilot test at the Discharger's GET B facility and the data extrapolated to the lower concentrations needed to meet effluent limitations. The Discharger is evaluating options for treatment of NDMA at GET J. In the interim, the effluent limitation for GET J is established in at 0.008 µg/L, the Notification Level for NDMA established by the California Department of Health Services. Mixing of the GET J effluent with that from GET E/F and ARGET, both non-detect for NDMA, in Buffalo Creek will reduce the concentration of NDMA in Buffalo Creek to approximately at 0.002 µg/L, the WQO and final effluent limitation for NDMA. The Discharger has been given until January 2008 to complete the studies and make the necessary modifications to GET J to meet the final effluent limitation of 0.002 µg/L NDMA.

6. **Antidegradation Policy.** The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

7. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR Section122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. The effluent limits are at least as stringent as those in contained in the previous order. There are

new facilities added in this permit, therefore anti-backsliding provisions do not apply to those new facilities.

D. Impaired Water Bodies on CWA 303(d) List

1. The Basin Plan includes a list of Water Quality Limited Segments (WQLSs), which are defined as "*...those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 CFR 130, et seq.).*" The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to WQLSs. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment.*" The listing for the western portion Sacramento-San Joaquin Delta waterways includes: diazinon and chlorpyrifos, organo-chlorine Group A pesticides, mercury, and unknown toxicity. The listing for the American River includes mercury and unknown toxicity. There have been no detections of mercury, diazanon, chlorpyrifos, or organo-chlorine Group A pesticides in the effluent from the GETs nor in the plumes of groundwater pollution captured by the GETs. Buffalo Creek, Alder Creek and Morrison Creek are not listed on the 303(d) list.

E. Other Plans, Policies and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.

The federal Clean Water Act (CWA) mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law. (33 U.S.C., Section 1311(b)(1)(C); 40 C.F.R., Section 122.44(d)(1)) NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to Federal Regulations, 40 C.F.R. section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that "*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality.*" Federal Regulations, 40 CFR, Section 122.44(d)(1)(vi), further provide that "[w]*here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits.*"

The Regional Water Board's Basin Plan, page IV-17.00 contains an implementation policy ("Policy for Application of Water Quality Objectives") that specifies that the Regional Water

Board "*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives*." This Policy complies with 40 CFR 122.44(d)(1). With respect to narrative objectives, the Regional Water Board must establish effluent limitations using one or more of three specified sources, including EPA's published water quality criteria, a proposed state criterion (*i.e.*, water quality objective), or an explicit state policy interpreting its narrative water quality criteria (*i.e.*, the Regional Water Board's "Policy for Application of Water Quality Objectives")(40 C.F.R. 122.44(d)(1) (vi) (A), (B) or (C)). The Basin Plan contains a narrative objective requiring that: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*". The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. The beneficial uses include MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, and WILD. The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as municipal, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCL) of CCR Title 22. The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs. When a reasonable potential exists for exceeding a narrative objective, Federal Regulations mandate numerical effluent limitations and the Basin Plan clearly establishes a procedure for translating the narrative objectives into numerical effluent limitations.

A. Discharge Prohibitions

1. As stated in Section I.G of Attachment D, Federal Standard Provisions, this Order prohibits bypass from any portion of the treatment Facility. Federal Regulations, 40 CFR 122.41 (m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the Federal Regulations, 40 CFR 122.41 (m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board's prohibition of bypasses, the State Water Resources Control Board adopted a presidential decision, Order No. WQO 2002-0015, which cites the Federal Regulations, 40 CFR 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation. In the case of United States v. City of Toledo, Ohio (63 F. Supp 2d 834, N.D. Ohio 1999) the Federal Court ruled that "any bypass which occurs because of inadequate plant capacity is unauthorized…to the extent that there are 'feasible alternatives', including the construction or installation of additional treatment capacity".

B. Technology-Based Effluent Limitations

1. Scope and Authority

a. As specified in 40 CFR Section122.44(a)(1), permits are required to include technology based effluent limitations

2. Applicable Technology-Based Effluent Limitations

a. **Volatile Organic Compounds (VOCs).** The effluent limits for VOCs are based on Best Available Technology utilizing either air stripping or carbon adsorption which have been demonstrated to readily reduce VOCs to below 0.5 µg/L. The 0.5µg/L effluent limitation is below the Water Quality Based Effluent Limits (WQBEL) calculated below for VOCs of concern, with the exception of 1,2-Dichloroethane. The WQBEL will be used for 1,2-Dichloroethane. Carbon adsorption and ultraviolet light are not entirely effective on the removal of chloroform at low concentrations. GET J has low concentrations of chloroform (1 µg/L) and relying on removal to 0.5 µg/L by carbon increases the cost of operating GET J by over $500,000 per year. The effluent limit for chloroform for GET J is set at 3 µg/L which will meet the WQBEL for chloroform of 1.1 µg/L in Buffalo Creek. The proposed effluent limitations are consistent with those found in the existing Order.

b. **Perchlorate.** The monthly average effluent limitation for perchlorate is established at 4 µg/L, a value that the Discharger, utilizing commercially available technology at GET E/F, Interim GET H, GET and Interim GET K, has shown to be capable of technically and economically meeting on a consistent basis

c. **Flow.** This Order contains a maximum daily and long term average effluent limitations of 5.4 mgd for ARGET, 8.64 mgd for GET E/F, 6.39 mgd for GET H/Chettentham, 7.17 mgd for GET J, 0.72/5.76 mgd for interim GETK/longterm GET K, 3.1 mgd, 1.56 for GET L/L1, and 0.36 mgd for Sailor Bar Park Well based on the maximum daily effluent flows reported in Aerojet's RWD. In accordance with 40 CFR Section 122.45, this Order includes mass effluent limitations based on the long term average effluent flows listed above and reported in the Discharger's RWD.

3. Final Technology-Based Effluent Limitations

Table F-1 summarizes the final technology-based effluent limitations established in this Order.

Table F-1
Summary of Technology-based Effluent Limitations
Discharge Points 001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
ARGET Flow	mgd	5.4	--	5.4	--	--
GET E/F Flow	mgd	8.64		8.64		
GET H/Chettenham Flow	mgd	6.39		6.39		

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
GET J Flow	mgd	7.17		7.17		
Interim GET K Flow	mgd	0.58		0.72		
Long-term GET K Flow	mgd	5.76		5.76		
GET L/L1 Flow	mgd	3.03		3.03		
Sailor Bar Park Well Flow	mgd	0.36		0.36		
VOCs[1]	µg/L	0.5		0.75		
Perchlorate[2]	µg/L	4.0		6.0		
N-nitrosodimethylamine	µg/L	0.002		0.005		
chloroform – GET J	µg/L	3.0		5.0		

1 1,2-dichloroethane has a WQBELs listed below that are more stringent than the 0.5 µg/L listed on this table.

2 In the existing permit ARGET has an effluent limitation of 10 µg/L for a monthly average and 18 µg/L for a daily maximum. The current ARGET influent is between 4 and 6 µg/L. As planned new extraction wells are added and their extracted groundwater sent to the ARGET facility, treatment for removal of perchlorate will be added and the effluent limitations will be the same as those for the other treatment facilities.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in 40 CFR Section122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. **Beneficial Uses.** The Basin Plan at page II-2.00 states that the beneficial uses of any specifically identified water body generally applies to its tributary streams. The Basin Plan does not specifically identify beneficial uses for Buffalo Creek and Alder Creek, or Morrison Creek, tributary to the American River and Sacramento River, respectively, but does identify present and potential uses for the American and Sacramento Rivers. These beneficial uses are municipal and domestic supply (MUN); agricultural supply, irrigation and stock watering (AGR); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); warm and cold migration of aquatic organisms (MIGR); warm and cold spawning (SPWN); wildlife habitat (WILD). In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin

Plan. Thus, as discussed in detail in this Fact Sheet, beneficial uses applicable to the American River, Sacramento River, Buffalo Creek, Alder Creek, Morrison Creek and Sailor Bar Park Pond are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
001, 002 and 005	Buffalo Creek and Alder Creek, Tributary of the American River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
003	Morrison Creek, Tributary of the Sacramento River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
004, 006, 007, 008, 009, 011 and 012	American River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
010	Sailor Bar Pond, Potentially tributary to American River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.

b. **Dilution Credits/Mixing Zones.** The Regional Board finds that based on the available information that three of the receiving waters, Buffalo Creek, Morrison Creek and Alder Creek, and on the Discharger's application, that these three creeks, absent the discharges, are ephemeral streams, or at times the flow upstream of the discharges is significantly less than that of the discharge. The ephemeral an/or low flow nature of the creeks means that the designated beneficial uses must be protected, but that no credit for receiving water dilution is available. Although the discharge, at times, maintains the aquatic habitat, constituents may not be discharged that may cause harm to aquatic life. At other times, natural flows within the creeks help support the aquatic life. Dry conditions occur primarily in the summer months, but dry conditions may also occur throughout the year, particularly in low rainfall years. The lack of dilution results in more stringent effluent limitations to protect contact recreational uses, drinking water standards, agricultural water quality goals and aquatic life. Therefore, the Regional Water Board has evaluated the need for water quality-based effluent limitations for pollutants without benefit of dilution in this Order. These water quality-based effluent limitations are based on the application of water quality criteria or objectives at the points of discharge.

c. **Hardness.** The minimum effluent hardness, maximum receiving water pH limitation, and measured effluent temperature were used to develop hardness, pH, and/or temperature dependent WQBELs. These worst-case values have been chosen to protect the beneficial uses of the receiving water and are summarized below:

Hardness:	130 mg/L
pH:	8.5 standard units
Temperature:	21 °C

3. Determining the Need for WQBELs

a. Reasonable potential (RP) was determined by calculating the projected maximum effluent concentration (MEC) for each constituent and comparing it to applicable water quality criteria; if a criterion was exceeded, the discharge was determined to have reasonable potential to exceed a water quality objective for that constituent. The projected MEC is determined by multiplying the observed MEC by a factor that accounts for statistical variation. The multiplying factor is determined (for 99% confidence level and 99% probability basis) using the number of results available and the coefficient of variation (standard deviation divided by the mean) of the sample results. In accordance with the SIP, non-detect results were counted as one-half the detection level when calculating the mean. For all constituents for which the source of the applicable water quality standard is the CTR or NTR, the multiplying factor is 1. Reasonable potential evaluation was based on the methods used in the SIP and the U.S. EPA Technical Support Document for Water Quality-Based Toxics Control [EPA/505/2-90-001].

b. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs the Regional Water Board finds that the discharge does have a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for copper. Effluent limitations for copper are included in this Order.

c. The reasonable potential analysis for detected constituents is summarized below in Table F-2.

Table F-2.
RPA Summary for Detected Constituents
Discharges 001-012

Parameter	Units	MEC[1]	99th MEC[1]	WQO/ WQC[2]	Source	RP[3]
Perchlorate	µg/L	4	4	6	OEHHA Public Health Goal	Y
NDMA	µg/L	0.005	0.005	0.002	CTR HH	Y
Copper	µg/L	27	27	12/18	CTR CCC/CMC	Y
Mercury	µg/L	0.001	0.001	0.05	CTR HH	N
Nickel	µg/L	13	13	65/590	CTR CCC/CMC	N
Zinc	µg/L	42	42	150	CTR CCC/CMC	N
Barium	µg/L	90	124	1000	California Primary MCL	N
Iron	µg/L	55	75	300	California Secondary MCL	N
Manganese	µg/L	<5	23	50	California Secondary MCL	N
Chloride	mg/L	13	39	106	Water Quality for Agriculture	N
Nitrate	mg/L	0.8	4	10	California Primary MCL	N
Sulfate	mg/L	12	60	250	California Secondary MCL	N
Electrical Conductivity	umhos/cm	210	230	700	Water Quality for Agriculture	N

Parameter	Units	MEC[1]	99th MEC[1]	WQO/ WQC[2]	Source	RP[3]
Total Dissolved Solids	mg/L	220	260	450	Water Quality for Agriculture	N

1. MEC: maximum effluent concentration. 99th MEC: maximum predicted effluent concentration using 99th percentile multiplier, note that multiplier is equal to "1" when applying CTR criteria.
2. WQO: water quality objective. WQC: water quality criteria.
3. Reasonable potential.
4. Indeterminate, inadequate information to establish limitations. See discussion below.
5. Reasonable potential found due to use of salt at the facility

d. **Copper.** Copper is known to cause adverse impacts on aquatic species, particularly fish. The Basin Plan's chemical constituents water quality objective has a copper limit for the American River of 0.01 mg/L. Furthermore, the same water quality objective prohibits chemical constituents in concentrations that adversely affect beneficial uses. Applying a hardness of 130 mg/L (worst case effluent hardness) the allowable continuous concentration is 0.011 mg/L and the allowable instantaneous concentration is 0.017 mg/L.

e. **pH.** The Basin Plan includes numeric water quality objectives that the pH "…not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses." The receiving water is designated as having both COLD and WARM beneficial uses. An effluent limitation for pH is included in this Order, and is based on the Basin Plan objectives for pH.

f. **1,2-Dichloroethane.** 1,2-Dichloroethane has not been detected in the effluent of the GET facilities (PQL of 0.5 µg/L) but has been detected in the groundwater contaminant plumes. The estimated incremental $1x10^{-6}$ excess cancer risk value established by the Office of Environmental Health Hazard Assessment for the State of California for this volatile organic is 0.38 µg/L. As there is little to no dilution in Buffalo Creek and Morrison Creek, the monthly average effluent limitation is established at the risk value.

g. **Perchlorate.** Perchlorate has been determined to have a potential adverse impact on the thyroid. The California Office of Health Hazard Assessment has developed a Public Health Goal for perchlorate of 6 µg/L. Concentrations below 6 µg/L would pose a *de minimus* risk to human health.

h. **NDMA.** NDMA is believed to be a human carcinogen at very low concentrations. The estimated incremental $1x10^{-6}$ excess cancer risk value established by the Office of Environmental Health Hazard Assessment for the State of California for this pollutant is 0.002 µg/L. As there is little to no dilution in Buffalo Creek and Morrison Creek, the monthly average effluent limitation is established at the risk value.

4. WQBEL Calculations

a. The Discharger conducted monitoring for priority and non-priority pollutants. The analytical results of one comprehensive sampling event were submitted to the Regional

Water Board. The results of this sampling event were used in developing the requirements of this Order. Effluent limitations are included in this Order to protect the beneficial uses of the receiving stream and to ensure that the discharge complies with the Basin Plan objective that toxic substances not be discharged in toxic amounts.

b. **Calculations for Effluent Limitations.** In calculating maximum effluent limitations, the effluent concentration allowances were set equal to the criteria/standards/objectives.

$$ECA_{acute} = CMC \qquad ECA_{chronic} = CCC$$

$$ECA_{HH} = HH$$

where: ECA_{acute} = effluent concentration allowance for acute (one-hour average) toxicity criterion
$ECA_{chronic}$ = effluent concentration allowance for chronic (four-day average) toxicity criterion
ECA_{HH} = effluent concentration allowance for human health, agriculture, or other long-term criterion/objective
CMC = criteria maximum concentration (one-hour average)
CCC = criteria continuous concentration (four-day average, unless otherwise noted)
HH = human health, agriculture, or other long-term criterion/objective

Acute and chronic toxicity ECAs were then converted to equivalent long-term averages (LTA) using statistical multipliers and the lowest is used. Additional statistical multipliers were then used to calculate the maximum daily effluent limitation (MDEL) and the average monthly effluent limitation (AMEL). The statistical multipliers were calculated using data shown in Table 1.

Human health ECAs are set equal to the AMEL and a statistical multiplier is used to calculate the MDEL.

$$MDEL = mult_{MDEL}\left[\min\left(\overbrace{M_A ECA_{acute}}^{LTA_{acut}}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}}\right)\right]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}}\right) AMEL_{HH}$$

where: $mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
$mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
M_A = statistical multiplier converting CMC to LTA
M_C = statistical multiplier converting CCC to LTA

c. **Mass-based Effluent Limitations.** In accordance with 40 CFR 122.45(b)(2), mass-based limitations are calculated by multiplying the concentration limitation by the long-

term average flow and the appropriate unit conversion factors. Mass based limits are found in Tables IV(A)(1) through IV(A)(12).

Mass-based effluent limitations, or mass emission rates (MERs), for WQBELs applicable to Discharge 001-011 are calculated as follows:

$$MER = 8.34\left(\frac{lb-L}{mg-gal}\right) \times AMEL-or-MDEL \times flow(mgd)$$

d. Final WQBELs. Table F-3 summarizes the final WQBELs contained in this Order.

Table F-3
Discharge Points 001-011

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
perchlorate	µg/L	6				
NDMA	µg/L	0.002				
Total Copper	µg/L	11	--	17	--	--
pH	standard units	--	--	--	6.5	8.5
1,2-DCA	µg/L	0.38	--	0.50	--	--

5. Whole Effluent Toxicity (WET)

The Basin Plan specifies a narrative objective for toxicity, requiring that "All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life." Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration and/or other appropriate methods as specified by the Regional Water Board. The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for "experimental water" as defined in Standard Methods for the Examination of Water and Wastewater (American Public Health Association, et al. 1992).

In addition to the Basin Plan requirements, Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters.

Numeric water quality criteria, or Basin Plan numeric objectives currently are not available for many of the aquaculture drugs and chemicals used by aquaculture facilities. Therefore, the Regional Water Board uses the narrative water quality objective for toxicity from the Basin Plan as a basis for determining "reasonable potential" for discharges of these drugs and chemicals. USEPA's *Technical Support Document Water Quality-based Toxics Control* (TSD) specifies two toxicity measurement techniques that can be employed in effluent characterization; the first is Whole Effluent Toxicity (WET) testing, and the second is chemical-specific toxicity analyses. Whole effluent toxicity (WET) requirements protect the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative "no toxics in toxic amounts" criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and generally measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. For fish hatcheries WET testing is used most appropriately when the toxic constituents in an effluent are not completely known; whereas chemical-specific analysis is more appropriately used when an effluent contains only one, or very few, well-known constituents.

D. Final Effluent Limitations

1. 40 CFR Section122.45 states that:

   "…All pollutants limited in permits shall have limitations…expressed in terms of mass except…[f]or pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass…Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations."

2. Tables F-4 and F-5summarizes the final technology-based and water quality-based effluent limits established in this Order.

Table F-4
Summary of Final Effluent Limitations
Discharge Points 001 through 011

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 001	mgd	5.0	5.4	--	--
Flow – Discharge 002	mgd	7.92	8.64		
Flow – Discharge 003	mgd	6.39	6.5		
Flow – Discharge 004	mgd	6.39	6.5		
Flow – Discharge 005	mgd	7.17	7.2		
Flow – Discharge 006	mgd	0.58	0.72		
Flow – Discharge 007	mgd	5.76	5.76		
Flow – Discharge 008	mgd	1.73	1.73		
Flow – Discharge 009	mgd	1.3	1.3		
Flow – Discharge 010	mgd	0.18	0.36		
Flow – Discharge 011	mgd	0.86	1.1		
Volatile Organic Contaminants	µg/L	0.5	0.7	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
1,4-Dioxane	µg/L	3	6		
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
Perchlorate	µg/L	4	6		
Total Copper	µg/L	17	11	--	--
Acetaldehyde	µg/L	5	--	--	--
Formaldehyde	µg/L	50	--		
pH	standard units	--	--	6.5	8.5

Table F-5
Summary of Final Effluent Limitations
Discharge Point 012

Parameter	Units	Effluent Limitations			
		Total Maximum Discharge[1]	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Per Well Purge/Development Water	mgd	0.01	0.01		
Flow – Per Aquifer Test	mgd	4.6	1.15		
Volatile Organic Contaminants	µg/L	--	5.0	--	--
1,4-Dioxane	µg/L		10		
N-nitrosodimethylamine	µg/L		0.020	--	--
Perchlorate	µg/L		12		
pH	standard units	--	--	6.5	8.5

E. Interim Effluent Limitations

1. See Section IV(A)(2)(a) and IV(A)(6)(2).

Table F-6
Summary of Interim Effluent Limitations
Discharge Points 001 and 005

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Discharge 001 - Perchlorate	µg/L	11	11		
Discharge 005 - N-nitrosodimethylamine	µg/L	0.008	0.010	--	--

F. Land Discharge Specifications – Not Applicable

G. Reclamation Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. The Clean Water Act, Section 303(a-c), required states to adopt numeric criteria where they are necessary to protect designated uses. The Regional Water Board adopted numeric criteria in the Basin Plan. The Basin Plan is a regulatory reference for meeting the state and federal requirements for water quality control (40 CFR 131.20). State Water Board Resolution No. 68-16, the Antidegradation Policy, does not allow changes in water quality less than that prescribed in Water Quality Control Plans (Basin Plans). The Basin Plan states that; "The numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses." This Order contains Receiving Water Limitations based on the Basin Plan numerical and narrative water quality objectives for Biostimulatory Substances, Chemical Constituents, Color, Dissolved Oxygen, Floating Material, Oil and Grease, pH, Pesticides, Radioactivity, Salinity, Sediment, Settleable Material, Suspended Material, Tastes and Odors, Temperature, Toxicity and Turbidity.

2. Numeric Basin Plan objectives for bacteria, dissolved oxygen, pH, temperature, and turbidity are applicable to this discharge and have been incorporated as Receiving Surface Water Limitations. Rational for these numeric receiving surface water limitations are as follows:

   a. **Bacteria.** The Basin Plan includes a water quality objective that "*[I]n water designated for contact recreation (REC-1), the fecal coliform concentration based on*

a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml." Numeric Receiving Water Limitations for bacteria are included in this Order and are based on the Basin Plan objective.

b. **Dissolved Oxygen.** The Basin Plan includes a water quality objective that "[*F*]*or water bodies outside of the legal boundaries of the Delta, the monthly median of the mean daily dissolved oxygen (DO) concentrations shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation. The dissolved oxygen concentrations shall not fall below the following minimum levels at any time – Waters designated WARM – 5.0 mg/L, Waters designated COLD – 7.0 mg/L, and Waters designated SPAWN – 7.0 mg/L.* The American River is designated as having WARM, COLD, and SPAWN designated uses. Numeric Receiving Water Limitations for dissolved oxygen are included in this Order and are based on the Basin Plan objective.

c. **pH.** The Basin Plan includes water quality objectives that the pH "…not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses." The American River is designated as having both COLD and WARM beneficial uses. The change in pH of 0.5 (standard pH units) is not included as necessary to protect aquatic life in U.S. EPA's Ambient Criteria for the Protection of Freshwater Aquatic Life as long as pH does not fall below 6.5 or exceed 8.5 units. Therefore, an averaging period of 30 days has been applied to the Basin Plan receiving water objective for changes in pH. Numeric Receiving Water Limitations for pH are included in this Order and are based on the Basin Plan objectives for pH.

d. **Temperature.** The Basin Plan includes water quality objectives that prohibit the temperature ". . . of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water." The American River is designated having both COLD and WARM beneficial uses. Receiving Water Limitations for temperatures are included in this Order and are based on the Basin Plan objectives for temperature.

e. **Turbidity.** The Basin Plan includes a water quality objective that "[I]*ncreases in turbidity attributable to controllable water quality factors shall not exceed the following limits:*

- *Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.*
- *Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.*
- *Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.*

- *Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent."*

A numeric Receiving Surface Water Limitation for turbidity is included in this Order and is based on the Basin Plan objective for turbidity.

B. Groundwater – Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the CWC authorize the Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for this facility

A. Influent Monitoring

The Order establishes influent monitoring requirements to allow the Discharger to monitor the treatment efficiency of the treatment systems and make sure that influent concentrations are within the design parameters of the treatment systems. As such, monitoring is required for volatile organics, semi-volatile organics, perchlorate, 1,4-Dioxane, n-nitrosodimethylamine, and copper.

B. Effluent Monitoring

Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. The Monitoring and Reporting Requirements include effluent monitoring requirements in Attachment E. Section IV.

C. Whole Effluent Toxicity Testing

1. **Acute Toxicity.** Weekly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity (Effluent Limitations IV.A.1.e.).

2. **Chronic Toxicity**. Quarterly chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

1. **Surface Water**. Receiving water monitoring is required to demonstrate compliance with the Receiving Water Limitations.

2. **Groundwater – Not Applicable**

Groundwater monitoring associated with the treatment facilities is not required. Extensive groundwater monitoring is conducted by the Discharger to meet compliance associated with groundwater cleanup requirements established by the Regional Water Board and USEPA under other programs.

F. Other Monitoring Requirements

1. Solids Disposal Monitoring

This Order requires an annual solids disposal report describing the annual volume of solids generated by the Facilities and specifying the disposal practices. Solids disposal reporting is required to evaluate compliance with Construction, Operation, and Maintenance Specifications, Section VI.C.5.a, of this Order.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** In accordance with 40 CFR section 122.41and 122.42, the Federal Standard Provisions provided in Attachment D of this Order apply to this discharge.

2. **Regional Water Board Standard Provisions.** In addition to the Federal Standard Provisions (Attachment D), the Discharger must comply with the Regional Water Board Standard Provisions provided in Standard Provisions VI.A.2.

   40 CFR Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR Section 123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with Section 123.35, this Order omits federal conditions that address enforcement authority specified in 40CFR Sections 122.41(j)(5) and (k)(2) because the enforcement authority under the CWC is more stringent . In lieu of these conditions, this Order incorporates by reference CWC section13387(e) .

B. Special Provisions

1. Reopener Provisions

a. **Special Provisions VI.C.1.a.** Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, which include the following:

   i. When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if more stringent applicable water quality standards are promulgated or

approved pursuant to section 303 of the Federal Water Pollution Control Act or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.

b. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a chronic toxicity limitation based on that objective.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity Requirements (Special Provisions VI.C.2.a.).** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at III-8.00.) Based on quarterly whole effluent chronic toxicity testing performed by the Discharger from March 2, 2001 through October 15, 2004, the discharge has reasonable potential to cause or contribute to an to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

Special Provisions VI.C.2.a. requires the Discharger to develop a Toxicity Reduction Evaluation (TRE) work plan in accordance with EPA guidance. In addition, the provision establishes a numeric toxicity trigger, requirements for accelerated monitoring to confirm effluent toxicity, and a protocol for requiring the Discharger to initiate a TRE.

TRE Trigger. A numeric TRE Trigger of > 1 TUc (where TUc = 100/NOEC) is applied in the provision, because this Order does not allow any dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits toxicity at 100% effluent.

Accelerated Monitoring. The provision requires accelerated WET testing when a regular WET test result exceeds the TRE Trigger to confirm effluent toxicity prior to requiring implementation of a TRE.

TRE Guidance. The Discharger is required to prepare the TRE work plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

- Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, *(EPA/833B-99/002), August 1999.*

- Generalized Methodology for Conducting Industrial TREs, *(EPA/600/2-88/070), April 1989.*

- Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, *Second Edition, EPA 600/6-91/005F, February 1991.*

- Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, *EPA 600/6-91/005F, May 1992.*

- Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting acute and Chronic Toxicity, *Second Edition, EPA 600/R-92/080, September 1993.*

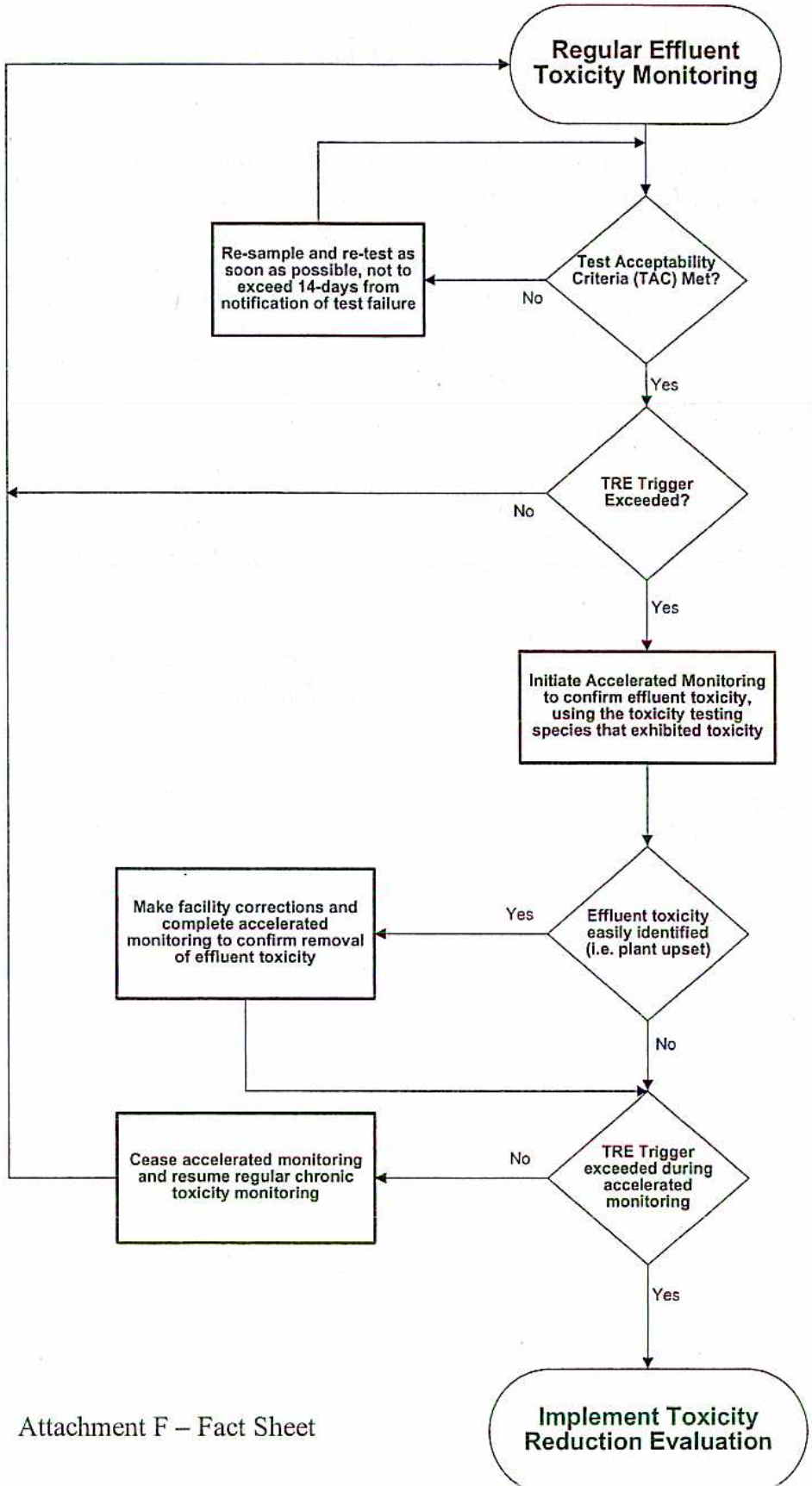
- Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, *Second Edition, EPA 600/R-92/081, September 1993.*

- Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, *Fifth Edition, EPA-821-R-02-012, October 2002.*

- Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, *Fourth Edition, EPA-821-R-02-013, October 2002.*

- Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991

Figure F-15
WET Accelerated Monitoring Flow Chart



3. Best Management Practices and Pollution Prevention – Not Applicable

4. Compliance Schedules

a. **ARGET Perchlorate Effluent Limitation.** Effective immediately and ending on 1 January 2009, or until the treatment system to remove perchlorate at the ARGET facility is constructed, whichever is sooner, the discharge of treated effluent from the ARGET facility shall maintain compliance with 8.0 µg/l as the effluent limitation for perchlorate at Discharge Point 001. Mixing with the GET E/F effluent will keep the perchlorate concentration below the Water Quality Objective of 6 µg/L in Buffalo Creek. No additional extraction wells containing perchlorate will be added to the ARGET system until perchlorate treatment is added at ARGET.

b. **GET J NDMA Effluent Limitation**. Effective immediately and ending on 1 January 2008, the discharge of treated effluent from the GET J facility shall maintain compliance with 0.008 µg/L as the effluent limitation for NDMA at Discharge Point 005. This interim effluent limitation shall apply in lieu of the corresponding final effluent limitation for NDMA specified during the time period indicated in this Order. The Discharger will be evaluating the current NDMA treatment system and alternate treatment systems in order to determine the best means of complying with the final effluent limitation, the Water Quality Objective of 0.002 µg/L.

5. Construction, Operation, and Maintenance Specifications

a. **Provisions VI.C.5.a,b.** Solid waste disposal provisions in this Order are based on the requirements of CCR Title 27 and prevention of unauthorized discharge of solid wastes into waters of the United States or waters of the State. Other construction, operation, and maintenance specifications are to prevent other unauthorized discharges to waters of the United States or waters of the State.

6. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

7. Other Special Provisions

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Tsar Nicoulai Sturgeon Farm. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on **January 20, 2006.**

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date:	**26/27 January 2006**
Time:	8:30 am
Location:	Regional Water Quality Control Board 11020 Sun Center Dr #200 Rancho Cordova, CA

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is http://www.waterboa rds.ca.gov/centralvalley/ where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The RWD, related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (916) 464-3291.

F. Register of Interested Persons

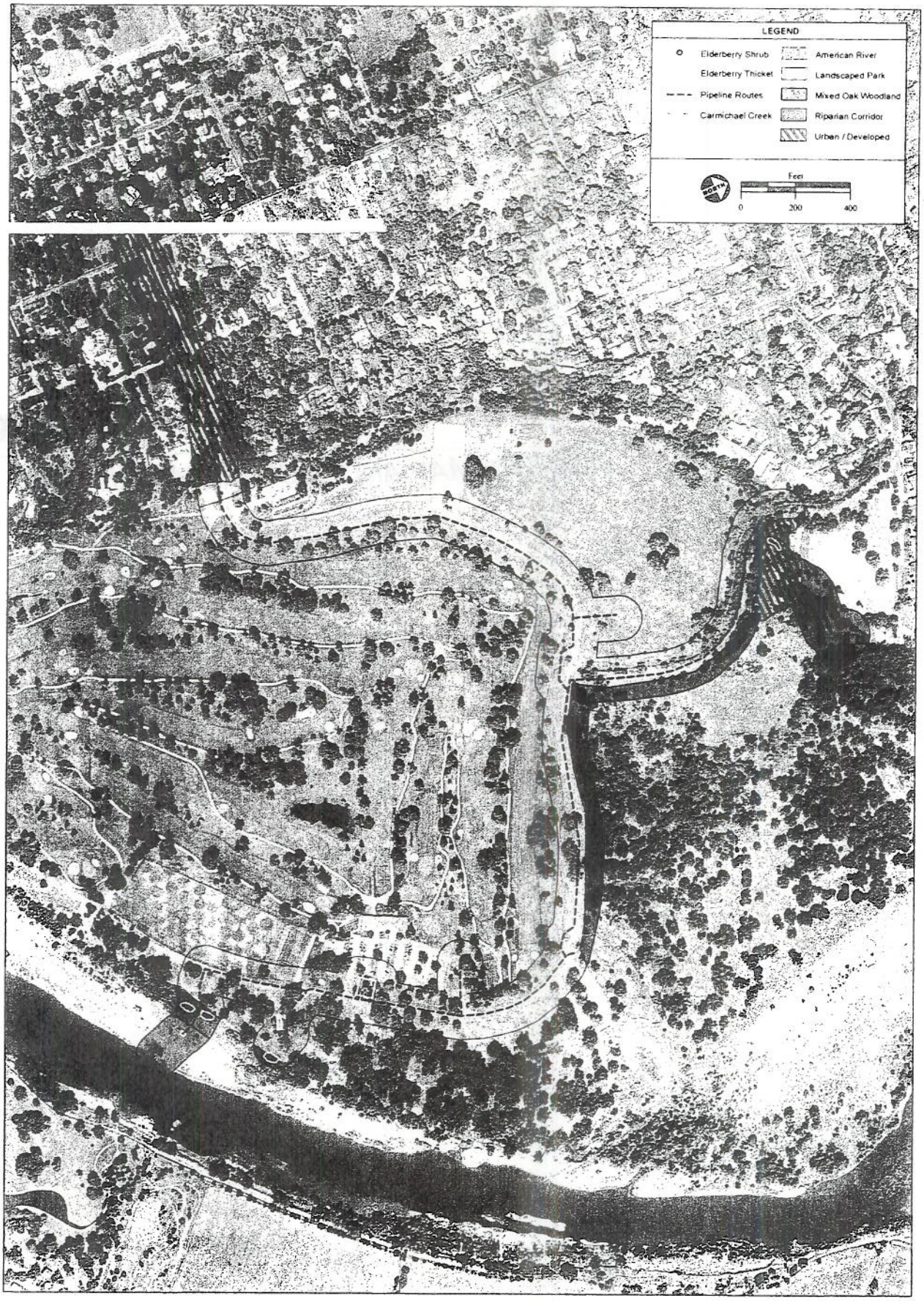
Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Alexander MacDonald at (916) 464-4625.

APPENDIX B

HABITAT MAP AND BIOLOGICAL SPECIES LIST



SOURCE: CWD / Genecorp Aerojet, 2006; GoogleEarth, 2005; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

Habitat Map

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 061129040935
Database Last Updated: October 27, 2006

Species of Concern - The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. See www.fws.gov/sacramento/es/spp_concern.htm for more information and links to these sensitive species lists.

Red-Legged Frog Critical Habitat - The Service has designated final critical habitat for the California red-legged frog. The designation became final on May 15, 2006. See our map index.

Species

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
Critical habitat, valley elderberry longhorn beetle (X)
valley elderberry longhorn beetle (T)

Lepidurus packardi
Critical habitat, vernal pool tadpole shrimp (X)
vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana aurora draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Birds

Haliaeetus leucocephalus
bald eagle (T)

Plants
Orcuttia tenuis
Critical habitat, slender Orcutt grass (X)

Orcuttia viscida
Critical habitat, Sacramento Orcutt grass (X)

Candidate Species

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

Selected Quads

CITRUS HEIGHTS (512A) CARMICHAEL (512D)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed 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.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this 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.

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 regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the nine surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

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 Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above 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 compensates 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. 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). See our critical habitat page for maps.

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.

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 and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be February 27, 2007.

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name
Special status species reported within the "Carmichael and Citrus Heights" 7.5' USGS quadrangles.

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	*Accipiter cooperii* Cooper's hawk	ABNKC12040			G5	S3	SC
2	*Agelaius tricolor* tricolored blackbird	ABPBXB0020			G2G3	S2	SC
3	*Andrena subapasta*	IIHYM35050			G1G3	S1S3	
4	*Ardea alba* great egret	ABNGA05010			G5	S4	
5	*Ardea herodias* great blue heron	ABNGA04010			G5	S4	
6	*Athene cunicularia* burrowing owl	ABNSB10010			G4	S2	SC
7	*Branchinecta lynchi* vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3	
8	*Branchinecta mesovallensis* midvalley fairy shrimp	ICBRA03150			G2	S2	
9	*Buteo regalis* ferruginous hawk	ABNKC19120			G4	S3S4	SC
10	*Buteo swainsoni* Swainson's hawk	ABNKC19070		Threatened	G5	S2	
11	*Desmocerus californicus dimorphus* valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2	
12	*Dumontia oregonensis*	ICBRA23010			G1G3	S1	
13	*Elanus leucurus* white-tailed kite	ABNKC06010			G5	S3	
14	*Emys (=Clemmys) marmorata marmorata* northwestern pond turtle	ARAAD02031			G3G4T3	S3	SC
15	*Gratiola heterosepala* Boggs Lake hedge-hyssop	PDSCR0R060		Endangered	G3	S3.1	1B.2
16	*Hydrochara ricksekeri* Ricksecker's water scavenger beetle	IICOL5V010			G1G2	S1S2	
17	*Juncus leiospermus var. ahartii* Ahart's dwarf rush	PMJUN011L1			G2T1	S1.2	1B.2
18	*Legenere limosa* legenere	PDCAM0C010			G2	S2.2	1B.1
19	*Lepidurus packardi* vernal pool tadpole shrimp	ICBRA10010	Endangered		G3	S2S3	
20	*Linderiella occidentalis* California linderiella	ICBRA06010			G3	S2S3	
21	*Northern Hardpan Vernal Pool*	CTT44110CA			G3	S3.1	
22	*Northern Volcanic Mud Flow Vernal Pool*	CTT44132CA			G1	S1.1	
23	*Orcuttia viscida* Sacramento orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1.1	1B.1
24	*Riparia riparia* bank swallow	ABPAU08010		Threatened	G5	S2S3	

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
25 *Sagittaria sanfordii* Sanford's arrowhead	PMALI040Q0			G3	S3.2	1B.2
26 *Spea (=Scaphiopus) hammondii* western spadefoot	AAABF01030			G3	S3	SC
27 *Taxidea taxus* American badger	AMAJF04010			G5	S4	SC

CNPS Inventory of Rare and Endangered Plants

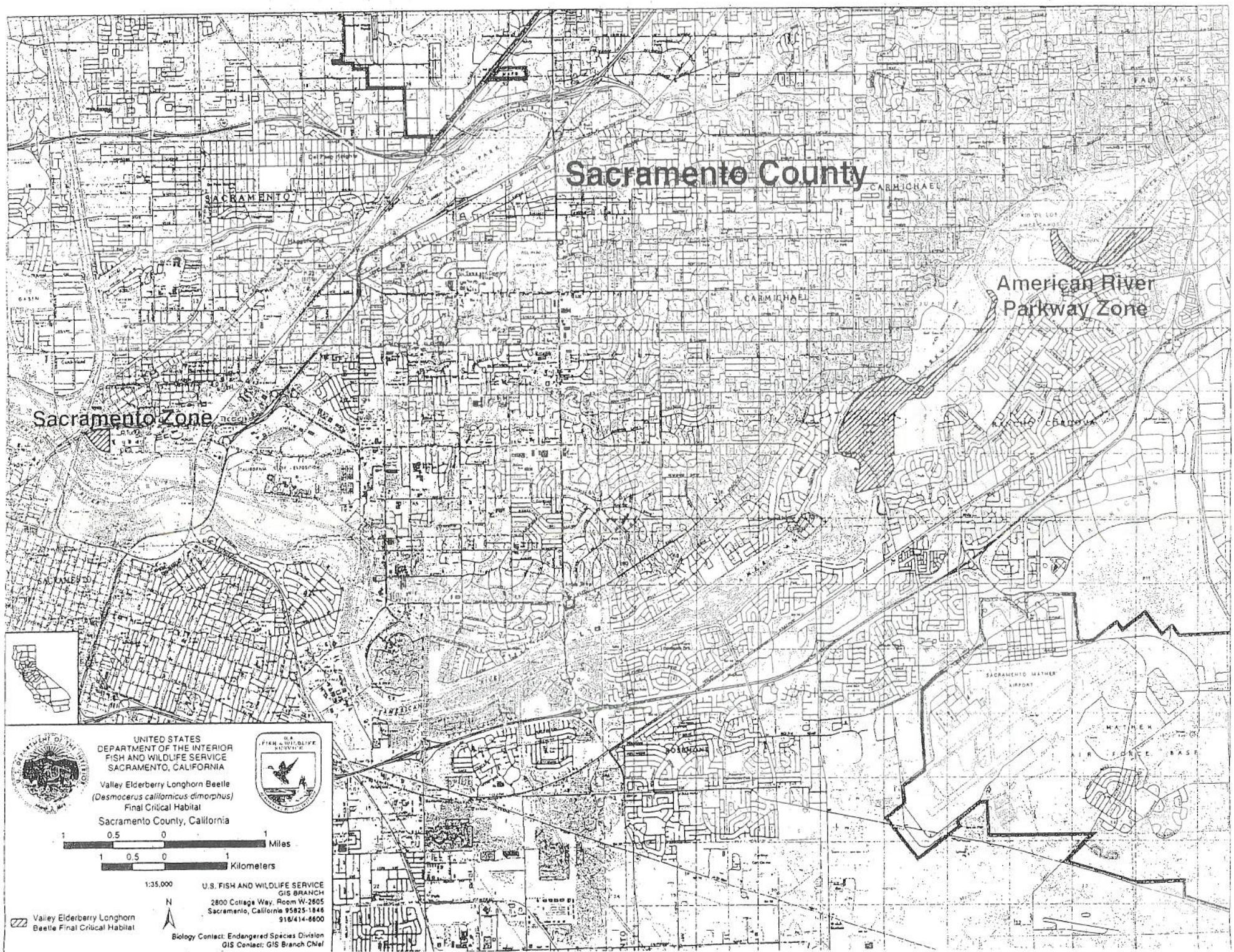
Status: Plant Press Manager window with 4 items - Fri, Jan. 5, 2007, 09:18 b

- During each visit, we provide you with an empty "Plant Press" for collecting items of interest.
- Several report formats are available. Use the CSV and XML options to download raw data.

Reformat list as: Standard List - with Plant Press controls

DELETE unchecked items | check all | check none

open	save	scientific	common	family	CNPS
	☑	Gratiola heterosepala	Boggs Lake hedge-hyssop	Scrophulariaceae	List 1B.2
	☑	Juncus leiospermus var. ahartii	Ahart's dwarf rush	Juncaceae	List 1B.2
	☑	Legenere limosa	legenere	Campanulaceae	List 1B.1
	☑	Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	List 1B.2


Sacramento County
American River Parkway Zone
Sacramento Zone
SACRAMENTO
CARMICHAEL
FAIR OAKS
RANCHO CORDOVA
SACRAMENTO MATHER AIRPORT
MATHER AIR FORCE BASE
UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
SACRAMENTO, CALIFORNIA
Valley Elderberry Longhorn Beetle
(Desmocerus californicus dimorphus)
Final Critical Habitat
Sacramento County, California
1 0.5 0 1 Miles
1 0.5 0 1 Kilometers
1:35,000
U.S. FISH AND WILDLIFE SERVICE
GIS BRANCH
2800 College Way, Room W-2605
Sacramento, California 95825-1846
916/414-6600
N
Valley Elderberry Longhorn Beetle Final Critical Habitat
Biology Contact: Endangered Species Division
GIS Contact: GIS Branch Chief

APPENDIX C

CONSERVATION GUIDELINES FOR THE VALLEY ELDERBERRY LONGHORN BEETLE

United States Department of the Interior

Fish and Wildlife Service

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

Conservation Guidelines for the Valley Elderberry Longhorn Beetle

Revised July 9, 1999

The following guidelines have been issued by the U.S. Fish and Wildlife Service (Service) to assist Federal agencies and non-federal project applicants needing incidental take authorization through a section 7 consultation or a section 10(a)(1)(B) permit in developing measures to avoid and minimize adverse effects on the valley elderberry longhorn beetle. The Service will revise these guidelines as needed in the future. The most recently issued version of these guidelines should be used in developing all projects and habitat restoration plans. The survey and monitoring procedures described below are designed to avoid any adverse effects to the valley elderberry longhorn beetle. Thus a recovery permit is not needed to survey for the beetle or its habitat or to monitor conservation areas. If you are interested in a recovery permit for research purposes please call the Service's Regional Office at (503) 231-2063.

Background Information

The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), was listed as a threatened species on August 8, 1980 (Federal Register 45: 52803-52807). This animal is fully protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). The valley elderberry longhorn beetle (beetle) is completely dependent on its host plant, elderberry (Sambucus species), which is a common component of the remaining riparian forests and adjacent upland habitats of California's Central Valley. Use of the elderberry by the beetle, a wood borer, is rarely apparent. Frequently, the only exterior evidence of the elderberry's use by the beetle is an exit hole created by the larva just prior to the pupal stage. The life cycle takes one or two years to complete. The animal spends most of its life in the larval stage, living within the stems of an elderberry plant. Adult emergence is from late March through June, about the same time the elderberry produces flowers. The adult stage is short-lived. Further information on the life history, ecology, behavior, and distribution of the beetle can be found in a report by Barr (1991) and the recovery plan for the beetle (USFWS 1984).

Surveys

Proposed project sites within the range of the valley elderberry longhorn beetle should be surveyed for the presence of the beetle and its elderberry host plant by a qualified biologist. The beetle's range extends throughout California's Central Valley and associated foothills from about the 3,000-foot elevation contour on the east and the watershed of the Central Valley on the west (Figure 1). All or portions of 31 counties are included: Alameda, Amador, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Madera, Mariposa, Merced, Napa, Nevada, Placer, Sacramento, San Benito, San Joaquin, San Luis Obispo, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba.

If elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level occur on or adjacent to the proposed project site, or are otherwise located where they may be directly or indirectly affected by the proposed action, minimization measures which include planting replacement habitat (conservation planting) are required (Table 1).

All elderberry shrubs with one or more stems measuring 1.0 inch or greater in diameter at ground level that occur on or adjacent to a proposed project site must be thoroughly searched for beetle exit holes (external evidence of beetle presence). In addition, all elderberry stems one inch or greater in diameter at ground level must be tallied by diameter size class (Table 1). As outlined in Table 1, the numbers of

elderberry seedlings/cuttings and associated riparian native trees/shrubs to be planted as replacement habitat are determined by stem size class of affected elderberry shrubs, presence or absence of exit holes, and whether a proposed project lies in a riparian or non-riparian area.

Elderberry plants with no stems measuring 1.0 inch or greater in diameter at ground level are unlikely to be habitat for the beetle because of their small size and/or immaturity. Therefore, no minimization measures are required for removal of elderberry plants with no stems measuring 1.0 inch or greater in diameter at ground level with no exit holes. Surveys are valid for a period of two years.

Avoid and Protect Habitat Whenever Possible

Project sites that do not contain beetle habitat are preferred. If suitable habitat for the beetle occurs on the project site, or within close proximity where beetles will be affected by the project, these areas must be designated as avoidance areas and must be protected from disturbance during the construction and operation of the project. When possible, projects should be designed such that avoidance areas are connected with adjacent habitat to prevent fragmentation and isolation of beetle populations. Any beetle habitat that cannot be avoided as described below should be considered impacted and appropriate minimization measures should be proposed as described below.

Avoidance: Establishment and Maintenance of a Buffer Zone

Complete avoidance (i.e., no adverse effects) may be assumed when a 100-foot (or wider) buffer is established and maintained around elderberry plants containing stems measuring 1.0 inch or greater in diameter at ground level. Firebreaks may not be included in the buffer zone. In buffer areas construction-related disturbance should be minimized, and any damaged area should be promptly restored following construction. The Service must be consulted before any disturbances within the buffer area are considered. In addition, the Service must be provided with a map identifying the avoidance area and written details describing avoidance measures.

Protective Measures

1. Fence and flag all areas to be avoided during construction activities. In areas where encroachment on the 100-foot buffer has been approved by the Service, provide a minimum setback of at least 20 feet from the dripline of each elderberry plant.

2. Brief contractors on the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements.

3. Erect signs every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.

4. Instruct work crews about the status of the beetle and the need to protect its elderberry host plant.

Restoration and Maintenance

Restore any damage done to the buffer area (area within 100 feet of elderberry plants) during construction. Provide erosion control and re-vegetate with appropriate native plants.

Buffer areas must continue to be protected after construction from adverse effects of the project. Measures such as fencing, signs, weeding, and trash removal are usually appropriate.

No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant should be used in the buffer areas, or within 100 feet of any elderberry plant with one or more stems measuring 1.0 inch or greater in diameter at ground level.

The applicant must provide a written description of how the buffer areas are to be restored, protected, and maintained after construction is completed.

Mowing of grasses/ground cover may occur from July through April to reduce fire hazard. No mowing should

occur within five (5) feet of elderberry plant stems. Mowing must be done in a manner that avoids damaging plants (e.g., stripping away bark through careless use of mowing/trimming equipment).

Transplant Elderberry Plants That Cannot Be Avoided

Elderberry plants must be transplanted if they can not be avoided by the proposed project. All elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level must be transplanted to a conservation area (see below). At the Service's discretion, a plant that is unlikely to survive transplantation because of poor condition or location, or a plant that would be extremely difficult to move because of access problems, may be exempted from transplantation. In cases where transplantation is not possible the minimization ratios in Table 1 may be increased to offset the additional habitat loss.

Trimming of elderberry plants (e.g., pruning along roadways, bike paths, or trails) with one or more stems 1.0 inch or greater in diameter at ground level, may result in take of beetles. Therefore, trimming is subject to appropriate minimization measures as outlined in Table 1.

1. Monitor. A qualified biologist (monitor) must be on-site for the duration of the transplanting of the elderberry plants to insure that no unauthorized take of the valley elderberry longhorn beetle occurs. If unauthorized take occurs, the monitor must have the authority to stop work until corrective measures have been completed. The monitor must immediately report any unauthorized take of the beetle or its habitat to the Service and to the California Department of Fish and Game.

2. Timing. Transplant elderberry plants when the plants are dormant, approximately November through the first two weeks in February, after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the plant and increase transplantation success.

3. Transplanting Procedure.

a. Cut the plant back 3 to 6 feet from the ground or to 50 percent of its height (whichever is taller) by removing branches and stems above this height. The trunk and all stems measuring 1.0 inch or greater in diameter at ground level should be replanted. Any leaves remaining on the plant should be removed.

b. Excavate a hole of adequate size to receive the transplant.

c. Excavate the plant using a Vemeer spade, backhoe, front end loader, or other suitable equipment, taking as much of the root ball as possible, and replant immediately at the conservation area. Move the plant only by the root ball. If the plant is to be moved and transplanted off site, secure the root ball with wire and wrap it with burlap. Dampen the burlap with water, as necessary, to keep the root ball wet. Do not let the roots dry out. Care should be taken to ensure that the soil is not dislodged from around the roots of the transplant. If the site receiving the transplant does not have adequate soil moisture, pre-wet the soil a day or two before transplantation.

d. The planting area must be at least 1,800 square feet for each elderberry transplant. The root ball should be planted so that its top is level with the existing ground. Compact the soil sufficiently so that settlement does not occur. As many as five (5) additional elderberry plantings (cuttings or seedlings) and up to five (5) associated native species plantings (see below) may also be planted within the 1,800 square foot area with the transplant. The transplant and each new planting should have its own watering basin measuring at least three (3) feet in diameter. Watering basins should have a continuous berm measuring approximately eight (8) inches wide at the base and six (6) inches high.

e. Saturate the soil with water. Do not use fertilizers or other supplements or paint the tips of stems with pruning substances, as the effects of these compounds on the beetle are unknown.

f. Monitor to ascertain if additional watering is necessary. If the soil is sandy and well-drained, plants may need to be watered weekly or twice monthly. If the soil is clayey and poorly-drained, it may not be necessary to water after the initial saturation. However, most transplants require watering through the first summer. A drip watering system and timer is ideal. However, in situations where this is not possible, a water truck or other apparatus may be used.

Plant Additional Seedlings or Cuttings

Each elderberry stem measuring 1.0 inch or greater in diameter at ground level that is adversely affected (i.e., transplanted or destroyed) must be replaced, in the conservation area, with elderberry seedlings or cuttings at a ratio ranging from 1:1 to 8:1 (new plantings to affected stems). Minimization ratios are listed and explained in Table 1. Stock of either seedlings or cuttings should be obtained from local sources. Cuttings may be obtained from the plants to be transplanted if the project site is in the vicinity of the conservation area. If the Service determines that the elderberry plants on the proposed project site are unsuitable candidates for transplanting, the Service may allow the applicant to plant seedlings or cuttings at higher than the stated ratios in Table 1 for each elderberry plant that cannot be

transplanted.

Plant Associated Native Species

Studies have found that the beetle is more abundant in dense native plant communities with a mature overstory and a mixed understory. Therefore, a mix of native plants associated with the elderberry plants at the project site or similar sites will be planted at ratios ranging from 1:1 to 2:1 [native tree/plant species to each elderberry seedling or cutting (see Table 1)]. These native plantings must be monitored with the same survival criteria used for the elderberry seedlings (see below). Stock of saplings, cuttings, and seedlings should be obtained from local sources. If the parent stock is obtained from a distance greater than one mile from the conservation area, approval by the Service of the native plant donor sites must be obtained prior to initiation of the revegetation work. Planting or seeding the conservation area with native herbaceous species is encouraged. Establishing native grasses and forbs may discourage unwanted non-native species from becoming established or persisting at the conservation area. Only stock from local sources should be used.

Examples

Example 1

The project will adversely affect beetle habitat on a vacant lot on the land side of a river levee. This levee now separates beetle habitat on the vacant lot from extant Great Valley Mixed Riparian Forest (Holland 1986) adjacent to the river. However, it is clear that the beetle habitat located on the vacant lot was part of a more extensive mixed riparian forest ecosystem extending farther from the river's edge prior to agricultural development and levee construction. Therefore, the beetle habitat on site is considered riparian. A total of two elderberry plants with at least one stem measuring 1.0 inch or greater in diameter at ground level will be affected by the proposed action. The two plants have a total of 15 stems measuring over 1.0 inch. No exit holes were found on either plant. Ten of the stems are between 1.0 and 3.0 inches in diameter and five of the stems are greater than 5.0 inches in diameter. The conservation area is suited for riparian forest habitat. Associated natives adjacent to the conservation area are box elder (Acer negundo californica), walnut (Juglans californica var. hindsii), sycamore (Platanus racemosa), cottonwood (Populus fremontii), willow (Salix gooddingii and S. laevigata), white alder (Alnus rhombifolia), ash (Fraxinus latifolia), button willow (Cephalanthus occidentalis), and wild grape (Vitis californica).

Minimization (based on ratios in Table 1):

- Transplant the two elderberry plants that will be affected to the conservation area.

- Plant 40 elderberry rooted cuttings (10 affected stems compensated at 2:1 ratio and 5 affected stems compensated at 4:1 ratio, cuttings planted:stems affected)

- Plant 40 associated native species (ratio of associated natives to elderberry plantings is 1:1 in areas with no exit holes):

  5 saplings each of box elder, sycamore, and cottonwood

  5 willow seedlings

  5 white alder seedlings

  5 saplings each of walnut and ash

  3 California button willow

  2 wild grape vines

  Total: 40 associated native species

- Total area required is a minimum of 1,800 sq. ft. for one to five elderberry seedlings and up to 5 associated natives. Since, a total of 80 plants must be planted (40 elderberries and 40 associated natives), a total of 0.33 acre (14,400 square feet) will be required for conservation plantings. The conservation area will be seeded and planted with native grasses and forbs, and closely monitored and maintained throughout the monitoring period.

Example 2

The project will adversely affect beetle habitat in Blue Oak Woodland (Holland 1986). One elderberry plant with at least one stem measuring 1.0 inch or greater in diameter at ground level will be affected by the proposed action. The plant has a total of 10 stems measuring over 1.0 inch. Exit holes were found on the plant. Five of the stems are between 1.0 and 3.0 inches in diameter and five of the stems are between 3.0 and 5.0 inches in diameter. The conservation area is suited for elderberry savanna (non-riparian habitat). Associated natives adjacent to the conservation area are willow (Salix species), blue oak (Quercus douglasii), interior live oak (Q. wislizenii), sycamore, poison oak (Toxicodendron diversilobum), and wild grape.

Minimization (based on ratios in Table 1):

- Transplant the one elderberry plant that will be affected to the conservation area.

- Plant 30 elderberry seedlings (5 affected stems compensated at 2:1 ratio and 5 affected stems compensated at 4:1 ratio, cuttings planted:stems affected)

- Plant 60 associated native species (ratio of associated natives to elderberry plantings is 2:1 in areas with exit holes):

  20 saplings of blue oak, 20 saplings of sycamore, and 20 saplings of willow, and seed and plant with a mixture of native grasses and forbs

- Total area required is a minimum of 1,800 sq. ft. for one to five elderberry seedlings and up to 5 associated natives. Since, a total of 90 plants must be planted (30 elderberries and 60 associated natives), a total of 0.37 acre (16,200 square feet) will be required for conservation plantings. The conservation area will be seeded and planted with native grasses and forbs, and closely monitored and maintained throughout the monitoring period.

Conservation Area—Provide Habitat for the Beetle in Perpetuity

The conservation area is distinct from the avoidance area (though the two may adjoin), and serves to receive and protect the transplanted elderberry plants and the elderberry and other native plantings. The Service may accept proposals for off-site conservation areas where appropriate.

1. Size. The conservation area must provide at least 1,800 square feet for each transplanted elderberry plant. As many as 10 conservation plantings (i.e., elderberry cuttings or seedlings and/or associated native plants) may be planted within the 1800 square foot area with each transplanted elderberry. An additional 1,800 square feet shall be provided for every additional 10 conservation plants. Each planting should have its own watering basin measuring approximately three feet in diameter. Watering basins should be constructed with a continuous berm measuring approximately eight inches wide at the base and six inches high.

The planting density specified above is primarily for riparian forest habitats or other habitats with naturally dense cover. If the conservation area is an open habitat (i.e., elderberry savanna, oak woodland) more area may be needed for the required plantings. Contact the Service for assistance if the above planting recommendations are not appropriate for the proposed conservation area.

No area to be maintained as a firebreak may be counted as conservation area. Like the avoidance area, the conservation area should connect with adjacent habitat wherever possible, to prevent isolation of beetle populations.

Depending on adjacent land use, a buffer area may also be needed between the conservation area and the adjacent lands. For example, herbicides and pesticides are often used on orchards or vineyards. These chemicals may drift or runoff onto the conservation area if an adequate buffer area is not provided.

2. Long-Term Protection. The conservation area must be protected in perpetuity as habitat for the valley elderberry longhorn beetle. A conservation easement or deed restrictions to protect the conservation area must be arranged. Conservation areas may be transferred to a resource agency or appropriate private organization for long-term management. The Service must be provided with a map and written details identifying the conservation area; and the applicant must receive approval from the Service that the conservation area is acceptable prior to initiating the conservation program. A true, recorded copy of the deed transfer, conservation easement, or deed restrictions protecting the conservation area in perpetuity must be provided to the Service before project implementation.

Adequate funds must be provided to ensure that the conservation area is managed in perpetuity. The applicant must dedicate an endowment fund for this purpose, and designate the party or entity that will be

responsible for long-term management of the conservation area. The Service must be provided with written documentation that funding and management of the conservation area (items 3-8 above) will be provided in perpetuity.

3. Weed Control. Weeds and other plants that are not native to the conservation area must be removed at least once a year, or at the discretion of the Service and the California Department of Fish and Game. Mechanical means should be used; herbicides are prohibited unless approved by the Service.

4. Pesticide and Toxicant Control. Measures must be taken to insure that no pesticides, herbicides, fertilizers, or other chemical agents enter the conservation area. No spraying of these agents must be done within one 100 feet of the area, or if they have the potential to drift, flow, or be washed into the area in the opinion of biologists or law enforcement personnel from the Service or the California Department of Fish and Game.

5. Litter Control. No dumping of trash or other material may occur within the conservation area. Any trash or other foreign material found deposited within the conservation area must be removed within 10 working days of discovery.

6. Fencing. Permanent fencing must be placed completely around the conservation area to prevent unauthorized entry by off-road vehicles, equestrians, and other parties that might damage or destroy the habitat of the beetle, unless approved by the Service. The applicant must receive written approval from the Service that the fencing is acceptable prior to initiation of the conservation program. The fence must be maintained in perpetuity, and must be repaired/replaced within 10 working days if it is found to be damaged. Some conservation areas may be made available to the public for appropriate recreational and educational opportunities with written approval from the Service. In these cases appropriate fencing and signs informing the public of the beetle's threatened status and its natural history and ecology should be used and maintained in perpetuity.

7. Signs. A minimum of two prominent signs must be placed and maintained in perpetuity at the conservation area, unless otherwise approved by the Service. The signs should note that the site is habitat of the federally threatened valley elderberry longhorn beetle and, if appropriate, include information on the beetle's natural history and ecology. The signs must be approved by the Service. The signs must be repaired or replaced within 10 working days if they are found to be damaged or destroyed.

Monitoring

The population of valley elderberry longhorn beetles, the general condition of the conservation area, and the condition of the elderberry and associated native plantings in the conservation area must be monitored over a period of either ten (10) consecutive years or for seven (7) years over a 15-year period. The applicant may elect either 10 years of monitoring, with surveys and reports every year; or 15 years of monitoring, with surveys and reports on years 1, 2, 3, 5, 7, 10, and 15. The conservation plan provided by the applicant must state which monitoring schedule will be followed. No change in monitoring schedule will be accepted after the project is initiated. If conservation planting is done in stages (i.e., not all planting is implemented in the same time period), each stage of conservation planting will have a different start date for the required monitoring time.

Surveys. In any survey year, a minimum of two site visits between February 14 and June 30 of each year must be made by a qualified biologist. Surveys must include:

1. A population census of the adult beetles, including the number of beetles observed, their condition, behavior, and their precise locations. Visual counts must be used; mark-recapture or other methods involving handling or harassment must not be used.

2. A census of beetle exit holes in elderberry stems, noting their precise locations and estimated ages.

3. An evaluation of the elderberry plants and associated native plants on the site, and on the conservation area, if disjunct, including the number of plants, their size and condition.

4. An evaluation of the adequacy of the fencing, signs, and weed control efforts in the avoidance and conservation areas.

5. A general assessment of the habitat, including any real or potential threats to the beetle and its host plants, such as erosion, fire, excessive grazing, off-road vehicle use, vandalism, excessive weed growth, etc.

The materials and methods to be used in the monitoring studies must be reviewed and approved by the Service. All appropriate Federal permits must be obtained prior to initiating the field studies.

Reports. A written report, presenting and analyzing the data from the project monitoring, must be prepared by a qualified biologist in each of the years in which a monitoring survey is required. Copies of the report must be submitted by December 31 of the same year to the Service (Chief of Endangered Species, Sacramento Fish and Wildlife Office), and the Department of Fish and Game (Supervisor, Environmental Services, Department of Fish and Game, 1416 Ninth Street, Sacramento, California 95814; and Staff Zoologist, California Natural Diversity Data Base, Department of Fish and Game, 1220 S Street, Sacramento, California 95814). The report must explicitly address the status and progress of the transplanted and planted elderberry and associated native plants and trees, as well as any failings of the conservation plan and the steps taken to correct them. Any observations of beetles or fresh exit holes must be noted. Copies of original field notes, raw data, and photographs of the conservation area must be included with the report. A vicinity map of the site and maps showing where the individual adult beetles and exit holes were observed must be included. For the elderberry and associated native plants, the survival rate, condition, and size of the plants must be analyzed. Real and likely future threats must be addressed along with suggested remedies and preventative measures (e.g. limiting public access, more frequent removal of invasive non-native vegetation, etc.).

A copy of each monitoring report, along with the original field notes, photographs, correspondence, and all other pertinent material, should be deposited at the California Academy of Sciences (Librarian, California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118) by December 31 of the year that monitoring is done and the report is prepared. The Service's Sacramento Fish and Wildlife Office should be provided with a copy of the receipt from the Academy library acknowledging receipt of the material, or the library catalog number assigned to it.

Access. Biologists and law enforcement personnel from the California Department of Fish and Game and the Service must be given complete access to the project site to monitor transplanting activities. Personnel from both these agencies must be given complete access to the project and the conservation area to monitor the beetle and its habitat in perpetuity.

Success Criteria

A minimum survival rate of at least 60 percent of the elderberry plants and 60 percent of the associated native plants must be maintained throughout the monitoring period. Within one year of discovery that survival has dropped below 60 percent, the applicant must replace failed plantings to bring survival above this level. The Service will make any determination as to the applicant's replacement responsibilities arising from circumstances beyond its control, such as plants damaged or killed as a result of severe flooding or vandalism.

Service Contact

These guidelines were prepared by the Endangered Species Division of the Service's Sacramento Fish and Wildlife Office. If you have questions regarding these guidelines or to request a copy of the most recent guidelines, telephone (916) 414-6600, or write to:

U.S. Fish and Wildlife Service
Ecological Services
2800 Cottage Way, W-2605
Sacramento, CA 95825

Literature Cited

Barr, C. B. 1991. The distribution, habitat, and status of the valley elderberry longhorn beetle *Desmocerus californicus dimorphus*. U.S. Fish and Wildlife Service; Sacramento, California.

Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Unpublished Report. State of California, The Resources Agency, Department of Fish and Game, Natural Heritage Division, Sacramento, California.

USFWS. 1980. Listing the valley elderberry longhorn beetle as a threatened species with critical habitat. Federal Register 45:52803-52807.

USFWS. 1984. Recovery plan for the valley elderberry longhorn beetle. U.S. Fish and Wildlife Service,

Endangered Species Program; Portland, Oregon.

Table 1: Minimization ratios based on location (riparian vs. non-riparian), stem diameter of affected elderberry plants at ground level, and presence or absence of exit holes.

Location	Stems (maximum diameter at ground level)	Exit Holes on Shrub Y/N (quantify) [1]	Elderberry Seedling Ratio[2]	Associated Native Plant Ratio[3]
non-riparian	stems >=1" & =<3"	No:	1:1	1:1
		Yes:	2:1	2:1
non-riparian	stems >3" & <5"	No:	2:1	1:1
		Yes:	4:1	2:1
non-riparian	stems >=5"	No:	3:1	1:1
		Yes:	6:1	2:1
riparian	stems >=1" & <=3"	No:	2:1	1:1
		Yes:	4:1	2:1
riparian	stems > 3" & < 5"	No:	3:1	1:1
		Yes:	6:1	2:1
riparian	stems >=5"	No:	4:1	1:1
		Yes:	8:1	2:1

[1] All stems measuring one inch or greater in diameter at ground level on a single shrub are considered occupied when exit holes are present anywhere on the shrub.

[2] Ratios in the Elderberry Seedling Ratio column correspond to the number of cuttings or seedlings to be planted per elderberry stem (one inch or greater in diameter at ground level) affected by a project.

[3] Ratios in the Associated Native Plant Ratio column correspond to the number of associated native species to be planted per elderberry (seedling or cutting) planted.

Click for range map

Endangered Species Div., Sacramento Fish & Wildlife Office, U.S. Fish & Wildlife Service

APPENDIX D

CULTURAL RESOURCES LETTER REPORT

ANALYTICAL ENVIRONMENTAL SERVICES

February 9, 2006

Kennedy-Jenks Consultants
Alex Peterson
10850 Gold Center Dr., Suite 350
Rancho Cordova, CA 95670

RE: CWD Aerojet Project-Ancil Hoffman Site

Dear Mr. Peterson:

This letter reports the finding cultural resources investigations conducted in support of the proposed Ancil Hoffman Park GET "L" Project (Proposed Project). As shown in **Figure 1**, the project site is located within Unsection Lands, T9N, R6W, MDBM, Sacramento County, as shown on the attached Carmichael USGS 7.5 minute quadrangle. The physical Area of Potential Effects (APE) for the Proposed Project has been defined as the entire area of ground disturbing activities as indicated on **Figure 2**. The physical APE is primarily within previously disturbed roadbeds. The APE for visual impacts has been defined as a .25-mile radius from the location of the proposed Groundwater Treatment Plant.

All cultural resources work was performed in compliance with Section 106 of the National Historic Preservation Act (NHPA) as amended, and its implementing regulations found at 36 CFR 800 and conformed with the Secretary of the Interior's Standards in cultural resource management. Mr. Haydu meets the Secretary of the Interior's Standards for conducting cultural resources studies within a both State and Federal regulatory context. The work was also performed in accordance with CEQA *Guidelines* 15064.5 and Public Resources Code (PRC) Section 21083.2.

The purposes of this study, in accordance with Section 106 of the NHPA and CEQA, were to (1) identify and record cultural resources on the project site, (2) make preliminary evaluations based on such resources' significance according to the criteria of the NHPA and CEQA, and (3) recommend procedures for avoidance or mitigation of adverse effects to resources potentially eligible for listing on the National Register of Historic Places (NRHP) or the California Register of Historic Resources.

A records search for cultural resources within the study area was conducted at the North Central Information Center (NCIC), California State University, Sacramento, on September 9, 2006, by

1801 7th Street, Suite 100 * Sacramento, CA 95814 * (916) 447-3479 Fax (916) 447-1665
www.analyticalcorp.com

NCIC staff. The summary of results for the NCIC records search (NCIC File No.: SAC-06-102) is as follows.

> Sites Within or Adjacent: No cultural resources were located within the project site. Seven cultural resources have been recorded within a 0.5-mile radius of the project site. These include four prehistoric archaeological sites (CA-SAC-220, -318, -470, -479) and three multi-component archaeological sites (CA-SAC-155, -156, 317/H),.
>
> Studies Within or Adjacent: No cultural resources studies have been conducted within or adjacent to the project site. Eight studies have been conducted within a 0.5-mile radius of the project site. These include Report No. 173, 563, 2764, 4200, 6028, 6029.

Database Queries:

- OHP Historic Property Directory (HPD): Nothing found
- California Inventory (1976): Nothing Found
- California Place Names (Gudde 1969): Nothing Found
- California Gold District (Clark 1979): Nothing Found
- California Dept. of Transportation Bridge Inventory: Nothing Found
- California Historical Landmark (1996): Nothing Found
- Point of Historical Interest (1992): Nothing Found
- Historic Spots in California (1990): Nothing Found

On November 27, 2006, the State of California Native American Heritage Commission (NAHC) was asked to review the Sacred Lands file for information on Native American cultural resources on the project site. On January 23, 2007, the NAHC responded indicating that they have no record of sacred lands within or near the project area. However, they did provide a list of Native American individuals and groups with whom to consult further. Consultation letters to these individuals and groups were sent out January 23, 2007. To date, AES has not received any responses from stakeholders.

On September 9 and 28, 2005, AES Archaeologist Damon Haydu conducted a field survey of the project site. Ground visibility of the APE in areas outside the paved roadway was generally good, as the areas had been recently mowed. No evidence of prehistoric or historic-period cultural resources were identified as a result of the records search and field study. No further study is recommended at this time unless the project design changes to include new areas of impact or there is an unanticipated discovery of subsurface artifacts.

There is always the possibility that unidentified buried cultural deposits exist in the study area. If concentrations of prehistoric or historic-period cultural materials are encountered, it is

recommended that all work in the immediate vicinity halt until a qualified archaeologist can evaluate the finds and make recommendations. Prehistoric materials might include obsidian and chert flaked-stone tools (projectile points, knives, scraping implements) or tool-making debris; culturally darkened soil ("midden") containing heat-altered rock, shellfish remains, and cultural materials; and stone milling equipment (mortars, pestles, handstones, and milling stones). Historic materials might include stone footings or walls; building materials or other remains with square nails; backfilled wells or privies; or other deposits of historic-period metal, glass, and/or ceramic refuse.

Encountering Human Remains

The possibility of encountering human remains cannot be discounted. Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial.

If human burials are encountered, work should halt in the vicinity of the remains and, as required by law, the Sacramento County Coroner should be notified immediately. At the same time, an archaeologist should be contacted to evaluate the situation. If human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of that determination.

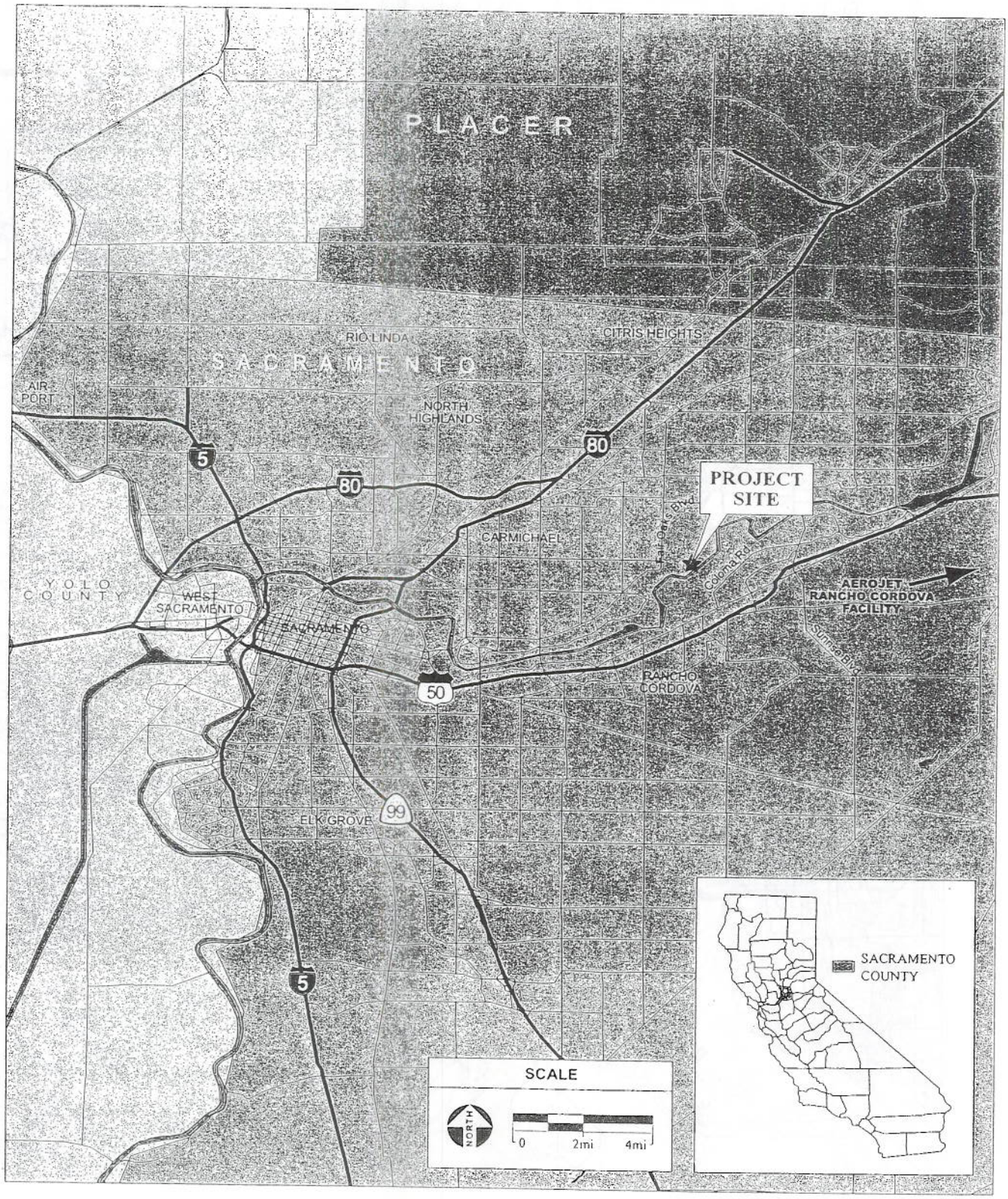
If you have any questions, please contact Doug Edward or me at (916) 447-3479. Thank you for using the services of Analytical Environmental Services.

Sincerely,

Damon Mark Haydu
AES Archaeologist

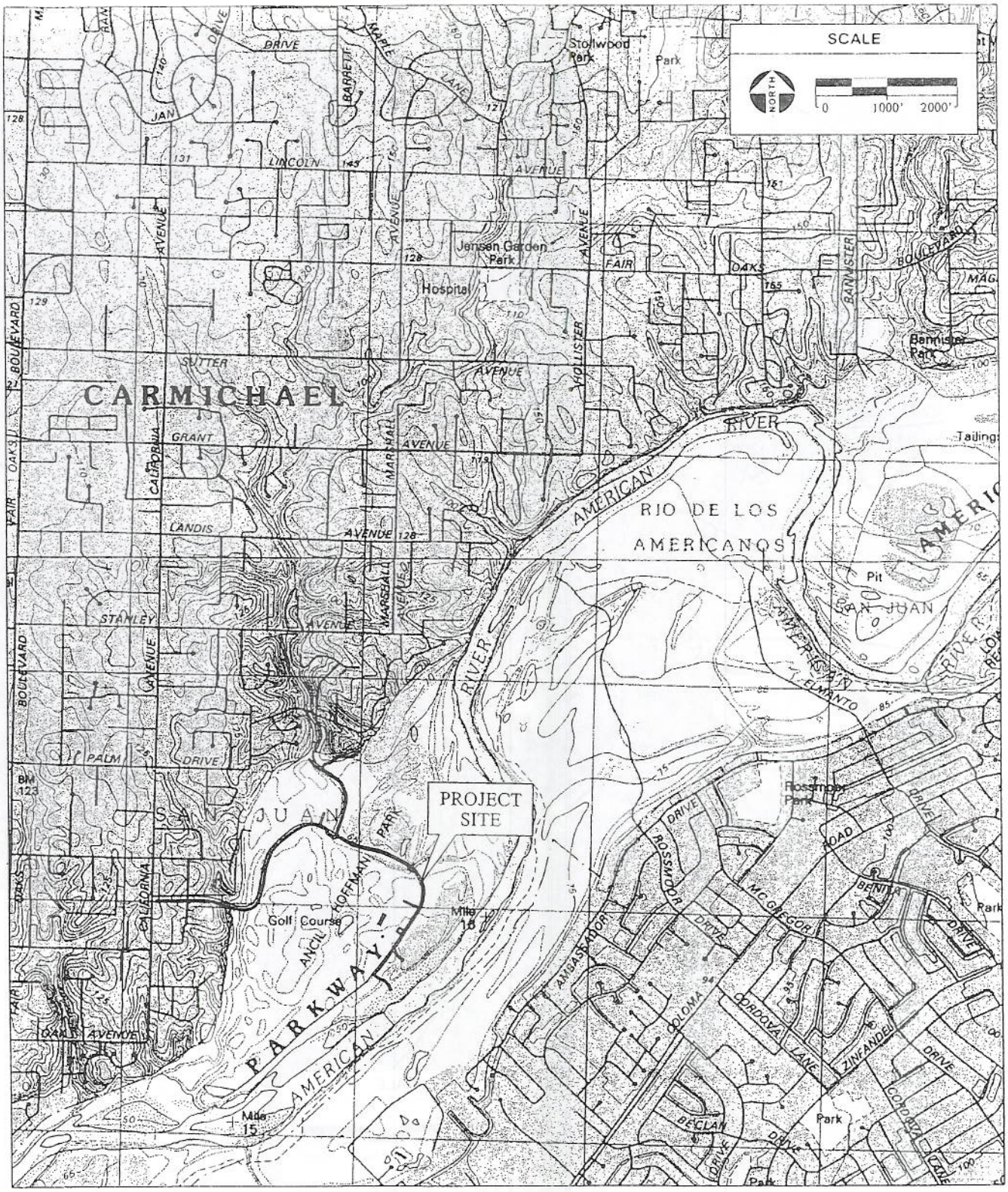
Attachments:

NCIC Records Search
NAHC Records Search



SOURCE: ESRI Data, 2002; AES, 2007

Figure 1
Regional Location



SOURCE: "Carmichael, CA" USGS 7.5 Minute Topographic Quadrangle, Unsectioned Area of San Juan, T9N, R6E, Mt. Diablo Baseline & Meridian; AES, 2007

Figure 2
Survey Area

NAHC CORRESPONDENCE

ANALYTICAL ENVIRONMENTAL SERVICES

November 27, 2006

Rob Wood
Native American Heritage Commission
915 Capitol Mall, Rm. 364
Sacramento, CA 95814

RE: Ancil Hoffman CWD Aerojet Project

Dear Mr. Wood;

Analytical Environmental Services (AES) is conducting a cultural resources as[illegible] in support of Section 106 for the above referenced project. We would like to request a check of the Sacred Lands files for the project area, and a list of appropriate Native American contacts for consultation regarding the project site.

The acre project area is located within Ancil Hoffman Park, in the community of Carmichael, Sacramento County, California, in T9 North, R6 East, Unsectioned Land, MDBM, on the Carmichael 7.5' Quad., as depicted on the attached map. The project involves the development of monitoring wells and extraction facilities.

If you have any questions or concerns, or need more information, please feel free to contact me directly. Thank you for your assistance in this matter. Results may be faxed to the number below.

Sincerely,

Damon Mark Haydu
Cultural Resources Specialist

enc.

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

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

January 19, 2007

Damon Haydu
Cultural Resources Specialist
AES

Sent by Fax: 916-447-1665
Number of Pages: 2

Re: Proposed Ancil Hoffman CWD Aeroject Project, Sacramento County.

Dear Mr. Haydu:

A record search of the sacred land 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 others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. 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 of 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
Sacramento County
January 19, 2007

Rose Eños
15310 Bancroft Road Maidu
Auburn , CA 95603 Washoe
(530) 878-2378

Shingle Springs Band of Miwok Indians
Jeff Murray, Cultural Resources Manager
P.O. Box 1340 Miwok
Shingle , CA 95682 Maidu
shingle_springs_rancheria@hotmail.com
(530) 676-8010
(530) 676-8033 Fax

Shingle Springs Band of Miwok Indians
Nicholas Fonseca, Chairperson
P.O. Box 1340 Miwok
Shingle , CA 95682 Maidu
shingle_springs_rancheria@hotmail.com
(530) 676-8010
(530) 676-8033 Fax

United Auburn Indian Community of the Auburn
Jessica Tavares, Chairperson
575 Menlo Drive, Suite 2 Maidu
Rocklin , CA 95765 Miwok
916 663-3720
916 663-3727 - Fax

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 regard to cultural resources for the proposed Ancil Hoffman CWD Aeroject project, Sacramento County.

ANALYTICAL ENVIRONMENTAL SERVICES

January 23, 2007

Rose Enos
15310 Bancroft Road
Auburn, CA 95603

RE: CWD Aerojet Extraction Wells Project-Ancil Hoffman Site

Dear Ms. Enos;

Analytical Environmental Services (AES) is conducting a cultural resources assessment in support of Section 106 for the above referenced project. We would like to request any information you may have regarding Native American cultural resources located within the project site.

The project area is located within Ancil Hoffman Park, within the community of Carmichael, Sacramento County, California. The two project sites consist, in total, of approximately 60 feet located in Unsection Lands, T9N, R6W, MDBM, Sacramento County, as shown on the attached Carmichael USGS 7.5 minute quadrangle. The project involves the development of monitoring wells and extraction facilities.

If you have any questions or concerns, or need more information, please feel free to contact me directly. Thank you for your assistance in this matter. Results may be faxed to the number below.

Sincerely,

Damon Haydu

Damon Haydu
Cultural Resources Specialist

enc.

ANALYTICAL ENVIRONMENTAL SERVICES

January 23, 2007

Jeff Murray
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle Springs, CA 95682

RE: CWD Aerojet Extraction Wells Project-Ancil Hoffman Site

Dear Mr. Murray;

Analytical Environmental Services (AES) is conducting a cultural resources assessment in support of Section 106 for the above referenced project. We would like to request any information you may have regarding Native American cultural resources located within the project site.

The project area is located within Ancil Hoffman Park, within the community of Carmichael, Sacramento County, California. The two project sites consist, in total, of approximately 60 feet located in Unsection Lands, T9N, R6W, MDBM, Sacramento County, as shown on the attached Carmichael USGS 7.5 minute quadrangle. The project involves the development of monitoring wells and extraction facilities.

If you have any questions or concerns, or need more information, please feel free to contact me directly. Thank you for your assistance in this matter. Results may be faxed to the number below.

Sincerely,

Damon Haydu

Damon Haydu
Cultural Resources Specialist

enc.

ANALYTICAL ENVIRONMENTAL SERVICES

January 23, 2007

Nicholas Fonseca
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle Springs, CA 95682

RE: CWD Aerojet Extraction Wells Project-Ancil Hoffman Site

Dear Mr. Fonseca;

Analytical Environmental Services (AES) is conducting a cultural resources assessment in support of Section 106 for the above referenced project. We would like to request any information you may have regarding Native American cultural resources located within the project site.

The project area is located within Ancil Hoffman Park, within the community of Carmichael, Sacramento County, California. The two project sites consist, in total, of approximately 60 feet located in Unsection Lands, T9N, R6W, MDBM, Sacramento County, as shown on the attached Carmichael USGS 7.5 minute quadrangle. The project involves the development of monitoring wells and extraction facilities.

If you have any questions or concerns, or need more information, please feel free to contact me directly. Thank you for your assistance in this matter. Results may be faxed to the number below.

Sincerely,

Damon Haydu

Damon Haydu
Cultural Resources Specialist

enc.

ANALYTICAL ENVIRONMENTAL SERVICES

January 23, 2007

Jessica Talvares
United Auburn Indian Community
575 Menlo Drive
Suite 2
Rocklin, CA 95765

RE: CWD Aerojet Extraction Wells Project-Ancil Hoffman Site

Dear Ms. Talvarez;

Analytical Environmental Services (AES) is conducting a cultural resources assessment in support of Section 106 for the above referenced project. We would like to request any information you may have regarding Native American cultural resources located within the project site.

The project area is located within Ancil Hoffman Park, within the community of Carmichael, Sacramento County, California. The two project sites consist, in total, of approximately 60 feet located in Unsection Lands, T9N, R6W, MDBM, Sacramento County, as shown on the attached Carmichael USGS 7.5 minute quadrangle. The project involves the development of monitoring wells and extraction facilities.

If you have any questions or concerns, or need more information, please feel free to contact me directly. Thank you for your assistance in this matter. Results may be faxed to the number below.

Sincerely,

Damon Haydu

Damon Haydu
Cultural Resources Specialist

enc.

NCIC RECORDS SEARCH

ANALYTICAL ENVIRONMENTAL SERVICES

September 9, 2005

Sally Duckworth
North Central Information Center
Department of Anthropology
6000 J Street, Adams Bldg., Suite #103
California State University, Sacramento
Chico, CA 95819-6100

RE; Record Search Request for two extraction wells in Sacramento County (AES project #205547)

Dear Ms. Duckworth:

Analytical Environmental Services AES) requests a record search for the above referenced project located in Sacramento County. The NEIC is authorized to bill AES up to $300 for this record search without prior verbal approval. Please map all sites and surveys within a 1/2-mile radius of the project site: provide copies of all site records for sites located (partially or fully) within the project site; provide bibliographic references for all surveys located (partially or fully) within the project site; provide copies of reports (partially or fully) within the project area; check the most recent listings for the Historic Properties Database for Sacramento County and any other relevant local register; and check historic plats and maps for the project site.

The two project sites consist, in total, of approximately 60 feet located in Unsection Lands, T9N, R6W, MDBM, Sacramento County, as shown on the attached Carmichael USGS 7.5 minute quadrangle.

Please feel free to contact me directly if you have any questions or concerns regarding this record search request. I can be reached at 916-447-3479, or by email at dhaydu@analyticalcorp.com. Thank you for your quick attention to this matter.

Sincerely,

Damon Haydu

Damon Mark Haydu, M.A.
Environmental Specialist--Archaeology

enc. map

APPENDIX E

ENVIRONMENTAL DATA RESOURCES (EDR) REPORT

The EDR Radius Map
with GeoCheck®

Carmichael Water District
Ancil Hoffman Park site
Carmichael, CA 95608

Inquiry Number: 1806589.1s

November 29, 2006

EDR® Environmental
Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

ANCIL HOFFMAN PARK SITE
CARMICHAEL, CA 95608

COORDINATES

Latitude (North):	38.610000 - 38' 36' 36.0"
Longitude (West):	121.309000 - 121' 18' 32.4"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	647235.6
UTM Y (Meters):	4274648.0
Elevation:	74 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	38121-E3 CARMICHAEL, CA
Most Recent Revision:	1992
North Map:	38121-F3 CITRUS HEIGHTS, CA
Most Recent Revision:	1992

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
Delisted NPL..... National Priority List Deletions
NPL RECOVERY..... Federal Superfund Liens
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned

CORRACTS	Corrective Action Report
RCRA-TSDF	Resource Conservation and Recovery Act Information
RCRA-LQG	Resource Conservation and Recovery Act Information
RCRA-SQG	Resource Conservation and Recovery Act Information
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
US BROWNFIELDS	A Listing of Brownfields Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

HIST Cal-Sites	Historical Calsites Database
CA BOND EXP. PLAN	Bond Expenditure Plan
SCH	School Property Evaluation Program
Toxic Pits	Toxic Pits Cleanup Act Sites
SWF/LF	Solid Waste Information System
CA WDS	Waste Discharge System
WMUDS/SWAT	Waste Management Unit Database
Cortese	"Cortese" Hazardous Waste & Substances Sites List
SWRCY	Recycler Database
LUST	Geotracker's Leaking Underground Fuel Tank Report
CA FID UST	Facility Inventory Database
SLIC	Statewide SLIC Cases
Sacramento Co. CS	CS - Contaminated Sites
UST	Active UST Facilities
HIST UST	Hazardous Substance Storage Container Database
AST	Aboveground Petroleum Storage Tank Facilities
SWEEPS UST	SWEEPS UST Listing
CHMIRS	California Hazardous Material Incident Report System
Notify 65	Proposition 65 Records
DEED	Deed Restriction Listing
VCP	Voluntary Cleanup Program Properties
CLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
CDL	Clandestine Drug Labs
Sacramento Co. ML	ML - Regulatory Compliance Master List
RESPONSE	State Response Sites

EXECUTIVE SUMMARY

HAZNET..... Facility and Manifest Data
EMI..... Emissions Inventory Data
ENVIROSTOR..... EnviroStor Database

TRIBAL RECORDS

INDIAN RESERV..... Indian Reservations
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
INDIAN UST..... Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

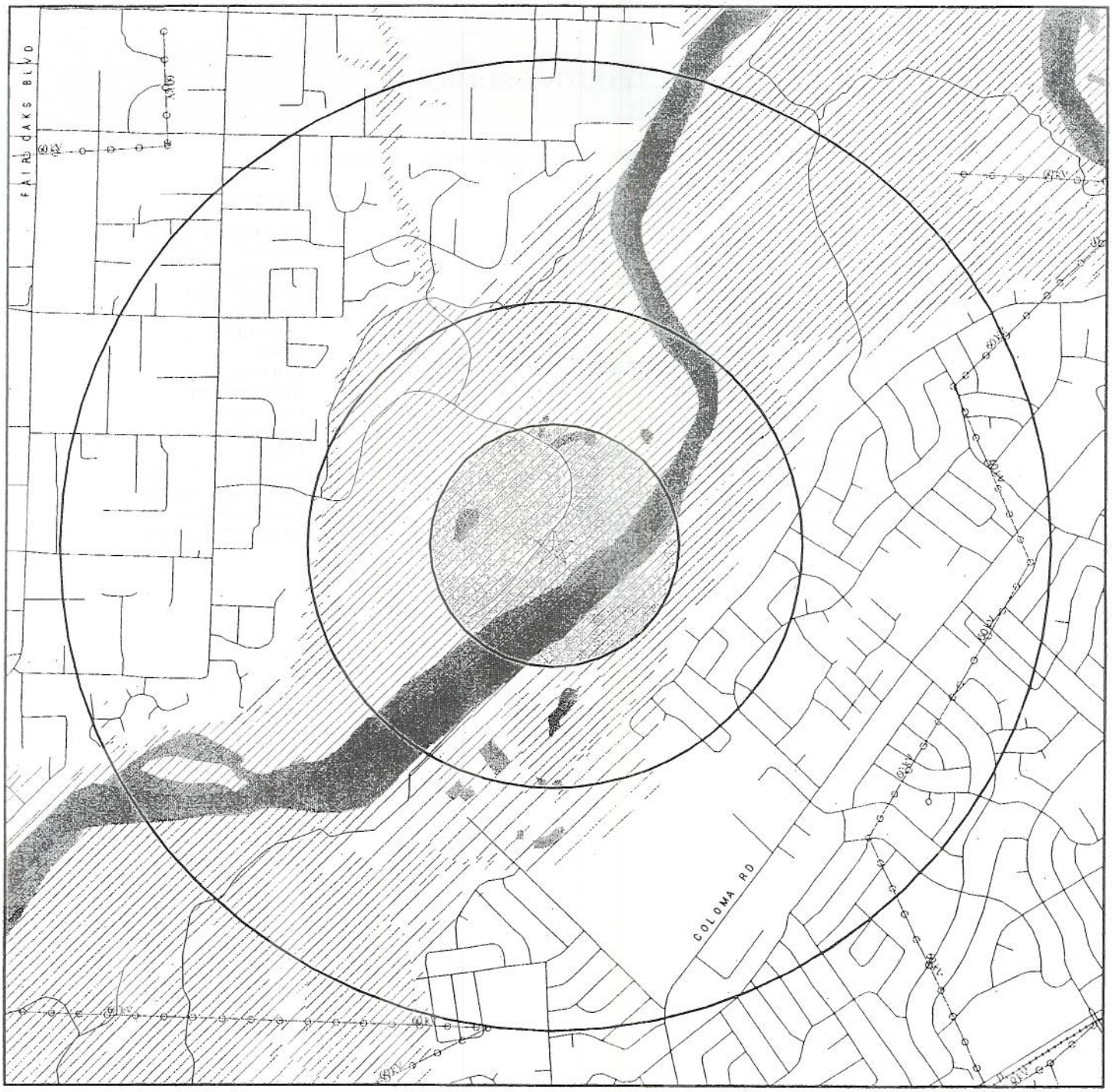
Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
H.M. KUPPENBENDER	CA FID UST, SWEEPS UST
AEROJET GENERAL CORPORATION	SWEEPS UST
AEROJET STRATEGIC PROPULSION C	SWEEPS UST
AEROJET TACTICAL SYSTEMS COMPA	SWEEPS UST
ASPC (CHEMICAL OPERATIONS)	SWEEPS UST
CLEAN-N-SAVE OF CARMICHAEL	CLEANERS
AEROJET GENERAL CORPORATION	DEED
TWITCHELL ISLAND ROAD .5 MI WEST OF RIO VISTA	CHMIRS, SLIC
TEICHERT CONSTRUCTION PROPERTY	CERC-NFRAP
H.M. KUPPENBENDER	HIST UST
COOK'S COLLISION OF CARMICHAEL	HAZNET
CARMICHAEL WATER DISTRICT	FINDS
CARMICHAEL OVERHEAD DOOR	Sacramento Co. ML
CLEAN N SAVE OF CARMICHAEL	Sacramento Co. ML
CARMICHAEL SMOG-TEST ONLY	Sacramento Co. ML
ARDEN CORDOVA WATER	Sacramento Co. ML

OVERVIEW MAP - 1806589.1s



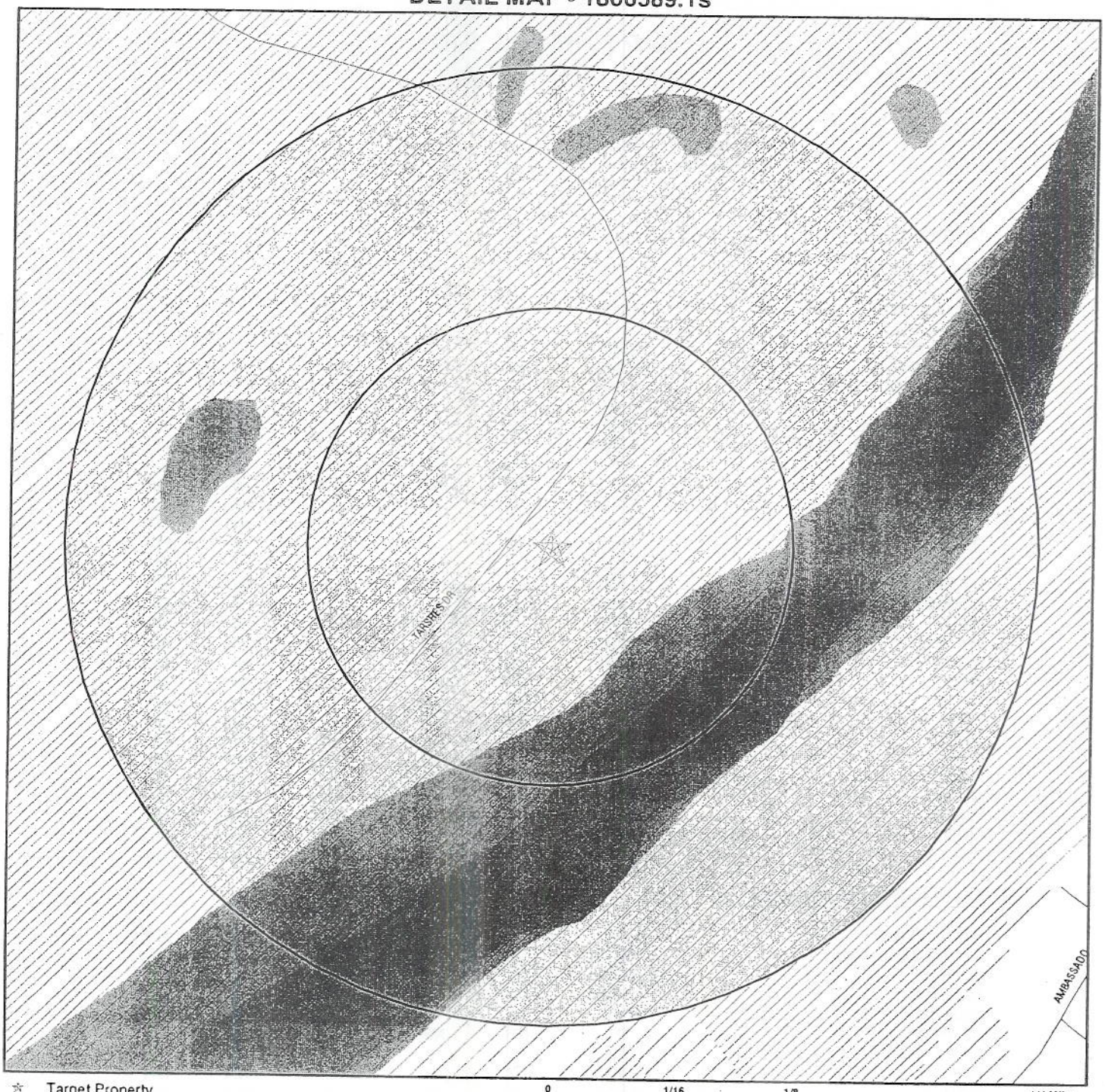
- ☆ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

0 1/4 1/2 1 Miles

N

SITE NAME: Carmichael Water District	CLIENT: AES
ADDRESS: Ancil Hoffman Park site Carmichael CA 95608	CONTACT: Pete Connelly INQUIRY #: 1806589.1s
LAT/LONG: 38.6100 / 121.3090	DATE: November 29, 2006 6:29 pm

DETAIL MAP - 1806589.1s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

SITE NAME: Carmichael Water District ADDRESS: Ancil Hoffman Park site Carmichael CA 95608 LAT/LONG: 38.6100 / 121.3090	CLIENT: AES CONTACT: Pete Connelly INQUIRY #: 1806589.1s DATE: November 29, 2006, 6:30 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL RECORDS								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
NPL RECOVERY		TP	NR	NR	NR	NR	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.500	0	0	0	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRA TSD		0.500	0	0	0	NR	NR	0
RCRA Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
STATE AND LOCAL RECORDS								
Hist Cal-Sites		1.000	0	0	0	0	NR	0
CA Bond Exp. Plan		1.000	0	0	0	0	NR	0
SCH		0.250	0	0	NR	NR	NR	0
Toxic Pits		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
CA WDS		TP	NR	NR	NR	NR	NR	0
WMUDS/SWAT		0.500	0	0	0	NR	NR	0
Cortese		0.500	0	0	0	NR	NR	0
SWRCY		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
CA FID UST		0.250	0	0	NR	NR	NR	0
SLIC		0.500	0	0	0	NR	NR	0
Sacramento Co. CS		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
HIST UST		0.250	0	0	NR	NR	NR	0
AST		0.250	0	0	NR	NR	NR	0
SWEEPS UST		0.250	0	0	NR	NR	NR	0
CHMIRS		TP	NR	NR	NR	NR	NR	0
Notify 65		1.000	0	0	0	0	NR	0
DEED		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
WIP		0.250	0	0	NR	NR	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
Sacramento Co. ML		0.250	0	0	NR	NR	NR	0
RESPONSE		1.000	0	0	0	0	NR	0
HAZNET		TP	NR	NR	NR	NR	NR	0
EMI		TP	NR	NR	NR	NR	NR	0
ENVIROSTOR		1.000	0	0	0	0	NR	0
TRIBAL RECORDS								
INDIAN RESERV		1.000	0	0	0	0	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
EDR PROPRIETARY RECORDS								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site	Database(s)	EDR ID Number EPA ID Number
	NO SITES FOUND		

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CARMICHAEL	S101627728	H.M. KUPPENBENDER	HWY 45 AT MILLERS LNDG	95608	CA FID UST, SWEEPS UST
CARMICHAEL	U001612374	H.M. KUPPENBENDER	HWY 45 AT MILLERS LANDING	95608	HIST UST
CARMICHAEL	S106093247	COOK'S COLLISION OF CARMICHAEL	5800 N AVE	95608	HAZNET
CARMICHAEL	S107769641	CARMICHAEL OVERHEAD DOOR	4045 CALIFORNIA AVE STE A	95608	Sacramento Co. ML
CARMICHAEL	1008042267	CARMICHAEL WATER DISTRICT	CARMICHAEL WATER DISTRICT	95608	FINDS
CARMICHAEL	S107769659	CLEAN N SAVE OF CARMICHAEL	7250 FAIR OAKS BLVD A	95608	Sacramento Co. ML
CARMICHAEL	S107769642	CARMICHAEL SMOG-TEST ONLY	7846 FAIR OAKS BLVD C	95608	Sacramento Co. ML
CARMICHAEL	S106167469	CLEAN-N-SAVE OF CARMICHAEL	7250 FAIR OAKS BLVD STE A	95608	CLEANERS
RANCHO CORDOVA	S106922440	AEROJET GENERAL CORPORATION	AEROJET RD / HWY 50	95670	SWEEPS UST
RANCHO CORDOVA	S106922443	AEROJET STRATEGIC PROPULSION C	AEROJET RD / HWY 50	95670	SWEEPS UST
RANCHO CORDOVA	S106922444	AEROJET TACTICAL SYSTEMS COMPA	AEROJET RD / HWY 50	95670	SWEEPS UST
RANCHO CORDOVA	S106922906	ASPC (CHEMICAL OPERATIONS)	AEROJET RD / HWY 50	95670	SWEEPS UST
RANCHO CORDOVA	S106782312	AEROJET GENERAL CORPORATION	US HWY 50 / AEROJET ROAD	95670	DEED
RANCHO CORDOVA	S103707669	ARDEN CORDOVA WATER	3310 KILGORE RD	95670	Sacramento Co. ML
RANCHO CORDOVA	1003878965	TEICHERT CONSTRUCTION PROPERTY	SYSTEMS PKWY/OLD PLACERVILLE R	95670	CERC-NFRAP
SACRAMENTO COUNTY	S105641112		TWITCHELL ISLAND ROAD .5 MI WEST OF RIO VISTA		CHMIRS, SLIC

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/27/2006
Date Data Arrived at EDR: 11/01/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 21

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

Date of Government Version: 09/27/2006
Date Data Arrived at EDR: 11/01/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 21

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/27/2006
Date Data Arrived at EDR: 11/01/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 21

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL RECOVERY: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/09/2006
Date Data Arrived at EDR: 09/21/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 62

Source: EPA
Telephone: 703-603-8960
Last EDR Contact: 09/21/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/10/2006
Date Data Arrived at EDR: 10/25/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 28

Source: EPA
Telephone: 703-603-8960
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/15/2006
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/13/2006
Date Data Arrived at EDR: 06/28/2006
Date Made Active in Reports: 08/23/2006
Number of Days to Update: 56

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/22/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 01/12/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 40

Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Last EDR Contact: 10/24/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 10/18/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 35

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/18/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/21/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 09/07/2006
Next Scheduled EDR Contact: 10/02/2006
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/21/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 09/07/2006
Next Scheduled EDR Contact: 10/02/2006
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 11/10/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 09/20/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 63

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 07/10/2006
Date Data Arrived at EDR: 07/13/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 55

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/11/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/14/2004
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 04/25/2005
Number of Days to Update: 69

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/10/2006
Date Data Arrived at EDR: 07/21/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 47

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 11/04/2005
Date Data Arrived at EDR: 11/28/2005
Date Made Active in Reports: 01/30/2006
Number of Days to Update: 63

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 06/22/2006
Date Made Active in Reports: 08/23/2006
Number of Days to Update: 62

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/22/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 10/18/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 10/27/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 26

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 10/27/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 26

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 05/11/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 11

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 11/07/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 02/13/2006
Date Data Arrived at EDR: 04/21/2006
Date Made Active in Reports: 05/11/2006
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 07/17/2006
Next Scheduled EDR Contact: 10/16/2006
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/07/2006
Date Data Arrived at EDR: 08/09/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 28

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 11/29/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/10/2006
Date Data Arrived at EDR: 07/20/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 48

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/09/2006
Date Data Arrived at EDR: 09/27/2006
Date Made Active in Reports: 11/27/2006
Number of Days to Update: 61

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/27/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Semi-Annually

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/21/2006
Date Data Arrived at EDR: 07/25/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 43

Source: EPA
Telephone: N/A
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 06/17/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 48

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 10/20/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Biennially

STATE AND LOCAL RECORDS

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 11/27/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: No Update Planned

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 08/29/2006
Date Data Arrived at EDR: 08/30/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 36

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/29/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 10/30/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: No Update Planned

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/13/2006
Date Data Arrived at EDR: 09/13/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 22

Source: Integrated Waste Management Board
Telephone: 916-341-6320
Last EDR Contact: 09/13/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Quarterly

CA WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 09/20/2006
Date Data Arrived at EDR: 09/21/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 34

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 09/21/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 05/29/2001
Date Made Active in Reports: 07/26/2001
Number of Days to Update: 58

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 10/10/2006
Date Data Arrived at EDR: 10/12/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 13

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 10/12/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/11/2006
Date Data Arrived at EDR: 10/12/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 13

Source: State Water Resources Control Board
Telephone: 916-341-5752
Last EDR Contact: 10/12/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Quarterly

LUST REG 5: Leaking Underground Storage Tank Database

Date of Government Version: 09/30/2006
Date Data Arrived at EDR: 10/25/2006
Date Made Active in Reports: 11/28/2006
Number of Days to Update: 34

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 10/25/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Quarterly

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-346-7491
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-4130
Last EDR Contact: 11/07/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 10/17/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-346-7491
Last EDR Contact: 11/16/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 916-542-5424
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 09/25/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-576-2220
Last EDR Contact: 11/16/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 10/09/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases

The Spills, Leaks, Investigations, and Cleanups (SLIC) listings includes unauthorized discharges from spills and leaks, other than from underground storage tanks or other regulated sites.

Date of Government Version: 10/11/2006
Date Data Arrived at EDR: 10/12/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 13

Source: State Water Resources Control Board
Telephone: 916-341-5752
Last EDR Contact: 10/12/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 11/16/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 10/09/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Unregulated sites that impact groundwater or have the potential to impact groundwater.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 11/16/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 04/06/2006
Date Data Arrived at EDR: 04/06/2006
Date Made Active in Reports: 05/11/2006
Number of Days to Update: 35

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 10/05/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 08/30/2006
Date Data Arrived at EDR: 08/31/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 35

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 11/27/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Annually

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 10/11/2006
Date Data Arrived at EDR: 10/12/2006
Date Made Active in Reports: 11/13/2006
Number of Days to Update: 32

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 10/12/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Semi-Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AST: Aboveground Petroleum Storage Tank Facilities

Registered Aboveground Storage Tanks.

Date of Government Version: 01/30/2006
Date Data Arrived at EDR: 01/30/2006
Date Made Active in Reports: 02/17/2006
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 10/30/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1980's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 11/30/2005
Date Made Active in Reports: 01/19/2006
Number of Days to Update: 50

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 11/20/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NOTIFY 65: Proposition 65 Records

Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 10/16/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: No Update Planned

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 10/04/2006
Date Data Arrived at EDR: 10/05/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/05/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Semi-Annually

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/29/2006
Date Data Arrived at EDR: 08/30/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 36

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/29/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 04/18/2005
Date Data Arrived at EDR: 04/18/2005
Date Made Active in Reports: 05/06/2005
Number of Days to Update: 18

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 10/25/2006
Date Data Arrived at EDR: 10/31/2006
Date Made Active in Reports: 11/28/2006
Number of Days to Update: 28

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 05/17/2006
Date Data Arrived at EDR: 05/17/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 29

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Varies

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 08/29/2006
Date Data Arrived at EDR: 08/30/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 36

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/29/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Quarterly

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 10/11/2005
Date Made Active in Reports: 10/31/2005
Number of Days to Update: 20

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 11/20/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/11/2006
Number of Days to Update: 27

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 10/20/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Varies

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 08/29/2006
Date Data Arrived at EDR: 08/30/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 36

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/29/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Quarterly

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 11/10/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 09/07/2006
Date Data Arrived at EDR: 09/08/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 61

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 09/11/2006
Date Data Arrived at EDR: 09/11/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 58

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 09/06/2006
Date Data Arrived at EDR: 10/04/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/30/2006
Date Data Arrived at EDR: 09/06/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/06/2006
Date Data Arrived at EDR: 10/04/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 35

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/04/2005
Date Data Arrived at EDR: 01/21/2005
Date Made Active in Reports: 02/28/2005
Number of Days to Update: 38

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Minnesota, Mississippi and North Carolina.

Date of Government Version: 08/24/2006
Date Data Arrived at EDR: 09/11/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 58

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Semi-Annually

INDIAN UST R4: Underground Storage Tanks on Indian Land

Date of Government Version: 08/24/2006
Date Data Arrived at EDR: 09/11/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 58

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Semi-Annually

INDIAN UST R9: Underground Storage Tanks on Indian Land

Date of Government Version: 09/06/2006
Date Data Arrived at EDR: 10/04/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 35

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

Date of Government Version: 09/06/2006
Date Data Arrived at EDR: 10/04/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 35

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

Date of Government Version: 08/30/2006
Date Data Arrived at EDR: 09/06/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

Date of Government Version: 12/02/2004
Date Data Arrived at EDR: 12/29/2004
Date Made Active in Reports: 02/04/2005
Number of Days to Update: 37

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

Date of Government Version: 09/11/2006
Date Data Arrived at EDR: 09/11/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 58

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land
A listing of underground storage tank locations on Indian Land.

Date of Government Version: 09/07/2006
Date Data Arrived at EDR: 09/08/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 61

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

Date of Government Version: 08/28/2006
Date Data Arrived at EDR: 08/29/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 71

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Semi-Annually

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 10/26/2006
Date Data Arrived at EDR: 10/27/2006
Date Made Active in Reports: 11/28/2006
Number of Days to Update: 32

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Semi-Annually

Underground Tanks

Date of Government Version: 10/26/2006
Date Data Arrived at EDR: 10/27/2006
Date Made Active in Reports: 11/13/2006
Number of Days to Update: 17

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 09/05/2006
Date Data Arrived at EDR: 09/05/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 30

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 11/27/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Semi-Annually

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 07/11/2006
Date Data Arrived at EDR: 07/12/2006
Date Made Active in Reports: 07/27/2006
Number of Days to Update: 15

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 11/20/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing

Kern County Sites and Tanks Listing.

Date of Government Version: 09/05/2006
Date Data Arrived at EDR: 09/05/2006
Date Made Active in Reports: 09/18/2006
Number of Days to Update: 13

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 07/07/1999
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 05/16/2006
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/31/2006
Date Data Arrived at EDR: 10/30/2006
Date Made Active in Reports: 11/28/2006
Number of Days to Update: 29

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Date of Government Version: 08/15/2006
Date Data Arrived at EDR: 08/25/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 41

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 11/15/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Varies

City of Los Angeles Landfills

Date of Government Version: 03/01/2006
Date Data Arrived at EDR: 04/06/2006
Date Made Active in Reports: 05/11/2006
Number of Days to Update: 35

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 09/11/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/05/2006
Date Data Arrived at EDR: 02/16/2006
Date Made Active in Reports: 03/13/2006
Number of Days to Update: 25

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Date of Government Version: 09/11/2006
Date Data Arrived at EDR: 09/22/2006
Date Made Active in Reports: 11/06/2006
Number of Days to Update: 45

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 11/27/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 11/21/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Date of Government Version: 08/15/2006
Date Data Arrived at EDR: 08/17/2006
Date Made Active in Reports: 09/18/2006
Number of Days to Update: 32

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Semi-Annually

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 08/08/2006
Date Data Arrived at EDR: 08/29/2006
Date Made Active in Reports: 09/18/2006
Number of Days to Update: 20

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 10/30/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination

Date of Government Version: 10/09/2006
Date Data Arrived at EDR: 10/09/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 16

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/25/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Closed and Operating Underground Storage Tank Sites

Date of Government Version: 10/09/2006
Date Data Arrived at EDR: 10/09/2006
Date Made Active in Reports: 11/06/2006
Number of Days to Update: 28

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/25/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Annually

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 09/01/2006
Date Data Arrived at EDR: 09/18/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 37

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 09/06/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 09/01/2006
Date Data Arrived at EDR: 09/20/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 35

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 09/06/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 09/01/2006
Date Data Arrived at EDR: 09/20/2006
Date Made Active in Reports: 10/20/2006
Number of Days to Update: 30

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 09/06/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 08/30/2006
Date Data Arrived at EDR: 08/31/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 35

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 08/14/2006
Next Scheduled EDR Contact: 12/19/2006
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 11/09/2006
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 11/28/2006
Number of Days to Update: 18

Source: Department of Public Health
Telephone: 951-358-5055
Last EDR Contact: 10/16/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Date of Government Version: 08/08/2006
Date Data Arrived at EDR: 08/08/2006
Date Made Active in Reports: 09/18/2006
Number of Days to Update: 41

Source: Health Services Agency
Telephone: 951-358-5055
Last EDR Contact: 10/16/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Contaminated Sites

Date of Government Version: 08/02/2006
Date Data Arrived at EDR: 08/18/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 48

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

ML - Regulatory Compliance Master List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/02/2006
Date Data Arrived at EDR: 08/25/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 41

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 09/26/2006
Date Data Arrived at EDR: 10/17/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 8

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 05/16/2005
Date Data Arrived at EDR: 05/18/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 29

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 10/20/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 11/01/2005
Date Data Arrived at EDR: 12/29/2005
Date Made Active in Reports: 01/19/2006
Number of Days to Update: 21

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 11/20/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

SAN FRANCISCO COUNTY:

Local Oversite Facilities

Date of Government Version: 09/18/2006
Date Data Arrived at EDR: 09/20/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 35

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

Underground Storage Tank Information

Date of Government Version: 09/18/2006
Date Data Arrived at EDR: 09/20/2006
Date Made Active in Reports: 10/20/2006
Number of Days to Update: 30

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 07/25/2006
Date Data Arrived at EDR: 08/10/2006
Date Made Active in Reports: 09/18/2006
Number of Days to Update: 39

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 10/30/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Semi-Annually

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 08/25/2006
Date Data Arrived at EDR: 08/25/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 41

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 10/09/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Annually

Fuel Leak List

Date of Government Version: 10/10/2006
Date Data Arrived at EDR: 10/11/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 14

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 10/09/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Semi-Annually

SANTA CLARA COUNTY:

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 09/25/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: No Update Planned

LOP Listing

A listing of open leaking underground storage tanks.

Date of Government Version: 09/29/2006
Date Data Arrived at EDR: 10/02/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 23

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 09/25/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Varies

Hazardous Material Facilities

Date of Government Version: 09/07/2006
Date Data Arrived at EDR: 09/08/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 27

Source: City of San Jose Fire Department
Telephone: 408-277-4659
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks

Date of Government Version: 07/05/2006
Date Data Arrived at EDR: 07/25/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 30

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 10/18/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Quarterly

Underground Storage Tanks

Date of Government Version: 07/03/2006
Date Data Arrived at EDR: 07/26/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 29

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 10/18/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites

Date of Government Version: 10/23/2006
Date Data Arrived at EDR: 10/24/2006
Date Made Active in Reports: 11/28/2006
Number of Days to Update: 35

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Quarterly

SUTTER COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Underground Storage Tanks

Date of Government Version: 12/31/0005
Date Data Arrived at EDR: 01/05/2006
Date Made Active in Reports: 01/31/2006
Number of Days to Update: 26

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 10/27/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 08/28/2006
Date Data Arrived at EDR: 09/26/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 29

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/13/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 09/05/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 30

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/16/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 08/28/2006
Date Data Arrived at EDR: 09/22/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 33

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/13/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 06/28/2006
Date Data Arrived at EDR: 07/27/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 28

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/12/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Date of Government Version: 07/19/2006
Date Data Arrived at EDR: 08/01/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 23

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/17/2006
Date Made Active in Reports: 04/07/2006
Number of Days to Update: 49

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 09/11/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/01/2006
Date Data Arrived at EDR: 07/06/2006
Date Made Active in Reports: 08/01/2006
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 08/30/2006
Date Made Active in Reports: 10/16/2006
Number of Days to Update: 47

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/29/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 06/06/2006
Number of Days to Update: 81

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 09/11/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 09/30/2005
Date Data Arrived at EDR: 05/09/2006
Date Made Active in Reports: 05/24/2006
Number of Days to Update: 15

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 05/02/2006
Number of Days to Update: 46

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CARMICHAEL WATER DISTRICT
ANCIL HOFFMAN PARK SITE
CARMICHAEL, CA 95608

TARGET PROPERTY COORDINATES

Latitude (North):	38.61000 - 38˚ 36' 36.0"
Longitude (West):	121.309 - 121˚ 18' 32.4"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	647235.6
UTM Y (Meters):	4274648.0
Elevation:	74 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	38121-E3 CARMICHAEL, CA
Most Recent Revision:	1992
North Map:	38121-F3 CITRUS HEIGHTS, CA
Most Recent Revision:	1992

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

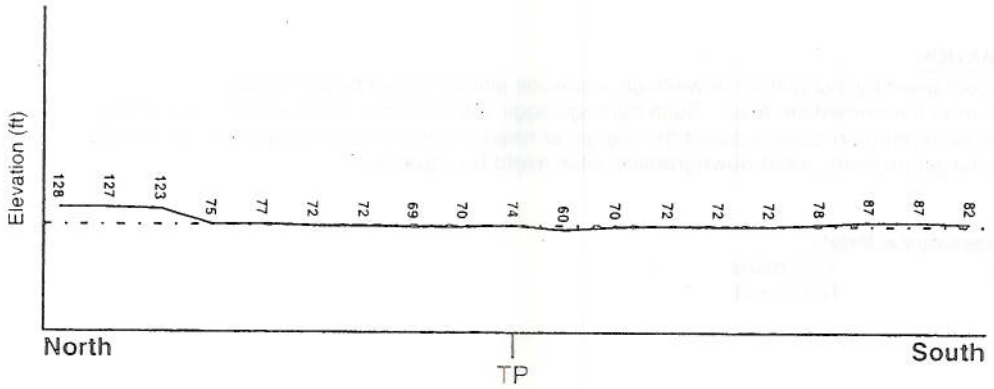
TOPOGRAPHIC INFORMATION

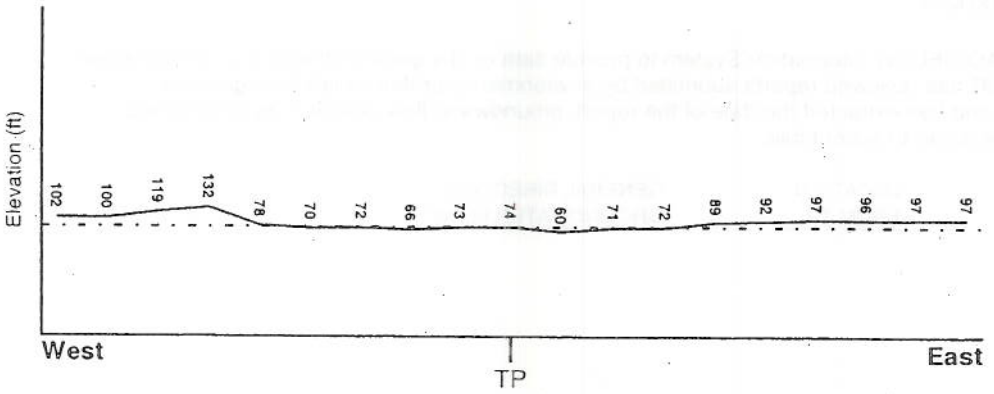
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

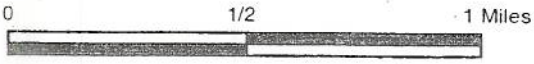
General Topographic Gradient: General NW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 74 ft.



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
SACRAMENTO, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	0602620210D
Additional Panels in search area:	0602620205D

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
CARMICHAEL	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

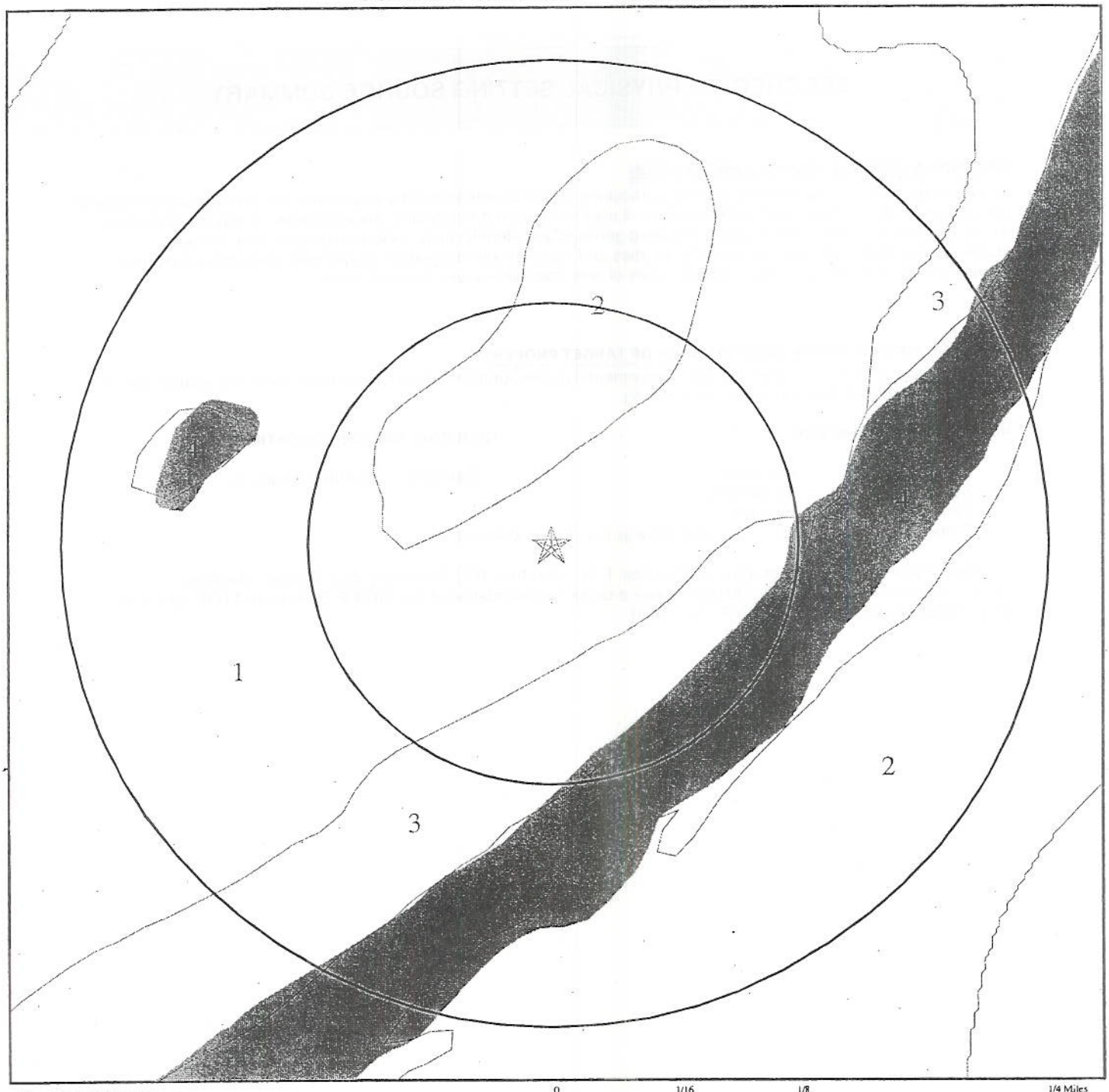
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 1806589.1s



Target Property
SSURGO Soil
Water

SITE NAME: Carmichael Water District ADDRESS: Ancil Hoffman Park site Carmichael CA 95608 LAT/LONG: 38.6100 / 121.3090	CLIENT: AES CONTACT: Pete Connelly INQUIRY #: 1806589.1s DATE: November 29, 2006 6:30 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: XEROFLUVENTS

Soil Surface Texture: variable

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Somewhat excessive. Soils have high hydraulic conductivity and low water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil meets the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 0 inches

Depth to Bedrock Max: > 0 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	60 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

Soil Map ID: 2

Soil Component Name: ROSSMORE

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 0 inches

Depth to Bedrock Max: > 0 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	6 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 7.80 Min: 6.60
2	6 inches	62 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 7.80 Min: 6.60

Soil Map ID: 3

Soil Component Name: RIVERWASH

Soil Surface Texture: variable

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil meets the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Bedrock Max: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	60 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

Soil Map ID: 4

Soil Component Name: WATER

Soil Surface Texture: Not reported

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Bedrock Max: > 0 inches

No Layer Information available.

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS3225469	1/2 - 1 Mile ESE
2	USGS3225491	1/2 - 1 Mile East
A12	USGS3225445	1/2 - 1 Mile SE
13	USGS3225612	1/2 - 1 Mile South
14	USGS3225462	1/2 - 1 Mile ESE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A3	9162	1/2 - 1 Mile SSE
A4	9161	1/2 - 1 Mile SSE
A5	9167	1/2 - 1 Mile SSE
A6	9166	1/2 - 1 Mile SSE
A7	9146	1/2 - 1 Mile SSE
A8	9144	1/2 - 1 Mile SSE
B9	23876	1/2 - 1 Mile SW
B10	9107	1/2 - 1 Mile SW
B11	9145	1/2 - 1 Mile SW

PHYSICAL SETTING SOURCE MAP - 1806589.1s

County Boundary
Major Roads
Contour Lines
Earthquake Fault Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Closest Hydrogeological Data
Oil, gas or related wells

SITE NAME: Carmichael Water District	CLIENT: AES
ADDRESS: Ancil Hoffman Park site Carmichael CA 95608	CONTACT: Pete Connelly INQUIRY #: 1806589.1s
LAT/LONG: 38.6100 / 121.3090	DATE: November 29, 2006 6:30 pm

Map ID Direction Distance Elevation		Database	EDR ID Number
1 **ESE** **1/2 - 1 Mile** **Higher**		**FED USGS**	**USGS3225469**

Agency cd:	USGS	Site no:	383620121175601
Site name:	009N006E27H001M		
Latitude:	383620		
Longitude:	1211756	Dec lat:	38.60546075
Dec lon:	-121.29995019	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	067
Country:	US	Land net:	Not Reported
Location map:	CARMICHAEL	Map scale:	24000
Altitude:	92.00	Altitude method:	M
Altitude accuracy:	2.5	Altitude datum:	NGVD29
Hydrologic:	Lower American. California. Area = 299 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19591101
Date inventoried:	19871207	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	268	Hole depth:	556
Source of depth data:	other government (other than USGS)	Project number:	470688896
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1987-12-07	Ground water data end date:	1987-12-07
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1987-12-07	74.12	

2 **East** **1/2 - 1 Mile** **Higher**		**FED USGS**	**USGS3225491**

Agency cd:	USGS	Site no:	383632121174701
Site name:	009N006E26E001M		
Latitude:	383632		
Longitude:	1211747	Dec lat:	38.60879401
Dec lon:	-121.29745013	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	067
Country:	US	Land net:	Not Reported
Location map:	CARMICHAEL	Map scale:	24000

Altitude:	92.00	Altitude method:	M
Altitude accuracy:	2.5	Altitude datum:	NGVD29
Hydrologic:	Lower American. California. Area = 299 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	195807
Date inventoried:	19871107	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	240	Hole depth:	445
Source of depth data:	other government (other than USGS)	Project number:	470688896
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

A3
SSE
1/2 - 1 Mile
Higher

CA WELLS **9162**

Water System Information:

Prime Station Code:	09N/06E-34G01 M	User ID:	TEN
FRDS Number:	3410015005	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Untreated
Source Lat/Long:	383600.0 1211800.0	Precision:	Undefined
Source Name:	WELL 03 - GILBERT		
System Number:	3410015		
System Name:	Southern CA Water Co - Cordova Water Srv		
Organization That Operates System:	630 East Foothill Blvd San Dimas, CA 91773		
Pop Served:	41840	Connections:	11068
Area Served:	Not Reported		

Sample Collected:	05/19/1999 00:00:00	Findings:	19 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	09/21/1999 00:00:00	Findings:	18 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	09/21/1999 00:00:00	Findings:	468 PCI/L
Chemical:	RADON 222		
Sample Collected:	05/25/2000 00:00:00	Findings:	21 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	09/13/2000 00:00:00	Findings:	1 UG/L
Chemical:	TRICHLOROETHYLENE		

Sample Collected:	05/22/2001 00:00:00	Findings:	4400 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	10/10/2001 00:00:00	Findings:	.56 UG/L
Chemical:	TRICHLOROETHYLENE		

A4
SSE
1/2 - 1 Mile
Higher

CA WELLS 9161

Water System Information:

Prime Station Code:	09N/06E-34C01 M	User ID:	TEN
FRDS Number:	3410015010	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Untreated
Source Lat/Long:	383600.0 1211800.0	Precision:	1 Mile (One Minute)
Source Name:	WELL 08 - AGNES		
System Number:	3410015		
System Name:	Southern CA Water Co - Cordova Water Srv		
Organization That Operates System:	630 East Foothill Blvd San Dimas, CA 91773		
Pop Served:	41840	Connections:	11068
Area Served:	Not Reported		

Sample Collected:	09/21/1999 00:00:00	Findings:	21 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	09/21/1999 00:00:00	Findings:	574 PCI/L
Chemical:	RADON 222		
Sample Collected:	05/25/2000 00:00:00	Findings:	6.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	05/22/2001 00:00:00	Findings:	1300 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	03/26/2002 00:00:00	Findings:	270 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	03/26/2002 00:00:00	Findings:	8
Chemical:	PH, LABORATORY		
Sample Collected:	03/26/2002 00:00:00	Findings:	120 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	03/26/2002 00:00:00	Findings:	146 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	03/26/2002 00:00:00	Findings:	150 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	03/26/2002 00:00:00	Findings:	35 MG/L
Chemical:	CALCIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	14 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	16 MG/L
Chemical:	SODIUM		

Sample Collected:	03/26/2002 00:00:00	Findings:	3.4 MG/L
Chemical:	POTASSIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	9.6 MG/L
Chemical:	CHLORIDE		
Sample Collected:	03/26/2002 00:00:00	Findings:	210 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	03/26/2002 00:00:00	Findings:	13 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03/26/2002 00:00:00	Findings:	12
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	03/26/2002 00:00:00	Findings:	.51 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	06/11/2002 00:00:00	Findings:	.52 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	06/11/2002 00:00:00	Findings:	270 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/11/2002 00:00:00	Findings:	1.8 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	06/11/2002 00:00:00	Findings:	6 UG/L
Chemical:	VANADIUM		
Sample Collected:	09/24/2002 00:00:00	Findings:	.5 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	12/10/2002 00:00:00	Findings:	.57 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	12/10/2002 00:00:00	Findings:	548.1 UG/L
Chemical:	ENDOTHALL		
Sample Collected:	12/10/2002 00:00:00	Findings:	549.1 UG/L
Chemical:	DIQUAT		
Sample Collected:	12/10/2002 00:00:00	Findings:	270 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	12/10/2002 00:00:00	Findings:	2.8 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	12/10/2002 00:00:00	Findings:	.62 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	12/10/2002 00:00:00	Findings:	.62 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	01/28/2003 00:00:00	Findings:	12 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	01/27/2004 00:00:00	Findings:	13 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	01/19/2005 00:00:00	Findings:	110 UG/L
Chemical:	BARIUM		
Sample Collected:	01/19/2005 00:00:00	Findings:	330 US
Chemical:	SPECIFIC CONDUCTANCE		

Sample Collected:	01/19/2005 00:00:00	Findings:	7.78
Chemical:	PH, LABORATORY		
Sample Collected:	01/19/2005 00:00:00	Findings:	130 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	01/19/2005 00:00:00	Findings:	130 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	01/19/2005 00:00:00	Findings:	30 MG/L
Chemical:	CALCIUM		
Sample Collected:	01/19/2005 00:00:00	Findings:	12 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	01/19/2005 00:00:00	Findings:	13 MG/L
Chemical:	SODIUM		
Sample Collected:	01/19/2005 00:00:00	Findings:	3.3 MG/L
Chemical:	POTASSIUM		
Sample Collected:	01/19/2005 00:00:00	Findings:	11 MG/L
Chemical:	CHLORIDE		
Sample Collected:	01/19/2005 00:00:00	Findings:	230 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	01/19/2005 00:00:00	Findings:	12
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	01/19/2005 00:00:00	Findings:	7.76
Chemical:	PH, LABORATORY		
Sample Collected:	01/19/2005 00:00:00	Findings:	15 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	01/19/2005 00:00:00	Findings:	1.3 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	01/19/2005 00:00:00	Findings:	3500 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	01/26/2006 00:00:00	Findings:	13 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04/19/2006 00:00:00	Findings:	1.1 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		

A5
SSE
1/2 - 1 Mile
Higher

CA WELLS 9167

Water System Information:

Prime Station Code:	09N/06E-35C03 M	User ID:	TEN
FRDS Number:	3410015004	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Abandoned
Source Lat/Long:	383600.0 1211800.0	Precision:	Undefined
Source Name:	WELL 02 - CHARBONO - ABANDONED		
System Number:	3410015		
System Name:	Southern CA Water Co - Cordova Water Srv		
Organization That Operates System:			
	630 East Foothill Blvd		
	San Dimas, CA 91773		
Pop Served:	41840	Connections:	11068
Area Served:	Not Reported		

Map ID Direction Distance Elevation	Database	EDR ID Number
A6 **SSE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**9166**

Water System Information:

Prime Station Code:	09N/06E-35C02 M	User ID:	TEN
FRDS Number:	3410015003	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Untreated
Source Lat/Long:	383600.0 1211800.0	Precision:	Undefined
Source Name:	WELL 01 - ALICANTE		
System Number:	3410015		
System Name:	Southern CA Water Co - Cordova Water Srv		
Organization That Operates System:	630 East Foothill Blvd San Dimas, CA 91773		
Pop Served:	41840	Connections:	11068
Area Served:	Not Reported		

Sample Collected:	10/20/1999 00:00:00	Findings:	.78 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	03/07/2000 00:00:00	Findings:	1.5 UG/L
Chemical:	TETRACHLOROETHYLENE		
Sample Collected:	03/07/2000 00:00:00	Findings:	1.1 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	05/23/2000 00:00:00	Findings:	12 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	07/12/2000 00:00:00	Findings:	7.3 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	08/22/2000 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	09/13/2000 00:00:00	Findings:	1 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	09/13/2000 00:00:00	Findings:	9 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	10/04/2000 00:00:00	Findings:	13 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	10/25/2000 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	11/01/2000 00:00:00	Findings:	12 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	11/08/2000 00:00:00	Findings:	10 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	12/05/2000 00:00:00	Findings:	1.1 UG/L
Chemical:	TETRACHLOROETHYLENE		

Sample Collected:	12/05/2000 00:00:00	Findings:	1.2 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/26/2001 00:00:00	Findings:	1.3 UG/L
Chemical:	TETRACHLOROETHYLENE		
Sample Collected:	01/26/2001 00:00:00	Findings:	1.6 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	04/05/2001 00:00:00	Findings:	1.4 UG/L
Chemical:	TETRACHLOROETHYLENE		
Sample Collected:	04/05/2001 00:00:00	Findings:	1.7 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	05/08/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	05/22/2001 00:00:00	Findings:	2000 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	05/22/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	06/28/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	07/11/2001 00:00:00	Findings:	14 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	07/17/2001 00:00:00	Findings:	9.7 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	07/24/2001 00:00:00	Findings:	15 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	08/01/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	08/08/2001 00:00:00	Findings:	10 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	08/14/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	08/23/2001 00:00:00	Findings:	10 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	08/29/2001 00:00:00	Findings:	9 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	09/06/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	09/13/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	09/18/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	10/03/2001 00:00:00	Findings:	10 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	11/14/2001 00:00:00	Findings:	4.6 UG/L
Chemical:	PERCHLORATE		

Sample Collected:	01/27/1999 00:00:00	Findings:	1.5 UG/L
Chemical:	TETRACHLOROETHYLENE		
Sample Collected:	01/27/1999 00:00:00	Findings:	1.1 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	04/14/1999 00:00:00	Findings:	1.9 UG/L
Chemical:	TETRACHLOROETHYLENE		
Sample Collected:	04/14/1999 00:00:00	Findings:	1.6 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	05/20/1999 00:00:00	Findings:	12 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	07/08/1999 00:00:00	Findings:	.51 UG/L
Chemical:	TETRACHLOROETHYLENE		
Sample Collected:	07/08/1999 00:00:00	Findings:	.97 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	09/21/1999 00:00:00	Findings:	22 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	09/21/1999 00:00:00	Findings:	839 PCI/L
Chemical:	RADON 222		
Sample Collected:	10/20/1999 00:00:00	Findings:	1.1 UG/L
Chemical:	TETRACHLOROETHYLENE		

A7
SSE
1/2 - 1 Mile
Higher

CA WELLS 9146

Water System Information:

Prime Station Code:	09N/06E-27H01 M	User ID:	TEN
FRDS Number:	3410015014	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	383600.0 1211800.0	Precision:	Undefined
Source Name:	WELL 12 - WOODCLIFF		
System Number:	3410015		
System Name:	Southern CA Water Co - Cordova Water Srv		
Organization That Operates System:	630 East Foothill Blvd San Dimas, CA 91773		
Pop Served:	41840	Connections:	11068
Area Served:	Not Reported		

Sample Collected:	08/27/1999 00:00:00	Findings:	1.8 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	08/27/1999 00:00:00	Findings:	8.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	09/16/1999 00:00:00	Findings:	18 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	09/16/1999 00:00:00	Findings:	496 PCI/L
Chemical:	RADON 222		

Sample Collected:	01/29/2002 00:00:00	Findings:	260 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	01/29/2002 00:00:00	Findings:	7.6
Chemical:	PH, LABORATORY		
Sample Collected:	01/29/2002 00:00:00	Findings:	120 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	01/29/2002 00:00:00	Findings:	146 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	01/29/2002 00:00:00	Findings:	130 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	01/29/2002 00:00:00	Findings:	30 MG/L
Chemical:	CALCIUM		
Sample Collected:	01/29/2002 00:00:00	Findings:	14 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	01/29/2002 00:00:00	Findings:	15 MG/L
Chemical:	SODIUM		
Sample Collected:	01/29/2002 00:00:00	Findings:	3.5 MG/L
Chemical:	POTASSIUM		
Sample Collected:	01/29/2002 00:00:00	Findings:	7.7 MG/L
Chemical:	CHLORIDE		
Sample Collected:	01/29/2002 00:00:00	Findings:	3.2 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	01/29/2002 00:00:00	Findings:	4.8 UG/L
Chemical:	VANADIUM		
Sample Collected:	01/29/2002 00:00:00	Findings:	210 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	01/29/2002 00:00:00	Findings:	- .19
Chemical:	LANGELIER INDEX @ 60 C		
Sample Collected:	01/29/2002 00:00:00	Findings:	9.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	01/29/2002 00:00:00	Findings:	.54 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	02/26/2002 00:00:00	Findings:	1.1 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	03/12/2002 00:00:00	Findings:	.5 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	03/27/2002 00:00:00	Findings:	280 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	03/27/2002 00:00:00	Findings:	7.6
Chemical:	PH, LABORATORY		
Sample Collected:	03/27/2002 00:00:00	Findings:	120 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	03/27/2002 00:00:00	Findings:	146 MG/L
Chemical:	BICARBONATE ALKALINITY		

Sample Collected:	03/27/2002 00:00:00	Findings:	130 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	03/27/2002 00:00:00	Findings:	31 MG/L
Chemical:	CALCIUM		
Sample Collected:	03/27/2002 00:00:00	Findings:	14 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	03/27/2002 00:00:00	Findings:	16 MG/L
Chemical:	SODIUM		
Sample Collected:	03/27/2002 00:00:00	Findings:	2 MG/L
Chemical:	POTASSIUM		
Sample Collected:	03/27/2002 00:00:00	Findings:	7.8 MG/L
Chemical:	CHLORIDE		
Sample Collected:	03/27/2002 00:00:00	Findings:	.13 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	03/27/2002 00:00:00	Findings:	3.2 UG/L
Chemical:	ARSENIC		
Sample Collected:	03/27/2002 00:00:00	Findings:	130 UG/L
Chemical:	BARIUM		
Sample Collected:	03/27/2002 00:00:00	Findings:	200 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	03/27/2002 00:00:00	Findings:	9.8 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03/27/2002 00:00:00	Findings:	11.6
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	06/26/2002 00:00:00	Findings:	280 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/26/2002 00:00:00	Findings:	7.7
Chemical:	PH, LABORATORY		
Sample Collected:	06/26/2002 00:00:00	Findings:	120 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	06/26/2002 00:00:00	Findings:	146 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	06/26/2002 00:00:00	Findings:	140 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	06/26/2002 00:00:00	Findings:	32 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/26/2002 00:00:00	Findings:	15 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	06/26/2002 00:00:00	Findings:	16 MG/L
Chemical:	SODIUM		
Sample Collected:	06/26/2002 00:00:00	Findings:	2 MG/L
Chemical:	POTASSIUM		
Sample Collected:	06/26/2002 00:00:00	Findings:	7.2 MG/L
Chemical:	CHLORIDE		

Sample Collected:	06/26/2002 00:00:00	Findings:	.25 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	06/26/2002 00:00:00	Findings:	220 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	06/26/2002 00:00:00	Findings:	9.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	06/26/2002 00:00:00	Findings:	11.7
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	06/26/2002 00:00:00	Findings:	.45 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	06/26/2002 00:00:00	Findings:	310 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/26/2002 00:00:00	Findings:	3.3 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	06/26/2002 00:00:00	Findings:	6 UG/L
Chemical:	VANADIUM		
Sample Collected:	09/26/2002 00:00:00	Findings:	.5 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	12/11/2002 00:00:00	Findings:	.55 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	12/11/2002 00:00:00	Findings:	310 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	12/11/2002 00:00:00	Findings:	3 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	01/28/2003 00:00:00	Findings:	87 UG/L
Chemical:	MANGANESE		
Sample Collected:	01/28/2003 00:00:00	Findings:	9.7 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	01/28/2003 00:00:00	Findings:	.54 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	04/29/2003 00:00:00	Findings:	26 UG/L
Chemical:	MANGANESE		
Sample Collected:	04/29/2003 00:00:00	Findings:	.98 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	08/13/2003 00:00:00	Findings:	.003 UG/L
Chemical:	N-NITROSODIMETHYLAMINE (NDMA)		
Sample Collected:	10/23/2003 00:00:00	Findings:	.8 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/26/2004 00:00:00	Findings:	2 TON
Chemical:	ODOR THRESHOLD @ 60 C		
Sample Collected:	01/26/2004 00:00:00	Findings:	24 UG/L
Chemical:	MANGANESE		
Sample Collected:	01/26/2004 00:00:00	Findings:	.52 UG/L
Chemical:	TRICHLOROETHYLENE		

Sample Collected:	01/26/2004 00:00:00	Findings:	9.7 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	07/20/2004 00:00:00	Findings:	.87 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	10/20/2004 00:00:00	Findings:	1.2 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/26/2005 00:00:00	Findings:	1.2 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/26/2005 00:00:00	Findings:	310 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	01/26/2005 00:00:00	Findings:	7.6
Chemical:	PH, LABORATORY		
Sample Collected:	01/26/2005 00:00:00	Findings:	130 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	01/26/2005 00:00:00	Findings:	130 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	01/26/2005 00:00:00	Findings:	120 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	01/26/2005 00:00:00	Findings:	26 MG/L
Chemical:	CALCIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	13 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	13 MG/L
Chemical:	SODIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	1.9 MG/L
Chemical:	POTASSIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	8.2 MG/L
Chemical:	CHLORIDE		
Sample Collected:	01/26/2005 00:00:00	Findings:	190 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	01/26/2005 00:00:00	Findings:	12
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	01/26/2005 00:00:00	Findings:	5 UNITS
Chemical:	COLOR		
Sample Collected:	01/26/2005 00:00:00	Findings:	7.49
Chemical:	PH, LABORATORY		
Sample Collected:	01/26/2005 00:00:00	Findings:	1.9 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	03/07/2005 00:00:00	Findings:	9.8 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04/27/2005 00:00:00	Findings:	1 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	07/13/2005 00:00:00	Findings:	.95 UG/L
Chemical:	TRICHLOROETHYLENE		

Sample Collected:	10/19/2005 00:00:00	Findings:	1 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/25/2006 00:00:00	Findings:	.76 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/25/2006 00:00:00	Findings:	9.4 MG/L
Chemical:	NITRATE (AS NO3)		

A8
SSE
1/2 - 1 Mile
Higher

CA WELLS 9144

Water System Information:

Prime Station Code:	09N/06E-26L01 M	User ID:	TEN
FRDS Number:	3410015012	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	383600.0 1211800.0	Precision:	Undefined
Source Name:	WELL 10 - NEGRARA		
System Number:	3410015		
System Name:	Southern CA Water Co - Cordova Water Srv		
Organization That Operates System:	630 East Foothill Blvd San Dimas, CA 91773		
Pop Served:	41840	Connections:	11068
Area Served:	Not Reported		

Sample Collected:	04/29/2003 00:00:00	Findings:	42 UG/L
Chemical:	MANGANESE		
Sample Collected:	04/29/2003 00:00:00	Findings:	.93 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	10/23/2003 00:00:00	Findings:	30 UG/L
Chemical:	MANGANESE		
Sample Collected:	01/27/2004 00:00:00	Findings:	2 TON
Chemical:	ODOR THRESHOLD @ 60 C		
Sample Collected:	01/27/2004 00:00:00	Findings:	25 UG/L
Chemical:	MANGANESE		
Sample Collected:	01/27/2004 00:00:00	Findings:	2.6 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04/22/2004 00:00:00	Findings:	32 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/08/2004 00:00:00	Findings:	32 UG/L
Chemical:	MANGANESE		
Sample Collected:	07/20/2004 00:00:00	Findings:	32 UG/L
Chemical:	MANGANESE		
Sample Collected:	10/20/2004 00:00:00	Findings:	2 TON
Chemical:	ODOR THRESHOLD @ 60 C		
Sample Collected:	10/20/2004 00:00:00	Findings:	58 UG/L
Chemical:	MANGANESE		

Sample Collected:	10/20/2004 00:00:00	Findings:	.53 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/26/2005 00:00:00	Findings:	32 UG/L
Chemical:	MANGANESE		
Sample Collected:	01/26/2005 00:00:00	Findings:	4.2 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	01/26/2005 00:00:00	Findings:	.6 UG/L
Chemical:	DICHLOROMETHANE		
Sample Collected:	01/26/2005 00:00:00	Findings:	4.2 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	01/26/2005 00:00:00	Findings:	270 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	01/26/2005 00:00:00	Findings:	7.55
Chemical:	PH, LABORATORY		
Sample Collected:	01/26/2005 00:00:00	Findings:	120 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	01/26/2005 00:00:00	Findings:	120 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	01/26/2005 00:00:00	Findings:	98 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	01/26/2005 00:00:00	Findings:	21 MG/L
Chemical:	CALCIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	11 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	11 MG/L
Chemical:	SODIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	4.7 MG/L
Chemical:	POTASSIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	9.5 MG/L
Chemical:	CHLORIDE		
Sample Collected:	01/26/2005 00:00:00	Findings:	190 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	01/26/2005 00:00:00	Findings:	11
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	01/26/2005 00:00:00	Findings:	5 UNITS
Chemical:	COLOR		
Sample Collected:	01/26/2005 00:00:00	Findings:	7.68
Chemical:	PH, LABORATORY		
Sample Collected:	01/26/2005 00:00:00	Findings:	1.7 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07/13/2005 00:00:00	Findings:	36 UG/L
Chemical:	MANGANESE		
Sample Collected:	10/19/2005 00:00:00	Findings:	33 UG/L
Chemical:	MANGANESE		

Sample Collected:	01/25/2006 00:00:00	Findings:	32 UG/L
Chemical:	MANGANESE		
Sample Collected:	04/19/2006 00:00:00	Findings:	1 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	09/16/1999 00:00:00	Findings:	21 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	09/16/1999 00:00:00	Findings:	663 PCI/L
Chemical:	RADON 222		
Sample Collected:	07/12/2000 00:00:00	Findings:	30 UG/L
Chemical:	MANGANESE		
Sample Collected:	04/05/2001 00:00:00	Findings:	28 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/27/2001 00:00:00	Findings:	260 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/27/2001 00:00:00	Findings:	7.6
Chemical:	PH, LABORATORY		
Sample Collected:	06/27/2001 00:00:00	Findings:	94 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	06/27/2001 00:00:00	Findings:	115 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	06/27/2001 00:00:00	Findings:	120 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	06/27/2001 00:00:00	Findings:	27 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/27/2001 00:00:00	Findings:	12 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	06/27/2001 00:00:00	Findings:	15 MG/L
Chemical:	SODIUM		
Sample Collected:	06/27/2001 00:00:00	Findings:	5.5 MG/L
Chemical:	POTASSIUM		
Sample Collected:	06/27/2001 00:00:00	Findings:	8.2 MG/L
Chemical:	CHLORIDE		
Sample Collected:	06/27/2001 00:00:00	Findings:	26 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/27/2001 00:00:00	Findings:	200 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	06/27/2001 00:00:00	Findings:	-.34
Chemical:	LANGELIER INDEX @ 60 C		
Sample Collected:	06/27/2001 00:00:00	Findings:	2.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	09/12/2001 00:00:00	Findings:	30 UG/L
Chemical:	MANGANESE		
Sample Collected:	10/10/2001 00:00:00	Findings:	23 UG/L
Chemical:	MANGANESE		

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	03/26/2002 00:00:00	Findings:	240 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	03/26/2002 00:00:00	Findings:	8
Chemical:	PH, LABORATORY		
Sample Collected:	03/26/2002 00:00:00	Findings:	100 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	03/26/2002 00:00:00	Findings:	122 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	03/26/2002 00:00:00	Findings:	27 MG/L
Chemical:	CALCIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	13 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	13 MG/L
Chemical:	SODIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	5.5 MG/L
Chemical:	POTASSIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	7.9 MG/L
Chemical:	CHLORIDE		
Sample Collected:	03/26/2002 00:00:00	Findings:	29 UG/L
Chemical:	MANGANESE		
Sample Collected:	03/26/2002 00:00:00	Findings:	190 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	03/26/2002 00:00:00	Findings:	2.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03/26/2002 00:00:00	Findings:	11.8
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	03/26/2002 00:00:00	Findings:	.48 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	06/11/2002 00:00:00	Findings:	28 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/11/2002 00:00:00	Findings:	.56 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	06/11/2002 00:00:00	Findings:	250 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/11/2002 00:00:00	Findings:	2.5 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	06/11/2002 00:00:00	Findings:	4 UG/L
Chemical:	VANADIUM		
Sample Collected:	09/24/2002 00:00:00	Findings:	.54 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	12/10/2002 00:00:00	Findings:	45 UG/L
Chemical:	MANGANESE		
Sample Collected:	12/10/2002 00:00:00	Findings:	.49 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		

Sample Collected:	12/10/2002 00:00:00	Findings:	210 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	12/10/2002 00:00:00	Findings:	8 UG/L
Chemical:	VANADIUM		
Sample Collected:	01/29/2003 00:00:00	Findings:	42 UG/L
Chemical:	MANGANESE		

B9
SW
1/2 - 1 Mile
Lower

CA WELLS 23876

Water System Information:

Prime Station Code:	R34/004-DET RAW	User ID:	TEN
FRDS Number:	3410004017	County:	Sacramento
District Number:	09	Station Type:	STREAM/AMBNT
Water Type:	Surface Water	Well Status:	Active Raw
Source Lat/Long:	383600.0 1211900.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	DETERDING COLLECTOR - RAW		
System Number:	3410004		
System Name:	Carmichael Water District		
Organization That Operates System:			
	P.O. Box 929		
	Carmichael, CA 95609-0929		
Pop Served:	38700	Connections:	11051
Area Served:	CARMICHAEL		

B10
SW
1/2 - 1 Mile
Lower

CA WELLS 9107

Water System Information:

Prime Station Code:	09N/06E-09G01 M	User ID:	TEN
FRDS Number:	3410024028	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	383600.0 1211900.0	Precision:	1 Mile (One Minute)
Source Name:	WELL 31 - BARRTT MEADOWS		
System Number:	3410024		
System Name:	Northridge Water District		
Organization That Operates System:			
	P.O. Box 41258		
	Sacramento, CA 95841		
Pop Served:	72400	Connections:	19143
Area Served:	CARMICHAEL,CITRUS HTS,N.HIGHLD		
Sample Collected:	06/19/2001 00:00:00	Findings:	- 1.1
Chemical:	LANGELIER INDEX @ 60 C		
Sample Collected:	06/19/2001 00:00:00	Findings:	4 MG/L
Chemical:	NITRATE (AS NO3)		

Sample Collected:	06/19/2001 00:00:00	Findings:	.3 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	06/19/2001 00:00:00	Findings:	4 UG/L
Chemical:	CHROMIUM (TOTAL CR-CRVI SCREEN)		
Sample Collected:	06/19/2001 00:00:00	Findings:	.8 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	08/28/2001 00:00:00	Findings:	.8 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	11/27/2001 00:00:00	Findings:	200 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	11/27/2001 00:00:00	Findings:	7 UG/L
Chemical:	VANADIUM		
Sample Collected:	12/13/2001 00:00:00	Findings:	1.5 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	12/13/2001 00:00:00	Findings:	.8 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	03/28/2002 00:00:00	Findings:	3 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03/11/2003 00:00:00	Findings:	3 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	02/11/2004 00:00:00	Findings:	3 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	02/11/2004 00:00:00	Findings:	.54 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	02/11/2004 00:00:00	Findings:	.69 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	05/17/2004 00:00:00	Findings:	220 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	05/17/2004 00:00:00	Findings:	7.8
Chemical:	PH, LABORATORY		
Sample Collected:	05/17/2004 00:00:00	Findings:	91 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	05/17/2004 00:00:00	Findings:	91 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	05/17/2004 00:00:00	Findings:	82 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	05/17/2004 00:00:00	Findings:	17 MG/L
Chemical:	CALCIUM		
Sample Collected:	05/17/2004 00:00:00	Findings:	9.6 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	05/17/2004 00:00:00	Findings:	11 MG/L
Chemical:	SODIUM		
Sample Collected:	05/17/2004 00:00:00	Findings:	4 MG/L
Chemical:	POTASSIUM		

Sample Collected:	05/17/2004 00:00:00	Findings:	9 MG/L
Chemical:	CHLORIDE		
Sample Collected:	05/17/2004 00:00:00	Findings:	180 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	05/17/2004 00:00:00	Findings:	- .14
Chemical:	LANGELIER INDEX @ 60 C		
Sample Collected:	05/17/2004 00:00:00	Findings:	4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	05/17/2004 00:00:00	Findings:	.2 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	05/17/2004 00:00:00	Findings:	2 UG/L
Chemical:	CHROMIUM (TOTAL CR-CRVI SCREEN)		
Sample Collected:	05/17/2004 00:00:00	Findings:	.67 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	01/13/2005 00:00:00	Findings:	.71 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	02/03/2005 00:00:00	Findings:	3 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04/05/2005 00:00:00	Findings:	1.4 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	03/11/1999 00:00:00	Findings:	5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	10/21/1999 00:00:00	Findings:	33 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	10/21/1999 00:00:00	Findings:	744 PCI/L
Chemical:	RADON 222		
Sample Collected:	03/09/2000 00:00:00	Findings:	.62 UG/L
Chemical:	BROMODICHLORMETHANE (THM)		
Sample Collected:	03/09/2000 00:00:00	Findings:	7.3 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	03/09/2000 00:00:00	Findings:	7.9 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	12/26/2000 00:00:00	Findings:	.9 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	03/29/2001 00:00:00	Findings:	.8 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	06/19/2001 00:00:00	Findings:	200 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/19/2001 00:00:00	Findings:	6.8
Chemical:	PH, LABORATORY		
Sample Collected:	06/19/2001 00:00:00	Findings:	88 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	06/19/2001 00:00:00	Findings:	88 MG/L
Chemical:	BICARBONATE ALKALINITY		

Sample Collected:	06/19/2001 00:00:00	Findings:	85 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	06/19/2001 00:00:00	Findings:	18 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/19/2001 00:00:00	Findings:	9.7 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	06/19/2001 00:00:00	Findings:	10 MG/L
Chemical:	SODIUM		
Sample Collected:	06/19/2001 00:00:00	Findings:	3 MG/L
Chemical:	POTASSIUM		
Sample Collected:	06/19/2001 00:00:00	Findings:	8 MG/L
Chemical:	CHLORIDE		
Sample Collected:	06/19/2001 00:00:00	Findings:	3 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	06/19/2001 00:00:00	Findings:	8 UG/L
Chemical:	VANADIUM		
Sample Collected:	06/19/2001 00:00:00	Findings:	170 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		

B11
SW
1/2 - 1 Mile
Lower

CA WELLS **9145**

Water System Information:

Prime Station Code:	09N/06E-27F01 M	User ID:	TEN
FRDS Number:	3410004003	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Treated
Source Lat/Long:	383600.0 1211900.0	Precision:	Undefined
Source Name:	DETERDING COLLECTOR - TREATED		
System Number:	3410004		
System Name:	Carmichael Water District		
Organization That Operates System:			
	P.O. Box 929		
	Carmichael, CA 95609-0929		
Pop Served:	38700	Connections:	11051
Area Served:	CARMICHAEL		

A12
SE
1/2 - 1 Mile
Higher

FED USGS **USGS3225445**

Agency cd:	USGS	Site no:	383600121175601
Site name:	009N006E27R001M		
Latitude:	383600		
Longitude:	1211756	Dec lat:	38.59990535
Dec lon:	-121.29995017	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	067
Country:	US	Land net:	Not Reported
Location map:	CARMICHAEL	Map scale:	24000

Altitude:	85.00	Altitude method:	M
Altitude accuracy:	2.5	Altitude datum:	NGVD29
Hydrologic:	Lower American. California. Area = 299 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19560801
Date inventoried:	19871207	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	152	Hole depth:	405
Source of depth data:	other government (other than USGS)	Project number:	470688896
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1987-12-07	Ground water data end date:	1987-12-07
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1987-12-07	70.4	

Note: The site had been pumped recently.

13
South
1/2 - 1 Mile
Higher

FED USGS **USGS3225612**

Agency cd:	USGS	Site no:	383552121183601
Site name:	009N006E34C001M		
Latitude:	383552		
Longitude:	1211836	Dec lat:	38.59768315
Dec lon:	-121.31106157	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	067
Country:	US	Land net:	Not Reported
Location map:	CARMICHAEL	Map scale:	24000
Altitude:	80.00	Altitude method:	M
Altitude accuracy:	2.5	Altitude datum:	NGVD29
Hydrologic:	Lower American. California. Area = 299 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19590501
Date inventoried:	19871207	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	250	Hole depth:	470
Source of depth data:	other government (other than USGS)	Project number:	470688896
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00

Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1987-12-07	Ground water data end date:	1987-12-07
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1987-12-07	72.31	

14
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS3225462**

Agency cd:	USGS	Site no:	383614121173501
Site name:	009N006E26L001M		
Latitude:	383614		
Longitude:	1211735	Dec lat:	38.60379415
Dec lon:	-121.29411669	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	067
Country:	US	Land net:	Not Reported
Location map:	CARMICHAEL	Map scale:	24000
Altitude:	92.00	Altitude method:	M
Altitude accuracy:	2.5	Altitude datum:	NGVD29
Hydrologic:	Lower American. California. Area = 299 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19590801
Date inventoried:	19871207	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	276	Hole depth:	416
Source of depth data:	other government (other than USGS)	Project number:	470688896
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1987-12-07	Ground water data end date:	1987-12-07
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1987-12-07	72.73	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zip	Total Sites	> 4 Pci/L	Pct. > 4 Pci/L
95608	15	0	0.00

Federal EPA Radon Zone for SACRAMENTO County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 95608

Number of sites tested: 6

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.317 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.800 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

ANALYTICAL ENVIRONMENTAL SERVICES

April 3, 2007

RECEIVED
APR 0 4 2007
STATE CLEARING HOUSE

California State Clearinghouse
State of California
1400 Tenth Street
Sacramento, California 95812

Re: Notice of Determination for consideration of the Final Mitigated Negative Declaration (MND) for Ancil Hoffman Groundwater Extraction and Treatment "L" System Project

Enclosed are two copies of a Notice of Determination (NOD) for the above project, which is located in the City of Carmichael, Sacramento County, California. The California Environmental Quality Act (CEQA) document (Final Mitigated Negative Declaration) for the proposed project was adopted by the Carmichael Water District on April 2, 2007. Please record the attached NOD according to the provisions of CEQA. A check in the amount of $1,800 is enclosed for the California Department of Fish and Game filing fee for a Mitigated Negative Declaration.

If you have any questions, you can call me at (916) 447-3479.

Sincerely,

Doug Edwards
Project Manager

DEPT OF FISH & GAME
APR 1 0 2007
REGION 2

NOTICE OF DETERMINATION

y Clerk
y of Sacramento
39

From: *Carmichael Water District*
7837 Fair Oaks Boulevard

56587

REF # 314295

CARMICHAEL WATER DISTRICT
7837 FAIR OAKS BLVD.
CARMICHAEL, CA 95608
916-483-2452

WESTAMERICA BANK
POINT WEST OFFICE
1610 ARDEN WAY, SUITE 199
SACRAMENTO, CA 95815
90-4021-1211

3/19/2007 — DATE

$1,800.00 — AMOUNT

One Thousand Eight Hundred Dollars And 00 Cents

003883

CA Dept of Fish & Game

AMOUNT OVER $5,000.00 REQUIRES 2 SIGNATURES

AUTHORIZED SIGNATURE

⑈056587⑈ ⑆121140218⑆ 0601067036⑈

Arden Hogman Park, Carmichael, CA 95608

Project Description: *The Proposed Project is a component of the existing groundwater containment and treatment program undertaken through a cooperative agreement between Aerojet and CWD. Initiated in response to detection of NDMA groundwater contamination within the CWD, the Proposed Project is designed to arrest the down gradient spread of the contaminant plume, thereby protecting the downgradient quality of the aquifer, remediating the contaminated portions of the acquifer, and preventing additional impacts to public drinking water supply wells, including existing CWD wells. The Proposed Project is comprised of six primary physical components: (1) a groundwater treatment plant (GWTP) with an underground storage reservoir; (2) one proposed and one potential extraction well; (3) underground pipelines for conveyance of untreated and treated groundwater; (4) one proposed and one potential outfall; (5) connection to the existing golf course irrigation system; (6) and underground pipelines to provide potable water supply and fire protection.*

This is to advise that the Carmichael Water District (CWD) as the Lead Agency for the above described project has made the following determinations regarding the above described project:

POSTED
APR 25 2007
DATE
BATCH 138
FM
ENT.

1. A Final MND was prepared and adopted for this project by the CWD pursuant to the provisions of CEQA. The Draft MND was circulated for the review period of 30-days as permitted by the State Clearinghouse.
2. The Final MND concluded that the Proposed Project would not have significant unavoidable adverse impacts on the environment.

1800.00 003883 APR 13 2007

NOTICE OF DETERMINATION

To: *County Clerk*
County of Sacramento
P.O. 839
Sacramento, California 95814

From: *Carmichael Water District*
7837 Fair Oaks Boulevard
Carmichael, CA 95608

SUBJECT: *FILING OF NOTICE OF DETERMINATION IN COMPLIANCE WITH SECTION 21108 OF THE PUBLIC RESOURCES CODE AND SECTION 15094 OF THE CEQA GUIDELINES*

Project Title: *Final Mitigated Negative Declaration (MND) for Ancil Hoffman Groundwater Extraction and Treatment "L" System Project*

ENDORSED:

APR - 4 2007

CRAIG A. KRAMER, CLERK-RECORDER
By DEPUTY

SCH Number: *2007022100*

Date Adopted: *April 2, 2007*

Contact Person: *Steve Nugent* **Telephone Number:** *(916) 396-3954*

Project Location: *The Carmichael Water District Ancil Hoffman Groundwater Extraction and Treatment Facility is located along Tarshes Drive, the main access road through Ancil Hoffman Park, Carmichael, CA 95608*

Project Description: *The Proposed Project is a component of the existing groundwater containment and treatment program undertaken through a cooperative agreement between Aerojet and CWD. Initiated in response to detection of NDMA groundwater contamination within the CWD, the Proposed Project is designed to arrest the down gradient spread of the contaminant plume, thereby protecting the downgradient quality of the aquifer, remediating the contaminated portions of the acquifer, and preventing additional impacts to public drinking water supply wells, including existing CWD wells. The Proposed Project is comprised of six primary physical components: (1) a groundwater treatment plant (GWTP) with an underground storage reservoir; (2) one proposed and one potential extraction well; (3) underground pipelines for conveyance of untreated and treated groundwater; (4) one proposed and one potential outfall; (5) connection to the existing golf course irrigation system; (6) and underground pipelines to provide potable water supply and fire protection.*

This is to advise that the Carmichael Water District (CWD) as the Lead Agency for the above described project has made the following determinations regarding the above described project:

1. A Final MND was prepared and adopted for this project by the CWD pursuant to the provisions of CEQA. The Draft MND was circulated for the review period of 30-days as permitted by the State Clearinghouse.
2. The Final MND concluded that the Proposed Project would not have significant unavoidable adverse impacts on the environment.

1800.00 003883 APR 13 2007

3. Pursuant to the CEQA Guidelines, the CWD as the Lead Agency is filing this Notice of Determination.
4. Mitigation measures were made a condition of the approval of this project.
5. A statement of Findings was not adopted for this project since no significant impacts were identified.
6. A statement of Overriding Considerations was not adopted for this project since no significant impacts were identified.
7. The CWD has adopted a mitigation monitoring program pursuant to Public Resource Code §21081.6 and CEQA Guidelines §15097 for this project.

The Final MND, supporting documentation, and record of project approval may be examined at the CWD Office located at 7837 Fair Oaks Boulevard, Carmichael, CA. 95608.

April 3, 2007

Date Received for filing

Signature: Steven M. Nugent

Steve Nugent.
General Manager CWD

NOTICE OF DETERMINATION

To: *California State Clearinghouse*
State of Califonia
1400 Tenth Street
Sacramento, California 95812

From: *Carmichael Water District*
7837 Fair Oaks Boulevard
Carmichael, CA 95608

SUBJECT: *FILING OF NOTICE OF DETERMINATION IN COMPLIANCE WITH SECTION 21108 OF THE PUBLIC RESOURCES CODE AND SECTION 15094 OF THE CEQA GUIDELINES*

Project Title: *Final Mitigated Negative Declaration (MND) for Ancil Hoffman Groundwater Extraction and Treatment "L" System Project*

RECEIVED
APR 0 4 2007
STATE CLEARING HOUSE

SCH Number: *2007022100*

Date Adopted: *April 2, 2007*

Contact Person: *Steve Nugent* **Telephone Number:** *(916) 396-3054*

Project Location: *The Carmichael Water District Ancil Hoffman Groundwater Extraction and Treatment Facility is located along Tarshes Drive, the main access road through Ancil Hoffman Park, Carmichael, CA 95608*

Project Description: *The Proposed Project is a component of the existing groundwater containment and treatment program undertaken through a cooperative agreement between Aerojet and CWD. Initiated in response to detection of NDMA groundwater contamination within the CWD, the Proposed Project is designed to arrest the down gradient spread of the contaminant plume, thereby protecting the downgradient quality of the aquifer, remediating the contaminated portions of the acquifer, and preventing additional impacts to public drinking water supply wells, including existing CWD wells. The Proposed Project is comprised of six primary physical components: (1) a groundwater treatment plant (GWTP) with an underground storage reservoir; (2) one proposed and one potential extraction well; (3) underground pipelines for conveyance of untreated and treated groundwater; (4) one proposed and one potential outfall; (5) connection to the existing golf course irrigation system; (6) and underground pipelines to provide potable water supply and fire protection.*

This is to advise that the Carmichael Water District (CWD) as the Lead Agency for the above described project has made the following determinations regarding the above described project:

1. A Final MND was prepared and adopted for this project by the CWD pursuant to the provisions of CEQA. The Draft MND was circulated for the review period of 30-days as permitted by the State Clearinghouse.
2. The Final MND concluded that the Proposed Project would not have significant unavoidable adverse impacts on the environment.

3. Pursuant to the CEQA Guidelines, the CWD as the Lead Agency is filing this Notice of Determination.
4. Mitigation measures were made a condition of the approval of this project.
5. A statement of Findings was not adopted for this project since no significant impacts were identified.
6. A statement of Overriding Considerations was not adopted for this project since no significant impacts were identified.
7. The CWD has adopted a mitigation monitoring program pursuant to Public Resource Code §21081.6 and CEQA Guidelines §15097 for this project.

The Final MND, supporting documentation, and record of project approval may be examined at the CWD Office located at 7837 Fair Oaks Boulevard, Carmichael, CA. 95608.

April 3, 2007

Date Received for filing

Signature: Steven M. Nugent

Steve Nugent.
General Manager CWD

CARMICHAEL WATER DISTRICT

SPECIAL BOARD MEETING AGENDA PACKET

APRIL 2, 2007

POSTED 3/29/07

CARMICHAEL WATER DISTRICT

Special Meeting – April 2, 2007
7:00p.m.
Carmichael Water District Board Room
7837 Fair Oaks Boulevard
Carmichael, CA 95608

AGENDA

The Board will discuss all items on its agenda, and may take action on any of those items, including information items and continued items. The Board may also discuss other items that do not appear on its agenda, but will not act on those items unless action is urgent, and a resolution is passed by a two-thirds vote declaring the need for action arose after posting of the agenda.

The Board of Directors welcomes and encourages participation in meetings. Public testimony may be given on any agenda item as it is called and should be limited to three minutes per speaker. Matters not on the posted agenda may be addressed under Item #1, Public Comment. Please fill out a Speaker Card and turn it in at the staff table, either before or during the meeting.

CALL TO ORDER – President Selsky

1. **Public Comment:**

   Any member of the public may address the Board on this item of interest to the public that is within the subject matter jurisdiction of the Board.

ACTION ITEM:

2. **Resolution 04022007-1: A Resolution adopting the Initial Study- Mitigated Negative Declaration document for the Ancil Hoffman Groundwater Extraction and Treatment "L" system project.**

   This item was presented to the Board for information on the March 19, 2007 agenda and is brought back to the board for approval on the April 2, 2007. It is recommended that the Board of Directors approve Resolution 04022007-1.

The next Board of Directors Meeting is scheduled for Monday, April 16, 2007 at 7:00 p.m.

CARMICHAEL WATER DISTRICT

RESOLUTION 04022007-1

Resolution of Findings
for the
Ancil Hoffman Park Get "L" Project

Whereas, In accordance with the California Environmental Quality Act (CEQA) of 1970 (as amended) codified at California Public Resources Code Sections 21000 et seq. and the State CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3, Carmichael Water District, as Lead Agency, has prepared an Initial Study/Mitigated Negative Declaration (IS/MND) for the Ancil Hoffman Park Get "L" Project; and

Whereas, The Carmichael Water District's Board of Directors has considered the proposed IS/MND together with any comments received during the public review process; and

Whereas, Carmichael Water District's Board of Directors finds on the basis of the whole record before it that there is no substantial evidence that the project will have a significant effect on the environment and that the IS/MND reflects the Carmichael Water District's independent judgment and analysis; and

Whereas, In accordance with CEQA Guidelines, the adoption of the IS/MND shall include adoption of the "Ancil Hoffman Park Get "L" Project: Mitigation Monitoring and Reporting Program" (MMRP); and

Whereas, The IS/MND, MMRP, and all other documents that constitute the record of proceedings upon which the decision to adopt the IS/MDN and MMRP will be available at the Carmichael Water District.

Now, therefore, be it resolved, that the Carmichael Water District adopts the Resolution of Findings for the Ancil Hoffman Park Get "L" Project.

PASSED AND ADOPTED by the Board of Directors on this 2nd day of April 2007 by the following vote:

Mark Emmerson	Aye_____	No_____	Absent _____	Abstain _____
Paul Selsky	Aye_____	No_____	Absent _____	Abstain _____
Ron Greenwood	Aye_____	No_____	Absent _____	Abstain _____
Sanford Kozlen	Aye_____	No_____	Absent _____	Abstain _____
John Wallace	Aye_____	No_____	Absent _____	Abstain _____

Board Totals: AYES:_____ NOES:_____ ABSENT:_____ ABSTAIN:_____
Passed Unanimously: Yes_____

Signed after its passage this 2nd day of April 2007:

_____
President, Paul Selsky
Board of Directors

ATTEST: _____
Steve Nugent, Secretary

Ancil Hoffman Groundwater Extraction and Treatment "L" System Project
Mitigated Negative Declaration (SCH #2007022100)

FINDINGS

1. In accordance with CEQA *Guidelines* 15070, Carmichael Water District (CWD), as Lead Agency, has prepared an Initial Study/Mitigated Negative Declaration (IS/MND) for the Bajamont Groundwater Extraction and Treatment "L1" System Project.

2. The CWD Board of Directors has considered the proposed IS/MND together with all comments received during the public review process.

3. The CWD Board of Directors finds on the basis of the whole record before it that there is no substantial evidence that the project will have a significant effect on the environment and that the IS/MND reflects the Carmichael Water District's independent judgment and analysis.

4. In accordance with CEQA *Guidelines* 15074, the adoption of the IS/MND shall include adoption of the "Ancil Hoffman Groundwater Extraction and Treatment "L" System Project: Mitigation Monitoring and Reporting Program" (MMRP).

5. The IS/MND, MMRP, and all other documents that constitute the record of proceedings upon which the decision to adopt the IS/MND and MMRP will be available at the Carmichael Water District.

Ancil Hoffman Groundwater Extraction and Treatment "L" System Project

Mitigated Negative Declaration (SCH #2007022100)

MITIGATION MONITORING AND REPORTING PROGRAM

Introduction

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared pursuant to Section 21081.6 of the California Public Resources Code. A MMRP is required for the Proposed Project because the Mitigated Negative Declaration (MND) has identified potential adverse effects that will be reduced to less-than-significant levels through the implementation of mitigation measures.

The numbering of the individual mitigation measures follows the numbering sequence as found in the MND.

Mitigation Monitoring and Reporting Program

The MMRP, as outlined in the following table, describes mitigation timing, monitoring responsibilities, and compliance verification responsibility for all mitigation measures identified in the MND.

Carmichael Water District (CWD) will be the primary agency responsible for implementing the mitigation measures. CWD may choose to require the project contractor to implement specific mitigation measures prior to and/or during construction. In some cases, the County or other public agencies will implement measures.

The MMRP is presented in tabular form on the following pages. The components of the MMRP are described briefly below:

- **Mitigation Measures:** The mitigation measures are taken verbatim from the MND, in the same order that they appear in the MND.

- **Mitigation Timing and Implementation:** Identifies at which stage of the project mitigation must be completed and how it will be implemented.

- **Monitoring and Enforcement Responsibility:** Identifies the agency or department within the County responsible for mitigation monitoring and enforcement.

- **Compliance Verification Responsibility:** Identifies the agency responsible for verifying compliance with the mitigation.

TABLE 1
MITIGATION MONITORING AND REPORTING PROGRAM

Proposed Mitigation	Summary of Measure	Enforcement and Monitoring Responsibility	Timing/ Implementation	Verification (Date and Initials)
3.3 Air Quality				
Mitigation Measure AQ-1	During dry weather, earthwork construction areas shall be kept moist via regular watering to reduce fugitive dust emissions.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure AQ-2	Trucks hauling soil and other loose materials shall be covered to reduce dust emissions and spillage onto paved roads.	Carmichael Water District and project contractor.	During construction activities	
Mitigation Measure AQ-3	Paved roads in the construction area or leading to the construction area shall be washed or swept daily during the construction period.	Carmichael Water District and project contractor.	During construction activities	
Mitigation Measure AQ-4	Excavation and grading activities shall be suspended when winds (instantaneous gusts) exceed 25 miles per hour.	Carmichael Water District and project contractor.	During construction activities	
Mitigation Measure AQ-5	Equipment shall be maintained according to the manufacturers' specifications to prevent emissions of unburned fuel or noxious fumes.	Carmichael Water District and project contractor.	During construction activities	
Mitigation Measure AQ-6	Idling of construction equipment and vehicles shall be restricted to 10 minutes.	Carmichael Water District and project contractor.	During construction activities	
Mitigation Measure AQ-7	Gasoline-powered equipment and vehicles shall have catalytic converters installed prior to their use on the project site.	Carmichael Water District and project contractor.	During construction activities	
3.4 Biological Resources				
Mitigation Measure BR-1	Following final project design and prior to any disturbance within 100 ft. of elderberry plants, the District will consult with the Fish and Wildlife Service as set forth in the *Conservation Guidelines*. At a minimum, the District will implement all feasible protective measures recommended during consultation. These will include fencing and flaging of all elderberry plants within the 100-ft. buffer, briefing contractors on the need to avoid damaging elderberry plants and the	Carmichael Water District and project contractor.	Immediately prior to construction activities.	

Proposed Mitigation	Summary of Measure	Enforcement and Monitoring Responsibility	Timing/ Implementation	Verification (Date and Initials)
	penalties for not complying with these requirements, and erecting signs identifying the area as habitat for a species protected by the Endangered Species Act.			
Mitigation Measure BR-2	A qualified wildlife biologist shall inform all construction personnel that protected turtles may occur in the area. A description of their natural history and identifying characteristics shall be provided. The personnel shall be instructed on the proper techniques for handling and relocating turtles, should relocation be required. If a turtle of any species enters an active construction area, or is in imminent danger, construction personnel (or an on-call wildlife biologist) shall carefully remove the turtle to a point at least 300 ft. downstream of the project limits and within similar habitat.	Carmichael Water District and California Department of Fish and Game.	During the March-May bloom period, prior to construction activities.	
Mitigation Measure BR-3	A qualified biologist shall conduct a pre-construction survey for nests within .25 miles of the project site. If active nests are identified, the project proponent shall initiate consultation with CDFG to establish appropriate avoidance measures. Avoidance measures may include subsequent biological monitoring and the establishment of buffer areas around identified nests, with no disturbances within the buffer between April 1 and September 30, or until the young have fledged.			
3.5 Cultural Resources				
Mitigation Measure CR-1	In the event of the unanticipated discovery of buried or concealed heritage resources, project activities will cease in the area of the find, and consultation with a qualified archaeologist will be initiated for recommended procedures. If human remains are inadvertently discovered, work will cease immediately and the County coroner will be notified in accordance with California law. A professional archaeologist will also be hired to assist in the development of appropriate mitigation of site impacts.	Carmichael Water District, Sacramento County Coroner, and Native American Heritage Commission.	During construction activities.	
3.6 Geology and Soils				
Mitigation Measure GS-1	Vegetation removal shall be limited to the minimum amount necessary to accommodate the project. As the permanent vegetation cover is maturing, temporary native vegetation or other erosion control measures sufficient to stabilize the soil shall be established on all disturbed areas. New planting shall be protected by using such	Carmichael Water District and project contractor.	During construction activities.	

Proposed Mitigation	Summary of Measure	Enforcement and Monitoring Responsibility	Timing/ Implementation	Verification (Date and Initials)
	measures as jute netting, straw mulching and fertilizing.			
Mitigation Measure GS-2	Temporary erosion control measures, such as silt fences, staked straw bales, and temporary revegetation, shall be employed for disturbed areas.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure GS-3	No disturbed surfaces shall be left without erosion control measures in place during the winter and spring months.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure GS-4	Sediment shall be retained on site by a system of sediment basins, traps, or other appropriate measures.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure GS-5	Prior to and during on-site development of the Proposed Project, the contractor shall address slope stability, excavation, retaining wall backfill, and grading through the oversight of a professional, licensed geologist or engineer.	Carmichael Water District and project contractor.	During construction activities.	
3.7 Hazards and Hazardous Materials				
Mitigation Measure HM-1	To reduce the potential for accidental releases, fuel, oil, and hydraulic fluids shall be transferred directly from a service truck to construction equipment tanks and shall not otherwise be stored on site.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure HM-2	Personnel shall follow written standard operating procedures (SOPs) for filling and servicing construction equipment and vehicles. The SOPs, which are designed to reduce the potential for incidents involving the hazardous materials, shall include the following: *A. Refueling shall be conducted only with approved pumps, hoses, and nozzles.* *B. Catch pans shall be placed under equipment to catch potential spills during servicing.* *C. All disconnected hoses shall be placed in containers to collect residual fuel from the hose.* *D. Vehicle engines shall be shut down during refueling.* *E. No smoking, open flames, or welding shall be allowed in refueling or service areas.*	Carmichael Water District and project contractor.	During construction activities.	

Proposed Mitigation	Summary of Measure	Enforcement and Monitoring Responsibility	Timing/ Implementation	Verification (Date and Initials)
	F. Refueling shall be performed away from bodies of water to prevent contamination of water in the event of a leak or spill. *G. Service trucks shall be provided with fire extinguishers and spill containment equipment, such as absorbents.* *H. Should a spill contaminate soil, the soil shall be put into containers and disposed of in accordance with local, State, and Federal regulations.* *I. All containers used to store hazardous materials shall be inspected at least once per week for signs of leaking or failure. All maintenance and refueling areas shall be inspected monthly. Results of inspections shall be recorded in a logbook that would be maintained on site.* *J. The amount of hazardous materials used in project construction and operation shall be consistently kept at the lowest volumes needed.*			
Mitigation Measure HM-3	The use of pesticides and toxic chemicals shall be minimized or less toxic alternatives shall be used to the greatest extent feasible in landscaping.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure HM-4	If suspected soil contamination is encountered during excavation and grading activities, all work shall be halted and a qualified individual, in consultation with the RWQCB, shall determine the appropriate course of action.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure HM-5	All construction equipment shall include spark arresters in good working order.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure HM-6	Staging areas, welding areas, or areas slated for construction using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel.	Carmichael Water District and project contractor.	During construction activities.	
Mitigation Measure HM-7	To the extent feasible, the contractor shall keep areas around the construction site clear of combustible materials in order to maintain a firebreak.	Carmichael Water District and project contractor.	During construction activities.	

Proposed Mitigation	Summary of Measure	Enforcement and Monitoring Responsibility	Timing/ Implementation	Verification (Date and Initials)
3.8 Water Resources				
	See mitigation measures in the Soils and Geology Section (**GS-1 to GS-4**).	Carmichael Water District and project contractor.	During construction activities.	
	Prior to construction, CWD will consult with the Reclamation Board to determine whether portions of the Proposed Project encroach on a designated floodway and is therefore subject to permitting. If necessary, CWD will obtain encroachment permit to construct within the floodway prior to construction.	Carmichael Water District	Prior to project construction	
3.15 Transportation				
Mitigation Measure TT-1	Consistent with the Circulation Element, all construction related trips will be coordinated with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the nature of construction activities within access routes, as well as the timing, location, and duration of construction related truck trips.	Carmichael Water District and project contractor.	During construction activities.	

Ancil Hoffman Groundwater Extraction and Treatment "L" System Project
Mitigated Negative Declaration (SCH #2007022100)

RESPONSE TO COMMENTS

The Carmichael Water District (CWD) issued a Notice of Intent (NOI) to prepare a Mitigated Negative Declaration (MND) for the Ancil Hoffman Groundwater Extraction and Treatment "L" System Project (Proposed Project) on February 23, 2007. Publication of the NOI initiated a 30-day public review period in which all interested individuals and public agencies were invited to submit written comments on the document.

CWD received a total of four written comments on the Proposed Project (attached). A summary of each comment letter is provided below and followed by an appropriate response. The CWD will consider each comment and response in deciding whether to adopt the MND.

1). Alexander MacDonald, Senior Engineer. California Regional Water Quality Control Board, Central Valley Region. March 23, 2007.

Summary: Mr. MacDonald references page 3-23, Section 3.6, Question E, third sentence of the MND, noting that the Proposed Project would require a General Permit for Construction of a linear pipeline project.

Response: The comment is based on an assumption that the .75 acres of ground disturbance described in the MND is limited to the construction of the treatment facility. In fact, it is estimated that the entirety of the Proposed Project will result in ground disturbance of less than an acre and therefore a General Permit would not be required. In the event ground disturbance exceeds an acre, the project proponent will apply for the appropriate permits.

2) Christopher Huitt, Staff Environmental Scientist, Floodway Protection Section. State of California Department of Water Resources. March 12, 2007.

Summary: Mr. Huitt comments that the Proposed Project could encroach on the State Adopted Plan for Flood Control and recommends review of the Designated Floodway Maps at http://recbd.ca.gov. If the Proposed Project would encroach on an adopted flood control plan, an encroachment permit will need to be issued from the Reclamation Board prior to project initiation.

Response: Upon review of the on-line maps referenced above, it appears that portions of the Proposed Project may encroach on a designated floodway. If the project encroaches on the State Adopted Plan for Flood Control, CWD will obtain the necessary encroachment permit to construct within a designated floodway. Prior to initiating construction, CWD will consult with

the Reclamation Board to determine whether aspects of the Proposed Project would be subject to permitting. A requirement to consult and obtain appropriate permits has been added to the Water Resources section of the Mitigation Monitoring and Reporting Program (MMRP).

3) Katherine Mrowka, Chief Watershed Unit 3. State of California Water Resources Control Board. March 19, 2007.

Summary: Ms. Mrowka comments that an appropriative water right is required for diversion of water from surface streams or subterranean streams flowing through known and definite channels.

Response: The Proposed Project will not divert water from surface streams or subterranean streams flowing through known channels. The Proposed Project would pump contaminated groundwater that has gradually migrated through aquifers from the Aeroject property south of the American River northwesterly beneath the American River. Consequently, no appropriative water right is required.

4) Kevin Freibott, Environmental Planner. City of Rancho Cordova Planning Department. March 20, 2007.

Summary: Mr. Freibott notes that one of the previously discarded alternatives would require a pipeline beneath the American River, which would result in greater environmental impacts than the Proposed Project. Mr. Freibott also questions the analysis of impacts resulting from trenching activities within the driplines of native valley oaks and recommends that trenching within the driplines be done by hand.

Response: Assessment of impacts to native valley oaks followed guidance provided by Sacramento County Department of Environmental Review and Assessment (DERA), which provided comment on the administrative draft of the MND. As noted on page 3-16 of the MND, trenching in existing roadbeds that already encroach within driplines is considered a less-than-significant impact that does not require compensatory mitigation. All tree removal and grading activities will be undertaken as set forth in the Tree Ordinance. In particular, the project proponent will consult with the County Director of Public Works to determine whether a tree permit is necessary for the removal of non-native tree species identified on site or grading beneath the drip lines.

CITY OF RANCHO CORDOVA
CALIFORNIA
Incorporated 2003
Planning Department

RECEIVED
MAR 26 2007
CARMICHAEL WATER DISTRICT

David Sander
Mayor
Linda Budge
Vice Mayor
Ken Cooley
Councilmember
Robert McGarvey
Councilmember
Dan Skoglund
Councilmember

March 23, 2007

Mr. Steve Nugent
General Manager
Carmichael Water District
7837 Fair Oaks Boulevard
Carmichael, CA 95608

Re: Ancil Hoffman Park GET "L" Project Mitigated Negative Declaration
State Clearinghouse #2007022100

Mr. Nugent:

Thank you for the opportunity to review and provide comments on the Mitigated Negative Declaration (MND) for the Ancil Hoffman Park GET "L" Project (State Clearinghouse #2007022100). The City of Rancho Cordova provides the following comments on the MND:

Comment 1 It appears that project Alternative 7, as shown in the project description (p. 2-20) as well as in Figure 2-11, would require pipelines under the American River and the American River Parkway area. Additionally, encroachment permits would be required from the City Public Works Department for trenching within City Streets to the proposed treatment plant on Coloma Road.

After speaking with you previously, it appears that Alternative 7 is unlikely. However, the City wishes to formally comment that such an alternative would be difficult and the City agrees with the assertion in the MND that Alternative 7 would result in a greater environmental impact than the proposed "L" facility.

Comment 2 The MND states on page 3-11 that trenching will be required within the dripline of three native valley oaks (*Quercus lobata*) and three interior live oaks (*Quercus wislizenii*). Discussion on page 3-16 goes on to state that such trenching within the dripline of these six trees would not have a significant effect on those trees due to fact that trenching will occur within the existing roadway alignment.

According to information provided by our staff Arborist, Rochelle Amrhein, structural roots for those trees are likely to exist within the roadway alignment, below the roadway improvements. Feeder roots are unlikely, due to the limited gas exchange that occurs under pavement, but structural roots

generally extend as low as three feet below the ground and even lower if the roots encounter an obstruction such as the road bed.

Such structural roots have been found to extend under roadways. As such, it is expected that the roots of these trees could underlie the roadway and the trees may be adversely affected by trenching to install the pipelines shown in Figures 2-3a and 2-3b. The City recommends that trenching within the dripline of those trees be conducted by hand. Hand trenching has been shown to provide superior protection to roots, even when compared to extreme measures such as boring and jacking below the tree.

Thank you again for the opportunity to comment on the Mitigated Negative Declaration for the proposed GET "L" project. If you have any questions regarding the comments provided above, please feel free to contact me by email at kfreibott@cityofranchocordova.org or by phone at (916) 851-8753.

Sincerely,

Kevin Freibott
Environmental Planner
City of Rancho Cordova
kfreibott@cityofranchocordova.org
(916) 851-8753

State Water Resources Control Board

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

Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

MAR 1 6 2007

In Reply Refer to:334:KDM:12367

RECEIVED
MAR 1 6 2007
CARMICHAEL WATER DISTRICT

Steve Nugent
Carmichael Water District
7837 Fair Oaks Boulevard
Carmichael, CA 95608

Dear Mr. Nugent:

CARMICHAEL WATER DISTRICT ANCIL HOFFMAN PARK GROUNDWATER EXTRACTION TREATMENT SYSTEM PROJECT, INITIAL STUDY/MITIGATED NEGATIVE DECLARATION, SCH 3 2007022100, PERMIT 7356 (APPLICATION 12367)

The Division of Water Rights (Division) received Carmichael Water District's (CWD) Initial Study/Mitigated Negative Declaration (MND) regarding the proposed Ancil Hoffman Park Groundwater Extraction and Treatment System project (Proposed Project) on February 27, 2007. The Proposed Project consists of the construction of a Groundwater Treatment Plant (GWTP), extraction wells, and pipelines for conveyance of untreated and treated groundwater.

The GWTP will be constructed on a grassy area located between Tarshes Drive on the southeast and the parking lot for the Ancil Hoffman Golf Course Clubhouse on the northwest. The pipelines will mainly be located within the existing roadbeds of Tashes Drive and access roads leading to the existing golf course irrigation pump station. An existing monitoring well located adjacent to the golf course irrigation pump station will be converted into an extraction well. A second extraction well may be constructed next to the Tarshes Drive and San Lorenzo Way intersection. The Proposed Project also includes two possible concrete outfalls, the first being located immediately east of the most downstream crossing of Tarshes Drive. A second outfall may be constructed on the northern bank of the American River in the vicinity of the existing Ranney water collector. Proposed Outfall A would be located on Carmichael Creek. Treated water would be discharged into Carmichael Creek thence the American River during periods when there is no irrigation demand. Potential Outfall B would be located on the American River near the existing Ranney Collector. The project would provide for beneficial reuse of treated groundwater by connecting the GWTP to the existing golf course irrigation system.

An appropriative water right issued by the State Water Resources Control Board (State Water Board) is required for diversion of water from a surface stream or subterranean stream flowing through a known and definite channel. A permit is not required for use of percolating groundwater.

The State Water Board undertook extensive investigation into whether the groundwater on the Aerojet property contributed to stream recharge. The draft decision regarding the request to revise the Declaration of Fully Appropriated Streams listing for the American River identifies the aquifers from which Aerojet is pumping that are tributary and the aquifers which are not tributary to the stream system. Pages 14 through 19 of the draft decision are enclosed for your use.

Although it is unclear whether CWD intends to divert water from the groundwater basins included in the Aeroject study, this information may be useful to you. Diversion of percolating groundwater which, under natural conditions, would not reach or recharge the stream is considered foreign and developed water. A person or entity that by his or her own efforts makes such water available is entitled to use it, so long as the use does not infringe on the prior rights of others.

If you intend to purse the project pursuant to Permit 7356 (Application 12367), the MND should indicate that the document will be used for purposes of a change petition to be filed with the State Water Board.

If you have any further questions, please contact me at (916) 541-5363.

Sincerely,

Katherine Mrowka

Katherine Mrowka, Chief
Watershed Unit 3

Enclosure

6.0 STATUS OF THE WATER AT ISSUE

Several parties argue in their closing briefs that the SWRCB should find that the water at issue in this proceeding retains its legal status as groundwater even if the water is discharged into a surface water channel. Interested parties, including Sacramento County and Cal-Am ask the SWRCB to determine and allocate rights to this water according to California groundwater law.

For purposes of determining whether to revise the Declaration, and whether the statutory water right process applies, the issue is whether the water is in a natural channel, not what the original source of the water was before it found its way into the channel. (See Wat. Code, § 1201.) Indeed, if the character of water was determined by its original source, that characterization would mean that little, if any water is, or ever was, available for appropriation under the Water Code. Virtually all surface water originates from sources – including groundwater, unchannelized sheetflow, and rivers flowing from other states – that are not subject to appropriation under the Water Code until after the water enters a natural channel. In fact, all waters of the state originate as rain and snow, which is not subject to the statutory appropriation procedures if it is captured before it enters a stream, lake or other body of water. If waters retained their original character even after they flow into a natural channel, virtually all of the water flowing in natural channels would be considered off limits to appropriation under the Water Code.

Water as it relates to applications to appropriate water refers only to surface water and to subterranean streams flowing through known and definite channels. (Wat. Code, § 1200.) Under Water Code section 1205, a "stream system" designated fully appropriated includes a stream, lake, or other body of water, and tributaries and contributory sources, but does not include an underground water supply other than a subterranean stream following through known and definite channels. The Declaration and petitions to revise the Declaration are determinations made primarily in the context of surface water permits. Issues concerning groundwater not flowing through known and definite channels, often referred to as "percolating groundwater," are relevant in this proceeding only to the extent that the SWRCB considered in the decisions that provide the basis for finding the American River fully appropriated: (1) the amount of water flowing between the stream system and the interconnected aquifers and (2) how much water in the stream system is necessary to recharge the aquifers. In addition, the hearing notice included a key issue asking whether the groundwater is tributary to the American River. Other issues concerning percolating groundwater and the rights thereto are irrelevant and outside the scope of this proceeding.

The closest comparison we can make of the water at issue here is to developed, or foreign water that is subsequently abandoned. Developed water consists of new waters added to a stream by means of artificial works, which would not under natural conditions enter the stream. (*Cohen v. La Canada Land & Water Co.* (1907) 151 Cal. 680, 692.) Similarly, foreign water is defined as water brought by artificial means into an area from a different watershed. (*E. Clemens Horst Co. v. New Blue Point Mining Co.* (1918) 177 Cal. 631, 634.) Percolating groundwater extracted from the ground and then added to a stream is foreign if the groundwater is not in hydrologic continuity with the stream and would not reach the stream under natural conditions. (*Mayberry*

v. Alhambra Addition Water Co. (1899) 125 Cal. 444, 449.) Conversely, percolating groundwater should be treated as native water if under natural conditions the groundwater would reach or recharge the stream. To the extent that the groundwater Aerojet pumps, treats and discharges into the American River is not contributory to the surface stream, and would not be contributory under natural conditions, this water is foreign and developed because it would not have reached the stream otherwise and is imported by artificial means.

A person or entity that by his or her own efforts makes such water available is entitled to use it, so long as the use does not infringe on the prior rights of others. Water Code section 7075 allows the use of a natural stream channel as a conduit for delivering water to another location downstream.[10] The rule codified by the statute applies to the addition and withdrawal of water in an underground basin. (*City of Los Angeles v. City of San Fernando* (1975) 123 Cal.Rptr. 1.) If the owner chooses not to maintain a claim to the water, the water must be considered abandoned into a natural watercourse and can be appropriated by downstream water right holders in order of priority.[11] Of course, such rights are subject to the contingency that the artificial supply may be limited or terminated at any time by the producer. (See *Stevens v. Oakdale Irrigation Dist.* (1939), 13 Cal. 2d 343, 349.) The producer of foreign water can stop abandoning the water at any time and instead dispose of the water pursuant to a contract or otherwise. (*Haun v. De Vaurs* (1950) 97 Cal.App. 2d 841.) Aerojet has expressed no intention to recapture its pumped, treated and discharged groundwater. For our purposes, this water must be viewed as developed and abandoned into the natural channel (water not tributary to the stream under natural conditions), and thus subject to appropriation in accordance with the Water Code provisions.

Based on the foregoing, we conclude that the water at issue in this proceeding is public water of the State under Water Code section 1201. Any issues concerning alleged injury to groundwater rights occurring prior to this water finding itself in a natural channel, and in connection with where this water originated and how, are outside the scope of this proceeding. At a point where water enters the American River or a tributary thereto, it becomes water subject to the SWRCB's permitting authority for the purpose of deciding whether to revise the Declaration to allow parties to file applications to appropriate this water.

7.0 CHANGED CIRCUMSTANCES IN THE LOWER AMERICAN RIVER STREAM SYSTEM AFFECTING THE AMOUNT OF WATER AVAILABLE FOR APPROPRIATION

A major key issue for this hearing was, "Has adequate information been provided to demonstrate that there is a change in circumstances since the American River system was included in the FAS Declaration?" The "change in circumstances" refers to a change in circumstances from those

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[10] Water Code section 7075 provides:

"Water which has been appropriated may be turned into the channel of another stream, mingled with its water, and then reclaimed; but in reclaiming it the water already appropriated by another shall not be diminished."

[11] The term "abandonment" in this sense should be distinguished from the abandonment of a water right, which requires the elements of intent, relinquishment of possession, and a valid water right. Here we refer to the term for the abandonment of the *corpus* of water, the actual particles of water relinquished.

considered in previous water right decisions determining that no water remains available for appropriation. (Cal. Code Regs., tit. 23, § 871 (b).) This consists of two elements. First, the petitioner must show whether the water at issue is "new water" -- water that would not have reached the stream at the time the orders were made that support the declaration that the American River is fully appropriated. This includes not only showing that there is a new discharge to the River, but also requires evidence that the pumped groundwater being discharged would not have been tributary to the River during the relevant time period. Second, the petitioner must show that if the water is new water, circumstances have changed so that it would have been available for appropriation by new users during the relevant time period. Thus, appropriate testimony for the hearing included limitations, including environmental terms and conditions, on water right holders that existed at the time the decisions were issued that support the Declaration.

7.1 New Water

To assist us in making a determination of whether the pumped and treated water discharged to the American River is new water, we asked the parties to address the key issue, "How much, if any, of the water discharged by groundwater treatment operations is water that was not considered at the time the American River system was included in the FAS declaration?" We also asked, "To what extent, if any, have flows in the American River been affected by groundwater treatment operations, including both pumping and discharging since the American River system was included in the FAS Declaration?" Petitioner needed to establish that the pumped groundwater would not otherwise reach the River now *and* would not have reached the River during the relevant time period. We find that groundwater in Layers B through E beneath the WGSA is new water, and that groundwater in Aquifers C through E beneath the ARGET is new water.

7.1.1 Western Groundwater Study Area

The evidence shows that groundwater in the vicinity of the GET E/F system and the proposed 4C location (together referred to as the WGSA) is currently not tributary to the American River. In addition, it appears that the groundwater at the depth and distance from the River that Aerojet is currently pumping and proposing to pump under alternative 4C was not tributary to the American River during 1958-1964. The groundwater underlying the ARGET system presents some unique characteristics and is discussed separately in section 7.1.2.

Petitioner provided uncontroverted testimony that the groundwater in the WGSA is currently not contributing to the American River. In this area, the American River is a losing stream evidenced by low groundwater elevation, the interpretation of the groundwater level contour lines, extensive unsaturated layers above the relevant aquifers, and the tendency for downward movement of groundwater. While this evidence establishes that the water is "new" or not reaching the stream now, this does not end our inquiry. Petitioner must show that this condition existed during the relevant time period, which is when the orders were issued that support the Declaration.

To establish that the groundwater was not tributary to the American River historically, SCWC contends that groundwater conditions at that time were similar to conditions that currently exist. (R.T. p. 63; SCWC 9a, pp. 29, 38-39, 42, 45.) Both DFG and the City of Sacramento contend that the petitioner did not provide sufficient historical evidence to show that the groundwater was not tributary during the relevant time period. Based on the evidence, it appears that the groundwater may have been seasonally tributary to the river; however, due to the depth of the proposed and existing extraction wells and the distance from the wells to the American River, we find that water in Layers B through E can be considered new water for the purposes of this proceeding.

The majority of the current and proposed GET E/F extraction wells would pump groundwater from Layers C and D, which occur at depths of approximately 150 feet bgs or more. (AGC 1(s)&(t).) The three wells pumping from Layers A and B are located over two and one-half miles from the River and present a small fraction of the total volume of pumped water. The proposed extraction wells in the 4C area will extract groundwater only from Layers C, D, and E. (AGC 1, p. 28.) The extraction wells will be installed at least 6,000 feet south of the American River and will pump from minimum depths of approximately 240 feet bgs. (*Ibid.*) The shallowest layer (Layer C) that will be pumped by these wells is overlain by at least 30 to 40 feet of unsaturated sediments, and over 200 feet of saturated sediments. (*Ibid.*) Based on the distance from the American River and the depths of the proposed extraction wells, even if the American River were seasonally gaining in the relevant time period, groundwater extracted from this area would not have reached the River.

Petitioner's testimony was inadequate to show that the River was historically a losing stream year-round and, in particular, during the summer months when the river is listed on the Declaration. Aquifer A is the only aquifer layer that could have had a direct hydraulic connection with the River. Therefore, water pumped from Layer A might have historically reached the River, and cannot be classified as new water.

We conclude that the American River in the WGSA was an annually losing stream during the relevant time period for purposes of this proceeding. Excluding Layer A, even if the River were seasonally gaining, groundwater at the depth and distance from the stream reach that Aerojet will pump would not have reached the River and thus, can be considered new water.

7.1.2 ARGET

The groundwater underlying the ARGET system differs from that in the WGSA because in some areas, the groundwater elevations are currently at or above River elevations indicating that the American River is a gaining stream in this reach. Like the WGSA, in order to show that this water is new, petitioner had the burden to show that the water would not otherwise have reached the River under current and historical conditions. In areas where groundwater is tributary to the River, we cannot find that it is new water. For reasons similarly stated for the WGSA, much of the water in the ARGET area may be considered new.

Petitioner provided testimony that the American River is a losing stream along two-thirds of the ARGET area. (SCWC 9a, p. 32.) In the remaining third, an area in the eastern portion of the

ARGET system near Nimbus Dam, groundwater levels are at or slightly above the River elevation, indicating that groundwater is discharging to the American River. (R.T. pp. 60, 72, 79-80; SCWC 9a, pp. 31-32; SCWC 17, Figure A-7.) Petitioner concedes, because of higher groundwater levels at the eastern end of ARGET area, that it is likely that a portion of the water extracted from two of the 15 wells is tributary to the American River. (R.T. pp. 93-94; SCWC 9a, p.43.) These two wells are screened in Aquifers A and B and are located approximately 3,000 feet downstream from Nimbus Dam. (DFG 32, p. 11; AGC 1 (c), Figure 2-1.) We are persuaded by the evidence that Aquifer A and the American River are sufficiently interconnected to determine that this is not new water, especially because the petitioner concedes that it is not new water, at least 3,000 feet downstream of Nimbus Dam. Also, there is some evidence to support the conclusion that Aquifer B is interconnected with Aquifer A in this area, including petitioner's own evidence that one of the wells in Aquifer B is tributary to the River. Thus Aquifer B should also be excluded from the finding of new water. (AGC 2, Figures [3-22] - [3-27]; SCWC 9a, p. 11.)

Some evidence exists to support the finding that groundwater may be tributary to the River beyond the reach between Nimbus Dam and 3,000 feet downstream from Nimbus Dam. Hydrographs of Well 1478 (Aquifer A), located about 3,500 feet downstream of Nimbus Dam, show that the groundwater elevation is above the River elevation. (City I, pp. 1-2.) In addition, Aerojet testified that the potentiometric surface for Layer A is close to the elevation of the American River from Nimbus Dam to approximately 6,000 feet down-river, indicating that the American River may, at times, be a gaining stream in that reach. (AGC 6, Appendix A, p. 9.) Aerojet testified that in the area of Wells 4370 through 4380, the groundwater levels are far below the levels of the American River, indicating separation between the groundwater table and the River by an unsaturated zone that increases westward. (R.T. p. 163.) These wells are located approximately 6,300 feet downstream from Nimbus Dam. (AGC 1 (d), Figure 3-1.) The separation distance increases towards the west, and near Well 4340 groundwater levels are 25-30 feet below the River. (R.T. p. 163.) Well 4340 is located about 8,000 feet downstream of Nimbus Dam. (AGC 1 (d), Figure 3-1.) We conclude from this information that water pumped from Aquifers A and B within a 6,000-foot stretch below Nimbus Dam may reach the River and thus cannot be considered new water.

The arguments discussed in section 7.1.1 generally apply to the ARGET area as well as the WGSA. Substantial evidence exists to support the conclusion that the American River is currently a losing stream beyond 6,000 feet downstream of Nimbus Dam. Evidence in the record, including historic documents prepared by the SWRB and DWR, supports the conclusion that the American River, outside of the reach near Nimbus Dam, was at least an annually losing stream during the relevant time period. (SCWC 12; DFG 28; 29.) As discussed in the section 7.1.1, petitioner did not present sufficient data and analysis to show that the River was not a gaining stream during some months of the relevant time period and therefore, water from Aquifers A and B will not be considered new water. As in the case for the lower zones in the WGSA, we find it unlikely that water pumped from the lower aquifers (Aquifers C and D) in ARGET would have historically reached the River. Thus, water from those aquifers can be considered new water. Petitioner did not demonstrate to our satisfaction that water from Aquifers A and B was not tributary to the River further downstream in the past at a distance more than 3,000 feet downstream of Nimbus Dam, but we have allowed for this possibility with

a conservative estimate of 6,000 feet. Excluding all of Aquifer A, and Aquifer B within 6,000 feet of Nimbus Dam, groundwater found at the depth that Aerojet pumps would not have reached the River during the period from 1958 to 1964 and can therefore be considered new water.

7.2 Changed Circumstances: Basin Entitlements at the Time Decisions were Issued

The SWRCB placed the American River on the Declaration based on two decisions in which the SWRB determined the River was fully appropriated from July 1 through October 31 (SWRCB 3a, p. 40; R.T. p. 104), specifically D 1108 and D 1211. Those decisions relied on evidence presented during various water right hearings, and resulted in findings that water is unavailable in the American River from August through October, the Sacramento River from July through August, and the Delta from June 15 through October. Upon review of these existing decisions and the evidence presented in this hearing, we find that regardless of whether the water pumped, treated, and discharged to the American River by Aerojet is new water, the petitioner did not provide sufficient evidence to show that circumstances have changed since the time the decisions were adopted to warrant revising the Declaration for the months of July through October. Based on the evidence in the hearing record, the amount of water added to the American River stream system by Aerojet is not sufficient to both make up for the flow deficiencies that existed at the time the prior decisions were adopted and provide significant additional flow that may be available for appropriation.

7.2.1 August through October

Both D 1108 and D 1211 cite D 893 for the finding of water unavailable in the American River during the months of August, September, and October. The USBR's Exhibit 1 is a plate from D 1400, a decision specifically excluded from this hearing.[12] The exhibit does contain, however, relevant flow information from D 893, a previous water right decision that we are to consider in this proceeding as it provided a basis for including the American River on the Declaration. Figure 2 (attached) is a modified version of the USBR's Exhibit 1 and compares the mean flow of the American River[13] to demand downstream from Folsom Dam including flow requirements that were in place at the time the SWRB issued D 893. During the periods when demand exceeds available flow, unappropriated water ceases to exist in the American River. Using the data and analyses presented in D 893, and assuming all of the water discharged from Aerojet's groundwater extraction and treatment system is new water (with the exception of 350 gpm that

[12] In 1972, SWRCB issued D 1400, setting fisheries flows in the American River higher than those in D 893, as a condition of the permits issued for the proposed Auburn Dam. Auburn Dam was never constructed and the D 1400 flows were never imposed. The March 6, 2002 Hearing Notice specifically excluded this and other decisions from this proceeding because they do not serve as a basis for the American River listing on the Declaration. (Hearing Notice, p. 2; see also April 26, 2002 letter from Hearing Officer Peter S. Silva regarding revised schedule and clarification of scope of proceeding at 1.)

[13] The mean flow in Figure 2 represents the mean flow passing the Fair Oaks gage over the period of record considered in D 893. (D 893 at 27.) The gage data, however, do not represent the fully impaired flow in the American River at that time. The fully impaired flow is equal to the gaged flows less the difference between the actual upstream diversions and the authorized upstream diversions, assuming that not all water right permittees had made full beneficial use of the water they could take. Using the gage data is more favorable to the petitioner's case and is therefore more conservative.

California Regional Water Quality Control Board
Central Valley Region
Karl Longley, ScD, P.E., Chair

Linda Adams
Secretary for Environmental Protection

Sacramento Main Office
Internet Address: http://www.swrcb.ca.gov/~rwqcb5/home.html
11020 Sun Center Drive, Suite 200, Rancho Cordova 95670-6114
Phone (916) 464-3291 • FAX (916) 464-4797

Arnold Schwarzenegger
Governor

23 March 2007

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MAR 26 2007
CARMICHAEL WATER DISTRICT

Steve Nugent
Carmichael Water District
7838 Fair Oaks Boulevard
Carmichael, CA 95608

DRAFT INIITAL STUDY AND MITIGATED NEGATIVE DECLARATION, CARMICHAEL WATER DISTRICT, ANICL HOOFMAN PARK GET L PROJECT, SACRAMENTO COUNTY (SCH# 2007022100)

Thank you for the opportunity to review the subject document. Regional Board staff completed their review and we present the following minor comment:

1. Page 3-23, Section 3.6, Question E, third sentence. The project will require a General Permit for Construction of a linear pipeline project issued by the Regional Water Quality Control Board/State Water Resources Control Board. Along with the proposed pipeline, the 0.75 acres of disturbance for the treatment facility should be included in that application.

If you have any questions regarding this matter, please call me at (916) 464-4625 or by e-mail at amacdonald@waterboards.ca.gov.

ALEXANDER MACDONALD
Senior Engineer

cc: State Clearinghouse, Sacramento
Craig Fegan, Aerojet-General Corporation, Sacramento

STATE OF CALIFORNIA -- THE RESOURCES AGENCY

ARNOLD SCHWARZENEGGER, *Governor*

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 942360001
(916) 653-5791

March 12, 2007

Steve Nugent
Carmichael Water District
7837 Fair Oaks Boulevard
Carmichael, California 95608

Ancil Hoffman Groundwater Extraction and Treatment "L" System Project
State Clearinghouse (SCH) Number: 2007022100

The project corresponding to the subject SCH identification number has come to our attention. The limited project description suggests your project may be an encroachment on the State Adopted Plan of Flood Control. You may refer to the California Code of Regulations, Title 23 and Designated Floodway maps at http://recbd.ca.gov/. Please be advised that your county office also has copies of the Board's designated floodways for your review. If indeed your project encroaches on an adopted food control plan, you will need to obtain an encroachment permit from the Reclamation Board prior to initiating any activities. The attached Fact Sheet explains the permitting process. Please note that the permitting process may take as much as 45 to 60 days to process. Also note that a condition of the permit requires the securing all of the appropriate additional permits before initiating work. This information is provided so that you may plan accordingly.

If after careful evaluation, it is your assessment that your project is not within the authority of the Reclamation Board, you may disregard this notice. For further information, please contact me at (916) 574-1249.

Sincerely,

Christopher Huitt
Staff Environmental Scientist
Floodway Protection Section

cc: Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

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CARMICHAEL WATER DISTRICT

Encroachment Permits Fact Sheet

Basis for Authority

State law (Water Code Sections 8534, 8608, 8609, and 8710 – 8723) tasks the Reclamation Board with enforcing appropriate standards for the construction, maintenance, and protection of adopted flood control plans. Regulations implementing these directives are found in California Code of Regulations (CCR) Title 23, Division 1.

Area of Reclamation Board Jurisdiction

The adopted plan of flood control under the jurisdiction and authority of the Reclamation Board includes the Sacramento and San Joaquin Rivers and their tributaries and distributaries and the designated floodways.

Streams regulated by the Reclamation Board can be found in Title 23 Section 112. Information on designated floodways can be found on the Reclamation Board's website at http://recbd.ca.gov/designated_floodway/ and CCR Title 23 Sections 101 - 107.

Regulatory Process

The Reclamation Board ensures the integrity of the flood control system through a permit process (Water Code Section 8710). A permit must be obtained prior to initiating any activity, including excavation and construction, removal or planting of landscaping within floodways, levees, and 10 feet landward of the landside levee toes. Additionally, activities located outside of the adopted plan of flood control but which may foreseeable interfere with the functioning or operation of the plan of flood control is also subject to a permit of the Reclamation Board.

Details regarding the permitting process and the regulations can be found on the Reclamation Board's website at http://recbd.ca.gov/ under "Frequently Asked Questions" and "Regulations," respectively. The application form and the accompanying environmental questionnaire can be found on the Reclamation Board's website at http://recbd.ca.gov/forms.cfm.

Application Review Process

Applications when deemed complete will undergo technical and environmental review by Reclamation Board and/or Department of Water Resources staff.

Technical Review

A technical review is conducted of the application to ensure consistency with the regulatory standards designed to ensure the function and structural integrity of the adopted plan of flood control for the protection of public welfare and safety. Standards and permitted uses of designated floodways are found in CCR Title 23 Sections 107 and Article 8 (Sections 111 to 137). The permit contains 12 standard conditions and additional special conditions may be placed on the permit as the situation warrants. Special conditions, for example, may include mitigation for the hydraulic impacts of the project by reducing or eliminating the additional flood risk to third parties that may caused by the project.

Additional information may be requested in support of the technical review of

your application pursuant to CCR Title 23 Section 8(b)(4). This information may include but not limited to geotechnical exploration, soil testing, hydraulic or sediment transport studies, and other analyses may be required at any time prior to a determination on the application.

Environmental Review

A determination on an encroachment application is a discretionary action by the Reclamation Board and its staff and subject to the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code 21000 et seq.). Additional environmental considerations are placed on the issuance of the encroachment permit by Water Code Section 8608 and the corresponding implementing regulations (California Code of Regulations – CCR Title 23 Sections 10 and 16).

In most cases, the Reclamation Board will be assuming the role of a "responsible agency" within the meaning of CEQA. In these situations, the application must include a certified CEQA document by the "lead agency" [CCR Title 23 Section 8(b)(2)]. We emphasize that such a document must include within its project description and environmental assessment of the activities for which are being considered under the permit.

Encroachment applications will also undergo a review by an interagency Environmental Review Committee (ERC) pursuant to CCR Title 23 Section 10. Review of your application will be facilitated by providing as much additional environmental information as pertinent and available to the applicant at the time of submission of the encroachment application.

These additional documentations may include the following documentation:

- California Department of Fish and Game Streambed Alteration Notification (http://www.dfg.ca.gov/1600/),
- Clean Water Act Section 404 applications, and Rivers and Harbors Section 10 application (US Army Corp of Engineers),
- Clean Water Act Section 401 Water Quality Certification, and
- corresponding determinations by the respective regulatory agencies to the aforementioned applications, including Biological Opinions, if available at the time of submission of your application.

The submission of this information, if pertinent to your application, will expedite review and prevent overlapping requirements. This information should be made available as a supplement to your application as it becomes available. Transmittal information should reference the application number provided by the Reclamation Board.

In some limited situations, such as for minor projects, there may be no other agency with approval authority over the project, other than the encroachment permit by Reclamation Board. In these limited instances, the Reclamation Board

may choose to serve as the "lead agency" within the meaning of CEQA and in most cases the projects are of such a nature that a categorical or statutory exemption will apply. The Reclamation Board cannot invest staff resources to prepare complex environmental documentation.

Additional information may be requested in support of the environmental review of your application pursuant to CCR Title 23 Section 8(b)(4). This information may include biological surveys or other environmental surveys and may be required at anytime prior to a determination on the application.

INITIAL STUDY
MITIGATED NEGATIVE DECLARATION

CARMICHAEL WATER DISTRICT
ANCIL HOFFMAN PARK GET "L" PROJECT

FEBRUARY 2007

Prepared For:

Carmichael Water District
7837 Fair Oaks Boulevard
Carmichael, CA 95608

Prepared By:

Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95814

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Appendix D Cultural Resources Letter Report
Appendix E Environmental Data Resources (EDR) Report

SECTION 1.0

INTRODUCTION

SECTION 1.0

INTRODUCTION

1.1 PURPOSE OF STUDY

This Initial Study examines the potential environmental effects of the proposed Ancil Hoffman Park NDMA Groundwater Extraction and Treatment "GET L" System Project (Proposed Project). The Proposed Project is needed to prevent groundwater contamination from entering the Carmichael Water District (CWD) municipal water supply. The document has been prepared for CWD (Lead Agency) in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended) codified at California Public Resources Code Sections 21000 et seq. and the State CEQA *Guidelines* in the Code of Regulations, Title 14, Division 6, Chapter 3.

This Initial Study identifies potentially significant impacts and provides associated mitigation measures that when implemented will reduce all identified environmental impacts to less than significant levels as defined below. Therefore, as discussed in **Section 4.0**, this Initial Study would support a Mitigated Negative Declaration as defined under CEQA *Guidelines* Section 15070.

1.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by the Proposed Project, involving at least one impact requiring mitigation to bring it to a less than significant level. Impacts to these resources are evaluated using the checklist included in **Section 3.0**. The Proposed Project was determined to have a less than significant impact or no impact even without mitigation on unchecked resource areas.

- ☐ Aesthetics
- ☐ Agriculture
- ☒ Air Quality
- ☒ Biological Resources
- ☒ Cultural Resources
- ☒ Geology and Soils
- ☒ Hazards and Hazardous Materials
- ☒ Water Resources
- ☒ Land Use and Planning
- ☐ Mineral Resources
- ☐ Noise
- ☐ Population
- ☐ Public Services
- ☐ Recreation
- ☒ Transportation/Traffic
- ☒ Mandatory Findings of Significance

1.3 EVALUATION TERMINOLOGY

The following terminology is used to describe the levels of significance for impacts identified for each resource area discussed in **Section 3.0**.

- A conclusion of *no impact* is used when it is determined the Proposed Project would not impact the resource area under evaluation.
- A conclusion of *less than significant impact* is used when it is determined the Proposed Project's impacts to a resource area would not exceed established thresholds of significance.
- A conclusion of *less than significant impact with mitigation* is used when it is determined that mitigation measures would be required to reduce the Proposed Project's impacts to below established thresholds of significance.

1.4 ORGANIZATION OF THE INITIAL STUDY

This Initial Study is organized into the following sections:

Section 2.0 - Project Description: Includes a detailed description of the Proposed Project.

Section 3.0 - Environmental Checklist and Discussion: Contains the Environmental Checklist with a discussion of the environmental issues. Mitigation measures, if necessary, are noted following each impact discussion.

Section 4.0 – Significance Determination and Mitigation Summary: Identifies the determination of whether impacts associated with development of the Proposed Project are significant, and what, if any, additional environmental documentation may be required. A summary of mitigation measures required for the Proposed Project is also included.

Section 5.0 – List of Preparers

Section 6.0 – References

Appendices: Contain technical reports, permits, and other information to supplement **Section 2.0** and **Section 3.0**.

SECTION 2.0

PROJECT DESCRIPTION

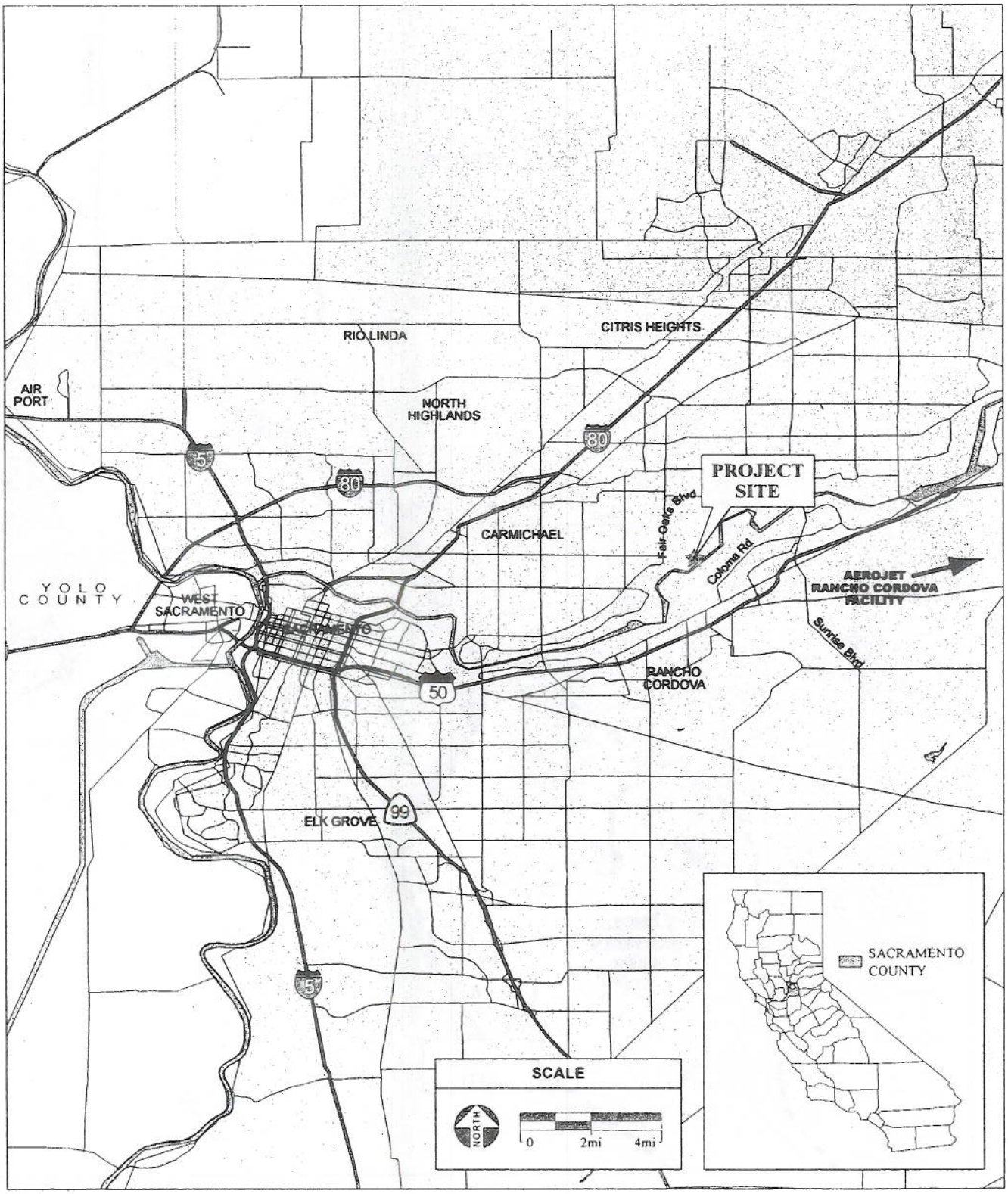
SECTION 2.0

PROJECT DESCRIPTION

2.1 PROJECT LOCATION AND SETTING

The proposed Ancil Hoffman Park Groundwater Extraction and Treatment "GET L" System Project (Proposed Project) is located in the unincorporated community of Carmichael, Sacramento County, California, approximately 5 miles (mi.) from the Gencorp/Aerojet's (Aerojet) Rancho Cordova facility (**Figure 2-1**). The project site is within Ancil Hoffman Park (Park), a 396-acre recreational area owned and operated by Sacramento County. Park amenities include picnic grounds, nature center, and a golf course. The Park, which is within the service area of the Carmichael Water District (CWD), is located on the northern bank of the American River. The primary area of development is approximately 400 feet (ft.) from the American River (**Figure 2-2**).

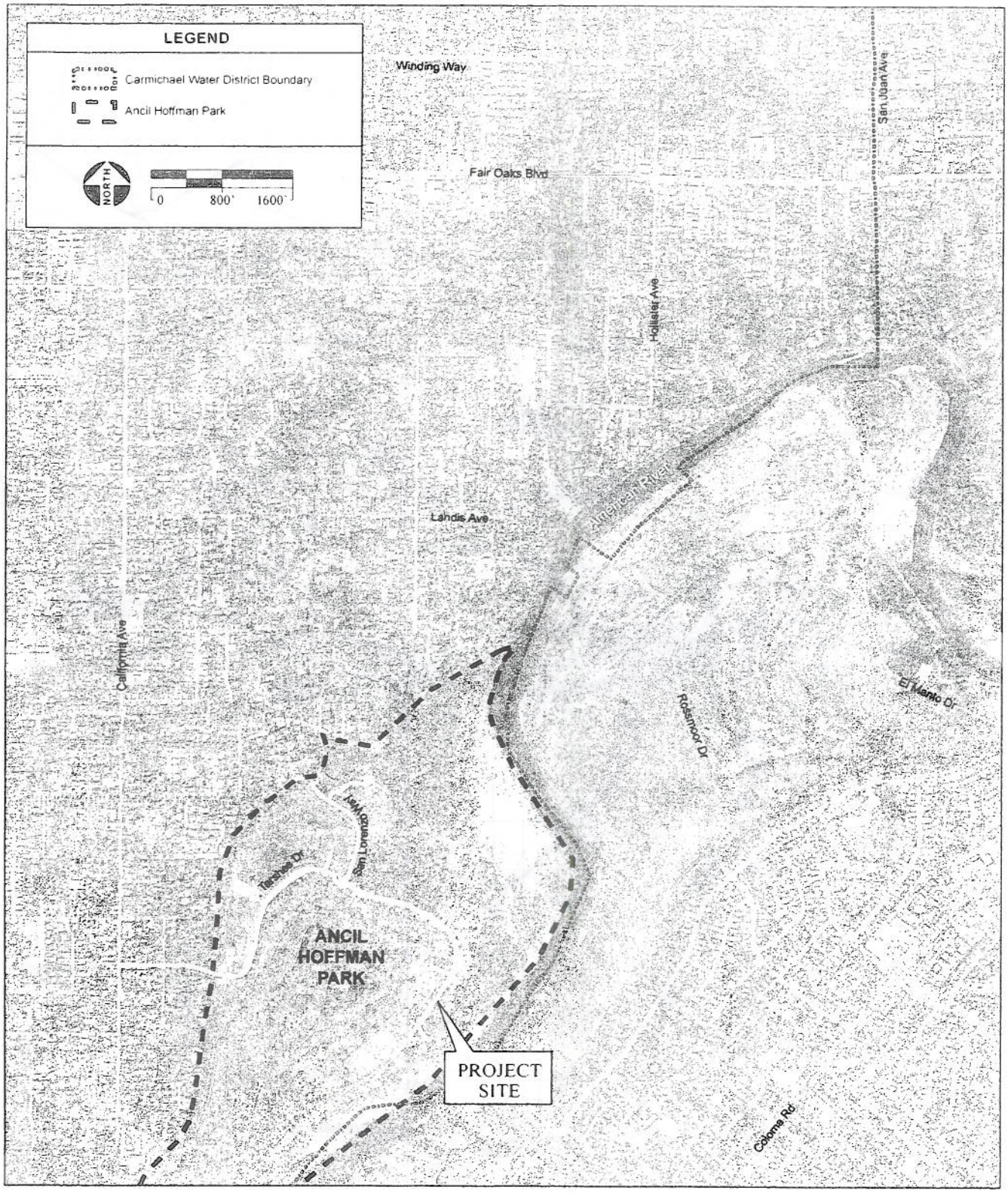
Components of the Proposed Project are located primarily along Tarshes Drive and San Lorenzo Way the two main roadways through the Park (**Figures 2-3a and 2-3b**). Site photographs are included as **Figures 2-4 through 2-8** and each component is discussed in more detail in **Section 2.4** below. The primary area of development for the Groundwater Treatment Plant (GWTP) is on a landscaped island of grass between Tarshes Drive on the southeast and the asphalt parking lot for the Ancil Hoffman Golf Course Clubhouse (Clubhouse) on the northwest (**Figure 2-4; Photo 1, 2, 3, 4**). Pipelines for conveyance of untreated and treated groundwater from extraction wells to the treatment facility will be located largely within the existing roadbeds of Tashes Drive and access roads to an existing golf course irrigation pump station (**Figure 2-5; Photo 5, 6, 7, 8**). An existing monitor well located in a grassy area adjacent to the golf course irrigation pump station will be converted into an extraction well (**Figure 2-6; Photo 9**). A second extraction well might be sited in a grass field northwest of the intersection of Tarshes Drive and San Lorenzo Way (**Figure 2-6; Photo 10, 11**) following monitoring and testing of the contamination plume capture of the initial well. The Proposed Project includes the possibility of two concrete outfalls. The first will be constructed on the southern bank of Carmichael Creek, immediately east of the most downstream crossing of Tarshes Drive (**Figure 2-6: Photo 12**). A second outfall might be constructed on the northern bank of the American River in the vicinity of the existing Ranney water collector (**Figure 2-7; Photo 13, 14**). The Proposed Project includes two potable water pipelines. The first pipeline would originate off California Avenue in the vicinity of the Park entrance and extend to the treatment facility (**Figure 2-7, Photo 15, 16**). The second pipeline would run from the Effie Yeaw Interpretive Buildings (Interpretive Buildings) and continue to the first alignment at the intersection of Tarshes Drive and San Lorenzo Way (**Figure 2-8; Photo 17, 18**).



SOURCE: ESRI Data, 2002; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

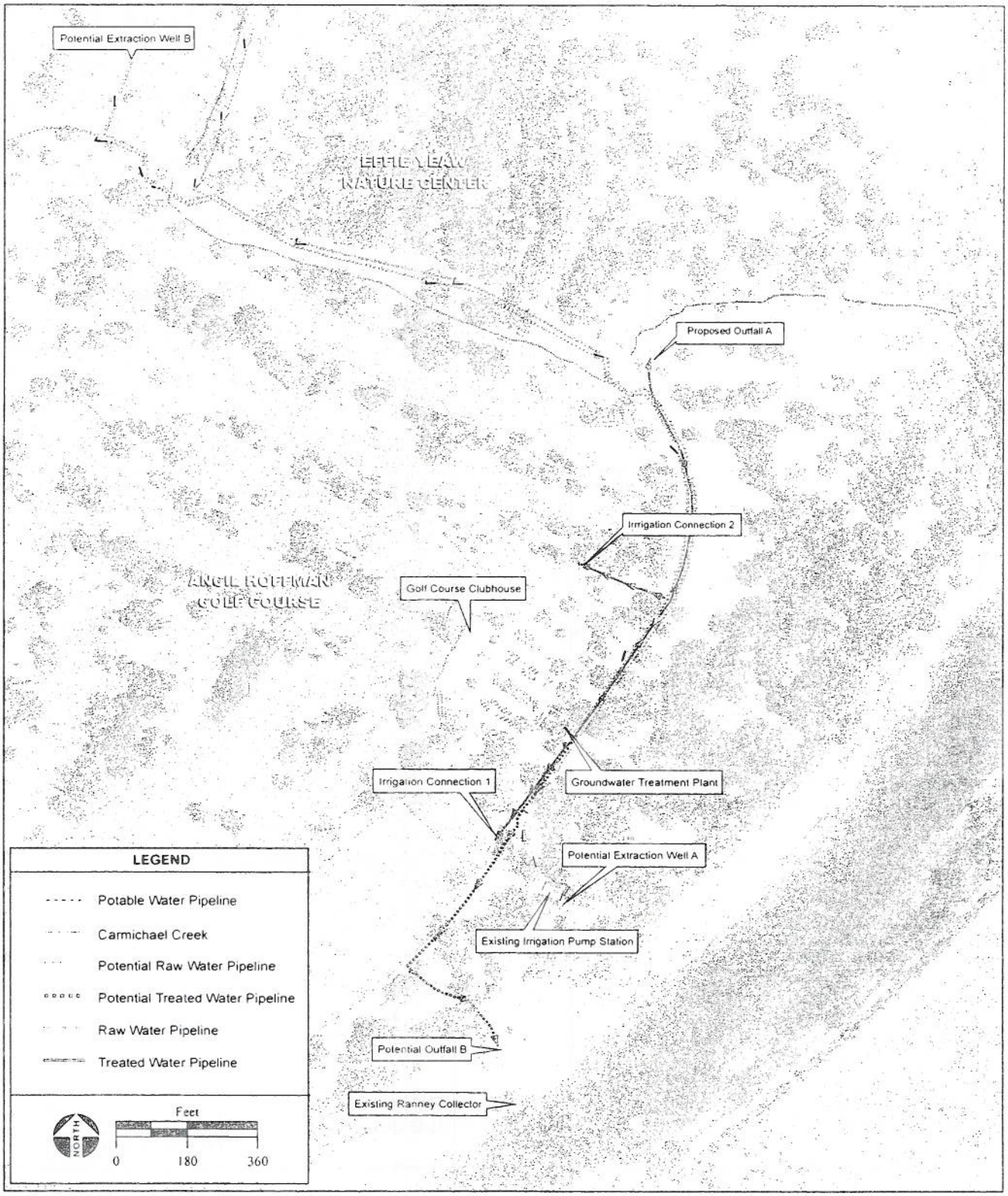
Figure 2-1
Regional Location



SOURCE: CWD Aerial Data, 11/04/2004; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

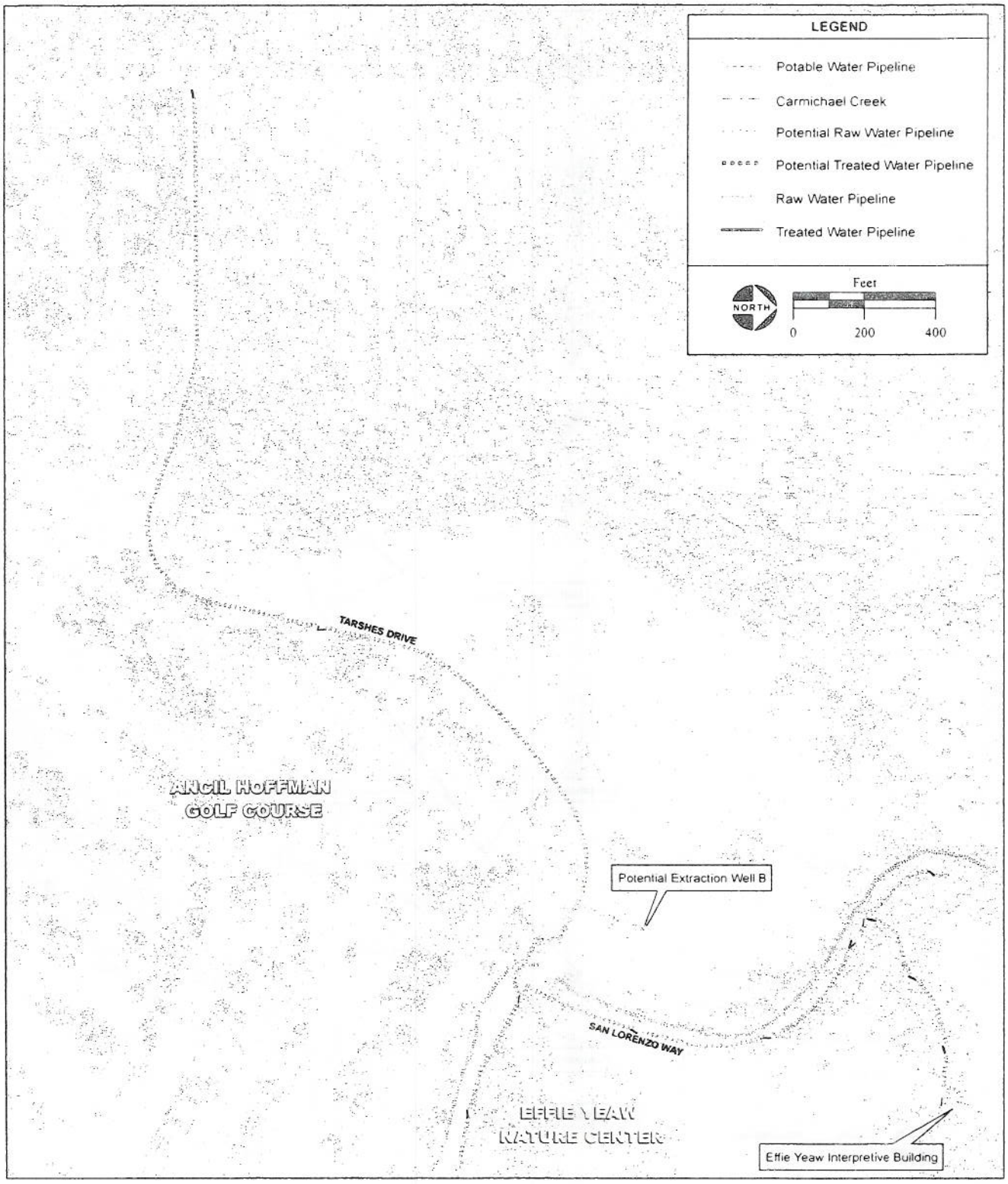
Figure 2-2
Project Vicinity



SOURCE: CWD / Gencorp Aerojet, 2006; GoogleEarth, 2005; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

Figure 2-3a
Proposed Project Components



SOURCE: CWD / Gencorp Aerojet, 2006; GoogleEarth, 2005; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

Figure 2-3b
Proposed Project Components

The linear project site is generally level, with an elevation of approximately 72 ft. above mean sea level. The proposed site for the groundwater treatment facility is flanked on the northwest by golf course, with the Clubhouse and parking lot adjacent to the primary area of development. On the southeast, the project site is bounded by a landscaped park area that abuts the American River. Landscaped park areas are also present on the northeast and southwest ends of the project site. The Park's Effie Yeaw Nature Center (Nature Center) is located within the Park at the northern end of the project site. Carmichael Creek crosses through the project site, flowing underneath Tarshes Drive via a concrete box culvert once near the intersection with San Lorenzo Way and again via a concrete box culvert approximately 1,600 ft. downstream to the southeast (**Figure 2-8: Photo 19, 20**). After crossing Tarshes Drive the second time, Carmichael Creek flows through a seasonally ponded area northeast of the project site thence to the American River.

2.2 PROJECT BACKGROUND

SOURCES OF GROUNDWATER CONTAMINATION

Since the early 1950s, the Aerojet facility has manufactured rocket propulsion systems in support of national defense, space exploration, and satellite deployment activities. Activities at the facility have included the development and testing of solid rocket motors and liquid rocket engines, and the manufacture of chemicals. Chemicals used in the manufacturing and testing of propulsion systems include chlorinated solvents, propellants, metals, and oxidizers.

Historic activities at the Aerojet site have resulted in the release of Contaminants of Concern (COC) into the aquifers underlying the Aerojet site. The main COCs that have potentially resulted in contaminant plumes from historical activities at the Aerojet site are Trichloroethene (TCE), perchlorate, N-Nitrosodimethylamine (NDMA), and other Volatile Organic Compounds (VOCs). Groundwater extraction and treatment facilities (GETs) were constructed in the mid 1980s to contain and treat volatile organic compound (VOC) contamination on the western side of the Aerojet property. The GETs were successful in removing much of the chemical from the groundwater, but the extent of NDMA contamination at that time was unknown. As a result, one potential source of the NDMA contamination may have been the use of reinjection wells as a component of the GETs, which resulted in reinjection of COCs into the groundwater. Reinjection wells are no longer utilized for discharge of treated groundwater.

CONTAMINANT TRANSPORT AND EXTENT

Initially, the remediation approach by Aerojet was designed to limit the contamination plumes to the Aerojet facility. Subsequent to the discovery of contamination beyond the limits of the facility, Aerojet has installed monitor and extraction wells on and off the Aerojet property in an attempt to identify, classify, and contain the contaminant plumes. Monitor wells installed in the western off-

PHOTO 1: Location of proposed GWTP. View to northwest.

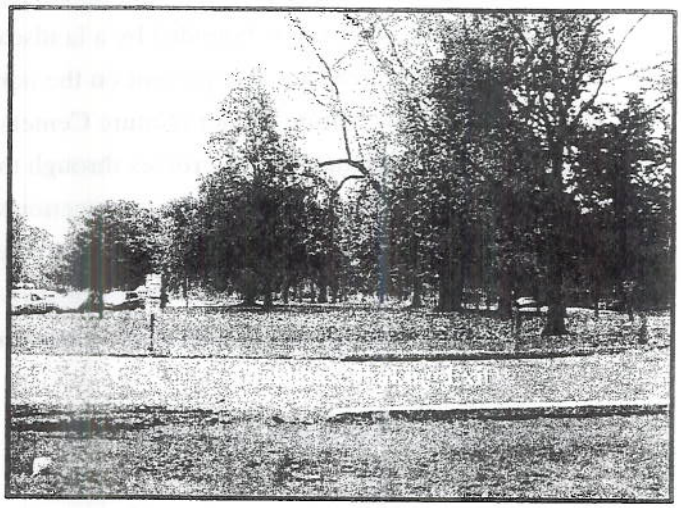


PHOTO 2: Location of proposed GWTP. View to northeast.

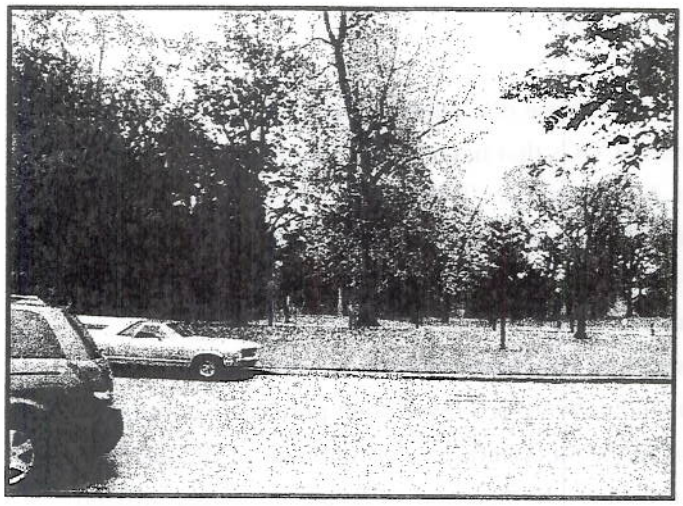


PHOTO 3: Location of proposed GWTP. View to southeast.

PHOTO 4: Location of proposed GWTP. View to southwest.

Source: AES, 2006

Ancil Hoffman Park GET "L" Project

Figure 2-4

Site Photographs (1, 2, 3, 4)

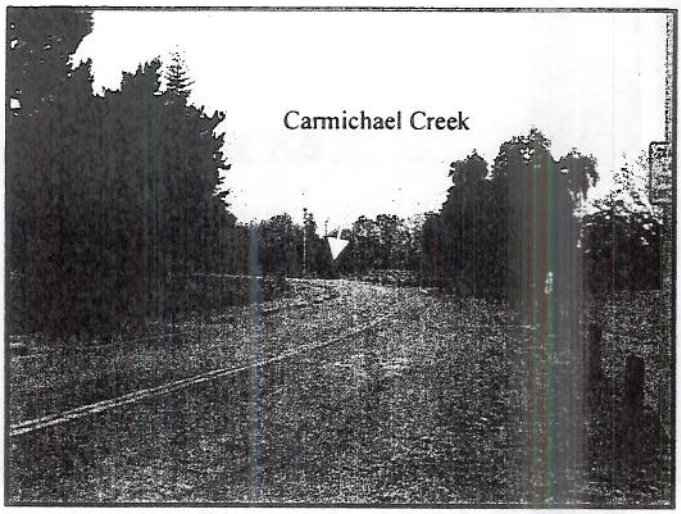


PHOTO 5: Tarshes Drive from vicinity of proposed GWTP. View to northwest.

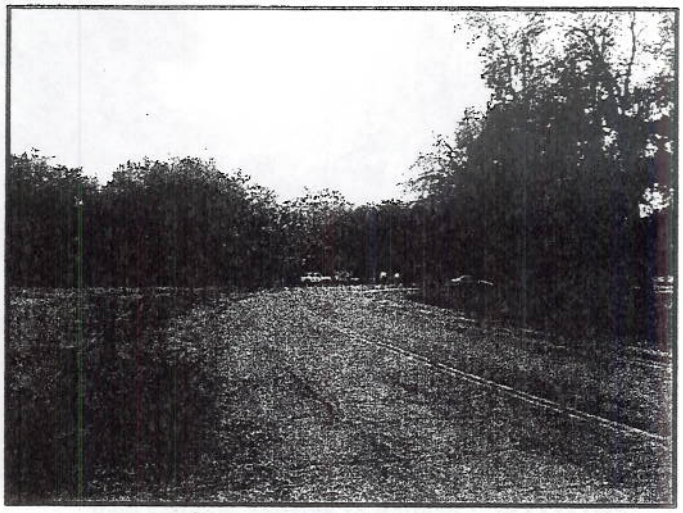


PHOTO 6: Tarshes Drive from vicinity of proposed GWTP. View to southwest.

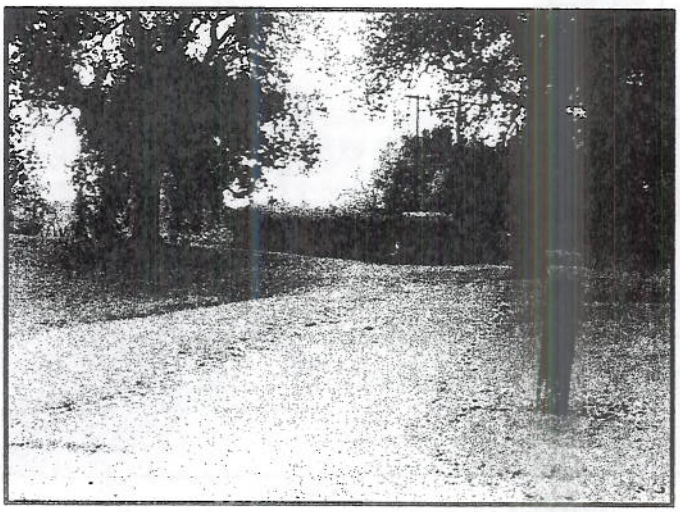


PHOTO 7: Access road to irrigation pump station. View to southeast.

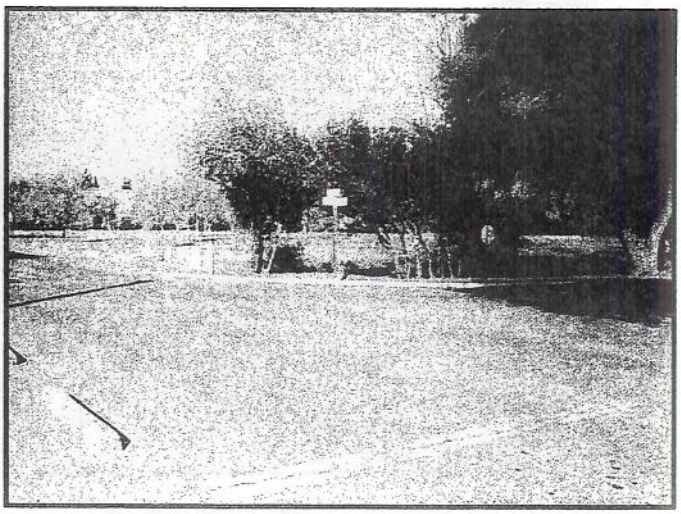


PHOTO 8: Intersection of Tarshes Drive and San Lorenzo Way. View to north.

Source: AES, 2007

Ancil Hoffman Park GET "L" Project

Figure 2-5

Site Photographs (5, 6, 7, 8)

PHOTO 9: Location of existing monitor well (proposed Extraction Well A) near existing irrigation pump station. View to northwest.

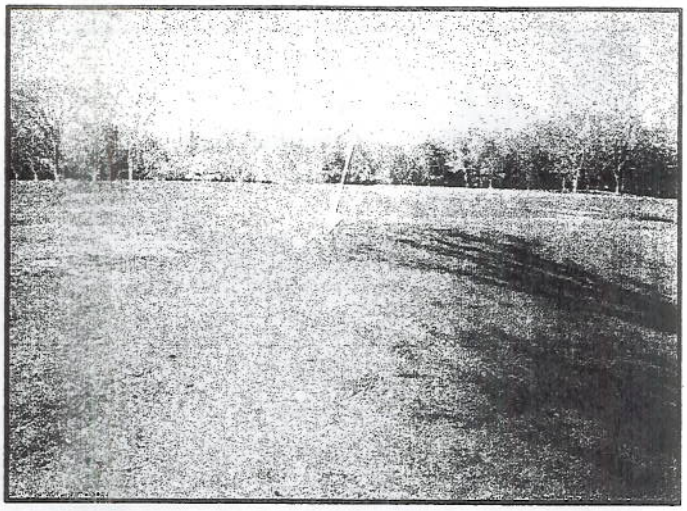


PHOTO 10: Location of potential Extraction Well B near the intersection of Tarshes Drive and San Lorenzo Way. View to northeast.

PHOTO 11: Carmichael Creek along Tarshes Drive. View to northwest

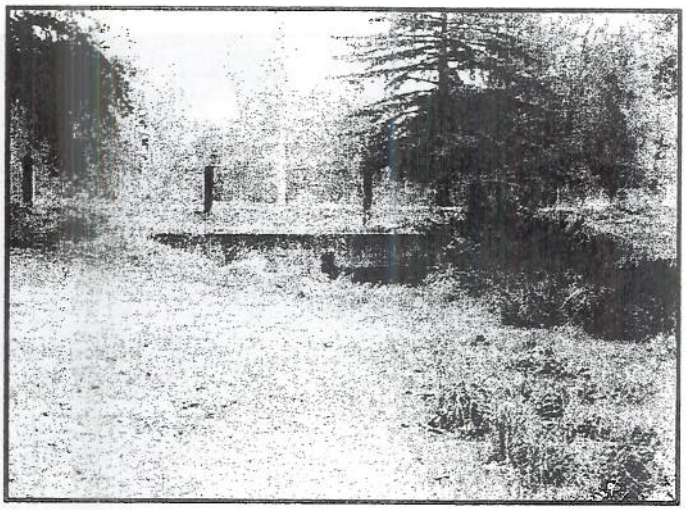


PHOTO 12: Location of proposed Outfall A on Carmichael Creek. View to west.

Source: AES, 2007

Ancil Hoffman Park GET "L" Project

Figure 2-6

Site Photographs (9, 10, 11, 12)

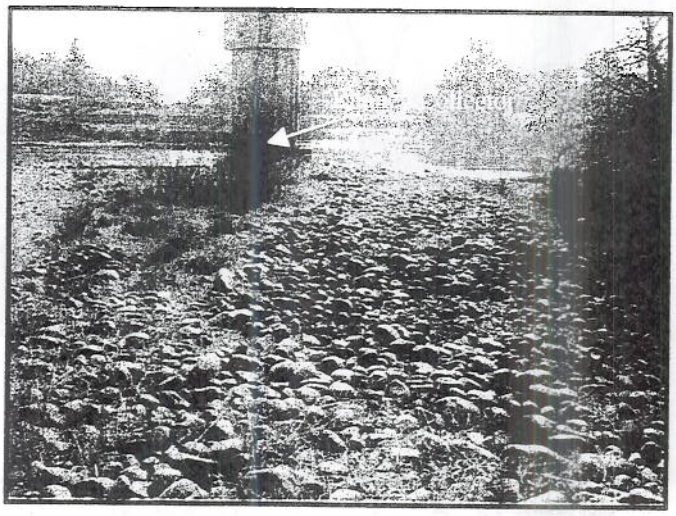


PHOTO 13: Location of Potential Outfall B on the American River near the Ranney Collector. View to southeast.

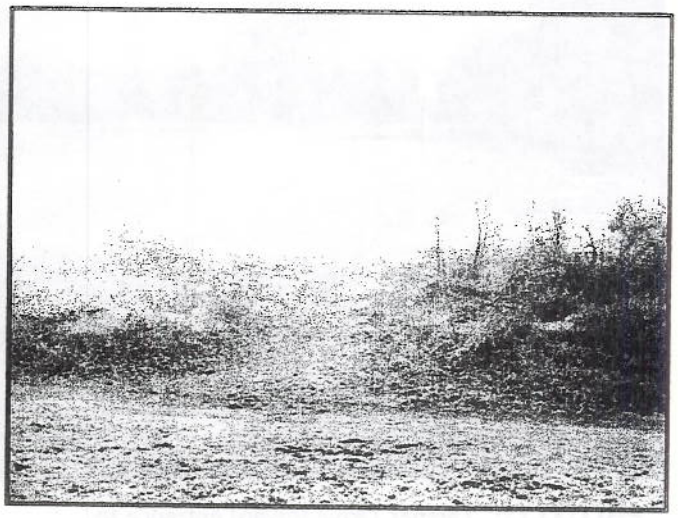


PHOTO 14: View from Ancil Hoffman Park to potential Outfall B. View to south.

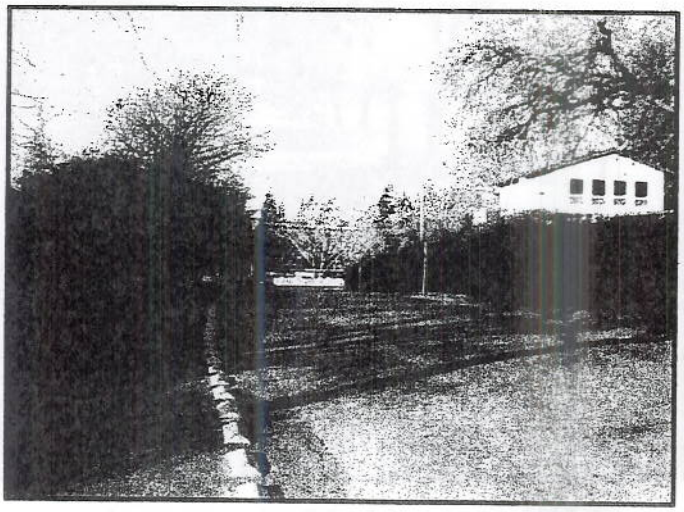


PHOTO 15: View to California Avenue from entrance to Ancil Hoffman Park. View to West.

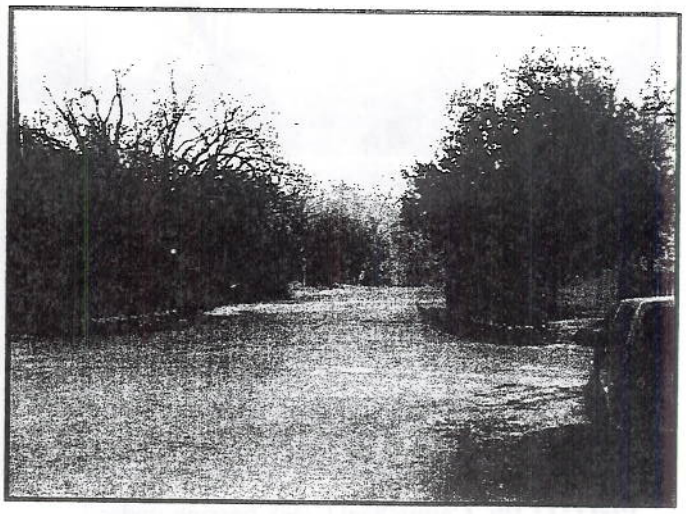


PHOTO 16: Entrance to Ancil Hoffman Park. View to east.

Source: AES, 2006

Ancil Hoffman Park GET "L" Project

Figure 2-7

Site Photographs (13, 14, 15, 16)

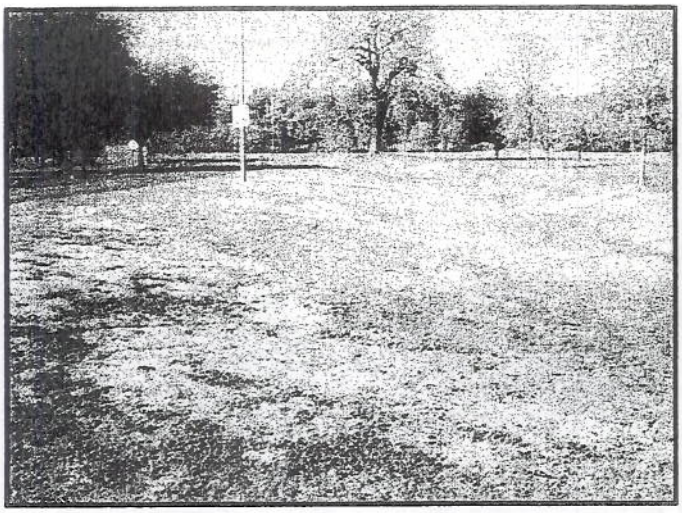


PHOTO 17: Tarshes Drive toward entrance to Ancil Hoffman Park. View to west

PHOTO 18: Gravel access road to Effie Yeaw Interpretive Building. View to northeast.

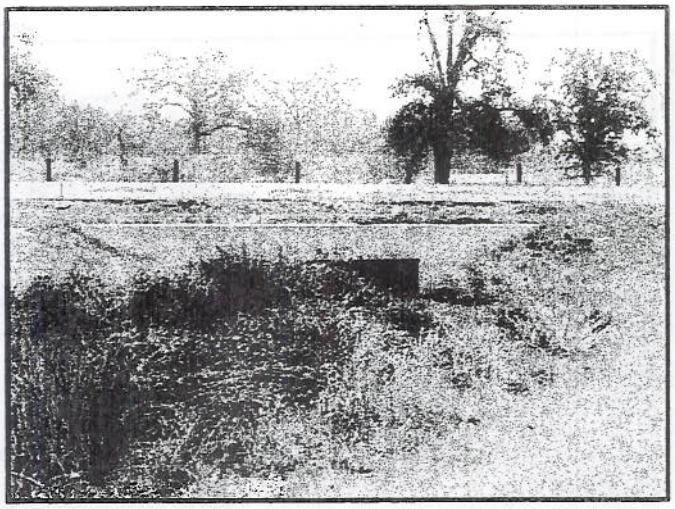


PHOTO 19: Carmichael Creek passing under Tarshes Drive in the vicinity of proposed Outfall A. View to west.

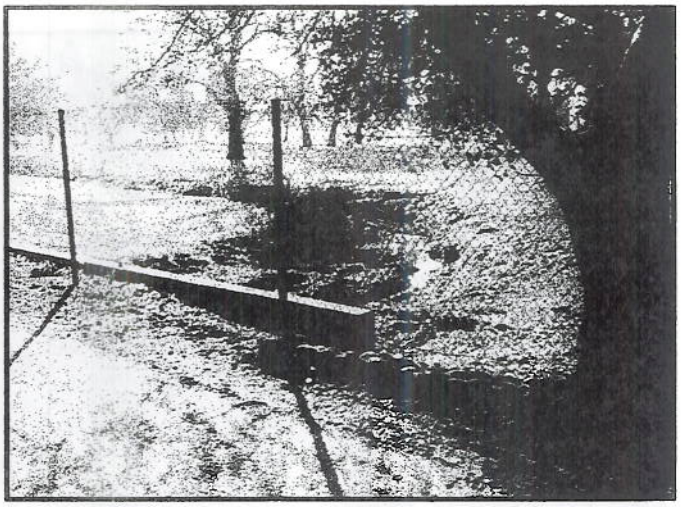


PHOTO 20: Carmichael Creek passing under Tarshes Drive near the intersection with San Lorenzo Way in the vicinity of potential Extraction Well B. View to southwest.

Source: AES, 2007

Ancil Hoffman Park GET "L" Project

Figure 2-8

Site Photographs (17, 18, 19, 20)

property areas indicate the groundwater flow from the western portion of the Aerojet site is in the northwesterly direction.

REGULATORY OVERSIGHT

Regulatory oversight for the containment and cleanup of the groundwater contamination has been conducted by the U.S. Environmental Protection Agency (USEPA), the Central Valley Regional Water Quality Control Board, and the California Department of Toxic Substances Control in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and as amended by the Superfund Amendments and Reauthorization Act (SARA).

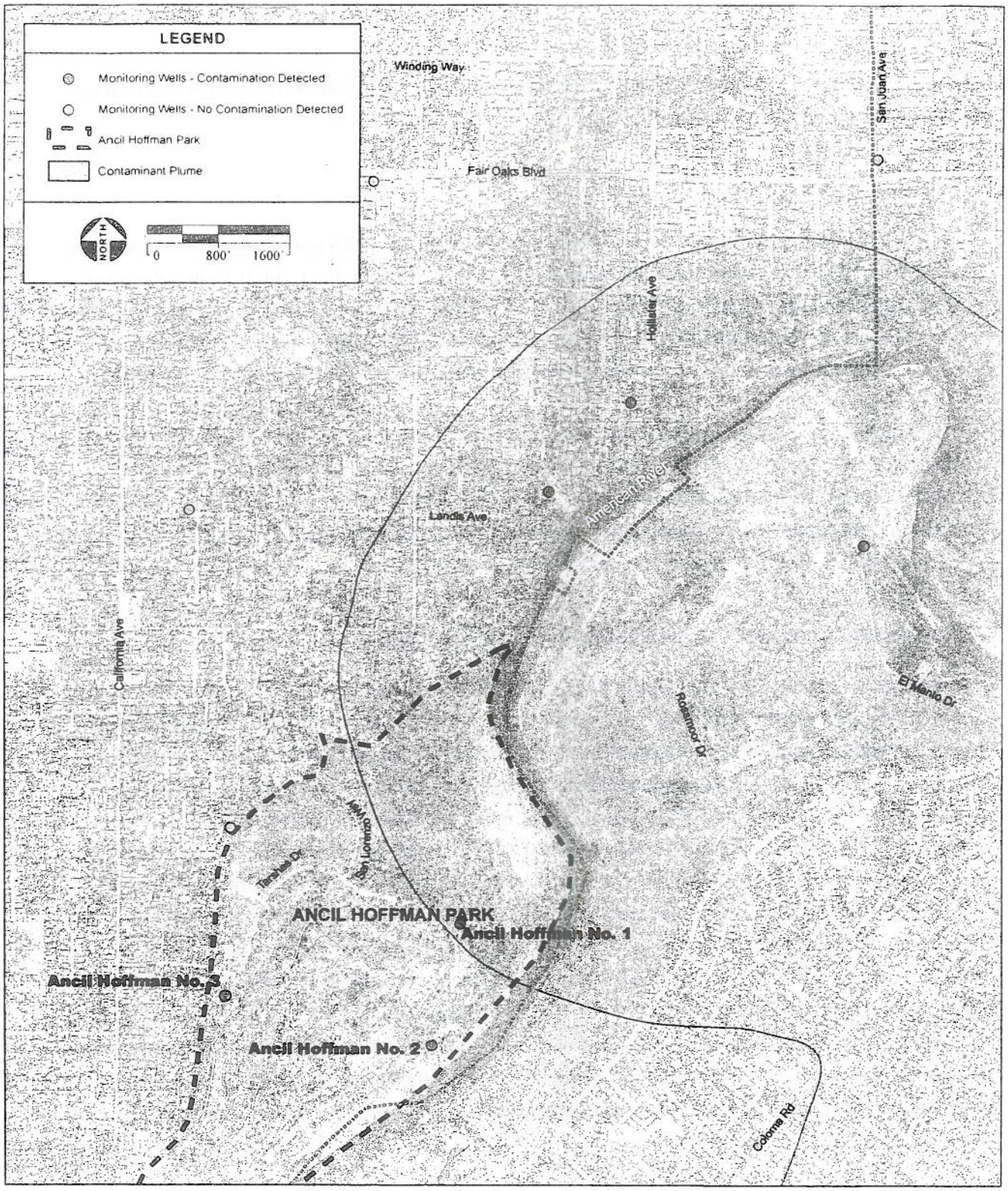
Containment and cleanup of the western off-property areas of the Aerojet site contamination, which includes CWD, is classified as Western Groundwater Operable Unit 3 (OU-3), Area 4. In 2002, USEPA issued a Unilateral Administrative Order that directed Aerojet to undertake remedial actions, including: containment of contaminated groundwater off property within OU-3 in all contaminated layers of the aquifer; and treatment of extracted groundwater.

CONTAMINATION IN CARMICHAEL WATER DISTRICT

In 2001 analytical results from groundwater monitor wells along the south side of the American River showed positive results for NDMA and perchlorate. This data indicated that contamination was moving north to northwest, away from the Aerojet property. An additional monitor well was installed in Sacramento County's Rossmoor Bar Park, located on the south side of the American River immediately south from the CWD service area (**Figure 2-9**). In 2004 analytical results from the Rossmoor Bar Park monitor wells showed NDMA, TCE, and perchlorate in the groundwater. This subsequently led to the installation of monitor wells on the north side of the American River. Samples from these wells confirmed the migration of chemicals in the groundwater beneath and to the north of the American River into the CWD. In an attempt to prevent further migration of the contaminant plumes, Aerojet initiated projects to install groundwater extraction wells and pipelines upgradient of the CWD service area on the south side of the American River to convey extracted groundwater to treatment facilities located on the Aerojet property. Development of these projects has yet to be completed. Until the Proposed Project is developed the chemicals will continue to migrate downgradient and could potentially threaten additional potable water supply wells.

2.3 PROJECT OBJECTIVES

The Proposed Project was initiated in response to detection of NDMA groundwater contamination within the CWD. The Proposed Project is designed to arrest the downgradient spread of the contaminant plumes, thereby protecting the downgradient quality of the aquifer, remediating the contaminated portions of the aquifer, and preventing additional impacts to public drinking water supply wells, including existing CWD wells. In order to provide for the beneficial use of remediated



SOURCE: CWD Aerial Data, 11/04/2004; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

Figure 2-9
Estimated Contaminant Plume

water the Proposed Project has been designed to offset existing demands on the CWD potable water system for non-potable uses within Ancil Hoffman Park. The Proposed Project is a joint endeavor by CWD and Aerojet. However, CWD is responsible for neither the contamination present in the aquifers nor cleanup of the contamination. CWD entered into a cooperative agreement with Aerojet in 2004 to proactively support and expedite installation of the cleanup system in order to protect CWD's water supply wells from the Aerojet contaminant plumes.

2.4 PROJECT DESCRIPTION

The Proposed Project is comprised of six primary physical components: (1) a groundwater treatment plant (GWTP) with an underground storage reservoir; (2) one proposed and one potential extraction well; (3) underground pipelines for conveyance of untreated and treated groundwater; (4) one proposed and one potential outfall; (5) connection to the existing golf course irrigation system; (6) and underground pipelines to provide potable water supply and fire protection. Each of these components, as well as the nature of construction and operational activities related to the Proposed Project, is discussed below.

CONSTRUCTION

GRADING AND GROUND DISTURBANCE

Development of the Proposed Project will involve grading, excavation, and trenching activities associated with the construction of the GWTP, the laying of pipelines, and the installation of at least one concrete outfall. Construction of the GWTP includes installing an approximately 750,000-gallon buried concrete reservoir to store treated groundwater. The reservoir will be located beneath the GWTP. Installation of the reservoir will require excavation of approximately 6,967 cubic yards of soil, an estimated 523 truckloads, to be used as clean fill at a yet-to-be-determined off-site location. Construction of the GWTP will require the removal of one or more non-native trees, as discussed more fully in **Section 3.4**, and other ground disturbing activities within the drip lines of several trees. Installation of the pipelines will require trenching in the previously disturbed roadbed of Tarshes Drive, San Lorenzo Way, the Clubhouse parking lot, a paved access road to the irrigation pump station, and a gravel drive to the Interpretive Buildings. Trenching outside of previously disturbed areas will be limited to two crossings of Carmichael Creek and the development of pipeline extensions necessary to reach extraction wells and outfalls. Any off-roadway ground disturbance will be subject to 100 percent habitat restoration. Pipelines will be routed to avoid, as feasible, trenching beneath the drip lines of native trees or the removal of riparian vegetation. Construction of pipelines and outfalls may involve excavation and fill within the bed, bank, or channel of Carmichael Creek and the American River. Construction within the bed, bank, or channel of either watercourse will be subject to any required permitting conditions, as discussed more fully in **Section 3.4**.

Staging Area

Construction equipment and construction employee parking will be staged on a paved overflow parking lot adjacent to the entrance kiosk to the Park and/or at a temporary staging area created by fencing the segment of Tarshes Drive between the entrance and exit to the Clubhouse parking lot.

Construction Schedule

Development of the Proposed Project is scheduled to begin in Fall 2007 and is anticipated to last approximately one year. All construction activities will take place between 6:00 AM and 8:00 PM, Monday through Friday, and between 7:00 AM and 8:00 PM, Saturday and Sunday. The District will coordinate with the Sacramento County Department of Parks to minimize construction activities during scheduled special events or other particularly high use time periods at the Park and Nature Center.

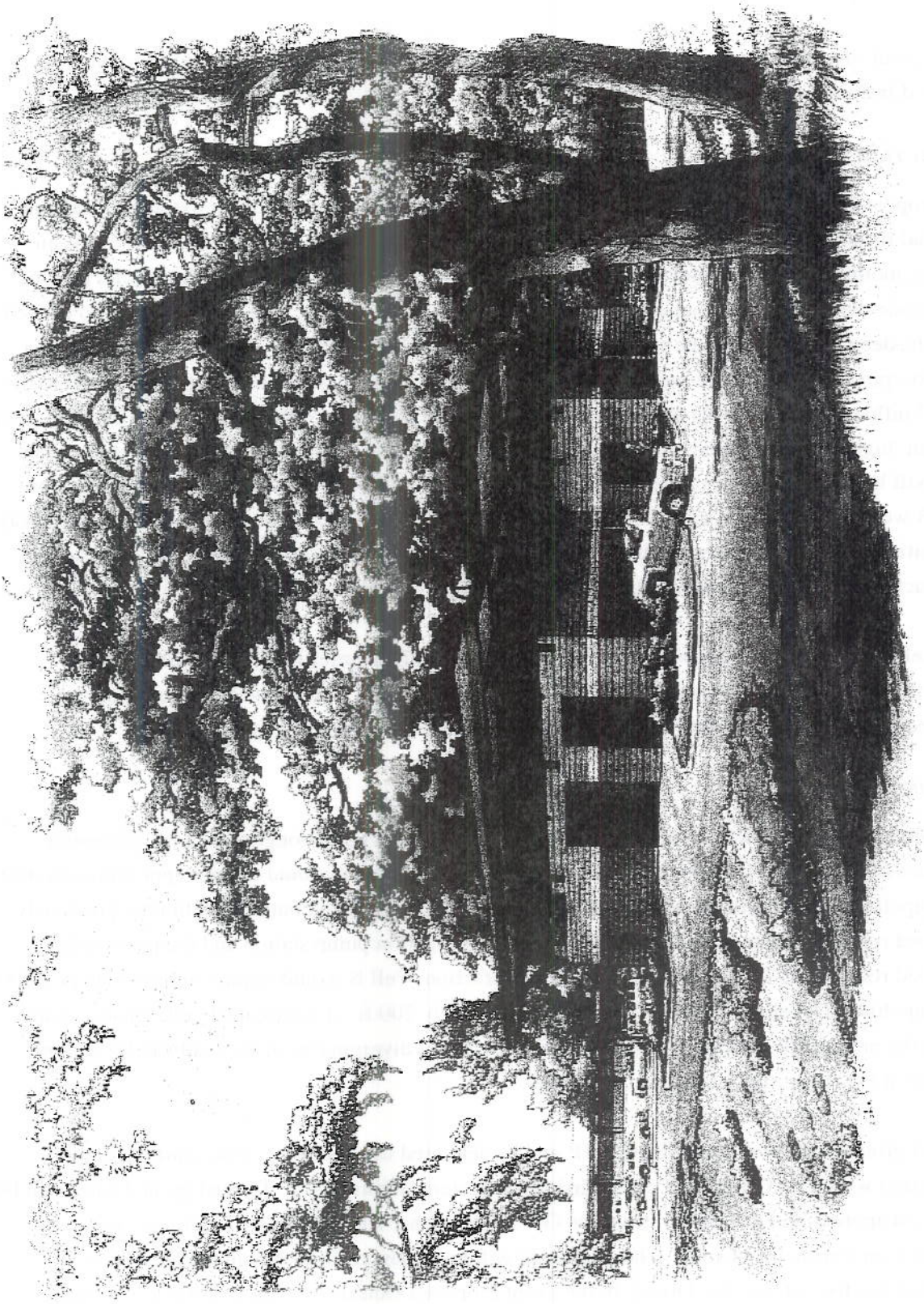
Project Components

Groundwater Treatment Plant

The floor plan of the proposed GWTP will be approximately 8,000 square ft. The height from foundation to eaves will be approximately 23 ft. The exterior of the GWTP will be designed to complement the architectural style employed in the nearby Clubhouse (**Figure 2-10**). The proposed GWTP will be constructed on non-reflective materials and employ downcast lighting systems. HVAC equipment and the new irrigation pump station will be housed inside the building. As discussed above, a 750,000 to 1,000,000 gallon concreted storage reservoir will be located beneath the GWTP. The reservoir is discussed more fully under Beneficial Reuse below.

The initial treatment processes will be for NDMA, TCE, and perchlorate only, and consist of ultraviolet light reactors, hydrogen peroxide chemical addition, granular activated carbon (GAC) pressurized filter vessels, and ion exchange pressurized filter vessels. Incidental equipment includes recirculation pumps, a backwash holding tank, bag filter vessels, and effluent strainers. The GWTP will be hydraulically operational at up to 2,000 gallons per minute (gpm) and reliably treat NDMA in groundwater from up to 300 parts per trillion (ppt) influent concentration to less than 1.3 ppt effluent concentration, perchlorate to below 4 parts per billion, and TCE from up to 5 parts per billion (ppb) to less than 0.5 ppb. The structure will include spill containment and recovery for incidental loss of unprocessed water within the building. On-site chemicals will be limited to UV lamp quartz sleeve cleaning solutions, hydrogen peroxide, and carbon dioxide gas canisters for providing pH adjustment as needed.

The planned facility includes an approximately 1,500-gallon hydrogen peroxide tank. The hydrogen peroxide solution will be necessary to destroy volatile organic compounds (VOCs) if they are detected in the extracted groundwater and to inhibit NDMA reformation following UV destruction. The tank will be located inside the GWTP building on a concrete slab with secondary containment.



SOURCE: Kennedy / Jenks Consultants, 2006; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

Figure 2-10
GWTP Architectural Rendering

In the event of a spill, the hydrogen peroxide will drain into a sump and then be pumped out and removed from the site.

EXTRACTION WELLS

The Proposed Project includes the conversion of an existing monitor well to an extraction well and potential installation of a second extraction well (**Figure 2-3**). Proposed Extraction Well A is an existing monitor well (4701) located approximately 750 ft. southeast of the Clubhouse and parking lot, outside the southeast corner of an existing irrigation pump station. The wellhead will be housed in a 5-ft.-deep pre-cast concrete vault measuring approximately 5 by 8 ft. The vault will drain to a pre-cast epoxy-lined concrete manhole in which a pump will be installed to return drain waste to the GWTP influent pipelines. An above ground electrical panel (approximately 36 in. long by 18 in. deep by 72 in. high) will be housed within a secured location adjacent to the extraction well vaults. The vault will be equipped with a pole-mounted transformer for flood protection. Potential Extraction Well B would be located in a grass area near the intersection of Tarshes Drive and San Lorenzo Way. Final siting will be dependent on monitoring and modeling of the aquifer. This well would be constructed similarly to proposed Extraction Well A.

The preliminary rate at which water will be pumped from the aquifer is 600 gpm for proposed Extraction Well A and 350 gpm for potential Extraction Well B. The extraction rates could be adjusted depending on aquifer response to the extraction and treatment processes.

PIPELINES

Untreated groundwater will be conveyed from the extraction wells through 6-inch (in.) diameter pipelines to the GWTP (**Figure 2-3**). Proposed Extraction Well A would require approximately 400 ft. of pipeline. The alignment would cross about 25 ft. of grass then continue within the previously disturbed roadbed of the access road for the existing irrigation pump station and the previously disturbed roadbed of Tarshes Drive. Potential Extraction Well B would require approximately 2,800 ft. of pipeline. The alignment would cross approximately 200 ft. of landscaped grass then continue within the previously disturbed roadbed of Tarshes Drive, diverging from the roadway for a short distance at two crossings on Carmichael Creek.

Treated groundwater will leave the GWTP and be delivered to either one of two outfalls or to a connection with the existing golf course irrigation system (**Figure 2-3**). Treated groundwater will be conveyed approximately 1,200 ft. from the GWTP through a 10-in. diameter pipeline to proposed Outfall A on Carmichael Creek. The alignment will be almost entirely within the previously disturbed roadbed of Tarshes Drive. In the event proposed Outfall A is not constructed, treated groundwater would be conveyed approximately 1,000 ft. through a 10-in.-diameter pipeline to potential Outfall B on the American River. The alignment would be within the previously disturbed roadbed of Tarshes Drive for approximately 600 ft. then cross about 200 ft. of landscaped grass before continuing for approximately 100 ft. along a gravel access road to the Ranney Collector.

Connection of the GWTP to the existing golf course irrigation system would require approximately 500 ft. laid within the previously disturbed roadbed of Tarshes Drive and the north end of the Clubhouse parking lot.

All pipelines will be ductile iron or polyvinylchloride (PVC) and will meet AWWA C151 and AWWA C900 standards, respectively, as well as ASTM standards. Pipeline trenches for the treated and untreated groundwater shall include detectable warning tape labeled "NON-POTABLE WATER," a ten-gauge locating wire, and will meet backfill requirements in accordance with Sacramento County standards.

Potable water will be supplied to the GWTP through two 12-inch-diameter pipelines. The first pipeline will originate at the intersection of California Avenue and Tarshes Drive. The pipeline will follow Tarshes Drive through the entrance to the Park and join a second proposed pipeline at the intersection of Tarshes Drive and San Lorenzo Way. The second pipeline will originate in the vicinity of San Lorenzo Way and Palm Drive. From the intersection, the potable water pipeline will follow Tarshes Drive and connect to the buried reservoir beneath the GWTP. In addition to providing a backup to the proposed use of remediated water for golf course irrigation, the potable water connection would also supply the fire suppression system and the Clubhouse. The connection to the storage reservoir will be equipped with an air gap backflow prevention device to protect against cross contamination between groundwater and the public water supply. An 8-in.-diameter ancillary potable water pipeline will be connected to the 12-in.-diameter pipeline at the intersection of San Lorenzo way and the gravel access road to the Interpretive Buildings. The 8-in. pipeline will terminate at the Interpretive Building. A 4-in.-diameter pipeline will connect the GWTP with the Clubhouse via an alignment through the parking lot.

OUTFALLS

The Proposed Project includes one proposed and one potential outfall (**Figure 2-3**). Proposed Outfall A would be located on Carmichael Creek on the southern bank immediately east of the most downstream crossing of Tarshes Drive. Treated effluent would be discharged into Carmichael Creek thence the American River during periods when there is not any irrigation demand. Potential Outfall B would be located on the American River near the existing Ranney Collector. Treated effluent would be discharged directly to the American River during periods when there is not any irrigation demand. Both outfalls would be constructed of reinforced concrete and be equipped with energy dissipaters.

BENEFICIAL REUSE

The Proposed Project would provide for the beneficial reuse of treated groundwater by connecting the GWTP to the existing golf course irrigation system. Treated groundwater will offset current potable water use required to sustain the greens, fairways, driving range, and other landscaped areas. Application methods and areas of irrigation would remain as under current conditions. Peak

irrigation demands that exceed the well production rate would require a storage system. The approximately 750,000-gallon concrete reservoir is sized for the 24-hour accumulation of volumes sufficient to meet peak golf course irrigation demands. The irrigation component of the Proposed Project also entails relocation of irrigation pumping facilities to the GWTP and potential abandonment of the existing irrigation pump station.

OPERATION AND MAINTENANCE

Operation of the proposed GWTP will require approximately one site visit per day. Employee vehicles will be parked within a designated new parking space. Operation of the proposed irrigation pump station and reservoir facility will require additional maintenance visits. Neither the GWTP nor irrigation system will be staffed on a fulltime basis.

NPDES PERMIT

The Proposed Project will result in discharge of treated effluent into the nearby Carmichael Creek and the American River. Currently, Aerojet operates six Groundwater Extraction and Treatment (GET) systems under Order No. R5-2004-0027 (NPDES Permit No. CA0083861) (**Appendix A**). The NPDES permit revision (NPDES NO. 0083861), which was adopted by RWQCB on February 6, 2006, allows for the discharge of 34.65 million gallons per day (mgd) from 11 GETs operated by Aerojet. The permit for GET 'L' allows Aerojet to discharge a combined 1.73 mgd from the Proposed Project to Carmichael Creek.

2.5 REGULATORY REQUIREMENTS, PERMITS, AND APPROVALS

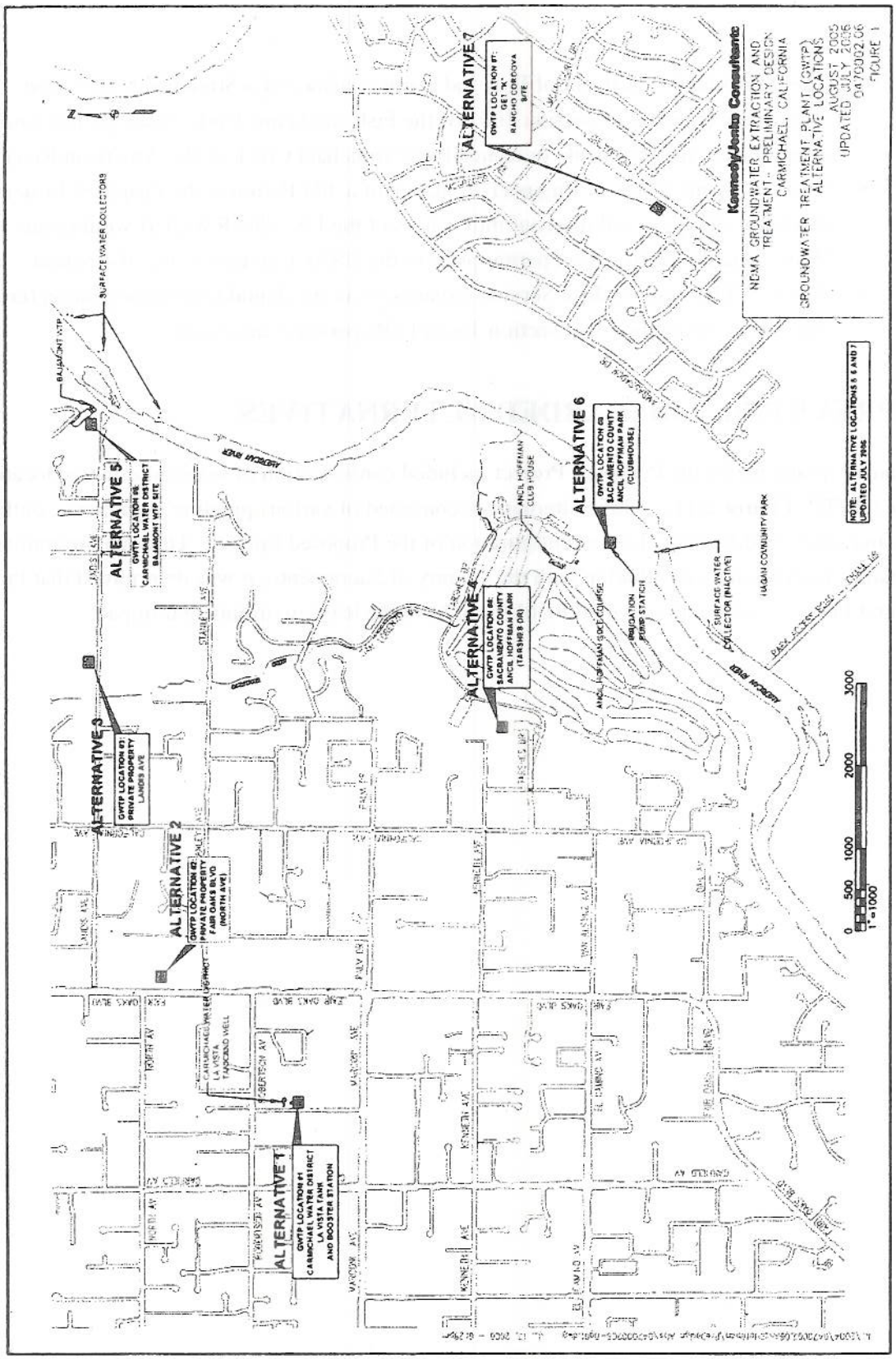
This Initial Study could be used for the following direct and indirect actions regarding the Proposed Project:

- Sacramento County Board of Supervisors approval of a long-term lease for location of the Proposed Project within Ancil Hoffman Park and easements or temporary encroachment permits.
- Sacramento County Municipal Services Agency approval of a grading permit.
- Sacramento County Department of Public Works issuance of Floodplain Management Permit for development activities within a federally designated special flood area.
- The Sacramento County Director of Public Works determination whether a permit is required pursuant to the Sacramento County Tree Ordinance.
- The Central Valley Regional Water Quality Control Board ensurance of compliance with the existing NPDES permit and approval of any changes to the permit required to accommodate the design of the Propose Project (Order No. 99-08-DWQ).

- The California Department of Fish and Game issuance of a Streambed Alteration Agreement pursuant to Section 1601 of the Fish and Game Code, if the project causes alterations to the bed, bank, or channel of Carmichael Creek or the American River.
- The U.S. Army Corps of Engineers issuance of a 404 Permit if the Proposed Project will discharge dredge or fill material into waters of the US. The RWQCB would issue a 401 Water Quality Certification permit prior to the USACE issuance of a 404 permit.
- The U.S. Fish and Wildlife Service issuance of an incidental take authorization through a Section 7 consultation or a section 10(a)(1)(B) permit if necessary.

2.6 PREVIOUSLY DISCARDED ALTERNATIVES

Preliminary planning for the Proposed Project included consideration of seven alternative locations for the GWTP (**Figure 2-11**). These alternatives consisted of various pipeline alignments, outfall areas, and other modifications to the configuration of the Proposed Project. Through preliminary constraints analyses and consultation with the County of Sacramento, it was determined that the Proposed Project configuration would be likely to have the least environmental impact.



Source: KJC, 2006; AES, 2006

Ancil Hoffman Park GET "L" Project

Figure 2-11

Preliminary Alternatives

SECTION 3.0

ENVIRONMENTAL CHECKLIST AND DISCUSSION

SECTION 3.0

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Pursuant to CEQA *Guidelines* Section 15063, a brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the projects outside a fault rupture zone). A "No Impact" answer should be explained where 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).

3.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 croppings, 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 that would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

SETTING

The project site is located in Ancil Hoffman Park (Park) within the American River Parkway (Parkway). The primary area of proposed development is located in a previously developed area of the Park that includes several existing structures, access roads, and an asphalt parking lot associated with the adjacent golf course. The primary area of development is surrounded by landscaped park areas that abut the Effie Yeaw Nature Center (Nature Center) to the north and the riparian corridor of the American River to the east.

The American River Parkway Plan (Parkway Plan), a component of the Sacramento County General Plan, guides land use decisions affecting the American River Parkway, specifically addressing its preservation, use, development, and administration (Sacramento County, 1985). Chapter 5 of the Parkway Plan includes policies for the non-recreational use of the Parkway. The Parkway Plan includes the following polices that would apply to the Proposed Project:

Policy 5.7: Structures that are in the Parkway or visible from the Parkway shall be of a design, color, texture, and scale that minimizes adverse visual intrusion into the Parkway.

Policy 5.7.1: Structures shall be constructed of naturalistic materials which blend with the natural environment.

Policy 5.7.2: Colors shall be earth tones, or shall blend with the colors of surrounding vegetation.

Policy 5.7.4: To the extent possible, structures shall be screened from view by native landscaping or other naturally occurring features.

Policy 5.7.6: Structures shall be located so that neither they, nor activities associated with them, cause damage to native plants or wildlife.

Policy 5.7.7: Structures shall be located so that neither they, nor activities associated with them, disrupt the recreational use of the Parkway, and such structures shall be consistent with the goals and policies of this Plan.

The lower American River has been listed as a federally and state listed "Wild and Scenic River," which affords protection to aesthetic resources of the area. Designating the lower American River as a recreational river under the Federal Wild and Scenic Rivers Act results in a prohibition of Federal construction, assistance, or licensing of water projects "adversely affecting the characteristics qualifying the river for the national system."

IMPACT DISCUSSION

Question A

The proposed groundwater treatment plant (GWTP) would be developed on a landscaped island between Tarshes Drive and the golf course parking lot and thereby visible to users of the Park, primarily patrons of the golf course. The GWTP would not be visible to users of the Parkway. Users of the Park and the Parkway might notice the concrete outfalls—one proposed on Carmichael Creek and another potentially located on the American River—and the electrical panels associate with the extraction wells. The remaining components of the Proposed Project would be developed underground and thus, following the

construction phase, would not pose an aesthetic intrusion. The effects of the Proposed Project on scenic vistas will be less than significant. No mitigation is required.

Question B

The project site is not located near a state scenic highway. The Proposed Project will have no impact on scenic resources within a state scenic highway. No mitigation is required.

Question C

The primary area of proposed development is located in a previously developed area of the Park. The primary visible component of the Proposed Project, the GWTP, will be designed to complement the architectural style employed in the nearby Clubhouse. The Proposed Project will have a less than significant impact on the existing visual character or quality of the site and its surrounds. No mitigation is required.

Question D

The proposed GWTP will be constructed on non-reflective materials and employ downcast lighting systems. The Proposed Project will have a less than significant impact on day or nighttime views in the area. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have a **less than significant** impact on aesthetic resources.

3.2 AGRICULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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, as shown on the maps prepared pursuant to the farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
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 result in conversion of farmland, to non-agricultural use?	☐	☐	☐	☒

SETTING

The California Department of Conservation, Division of Land Resource Protection administers programs to protect and conserve agricultural resources. Agricultural land is rated according to soil quality and irrigation status, with the highest quality land designated as Prime Farmland. The soil must meet the physical and chemical criteria for Prime Farmland or Farmland of Statewide Importance as determined by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS). NRCS compiles lists of which soils in each survey area meet the quality criteria. Factors considered in qualification of a soil by NRCS include: water moisture regimes, available water capacity, developed irrigation water supply; soil temperature range; acid-alkali balance; water table; soil sodium content; flooding (uncontrolled runoff from natural precipitation); erodibility; permeability rate; rock fragment content; and soil rooting depth.

IMPACT DISCUSSION

Question A

The project site is characterized by Rossmoor Fine Sandy Loam, a Prime Farmland soil if irrigated. Although the area of primary development is irrigated, it is not currently used for agricultural purposes.

The Proposed Project will have no impact on the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. No mitigation is required.

Question B

The project site is currently zoned recreational and is not subject to a Williamson Act contract. The Proposed Project will have no impact on zoned agricultural use or a Williamson Act contract. No mitigation is required.

Question C

Agricultural production does not take place within or adjacent to the project site. The Proposed Project will have no impact on the conversion of farmland to non-agricultural use. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have **no impact** on agricultural resources.

3.3 AIR QUALITY

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
AIR QUALITY: Where applicable, 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 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?	☐	☐	☒	☐

SETTING

The project site is located within the Sacramento Valley Air Basin (SVAB), which encompasses the northern half of the Central Valley from Sacramento County to Shasta County. Three mountain ranges surround the SVAB: the Coast Range to the west, the Cascade Range to the north, and the Sierra Nevada to the east. Hot dry summers and wet mild winters characterize the regional climate of the SVAB. High-pressure systems frequently trap warm air in the Sacramento Valley, which inhibits the cooler Pacific air from cooling the valley. This weather pattern is most predominant in the warmer summer months. As a result, temperatures exceeding 100 degrees Fahrenheit are common in the Sacramento Valley. The delta breeze originating in the San Francisco Bay provides some relief from the hot dry summer nights to the lower portion of the SVAB, including Sacramento County. The delta breeze provides cool air from the Bay Area; however, it also provides a medium for pollutant dispersion from the Bay Area to the SVAB. Regional temperature averages are in the middle 70s (Fahrenheit) for highs and the upper 30s (Fahrenheit) for lows. Precipitation averages approximately 18 inches per year (1931 to 2005) (Western Regional Climate Center, 2006).

The project site is located within the Sacramento Metropolitan Air Quality Management District (SMAQMD). Pursuant to the Federal Clean Air Act (FCAA), the project site is located in an area of the

SMAQMD that is in attainment (or unclassified) for the following National Ambient Air Quality Standards (NAAQS): carbon monoxide, nitrogen oxides, lead, and sulfur oxides. The project site is located within the Sacramento Federal Ozone Nonattainment Area (SFNA). This area, which includes Sacramento and Yolo counties and parts of El Dorado, Placer, Sutter, and Solano counties, is classified as "severe" nonattainment for the 8-hour ozone NAAQS. Sacramento County is also considered nonattainment for particulate matter of 10 μm (PM_{10}) and 2.5 μm ($PM_{2.5}$) diameters. Pursuant to the California Clean Air Act (CCAA), the project site is located within an area of the SMAQMD that is considered in attainment (or unclassified) for most of the California Ambient Air Quality Standards (carbon monoxide, $PM_{2.5}$, nitrogen oxides, sulfur oxides, lead, sulfates, hydrogen sulfide, and visibility-reducing particles). The area is classified as non-attainment for ozone and PM_{10} (SMAQMD, 2006a).

According to the FCAA, when a state's air quality exceeds NAAQS, a State Implementation Plan (SIP) must be prepared. The SIP outlines strategies to reduce air contaminants in compliance with NAAQS. As part of the SIP, the SMAQMD has developed an attainment plan for ozone that includes thresholds for emissions of the precursor chemicals that cause ozone formation (**Table AQ-1**). Ozone is not directly emitted into the air, but is formed through a chemical reaction involving oxides of nitrogen (NO_x), reactive organic gasses (ROG), and sunlight. Sources of NO_x and ROG include fossil fuel combustion from heavy machinery and vehicles. For particulate matter, the SMAQMD requires reduction by all feasible means including standard Best Management Practices (BMPs) during construction.

TABLE AQ-1
OZONE PRECURSORS SIGNIFICANCE THRESHOLDS

Project Phase	Ozone Precursor Emissions Thresholds (pounds per day)	
	ROG	NOx
Construction	None	85
Operation	65	65

Source: SMAQMD, 2006b,

IMPACT DISCUSSION

Questions A-C

Construction

Construction of the Proposed Project will include the use of heavy machinery and require construction vehicles to travel to and from the site. SMAQMD has identified screening techniques to identify projects that can be conservatively assumed not to be associated with significant emissions of criteria pollutants (SMAQMD, 2004). One of the screening techniques involves comparing the project size and activity to modeled development size cut points (**Table AQ-2**). Projects of development size approximately 10 percent and below of the published cut point would not be considered to generate significant emissions of

NO_x, ROG, CO, and particulate matter. The proposed GWTP would be approximately 8,000 square feet. According to **Table AQ-2**, this is would be slightly above the cut point for the construction of industrial park developments.

TABLE AQ-2
MODELED DEVELOPMENT SIZE CUT POINTS

Development Type	Cut Point (Construction) (Square Feet)	Cut Point (Operation) (Square Feet)
General Office	77,000	841,000
Warehouse	57,000	2,100,000
Manufacturing	56,000	1,600,000
Industrial Park	56,000	1,215,000

Source: SMAQMD, 2004.

The Proposed Project is therefore expected to emit moderate levels of NO_x, ROG, CO, and particulate matter. According to Sacramento County, a project should not be considered cumulatively significant if the project is not significant for project-alone emissions and does not conflict with any regional air quality plan (SMAQMD, 2004). Construction of the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan, violate any air quality standard or contribute substantially to an existing or projected air quality violation, or 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. The Proposed Project would have a less than significant impact. No mitigation is required. **Mitigation Measures AQ-1** through **AQ-7** below will implement BMPs to reduce nuisance dust generation and the emission of criteria air pollutants to less than significant levels.

Operation

Operation of the GWTP has two main sources of pollutants, pumps that provide the GWTP with water and maintenance vehicle trips. Based cut point screening for operation of an industrial park, operation of the Proposed Project would not contribute to an increase in the generation of considerable quantities of ozone precursors or other criteria air pollutants (**Table AQ-2**). According to Sacramento County, a project should not be considered cumulatively significant if the project is not significant for project-alone emissions and does not conflict with any regional air quality plan (SMAQMD, 2004). Therefore, operation of the proposed GWTP would not conflict with or obstruct implementation of the applicable air quality plan, violate any air quality standard, contribute substantially to an existing or projected air quality violation, or 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. The Proposed Project would have a less than significant impact. No mitigation is required.

Question D

Sensitive receptors are generally defined as land uses that house people who are susceptible to experience adverse impacts from air pollution emissions, and as such, should be given special consideration when evaluating air quality impacts from projects. Sensitive receptors include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, convalescent facilities, and residential areas are examples of sensitive receptors. The residential areas bordering the Park are expected to contain sensitive receptors. Given the distance between the nearest potential sensitive receptors and the area of primary development, the Proposed Project is not expected to expose sensitive receptors to substantial pollutant concentrations.

Question E

Construction of the Proposed Project will be temporary and is not expected to subject a substantial number of people to objectionable odors. Operation of the UV treatment system will not produce objectionable odors that would impact a substantial number of people. The Proposed Project will have a less than significant impact. No mitigation is required.

MITIGATION MEASURES

AQ-1 During dry weather, earthwork construction areas shall be kept moist via regular watering to reduce fugitive dust emissions.

AQ-2 Trucks hauling soil and other loose materials shall be covered to reduce dust emissions and spillage onto paved roads.

AQ-3 Paved roads in the construction area or leading to the construction area shall be washed or swept daily during the construction period.

AQ-4 Excavation and grading activities shall be suspended when winds (instantaneous gusts) exceed 25 miles per hour.

AQ-5 Equipment shall be maintained according to the manufacturers' specifications to prevent emissions of unburned fuel or noxious fumes.

AQ-6 Idling of construction equipment and vehicles shall be restricted to 10 minutes.

AQ-7 Gasoline-powered equipment and vehicles shall have catalytic converters installed prior to their use on the project site.

FINDINGS

The Proposed Project will have a **less than significant** impact on air quality.

3.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 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 effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, or 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 native resident or migratory wildlife corridors, or impede the use of native 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?	☐	☐	☐	☒

SETTING

The project site is located within the boundaries of Ancil Hoffman Park (Park). Components of the project (the groundwater treatment plant [GWTP], extraction wells, pipelines, and outfall structures) are sited in previously developed areas of the Park, primarily within manicured lawns and existing roadbeds. The GWTP is located on an island of landscaped surrounded by an asphalt parking lot, entryway, and Tarshes Drive. Proposed Extraction Well A is located at the site of an existing monitor well, approximately 80-90 feet from a stretch of the American River that has been designated as critical habitat

for the valley elderberry longhorn beetle (VELB [FWS, 2002]). Potential Outfall B would be located within the riparian corridor of the American River. The pipeline route from the proposed Extraction Well A to the GWTP will be aligned within the outer edge of the drip lines of three native valley oaks (*Quercus lobata*) and three interior live oaks (*Quercus wislizenii*). With the exception of a small segment of pipeline connecting to potential Outfall B, which will be aligned along a gravel access road to the Ranney Collector, a segment crossing an open area of landscaped grass to connect with potential Extraction Well B, and two crossings of Carmichael Creek, the remaining pipeline routes will be located within existing roadways.

The following habitat types have been identified within or adjacent to the Proposed Project (**Appendix B: Habitat Map**). Landscaped Park is vegetated with manicured lawn, valley and interior live oak trees, and a variety of horticultural trees. Mixed Oak Woodland is characterized by a canopy of valley oak and interior live oak trees, and an understory of annual herbaceous vegetation. This section of the American River Riparian Corridor is dominated by blue elderberry shrubs. This section of the American River Floodplain is outside the normal-flow channel of the American River. It is a very sparsely vegetated area that primarily comprises loose cobbles. Carmichael Creek is an ephemeral tributary to the perennial American River.

Question A

For the purposes of this assessment, "special status" is defined to be species of management concern to State and Federal resource agencies, and include those species that are:

- Listed as endangered, threatened, or candidate for listing under the Federal Endangered Species Act
- Listed as endangered, threatened, rare, or proposed for listing, under the California Endangered Species Act of 1970
- Designated as endangered or rare, pursuant to California Fish and Game Code (§ 1901)
- Designated as fully protected, pursuant to California Fish and Game Code (§§ 3511, 4700, or 5050)
- Designated as species of concern or species of local concern by the California Department of Fish and Game (CDFG)
- Plants or animals that meet the definitions of rare or endangered under CEQA, including plants ranked by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (Lists 1A, 1B, and 2)
- Plants listed as rare under the California Native Plant Protection Act

Prior to conducting the field assessment the following information sources were reviewed:

- USGS "Carmichael and Citrus Heights, California" 7.5-minute topographic quadrangle
- CDFG California Natural Diversity Database (CNDDB) (RareFind 3, Version 3.1.0) (**Appendix B**)

- U.S. Fish and Wildlife Service (FWS), Federally Endangered and Threatened Species that occur in the "Carmichael and Citrus Heights, California" 7.5-minute quadrangle. November 29, 2006 (**Appendix B**)
- CNPS Inventory of Rare and Endangered Plants, USGS "Carmichael and Citrus Heights, California" 7.5-minute quadrangle (**Appendix B**)

Field Surveys

AES biologists performed a reconnaissance-level field assessment of the project site on November 30, 2006. The field assessment involved complete coverage of the site and included an assessment of the stretch of Carmichael Creek to the point of discharge at the American River. All visible fauna and flora were noted and identified to the lowest possible taxon; habitat types occurring in the study area were characterized and evaluated for their potential to support regionally occurring special-status species; and the study area was assessed for the presence of jurisdictional water features and other biologically sensitive features.

Special Status Plant Species

Special status plant species reported to occur in the Carmichael and Citrus Heights, California, USGS quadrangles include: Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), legenere (*Legenere limosa*), slender orcutt grass (*Orcuttia tenuis*), Sacramento orcutt grass (*Orcuttia viscida*), and Sanford's arrowhead (*Sagittaria sanfordii*). With the exception of Sanford's arrowhead, these species are endemic to vernal pools that are not found on the site. Sanford's arrowhead is found in perennial ponds and ditches. Carmichael Creek is an ephemeral creek and does not provide suitable habitat for Sanford's arrowhead. The project site does not provide suitable habitat for special status plant species reported in the relevant USGS quadrangles. No impacts to these species will occur as a result of the Proposed Project. No mitigation is required.

Special-Status Invertebrate Species

Special status invertebrate species reported to occur in the Carmichael and Citrus Heights quadrangles include "fairy shrimp" species (*Branchinecta conservatio*, *B. lynchi*, and *Lepidurus packardi*) and VELB. "Fairy shrimp" species are associated with vernal pools that do not occur on the site. The project site does not provide suitable habitat for special "fairy shrimp." No impact to these species will occur as a result of the Proposed Project. No mitigation is required.

Elderberry shrubs with stems greater than 1 in. provide suitable habitat for the Federally threatened VELB (in September 2206, the Sacramento Fish and Wildlife Office recommended the valley elderberry longhorn beetle be delisted, based on the number of sightings throughout the Central Valley and the reduction of the primary threats to the species). Critical habitat for the VELB was identified during field survey approximately 90 ft. from the location of proposed Extraction Well A, within 10 ft. of the pipeline alignment to potential Outfall B, and adjacent to the alignment of the potable water pipeline running from San Lorenzo Way to the Effie Yeaw Interpretive Facilities (**Appendix B: Habitat Map**). According to

the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* ([*Conservation Guidelines*] FWSa, 1999), complete avoidance (i.e., no adverse effects) is assumed when a 100 ft. or greater buffer is established and maintained around elderberry plants containing stems measuring 1in. or greater at ground level (**Appendix C**). The minor construction activities associated with conversion of the existing monitor well to proposed Extraction Well A will be temporary and will not involve removal of existing vegetation from a landscaped grass area. No significant adverse impacts to VELB or VELB critical habitat are expected as a result of this minor encroachment into the 100-ft. buffer. Construction activities associated with the pipeline alignment to potential Outfall B will be temporary, within an existing gravel access road to the Ranney Collector and will not involve removal of existing vegetation. Construction activities associated with the pipeline alignment from San Lorenzo Way to the Effie Yeaw Interpretive Facilities will be temporary, within an existing gravel access road, and will not involve removal of existing vegetation. In both cases, construction activities will be limited to roadbeds that already encroach within the 100-ft. buffer. Therefore, no significant adverse impacts to VELB or VELB critical habitat are expected. According to the *Conservation Guidelines*, however, any intrusion into the 100-ft. buffer must be considered an impact. **Mitigation Measure BR-1** below will ensure the Proposed Project will have a less than significant impact.

Special-Status Fish Species

Special-status fish species reported in the Carmichael and Citrus Heights quadrangles include: Central Valley fall/late fall-run, winter-run, and spring-run Chinook salmon, delta smelt (*Hypomesus transpacificus*), and Central Valley steelhead. Delta smelt's range does not extend this far upstream. Central Valley fall/late fall-run, winter-run, and spring-run Chinook salmon, and Central Valley steelhead occur within this stretch of the American River, which is critical habitat for steelhead and fall/late fall-run Chinook.

Treated groundwater will be used to offset the existing demand for golf course irrigation. During the wet season when irrigation is not required, treated groundwater will be discharged to Carmichael Creek thence the American River via proposed Outfall A and possibly to the American River directly via potential Outfall B. Water quality discharge shall be monitored as part of the existing National Pollutant Discharge Elimination System (NPDES) Permit discussed in **Section 3.8**. As noted in the existing NPDES Permit, discharge to the American River is considered a beneficial and recommended use of treated groundwater water. No impact to these species will occur as a result of the Proposed Project. No mitigation is required.

Special-Status Amphibian and Reptile Species

Special-status amphibians and reptile species reported to occur in the Carmichael and Citrus Heights quadrangles include: western spadefoot toad (*Scaphiopus hammondii*), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana aurora draytonii*), giant garter snake (*Thamnophis gigas*), and northwestern pond turtle (*Clemmys marmorata marmorata*).

The project site does not provide suitable habitat for the first two of these species. Western spadefoot toads reside in burrows constructed in loose soil and emerge during warm rains in the winter, spring, and fall only to breed. Breeding is almost entirely within seasonal ponds such as vernal pools and seasonal wetlands that do not occur on site. California tiger salamanders are found in association with long duration vernal pools, and dry season refugia occurring within 1.6 miles (e.g. gopher burrows, and ground squirrel dens). California red-legged frog is now found primarily in coastal drainages of central California, from Marin County south to northern Baja, California-Mexico, and in isolated drainages in the Sierra Nevada, northern coast, and northern Transverse Ranges (FWS, 1996). Giant garter snake are found in slow moving waters, sloughs, and marshes of the Central Valley. An occurrence of northwestern pond turtle (CNDDB occurrence #34) has been reported at a ponded section of Carmichael Creek, downstream of proposed Outfall A. No impact to these species will occur as a result of the Proposed Project. No mitigation is required. Northwestern pond turtle are found in perennially inundated ponds and wetlands. Dry at the time of the site survey, the ponded area downstream from proposed Outfall A would not generally provide the species permanently suitable habitat. However, the species is known to exist within the Nature Center and could relocate to Carmichael Creek or the ponded area during periods of inundation. **Mitigation Measure BR-2** below will ensure the Proposed Project will have a less than significant impact.

Special-Status Bird Species

Special-status bird species reported to occur in the Carmichael and Citrus Heights quadrangles include: bald eagle (*Haliaeetus leucocephalus*), Cooper's hawk (*Accipiter cooperii*), tricolored blackbird (*Agelaius tricolor*), burrowing owl (*Athene cunicularia*), white-tailed kite (*Elanus leucurus*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), bank swallow (*Riparia riparia*), and rookery habitat for the great egret (*Ardea alba*) and great blue heron (*Ardea herodias*). No heron or egret rookeries were observed in the study area. It is unlikely these species would nest in the vicinity of the project site due to high amounts of human disturbances. No special-status bird species were observed on site; however, nesting habitat for Cooper's hawk, Swainson's hawk, and white-tailed kite is present within and in the vicinity of the proposed site. **Mitigation Measure BR-3** below will ensure the Proposed Project will have a less than significant impact.

Special-Status Mammal Species

The American badger (*Taxidea taxus*) is the only special-status mammal species reported to occur in the Carmichael and Citrus Heights quadrangles. Badgers typically inhabit dry, open grasslands, fields, and pastures remote from human presence. The project site does not provide suitable habitat for the American Badger. No impact to this species will occur as a result of the Proposed Project. No mitigation is required.

Question B

The CNDDB reports two sensitive communities within the Carmichael and Citrus Heights quadrangles: northern hardpan vernal pool and northern volcanic mudflow vernal pool (**Appendix B**). Neither of these

sensitive habitats occurs within the project site or within the immediate vicinity. Riparian habitat is located along Carmichael Creek and the American River. Intrusions into riparian corridors will be limited to the development of proposed Outfall A on Carmichael Creek and potential Outfall B on the American River, and two pipeline crossings of Carmichael Creek where the creek flows under Tarshes Drive.

The Proposed Project has been designed to minimize intrusions into riparian habitats and includes 100-percent restoration of any sensitive habitats altered by off-roadway ground disturbance. Consequently, impacts are considered to be less than significant. Alteration to the bed, bank, or channel of eligible drainages requires a Streambed Alteration Agreement (1600 Permit) pursuant to Section 1600 of the California Fish and Game Code. USACE requires that a 404 Permit be obtained if a project proposes placing structures within, over, or under navigable waters and/or discharging dredged or fill material into waters of the US below the ordinary high-water mark. Depending on final design of the outfall structures and creek crossings, development of the Proposed Project may be subject to a 1600 Permit and/or 404 Permit. The project proponent shall comply will all terms and conditions of any required 1600 Permit or 404 Permit, including any stipulated compensatory mitigation. Permit compliance will further ensure the Proposed Project will have a less than significant impact.

Question C

Wetlands are areas that meet the definition set forth in the *Corps of Engineers Field Guide for Wetland Delineation* (1987) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." The methodology employed to define a wetland encompasses a three-parameter test based on (1) hydrology, (2) vegetation, and (3) soil characteristics. Conversely, upland (non-wetland) habitat is seldom or never inundated, or if frequently inundated, the soils are saturated for a brief period. If vegetated, the prevalence of vegetation is adapted for life within aerobic soils. With the exception of Carmichael Creek and the American River, the project site falls within the definition of an upland area; it supports a prevalent upland vegetation mix, lacks redoximorphic soil conditions, and lacks hydrology (i.e., inundation). Depending on final design of the outfall structures, development of the Proposed Project may be subject to a 404 Permit. Intrusions into wetlands would be minimal and impacts are considered to be less than significant. The project proponent shall comply will all terms and conditions of any required 404 Permit, including any stipulated compensatory mitigation. Permit compliance will further ensure the Proposed Project will have a less than significant impact. No mitigation is required.

Question D

The project site is located within a semi-urban area subject to a moderate level of human activity, including automobile traffic. The Proposed Project consists largely of underground pipelines that will not be visible following the construction. Surface components will not alter the characteristics or use of the area. The Proposed Project will not interfere substantially with the movement of wildlife species, or with

established native residents or migratory wildlife corridors; nor will it impede the use of native wildlife nursery sites. No impact will occur as a result of the Proposed Project. No mitigation is required.

Questions E-F

The Conservation Element of the *County of Sacramento General Plan* provides for the protection of riparian areas, urban stream corridors, and native oak trees (Section V Parts A, C, D). The conservation element contains a variety of policies designed to prevent net loss of riparian habitat, fill of urban stream corridors, and removal of native oak trees. As discussed above, the project design and permit compliance will ensure the Proposed Project will have a less than significant impact on riparian areas.

The Sacramento County Tree Ordinance (Section 19.12.040) provides further protection of native oak trees, defined as valley oak (*Quercus lobata*), interior live oak (*Quercus wislizenii*), blue oak (*Quercus douglasii*), or oracle oak (*Quercus morehus*). The Proposed Project has been designed to minimize tree removal and trenching within the drip lines. Nevertheless, construction of the GWTP will require the removal of one black oak (*Quercus kelloggii*) (24 in diameter at breast height (dbh)) and three horticultural species: a 4-in dbh redwood (*Sequoia sempervirens*); a 27-in. dbh sweetgum (*Liquidamber styraciflua*); and a 19-in. dbh white alder (*Alnus rhombifolia*). According to guidance provided by the County Department of Environmental Review and Assessment (DERA), these species are not subject to in-kind compensatory mitigation (Sacramento County, 2006c). The installation of the pipelines will require trenching within the drip lines of six native oaks, three valley oaks, and three interior live oaks. However, since trenching will be in existing roadbeds that already encroach within driplines, DERA does not deem compensatory mitigation necessary.

All tree removal and grading activities will be undertaken as set forth in the Tree Ordinance. In particular, the project proponent will consult with the County Director of Public Works to determine whether a tree permit is necessary for the removal of non-native tree species identified on site or grading beneath the drip lines. The Proposed Project would therefore not conflict with any local policies or ordinances protecting biological resources or with any adopted local, regional, or state habitat plan. No impact will occur as a result of the Proposed Project. No mitigation is required.

MITIGATION MEASURES

BR-1 Following final project design and prior to any disturbance within 100 ft. of elderberry plants, the District will consult with the Fish and Wildlife Service as set forth in the *Conservation Guidelines*. At a minimum, the District will implement all feasible protective measures recommended during consultation. These will include fencing and flaging of all elderberry plants within the 100-ft. buffer, briefing contractors on the need to avoid damaging elderberry plants and the penalties for not complying with these requirements, and erecting signs identifying the area as habitat for a species protected by the Endangered Species Act.

BR-2 A qualified wildlife biologist shall inform all construction personnel that protected turtles may occur in the area. A description of their natural history and identifying characteristics shall be provided. The personnel shall be instructed on the proper techniques for handling and relocating turtles, should relocation be required. If a turtle of any species enters an active construction area, or is in imminent danger, construction personnel (or an on-call wildlife biologist) shall carefully remove the turtle to a point at least 300 ft. downstream of the project limits and within similar habitat.

BR-3 A qualified biologist shall conduct a pre-construction survey for nests within .25 mi. of the project site. If active nests are identified, the project proponent shall initiate consultation with CDFG to establish appropriate avoidance measures. Avoidance measures may include subsequent biological monitoring and establishment of buffer areas around identified nests, with no disturbances within the buffer between April 1 and September 30, or until the young have fledged.

FINDINGS

With the incorporation of the **Mitigation Measures BR-1** through **BR-3**, the Proposed Project would result in ***less than significant*** impact to biological resources.

3.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐

SETTING

A records search was conducted on September 9, 2005, at the North Central Information Center (NCIC) of the California Historical Resources Information System, by NCIC staff, which is housed at Sacramento State University. The NCIC is the official State repository of archaeological and historic records and reports for a six-county area that includes Sacramento County.

The records search found that no cultural resource sites or studies have been recorded or conducted within the project site. Several sites have been recorded within .5-mi. radius of the project site. CA-SAC-155/156, a multi-component archaeological site, was identified and recorded by Dames & Moore (Kelly and Flint, 1995) approximately 0.8-mi. east of the current project site. This same inventory identified a prehistoric habitation site, CA-SAC-476, approximately 0.25-mi. south of the project site. Located approximately 0.8-mi. north of the project site, CA-SAC-220, a large prehistoric village site, was identified by Peak Associates in 1973 (Peak, 1978) and later rerecorded by Dames & Moore (1995). Also identified north of the project site, CA-SAC-317/H, another multi-component archaeological site, was recorded by Dougherty in 2005 as part of a parcel subdivision survey.

IMPACT DISCUSSION

The Proposed Project is considered to result in a significant impact if significant archaeological and/or historic site characteristics are affected (Public Resources Code [PRC] Section 21083.2 and California Environmental Quality Act [CEQA] Guidelines 15064.5). Adverse effects may include, but are not limited to:

- Loss or degradation of significant known or undiscovered prehistoric, archaeological, and historic resources;
- Physical destruction, damage, or alteration of all or part of a significant historic property, as could occur if a site were subjected to direct construction impacts; and
- Isolation of a significant historic property or alteration of the character of its setting when that character contributes to the property's cultural significance.

The thresholds of significance for cultural resources are based on (1) association with an event or person of recognized significance in California or American history; (2) association with an event or person of recognized scientific importance in prehistory; (3) whether the resource can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions; (4) whether the resource has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind; (5) whether the resource is at least 50 years old and possesses substantial stratigraphic integrity; (6) whether the resource involves important research questions that historical research has shown can be answered only with archaeological methods.

Resources must also be evaluated in terms of their eligibility for inclusion in the California Register of Historical Resources (PRC 5.24.1). The Register supplements the CEQA in defining what constitutes a significant cultural resource and contains guidelines and criteria for determining the significance at the local level. Properties eligible for listing in the National Register of Historic Places automatically qualify for the California Register. Resources that do not meet National Register criteria, but retain State or local values may also be included in the California Register. In light of these criteria and guidelines, impacts to resources located within the project site are discussed below.

Questions A-D

No historical resources were identified during the September 9 and 28, 2005 site visits (**Appendix D**). However, given the overall sensitivity for archaeological and historical resources in the general area, there is a possibility that unidentified buried archeological deposits are present at the project site and accidental discovery during ground-disturbing activities could occur. Prehistoric archaeological deposits may include obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g. slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Historic period deposits generally include fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g. wells, privy pits, dumps). Though much of the project site has been previously disturbed, thereby reducing the likelihood that intact archaeological sites exist, impacts related to the development of the Proposed Project could affect previously unidentified significant historical resources. This is a potentially significant impact. **Mitigation Measure CR-1** below will ensure the Proposed Project will have a less than significant impact.

MITIGATION MEASURES

CR-1 In the event of the unanticipated discovery of buried or concealed heritage resources, project activities will cease in the area of the find, and a qualified archaeologist will be consulted to determine the extent and significance of the resource and to develop any necessary mitigation measures. If human remains are inadvertently discovered, work will cease immediately and the County Coroner will be notified in accordance with California law. A professional archaeologist will also be hired to assist in the development of appropriate mitigation of site impacts.

FINDINGS

With the incorporation of the **Mitigation Measures CR-1**, the Proposed Project would result in ***less than significant*** impact on cultural resources.

3.6 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
GEOLOGY & SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving 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 Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
b) Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving strong seismic ground shaking?	☐	☐	☒	☐
c) Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
d) Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving landslides?	☐	☐	☐	☒
e) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
f) 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?	☐	☒	☐	☐
g) 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?	☐	☐	☐	☒
h) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

SETTING

The project site is situated in the Great Valley geomorphic province on a floodplain of the American River. The soils of the site are composed of Rossmoor fine sandy loam, (0 to 2 percent slopes) and Xerofluvents (0 to 2 percent slopes)(NRCS, 2006). Rossmoor fine sandy loam soils are very deep and

well drained. Rossmoor and Xerofluvent soils formed in alluvium derived from mixed rock sources. Typically, the surface layers of Rossmoor soils are brown fine sandy loam about 6 inches thick. The underlying material to a depth of 62 inches is yellowish brown and brown fine sandy loam. Permeability is moderately rapid, runoff is slow, and the hazard of water erosion is slight in the Rossmoor soils. Xerofluvents are excessively drained to well-drained soils. The unit is channeled by small drainage ways that are flooded during periods of high water flow. Permeability is very rapid to moderately rapid, runoff is very slow to slow, and the hazard of water erosion is slight to moderate.

Earthquake faults are a major hazard for development in California; however, no major active faults transect Sacramento County (Sacramento County, 1993). Active and potentially active regional faults identified include: Midland Fault (approximately 30 miles west), Dunnigan Hills Faults (approximately 30 miles northwest), Unnamed Faults (approximately 40 miles west), Green Valley-Concord Fault (approximately 55 miles west), and Foothills Fault System (approximately 20 miles east).

Liquefaction is a type of ground deformation associated with unconsolidated soils. Water in such soils is subjected to pressure, usually produced by ground motion like that of earthquakes, which causes the soil to behave like quicksand and to flow out from underneath buildings. Factors determining the liquefaction potential are soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands and peat deposits are susceptible to liquefaction, while clays and silt deposits in a freshwater environment are generally stable during seismic activity. Two areas in Sacramento County have a possibility of liquefaction occurring, downtown and delta areas. The Proposed Project site is not within either of the areas (Sacramento County, 1993).

IMPACT DISCUSSION

Questions A-C

There are no known active faults in the immediate vicinity of the project site. Sacramento County is not listed on Alquist-Priolo Earthquake Fault Zoning Maps (CGS, 1999). According to the Seismic Shaking Hazards in California Map (SSHCM), the project site is located in an area of low hazard (CGS, 2002). The SSHCM indicates that the ground-shaking hazard at the project site is 10 percent. Therefore, 1 out of every 475 earthquakes per year will have a 10 percent greater movement than the average gravity-induced ground motion (CGS, 2002). Liquefaction of the soils in and around the project site is low due to the low percentage of seismic activity and the composition of the soil.

The project site is located in a low hazard area for ground shaking, although a medium to large earthquake on any of the faults in the southwestern Sacramento Valley, the Coast Ranges, and the San Francisco Bay Area may cause strong ground shaking. Since the Proposed Project will be designed to current seismic standards, impacts are considered to be less than significant. No mitigation is required.

Question D

The project site is level and is therefore not considered to be a landslide hazard. No impact is expected. No mitigation is required.

Question E

Construction of the Proposed Project will require grading and removal of topsoil for the placement of the GWTP footprint. A grading and erosion control permit will be required from Sacramento County because the Proposed Project will grade, fill, excavate, store or dispose of 350 cubic yards or more of soil or earthly material. The Proposed Project will not require a General Permit for storm water discharges associated with construction activities from the Regional Water Quality Control Board-Central Valley Region (RWQCB-CVR) because the area of disturbance (approximately .75 acres) is less than one acre (RWQCB, 1999). **Mitigation Measures GS-1** through **GS-4** below will implement Best Management Practices to ensure the Proposed Project will have a less than significant impact.

Questions F-G

Due to the level nature of the project site, the Proposed Project is not likely to result in on- or off-site landslides. The soil composition is not at risk to experience lateral spreading, subsidence, liquefaction, or collapse of the soil structure. On-site soils are not categorized as expansive soils. **Mitigation Measure GS-5** below will ensure impacts will be less than significant.

Question H

The Proposed Project does not include installation of septic tanks or alternative wastewater disposal systems. No impact is expected. No mitigation is required.

MITIGATION MEASURES

GS-1 Vegetation removal shall be limited to the minimum amount necessary to accommodate the project. As the permanent vegetation cover is maturing, temporary native vegetation or other erosion control measures sufficient to stabilize the soil shall be established on all disturbed areas. New planting shall be protected by using such measures as jute netting, straw mulching and fertilizing.

GS-2 Temporary erosion control measures, such as silt fences, staked straw bales, and temporary revegetation, shall be employed for disturbed areas.

GS-3 No disturbed surfaces shall be left without erosion control measures in place during the winter and spring months.

GS-4 Sediment shall be retained on site by a system of sediment basins, traps, or other appropriate measures.

GS-5 Project design shall incorporate recommendations of a geotechnic study to be completed prior to construction of the Proposed Project.

FINDINGS

With the incorporation of the **Mitigation Measures GS-1** through **GS-5**, the Proposed Project would result in ***less than significant*** impacts.

3.7 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
HAZARDS & 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 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 two 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 within 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?	☐	☒	☐	☐

SETTING

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22 of the California Code of Regulations (CCR) as: "a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed" (CCR, Title 22, Section 66260.10).

IMPACT DISCUSSION

Questions A-B

The Propose Project does not involve any routine transport, use, or disposal of hazardous materials. On-site chemicals stored in the GWTP would be limited to UV lamp quartz sleeve cleaning solutions (hydrogen peroxide) and carbon dioxide gas canisters for providing pH adjustment as needed. It is anticipated that equipment will be temporarily stored on site during construction and will require periodic maintenance and fueling. **Mitigation Measures HM-1** through **HM-5** will ensure impacts will be less than significant.

Question C

The Proposed Project would not result in hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The nearest school is the Mary Deterding Elementary School approximately 0.75 miles northwest of the project site. No impacts are anticipated. No mitigation is required.

Question D

The project site is not listed on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment. No mitigation is required.

Question E

The Proposed Project is not located within an area covered by an airport land use plan or within two miles of a public airport and therefore would not pose a hazard to people residing or working in the project area.

Question F

There is no private airstrip in the project vicinity. No impact is anticipated. No mitigation is required.

Question G

During construction of the Proposed Project it is expected that construction traffic will be present on Tarshes Drive and San Lorenzo Way, but it is anticipated to be insignificant, and therefore would not prevent the implementation of an emergency response plan. Operation of the Proposed Project would not generate significant amounts of traffic or impair roadways, preventing the implementation of adopted emergency response or evacuation plans. No impact is anticipated. No mitigation is required.

Question H

The American River Parkway is an open and scenic parkway that has dry grasses that could pose a fire danger. **Mitigation Measures HM-6** and **HM-7** will ensure impacts will be less than significant.

MITIGATION MEASURES

HM-1 To reduce the potential for accidental releases, fuel, oil, and hydraulic fluids shall be transferred directly from a service truck to construction equipment tanks and shall not otherwise be stored on site.

HM-2 Personnel shall follow written Standard Operating Procedures (SOPs) for filling and servicing construction equipment and vehicles. The SOPs, which are designed to reduce the potential for incidents involving the hazardous materials, shall include the following:

A. Refueling shall be conducted only with approved pumps, hoses, and nozzles.

B. Catch pans shall be placed under equipment to catch potential spills during servicing.

C. All disconnected hoses shall be placed in containers to collect residual fuel from the hose.

D. Vehicle engines shall be shut down during refueling.

E. No smoking, open flames, or welding shall be allowed in refueling or service areas.

F. Refueling shall be performed away from bodies of water to prevent contamination of water in the event of a leak or spill.

G. Service trucks shall be provided with fire extinguishers and spill containment equipment, such as absorbents.

H. Should a spill contaminate soil, the soil shall be put into containers and disposed of in accordance with local, State, and Federal regulations.

I. All containers used to store hazardous materials shall be inspected at least once per week for signs of leaking or failure. All maintenance and refueling areas shall be inspected monthly. Results of inspections shall be recorded in a logbook that would be maintained on site.

J. The amount of hazardous materials used in project construction and operation shall be consistently kept at the lowest volumes needed.

HM-3 The use of pesticides and toxic chemicals shall be minimized or less toxic alternatives shall be used to the greatest extent feasible in landscaping.

HM-4 If suspected soil contamination is encountered during excavation and grading activities, all work shall be halted and a qualified individual, in consultation with the RWQCB, shall determine the appropriate course of action.

HM-5 All construction equipment shall include spark arresters in good working order.

HM-6 Staging areas, welding areas, or areas slated for construction using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel.

HM-7 To the extent feasible, the contractor shall keep areas around the construction site clear of combustible materials in order to maintain a firebreak.

FINDINGS

With the incorporation of the **Mitigation Measures HM-1** through **HM-7**, the Proposed Project would result in ***less than significant*** impacts.

3.8 WATER RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Water Resources: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
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 that 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 that would result in flooding on or off site?	☐	☐	☒	☐
e) Create or contribute runoff that 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 100-year flood hazard area structures that 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?	☐	☐	☐	☒

SETTING

The Proposed Project is located within the American River watershed, which drains approximately 1,875 square miles of land from the Sierra Nevada mountain range to the Sacramento Delta. Carmichael Creek flows though the project site, approximately 1,200 ft. northeast of the proposed GWTP. The Mehrten groundwater basin exists below the site and has a very high groundwater recharge rate (Sacramento County, 1993).

Groundwater extraction and treatment was chosen as the most effective remedial system to prevent contaminants of concern from migrating northwest into the Carmichael Water District (CWD) (WGOU-3, AREA 4). The goals of the groundwater extraction and treatment system are to create drawdown of the water table (level below which the ground is completely saturated with water) via the extraction wells. Drawdown will change the direction and gradient of groundwater flow, causing groundwater to be pulled towards the extraction wells. The drawdown will create a radius of influence around the extraction wells that would move affected groundwater towards the extraction wells.

IMPACT DISCUSSION

Question A

Treated effluent will be in compliance with an existing NPDES permit (**Appendix A**), which may need to be amended to cover an alternative discharge location and reuse of remediated water to offset existing irrigation demands. No impacts are anticipated. No mitigation is required. There is potential for violating water quality standards during the construction of the Proposed Project by sedimentation of the adjacent seasonal stream. **Mitigation Measures GS-1** through **GS-4** in the Soils and Geology section will ensure impacts will be less than significant

Question B

Groundwater recharge is rapid in the vicinity of the project site because of the proximity to the American River and the lithology of the Merhten groundwater basin. Treated groundwater will be discharged to Carmichael Creek and directly to the American River, thereby potentially recharging the lower groundwater-bearing zones. The Proposed Project is designed to prevent further contamination of the groundwater supply. Without implementation of the Proposed Project, the area of contamination is likely to expand, thereby reducing the net supply of groundwater available for drinking water and other existing or planned land uses. Impacts to the groundwater supply are therefore considered to be beneficial. No mitigation is required.

Questions C-D

The existing drainage pattern of the site includes surface runoff into landscaped areas and percolation of storm water into the ground surfaces. Construction of the GWTP would result in a minimal increase of impervious surfaces that would not substantially alter existing drainage patterns in a manner that would

result in substantial erosion or siltation or cause flooding on or off site. Nor would the Proposed Project create or contribute runoff that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. The Proposed Project would have no impact. No mitigation is required.

Question E-F

Construction of the GWTP would result in a minimal increase of impervious surfaces that would not exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Additional sources of polluted runoff from soil erosion may occur temporarily during construction of the Proposed Project. **Mitigation Measures GS-1** through **GS-4** in the Soils and Geology section will ensure impacts will be less than significant

Question G

The Proposed Project will not construct housing. No impact will occur. No mitigation is required.

Question H-J

The GWTP building is located on an elevated area outside the designated 100-year flood zone; however, the pipelines, outfalls, and extraction are within a 100-year flood zone (FEMA, 1998). Construction of these underground utilities would neither impede or redirect flood flows nor expose people or structures to a significant risk of loss, injury, or death involving flooding, including as a result of the failure of a levee or dam. The Propose Project is subject to issuance of Floodplain Management Permit from the Sacramento County Department of Public Works for development activities within a federally designated special flood area. Any conditions of this permit will further reduce the potential for impacts. The project site is not located in an area exposed to inundation by seiches, tsunamis, or mudflows. The Propose Project would have a less than significant impacts. No mitigation is required.

MITIGATION MEASURES

See **Mitigation Measures GS-1** to **GS-4** in the Geology and Soils Section.

FINDINGS

With the incorporation of the **Mitigation Measures GS-1** through **GS-4**, the Proposed Project would result in ***less than significant*** impacts.

3.9 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
LAND USE & 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?	☐	☒	☐	☐

SETTING

The Proposed Project is located in the 396-acre Park operated by the Sacramento County Department of Regional Parks. Ancil Hoffman Park consists of an 18-hole golf course, the 77-acre Effie Yeaw Nature Center, trails, and picnic areas. The project site is located in the American River Parkway (Parkway) as designated by the American River Parkway Plan (Sacramento County, 1985).

Zoning Ordinances

The project site is zoned as Recreation and Open Space with Flood and Parkway Corridor Combining Use Zones (Sacramento Zoning Code, 2006). The general purposes of the Recreation Land Use Zone include:

- To preserve the open space and other areas of unusual scenic beauty and recreational potential which are unique to Sacramento County and California and to protect the physical, social, recreational, aesthetic, and economic resources which are of great value to the people of Sacramento County.
- To protect the scenic and recreational areas within Sacramento County, whenever feasible, from urban development and other types of development that jeopardize the values of these areas.
- To encourage and protect Sacramento County's growing tourist and recreation resources.

The Flood Combining Zone is intended to comprise all land covered by rivers, creeks, and streams and land subject to flooding within the unincorporated area of Sacramento County. The following purposes of the Flood Combining Land Use Zone apply to the Proposed Project:

- The promotion of the orderly development and beneficial use of lands subject to recurrent flooding is necessary if the potential property damage which results from improper development is to be minimized.
- The health, general welfare and safety of the public of Sacramento County as a whole requires that lands subject to flooding be strictly regulated.
- Inundation frequently causes extensive property damage.

The Parkway Corridor Combining Zone regulates property along the American River within the unincorporated area of Sacramento County. Goals of the Parkway Corridor that apply to the Proposed Project include:

- Preserve and enhance the American River and its immediate environment consistent with the goals and policies of the American River Parkway Plan, an element of the Sacramento County General Plan.
- Ensure that development with access within and adjacent to the American River parkway is designed to reduce as much as possible, any visible intrusion into the Parkway and to complement the naturalistic amenities of the Parkway.
- Minimize risks to public health, safety and welfare in areas which are potentially threatened by erosional processes.

The Sacramento Zoning code prohibits any building, structure, vehicle, or sign in any Recreation Land Use Zone, unless designated in the Sacramento Zoning Code (Sacramento Zoning Code, 2006).

American River Parkway Plan

The American River Parkway Plan (Parkway Plan) provides a guide to land use decisions affecting the Parkway (Sacramento County, 1985). The conservation element of the Sacramento County General Plan includes implementation measures to incorporate habitat conservation measures in the Parkway Plan. Land use activities identified in the Parkway Plan that apply to the Proposed Project include:

- Brush clearing, mowing of natural vegetation, fire breaks, or similar activities shall be prohibited in the Open Space Preserve Areas, Nature Study Areas, Protected Areas and Recreation Areas, unless a demonstrated need exists to protect the public health, safety, or welfare, as determined by the appropriate fire agency.
- Human developments and facilities, including but not limited to, buildings, fences, trails, sprinkler systems, and gates shall be prohibited in Open Space Preserve Areas, except as necessary to protect the public health, safety, and welfare.

IMPACT DISCUSSION

Question A

The Proposed Project involves construction of moderately sized treatment facility in the vicinity of existing structures associated with the Ancil Hoffman Golf Course. The majority of the Proposed Project would be developed underground and does not have the potential to physically divide an established community. No impact would occur. No mitigation is required.

Question B-C

California Government Code Section 53091(d)(e) states that building and zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency. The consistency of the Proposed Project with land use plans, policies, or regulations of agencies adopted for the purpose of avoiding or mitigating environmental effects is discussed under the relevant environmental sections of this checklist. The consistency of the Proposed Project with applicable habitat conservation plans or natural community conservation plans is also discussed under the relevant environmental sections of this checklist (i.e. Aesthetics, Biological Resources, Geology and Soils, Water Resources, etc.). When appropriate, mitigation measures are provided to reduce all potential impacts to less than significant. No additional mitigation is required.

MITIGATION MEASURES

See **Mitigation Measures AQ-1** to **AQ-7**, **BR-1** to **BR-2**, **CR-1**, **GS-1** to **GS-5**, **HM-1** to **HM-7**, and **TT-1**.

FINDINGS

With the incorporation of the **Mitigation Measures AQ-1** to **AQ-7**, **BR-1** to **BR-2**, **CR-1**, **GS-1** to **GS-5**, **HM-1** to **HM-7**, and **TT-1**, the Proposed Project would result in ***less than significant*** impacts.

3.10 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

SETTING

Sacramento County does not contain mineral resources classified by the California Division of Mines and Geology (CDMG) as regionally significant according to the California Code of Regulations, Title 14(2)(8)(1)(2. Locally significant mineral resources in Sacramento County include sand, gravel, clay, natural gas, gold, silver, peat, topsoil, lignite, and petroleum. Aggregate (sand and gravel) and natural gas resources account for a majority of production in the area. According to the General Plan, resource conservation issues associated with natural gas production and the other locally significant mineral resources are not significant compared to those concerning aggregate production. The old American River channel is an area located to the south of the project site, south of the City of Rancho Cordova, and contains Sacramento County's primary remaining aggregate deposits (Sacramento County, 1993).

IMPACT DISCUSSION

Questions A-B

The project site is not located within an area classified as having regionally significant mineral resources and would not result in the loss of a locally important mineral resource recovery site. No impact would occur. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have a **less than significant** impact on mineral resources.

3.11 NOISE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 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 two 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?	☐	☐	☐	☒

SETTING

Noise is often described as unwanted sound and thus is a subjective reaction to the physical phenomenon of sound. Sound is variations in air pressure that the ear can detect. The ear responds to pressure variations in the air from about 20 times per second to about 20,000 times per second. The ear does not respond equally to all frequencies. For example, we do not hear very low frequency sounds as well as we hear higher frequency sounds, nor do we hear very high frequency sounds very well. The threshold of hearing is considered to be zero (0) decibels (dB), and the range of sounds in normal human experience is 0 to 140 dB. To compensate for the fact that the ear is not as sensitive at some frequencies and sound pressure levels as at others, a number of frequency weighting scales have been developed. The "A" weighting scale is most commonly used for environmental noise assessment, as sound pressure levels measured using an A-weighting filter correlate well with community response to noise sources such as aircraft and traffic.

The ambient noise level is defined as the existing range of noise levels from all sources near and distant from a particular area. A synonymous term is pre-project noise level. A similar term is background noise level, which usually refers the ambient noise level that is present when any intermittent noise sources are absent.

Sensitive noise receptors near the project site include the golf course and park users located to the northwest and potentially sensitive biological resources found in the surrounding park area. Ambient noise in the vicinity of the project site is a result of operations of the golf course and minor traffic on Tarshes Drive.

Noise Ordinance

The Sacramento County Noise Ordinance (Noise Ordinance) establishes exterior noise standards of 55 dBA during the hours of 7 AM to 10 PM and 50 dBA during the hours of 10 PM to 7 AM (Sacramento County, 2006b). Table N-1 shows exceedances of the established exterior noise standards that are allowed for short durations. The maximum operational noise level allowed during daytime hours is 75 dBA. The Noise Ordinance exempts construction noise from standards during the hours of 6:00 AM to 8:00 PM on Monday through Friday and 7:00 AM to 8:00 PM on Saturday and Sunday (Sacramento County, 2006b).

TABLE N-1
SACRMENTO COUNTY NOISE ORDINANCE STANDARDS

Duration of Noise Level Above Noise Standards	Decibels Allowed Above Noise Standard	Corresponding Noise Level	
		7am-10pm	10pm-7am
Cumulative period of 30 minutes per hour	0	55 dBA	50 dBA
Cumulative period of 15 minutes per hour	+5	60 dBA	55 dBA
Cumulative period of 5 minutes per hour	+10	65 dBA	60 dBA
Cumulative period of 1 minute per hour	+15	70 dBA	65 dBA
Level not to be exceeded for any time per hour	+20	75 dBA	70 dBA

Source: Sacramento County, 2006b.

IMPACT DISCUSSION

Questions A-D

Construction

The golf course and surrounding park adjacent to the project site will be exposed to a temporary increase in background noise levels during construction of the Proposed Project. Noise would be generated by construction machinery during the grading, trenching, and development of the Proposed Project. **Table N-2** shows typical construction noise levels for various types of equipment.

TABLE N-2
TYPICAL CONSTRUCTION NOISE LEVELS

Type of Equipment	Maximum Noise Level, dBA at 50 feet
Scrapers	88
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85
Forklifts	75

Source: AES, 2006.

As discussed in **Section 2.4**, construction will occur only during the exemption hours set forth in the Noise Ordinance and the District will coordinate with the Sacramento County Department of Parks to minimize construction activities during scheduled special events or high use time periods at the Park and Nature Center. The Proposed Project will therefore have no impact. No mitigation is required.

Operations

The GWTP and associated facilities would be designed with noise reducing features. These measures will include, but are not limited to, equipment enclosures (including location of the HVAC and pump inside the GWTP), fan silencers, noise barriers, acoustical panels. The design of the Project Design will reduce potential impacts to less than significant levels. No mitigation is required.

Questions E-F

The Proposed Project is not located in the vicinity of a public airport or private airstrip. No impacts will occur. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have a **less than significant** on ambient noise levels.

3.12 POPULATION

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
POPULATION: Would the project:				
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through he 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?	☐	☐	☐	☒

SETTING

Carmichael is an unincorporated suburb of Sacramento and covers approximately 17 square miles with a zip code population of 72,000. The area is served by the CWD District, which encompasses approximately eight square miles and serves a population of approximately 39,000. The CWD service area is predominantly residential in character, with interspersed commercial areas (CWD, 2006). The area immediately surrounding the Proposed Project consists of the 396-acre Ancil Hoffman Park.

Questions A-C

The Proposed Project does not propose construction of new homes or businesses or the demolition of existing housing. The Proposed Project would not cause a displacement of people requiring the construction of replacement housing. No impacts would occur. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have **no impact** on population or housing.

3.13 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
PUBLIC SERVICES: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response time or other performance objectives for any of these public services:				
a) Fire protection?	☐	☐	☐	☒
b) Police Protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

SETTING

Fire Protection

The Sacramento Metropolitan Fire Department provides fire protection to the Proposed Project property. Station 109 serves the Carmichael area and is located at 5634 Robertson Avenue, Carmichael, California, approximately 1.6 miles (2.4 driving miles) northwest of the project site. Station 109 provides medical, fire, and hazmat services to the surrounding community (SMFD, 2006).

Law Enforcement

The Northeast Division of the Sacramento County Sheriff's Department provides law enforcement to the proposed site. The Northeast Division has over 100 sworn offices with a support staff of 19 and is headquartered at the Garfield Station located approximately 3 miles northwest of the project site. The Garfield Station provides patrol and investigative services to the communities of Carmichael, Fair Oaks, Foothill Farms, and Orangevale. The Northeast Division also maintains a Carmichael Services center providing various non-patrol services.

Schools

The San Juan Unified School District provides public education services for various communities including Carmichael. Within a 1-mile radius of the Proposed Project property there are three public schools – two elementary and one college preparatory school. The closest school is Mary Deterding Elementary School, which is approximately 1.1 miles northwest of the core project site.

Parks

The proposed project is located within the boundaries of Ancil Hoffman Park. The park comprises 396-acres of recreation, which contains the Ancil Hoffman golf course and the Effie Yew nature center. The park provides horseback riding, hiking, nature studies, golf, and many other activities. Ancil Hoffman Park is owned by the County of Sacramento and is part of the American River Parkway. The American River borders the park on the south and is bound by residences on the north, east, and west.

Power and Natural Gas

Electricity is supplied to the proposed site and surrounding area by the Sacramento Municipal Utility District. Pacific Gas and Electric Company provides natural gas service to the project site.

Communications

AT&T provides telephone communication services to the Proposed Project property and surrounding area.

Questions A through E

The Proposed Project would require minimal public services that would not result in a measurable demand on public services, including fire protection, police protection, schools, parks or other public facilities. No impacts will occur. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have **no impact** on public services.

3.14 RECREATION

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 that might have an adverse physical effect on the environment?	☐	☐	☐	☒

SETTING

The project site is located within Ancil Hoffman Park in the American River Parkway. Ancil Hoffman Park is a Sacramento County Park that includes a golf course, several hiking trails, and a nature preserve.

IMPACT DISCUSSION

Questions A-B

The Proposed Project would not result in population growth that would increase the use of regional parks and other recreational facilities. The Proposed Project does not include or require construction of recreational facilities that might have an adverse effect on the environment. As discussed in **Section 2.4**, the District will coordinate with the Sacramento County Department of Parks to minimize construction activities during scheduled special events or other particularly high use time periods at the Park and Nature Center. The will ensure the Proposed Project will not have an adverse effect on current use of the Park and Nature Center.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have **no impact** on recreational opportunities.

3.15 TRANSPORTATION/TRAFFIC

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
TRANSPORTATION/TRAFFIC: Would the project:				
a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase on 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 due 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)?	☐	☐	☐	☒

SETTING

The project site is accessed from the west via Tarshes Drive, a paved two-lane street maintained by the County that originates on California Avenue. Fair Oaks Boulevard and California Avenue are the main arterials in the project area. Fair Oaks Boulevard, Sunrise Boulevard, Watt Avenue, and U.S. Highway 50 provide regional access to the project area.

The Sacramento County General Plan (1993) includes a Circulation Element (Circulation Element) identifying major transportation facilities within Sacramento County and planning for their rehabilitation and expansion as transportation demands increase in the area over time. The circulation element includes policies designed to prevent degradation of existing roadway networks, including decline in physical condition and level of service. Development projects have the potential to impact the existing roadway network surrounding the project site, and in accordance with the general plan, a traffic impact analysis

may be necessary if the impacts are significant. The County has developed traffic impact analysis guidelines to determine the potential impact on transportation in the area (Sacramento County, 2006a). A traffic impact study is typically required if any of the following are true:

- The project will generate 100 or more new AM or PM peak hour vehicle trips (one-way)
- The project will generate 1,000 or more daily vehicle trips (one-way)
- New project traffic will substantially affect an intersection or a roadway segment already identified as operating at an unacceptable level of service
- The project may create a hazard to public safety
- The project will substantially change the off-site transportation system or connections to it.

IMPACT DISCUSSION

Questions A-B

Construction

Construction of the Proposed Project would temporarily increase the use of Tarshes Drive, the main access road to the project site. The increase in vehicular traffic would be from the arrival and departure of construction crews, delivery of heavy equipment and constructions materials, and removal of soil excavated for the storage reservoir. It is anticipated that a combined maximum of approximately 60 trips per day would result from the construction of Proposed Project. The impact of this minimal temporary increase would be less than significant. No mitigation is required.

Operation

It is anticipated that operation of the GWTP would require one part-time employee, which would result in less than 10 trips per week. The impact of this minimal increase would be less than significant. No mitigation is required.

Question C

The Proposed Project has no impact on air traffic. No mitigation is required.

Question D

The Proposed Project will not change the design of existing roadways and does not include any operational features that would impact traffic or increase hazards. No impacts will occur. No mitigation is required.

Question E

Construction equipment would be staged on site away from access roads and would not interfere with the provision of emergency services. However, trenching activities within existing roadways and access road could temporarily impede in roadways. **Mitigation Measure TT-1** below will ensure the Proposed Project will have a less than significant impact.

Question F

Construction equipment and construction employee parking will be staged on a paved overflow parking lot adjacent to the entrance kiosk to the Park and/or at a temporary staging area created by fencing the segment of Tarshes Drive between the entrance and exit to the Clubhouse parking lot. If the staging area is located near the GWTP building, the existing exit from the clubhouse parking lot will be closed and exiting traffic will be redirected to the entry point. A temporary stop sign and restriping would be installed to control traffic flow. This would not result in a net loss in parking capacity. Use of the overflow parking lot for staging of construction equipment would result in a net loss in parking capacity; however, this impact would be temporary and would not result in inadequate capacity to serve the existing demand. The impact to parking would be less than significant. No mitigation is required.

Question G

The Proposed Project would not conflict with any adopted policies, plans, or programs supporting alternative transportation. No mitigation is required.

MITIGATION MEASURES

TT-1 Consistent with the Circulation Element, all construction related trips will be coordinated with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the nature of construction activities within access routes, as well as the timing, location, and duration of construction related truck trips.

FINDINGS

With the incorporation of the **Mitigation Measure TT-1**, the Proposed Project would result in ***less than significant*** impacts to transportation and traffic.

3.16 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
UTILITIES & SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Result in a determination by the wastewater treatment provider that 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?	☐	☐	☐	☒
c) 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?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
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?	☐	☐	☐	☒

SETTING

The Sacramento Regional County Sanitation District, County Sanitation District-1 (CSD-1), provides wastewater service to the Proposed Project property. Wastewater is collected through approximately 2,400 linear mi. of sewer lines and transported to the Sacramento Regional Wastewater Treatment Plant (SRWWTP). The SRWWTP receives approximately 165 million gallons per day (MGD) and has a capacity of 281 MGD (SRCSD, 2006).

Potable water is provided by the CWD, which encompasses approximately eight square miles and serves a population of approximately 39,000. The CWD service area is predominantly residential in character, with interspersed commercial areas (CWD, 2006).

Questions A through D

The proposed GWTP does not include sanitary facilities that would generate substantial volumes of wastewater. Potable water would be supplied to the GWTP from the CWD. The Proposed Project has an irrigation reuse component that will offset existing demands on the potable water. The Proposed Project will have a beneficial impact. No mitigation is required.

Question E

Implementation of the Proposed Project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities that could cause significant environmental impacts. No impacts will occur. No mitigation is required.

Questions F through G

Operation of the Proposed Project would require one part-time employee. The increase in solid waste for one additional employee plus the operation of the GWTP is less than significant. The Proposed Project will comply with all federal, state, and local statutes and regulations related to solid waste. No impact will occur. No mitigation is required.

MITIGATION MEASURES

None required.

FINDINGS

The Proposed Project will have **no impact** on utilities and service systems.

3.17 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 a 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 that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Questions A-C

The potential for the Proposed Project to degrade the quality of the environment, reduce habitats or species, or destroy cultural resources is discussed in detail in the corresponding sections above. Cumulative impacts and indirect effects for each issue area have been considered for each issue area and when salient are discussed in detail in the appropriate section of the checklist. When appropriate, mitigation measures are provided to reduce all potential impacts to less than significant levels. No additional mitigation measures are required.

MITIGATION MEASURES

See **Mitigation Measures AQ-1** to **AQ-7**, **BR-1** to **BR-2**, **CR-1**, **GS-1** to **GS-5**, **HM-1** to **HM-7**, and **TT-1**.

FINDINGS

With the incorporation of the **Mitigation Measures AQ-1** to **AQ-7**, **BR-1** to **BR-2**, **CR-1**, **GS-1** to **GS-5**, **HM-1** to **HM-7**, and **TT-1**, the Proposed Project would result in ***less than significant*** impacts.

SECTION 4.0

SIGNIFICANCE DETERMINATION AND MITIGATION SUMMARY

SECTION 4.0

SIGNIFICANCE DETERMINATION AND MITIGATION SUMMARY

4.1 DETERMINATION

On the basis of the evaluation presented in Section 3.0:

☐ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project design and project-specific mitigation measures described in Section 3.0 and summarized below have been agreed to by the project proponent. A NEGATIVE DECLARATION is recommended to be adopted.

☐ I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Steven M. Nugent

Signature

February 21, 2007

Date

Steve M. Nugent

Printed Name

Carmichael Water District

Lead Agency

4.2 SUMMARY OF MITIGATION MEASURES

The following mitigation measures are extracted from Section 3.0. These mitigation measures will be incorporated into the Proposed Project in order to reduce all potential environmental effects to less than significant levels.

3.3 AIR QUALITY

AQ-1 During dry weather, earthwork construction areas shall be kept moist via regular watering to reduce fugitive dust emissions.

AQ-2 Trucks hauling soil and other loose materials shall be covered to reduce dust emissions and spillage onto paved roads.

AQ-3 Paved roads in the construction area or leading to the construction area shall be washed or swept daily during the construction period.

AQ-4 Excavation and grading activities shall be suspended when winds (instantaneous gusts) exceed 25 miles per hour.

AQ-5 Equipment shall be maintained according to the manufacturers' specifications to prevent emissions of unburned fuel or noxious fumes.

AQ-6 Idling of construction equipment and vehicles shall be restricted to 10 minutes.

AQ-7 Gasoline-powered equipment and vehicles shall have catalytic converters installed prior to their use on the project site.

3.4 BIOLOGICAL RESOURCES

BR-1 Following final project design and prior to any disturbance within 100 ft. of elderberry plants, the District will consult with the Fish and Wildlife Service as set forth in the *Conservation Guidelines*. At a minimum, the District will implement all feasible protective measures recommended during consultation. These will include fencing and flaging of all elderberry plants within the 100-ft. buffer, briefing contractors on the need to avoid damaging elderberry plants and the penalties for not complying with these requirements, and erecting signs identifying the area as habitat for a species protected by the Endangered Species Act

BR-2 A qualified wildlife biologist shall inform all construction personnel that protected turtles may occur in the area. A description of their natural history and identifying characteristics shall be provided. The personnel shall be instructed on the proper techniques for handling and relocating turtles, should relocation be required. If a turtle of any species enters an active construction area, or is in imminent danger, construction personnel (or an on-call wildlife biologist) shall carefully remove the turtle to a point at least 300 ft. downstream of the project limits and within similar habitat.

BR-3 A qualified biologist shall conduct a pre-construction survey for nests within .25 miles of the project site. If active nests are identified, the project proponent shall initiate consultation with CDFG to establish appropriate avoidance measures. Avoidance measures may include subsequent biological monitoring and the establishment of buffer areas around identified

nests, with no disturbances within the buffer between April 1 and September 30, or until the young have fledged.

3.5 CULTURAL RESOURCES

CR-1 In the event of the unanticipated discovery of buried or concealed heritage resources, project activities will cease in the area of the find, and consultation with a qualified archaeologist will be initiated for recommended procedures. If human remains are inadvertently discovered, work will cease immediately and the county coroner will be notified in accordance with California law. A professional archaeologist will also be hired to assist in the development of appropriate mitigation of site impacts.

3.6 GEOLOGY AND SOILS

GS-1 Vegetation removal shall be limited to the minimum amount necessary to accommodate the project. As the permanent vegetation cover is maturing, temporary native vegetation or other erosion control measures sufficient to stabilize the soil shall be established on all disturbed areas. New planting shall be protected by using such measures as jute netting, straw mulching and fertilizing.

GS-2 Temporary erosion control measures, such as silt fences, straw waddles, staked straw bales, and temporary revegetation, shall be employed for disturbed areas.

GS-3 No disturbed surfaces shall be left without erosion control measures in place during the winter and spring months.

GS-4 Sediment shall be retained onsite by a system of sediment basins, traps, or other appropriate measures during and after construction.

GS-5 Prior to and during onsite development of the Proposed Project, the contractor shall address excavation and grading through the oversight of a professional, licensed geologist or engineer.

3.7 HAZARDS AND HAZARDOUS MATERIALS

HM-1 To reduce the potential for accidental releases, fuel, oil, and hydraulic fluids shall be transferred directly from a service truck to construction equipment tanks and shall not otherwise be stored on-site.

HM-2 Personnel shall follow written Standard Operating Procedures (SOPs) for filling and servicing construction equipment and vehicles. The SOPs, which are designed to reduce the potential for incidents involving the hazardous materials, shall include, but not limited to the following:

A. Refueling shall be conducted only with approved pumps, hoses, and nozzles.
B. Catch-pans shall be placed under equipment to catch potential spills during servicing.
C. All disconnected hoses shall be placed in containers to collect residual fuel from the hose.
D. Vehicle engines shall be shut down during refueling.
E. No smoking, open flames, or welding shall be allowed in refueling or service areas.
F. Refueling shall be performed on a predesiginated flat area away from storm drains to prevent contamination of water bodies in the event of a leak or spill.
G. Service trucks shall be provided with fire extinguishers and spill containment equipment, such as absorbents.
H. Should a spill contaminate soil, the soil shall be put into containers and disposed of in accordance with local, state, and federal regulations.
I. All containers used to store hazardous materials shall be inspected at least once per week for signs of leaking or failure. All maintenance and refueling areas shall be inspected monthly. Results of inspections shall be recorded in a logbook that would be maintained on-site.
J. The amount of hazardous materials used in project construction and operation shall be consistently kept at the lowest volumes needed.

HM-3 The use of pesticides and toxic chemicals shall be minimized or less toxic alternatives shall be used to the greatest extent feasible in landscaping.

HM-4 If suspected groundwater contamination is encountered during excavation and grading activities, all work shall be halted and a qualified individual, in consultation with the RWQCB, shall determine the appropriate course of action.

HM-5 All construction equipment shall include spark arresters in good working order.

HM-6 Staging areas, welding areas, or areas slated for construction using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel.

HM-7 To the extent feasible, the contractor shall keep areas around the construction site clear of combustible materials in order to maintain a firebreak.

3.8 WATER RESOURCES

See Mitigation measures **GS-1** through **GS-5**

3.9 LAND USE AND PLANNING

See Mitigation Measures **AQ-1** to **AQ-7**, **BR-1** to **BR-3**, **CR-1**, **GS-1** to **GS-5**, **HM-1** to **HM-7**, and **TT-1**.

3.15 TRANSPORTATION AND TRAFFIC

TT-1 Consistent with the Circulation Element, all construction related trips will be coordinated with emergency service providers in the area at least one month in advance. Emergency service providers shall be notified of the nature of construction activities within access routes, as well as the timing, location, and duration of construction related truck trips.

3.17 MANDATORY FINDING OF SIGNIFICANCE

Mitigation Measures:

See Mitigation Measures **AQ-1** to **AQ-7**, **BR-1** to **BR-3**, **CR-1**, **GS-1** to **GS-5**, **HM-1** to **HM-7**, and **TT-1**.

SECTION 5.0

LIST OF PREPARERS

SECTION 5.0

LIST OF PREPARERS

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SECTION 6.0

REFERENCES

SECTION 6.0

REFERENCES

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APPENDICES

APPENDIX A

NPDES PERMIT

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

Alan C. Lloyd Ph.D.
Secretary for Environmental Protection

Sacramento Main Office
Internet Address: http://www.swrcb.ca.gov/~rwqcb5/home.html
11020 Sun Center Drive, Suite 200, Rancho Cordova 95670-6114
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Arnold Schwarzenegger
Governor

6 February 2006

Mr. Craig Fegan
Environmental Management
Aerojet-General Corporation
P.O. Box 13222
Sacramento, CA 95813-6000

Certified Mail No.
70030500000479079492

ADOPTED REVISED NPDES PERMIT, GROUNDWATER EXTRACTION AND TREATMENT SYSTEMS, ARGET, GET E/F, GET H, INTERIM GET H, GET J, GET K, INTERIM GET K, GET L/L1, CHETTENHAM WELL AND SAILRO BAR PARK POND, AEROJET-GENERAL CORPORATION (NPDES NO. CA0083861)

Enclosed is a copy of the subject Waste Discharge Requirements adopted at the 26 January 2006 meeting of the Regional Board. The requirements were adopted with only minor revisions to the tentative permit, as previously discussed with you.

The addopted requirements have been posted on the Regional Board website (http://www.swrcb.ca.gov/rwqcb5/tentative).

If you have any questions regarding this matter please contact me (916) 464-4625 or by email at amacdonald@waterboards.ca.gov.

Alexander MacDonald

ALEXANDER MACDONALD
Senior Engineer

cc/with enclosure:

Doug Eberhardt, United States Environmental Protection Agency, San Francisco
Phil Isorena, Div. of Water Quality, State Water Resources Control Board, Sacramento
Lee Solomon, Tetratech, Fairfax, Virginia

cc/without enclosure:

Charles Berrey, United States Environmental Protection Agency, San Francisco
U.S. Army Corps of Engineers, Sacramento
United States Fish and Wildlife Service, Sacramento
National Marine Fisheries Service, Santa Rosa
Brian Kinney, Dept. of Health Services, Office of Drinking Water, Sacramento
Dept. of Fish and Game, Region II, Rancho Cordova
Dept. of Water Resources, Central District, Sacramento
Sacramento County Environmental Management, Sacramento
Sacramento County Planning Department, Sacramento
Leo Winternitz, Metropolitan Water Planning, Sacramento
John Coppola, Sacramento County Water Resources Agency, Sacramento
Steve Nugent, Carmichael Water District, Carmichael
Paul Schubert, Southern California Water Company, Rancho Cordova
Jeffery Stark, California-American Water Company, Sacramento
Gary Reents, City of Sacramento Department of Utilities, Sacarmento
Shawn Oliver, US Bureau of Reclamation, Central California Office, Folsom

California Regional Water Quality Control Board
Central Valley Region

ORDER NO. R5-2006-0013
NPDES NO. CA0083861

WASTE DISCHARGE REQUIREMENTS
FOR
AEROJET-GENERAL CORPORATION
INTERIM GROUNDWATER EXTRACTION AND TREATMENT SYSTEMS
ARGET, GET E/F, GET H, INTERIM GET H, GET K, INTERIM GET K,
GET L, GET L1, SAILOR BAR PARK WELL, CHETTENHAM WELL,
AND LOW THREAT DISCHARGES
SACRAMENTO COUNTY

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

Discharger	Aerojet-General Corporation
Name of Facility	Interim Groundwater Extraction and Treatment Systems ARGET, GET E/F, GET H, Interim GET H, GET J, GET K, Interim GET K, GET L, GET L1, Sailor Bar Park Well, Chettenham and Low-Threat Discharges
Facility Address	Aerojet Road
	Sacramento, CA 95813-6000
	Sacramento County

The Discharger is authorized to discharge from the following discharge points as set forth below:

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
Outfall 001	Treated Groundwater from ARGET, GETE/F, GET J	38°, 38', 01" N	121°, 16', 05" W	Buffalo Creek to American River
Outfall 002*	Treated Groundwater from GET L	38°, 36', 45" N	121°, 18', 20" W	Drainage Ditch to American River
Outfall 002A*	Treated Groundwater from GET L1	38°, 37', 32" N	121°, 18', 15" W	Drainage Ditch to American River
Outfall 003*	Treated Groundwater from GET K	38°, 36', 52" N	121°, 18', 14" W	Drainage Ditch to American River
Outfall 004	Treated Groundwater from Interim GET K	38°, 36', 05" N	121°, 18', 57" W	Drainage Ditch to American River

Outfall 005*	Treated Groundwater from Chettenham Well and Future GET H	38°, 34', 43" N	121°, 19', 37" W	Boyd Station Channel to American River
Outfall 006	Treated Groundwater from GET H and Interim GET H	38°, 31', 53" N	121°, 19', 36" W	Morrison Creek
Outfall 007	Treated Groundwater from Sailor Bar Well	38°, 37', 59" N	121°, 14', 21" W	Sailor Bar Pond
Outfall 008*	Treated Groundwater from Various GETs	38°, 38', 6" N	121°, 13', 13" W	Drainage Ditch to American River at Natomas Stilling Basin
Outfall 009*	Treated Groundwater from Various GETs			Alder Creek – Tributary to the American River

*Future outfall

This Order was adopted by the Regional Board on:	**26 January 2006**
This Order shall become effective on:	**26 January 2006**
This Order shall expire on:	**1 January 2011**
The U.S. Environmental Protection Agency (U.S. EPA) and the Regional Board have classified this discharge as a major discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, **not later than 180 days in advance of the Order expiration date** as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that Order No.R5-2004-0027 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, and the provisions of the federal CWA, and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements herein.

I, Kenneth D. Landau, Acting Executive Officer, do hereby certify the following is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 26 January 2006.

KENNETH D. LANDAU, Acting Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
REGION 5, CENTRAL VALLEY REGION

ORDER NO. R5-2006-0013
NPDES NO. CA0083861

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I. FACILITY INFORMATION

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

Discharger	Aerojet-General Corporation
Name of Facility	Interim Groundwater Extraction and Treatment Systems
Facility Address	Aerojet Road Sacramento, CA 95814-6000 Sacramento County
Facility Contact, Title, and Phone	Mr. Chris Fennessey, (916) 355-3341
Mailing Address	P.O. Box 13200 Sacramento, CA 95813-6000
Type of Facility	Groundwater Extraction and Treatment Plants
Facility Design Flows	ARGET – 5.4 million gallons per day (mgd) – Discharge 001,Outfall 001 GET E/F – 8.64 mgd – Discharge 002, Outfall 001 GET H – 6.39 mgd – Interim Discharge 003, Outfall 006, longterm – Discharge 004, Outfall 006 and/or 005 GET J – 7.17 mgd – Discharge 005, Outfall 001 GET K – 0.72 mgd interim – Discharge 006, Outfall 004; 5.76 mgd long-term – Discharge 007, Outfall 004 GET L/L1 – 2.88 mgd – Discharge 008/009, Outfall 002/002A Sailor Bar Pond – 0.36 mgd – Discharge 010, Outfall 007 Chettenham – 0.86 mgd, Discharge 011, Outfall 005

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Regional Water Board), finds:

A. **Background.** The Aerojet-General Corporation (hereafter, Discharger) is currently discharging under Order No. R5-2004-0027 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0083861. The Discharger submitted a Report of Waste Discharge, dated 11 April 2005 and supplemental information dated 28 April 2005 and 12 May 2005, and applied for a NPDES permit revision to discharge up to 34.65 mgd of treated groundwater from up to eleven groundwater extraction and treatment systems (GETs), with two of them being temporary.

This permit also allows Aerojet to discharge low-threat discharges consisting of such monitor well, extraction well and water supply well development water, purge water and extraction and supply well aquifer test water. Those discharges are subject to similar effluent limitations as established for the GETs.

B. **Facility Descriptions.** The Discharger currently owns and operates six groundwater extraction and treatment systems (hereafter "Facilities") that discharge treated groundwater to surface waters in accordance with an NPDES permit. Five additional facilities are being designed for construction in 2005/6.

a. ARGET (Discharge 001). The American River Study Area (ARSA) treatment system is on the Aerojet site. The facility consists of ultraviolet/peroxide treatment to reduce concentrations of

volatile organic compounds (VOCs) and 1,4-dioxane, and air-stripping to remove any remaining VOCs. See Attachment C-1.

b. GET E/F (Discharge 002). The GET E/F facility is also on Aerojet property. It uses biological reduction to remove perchlorate, ultraviolet light to destroy NDMA, and air stripping to remove VOCs from up to 6000 gpm of influent. There is also a sand filter, clarifier and bag filters for solids control. The solids from the clarifier are discharged to the sanitary sewer under a permit. The GET E/F facility has been in operating in its current configuration since 2000. See Attachment C-2.

c. GET H (Discharge 003/004). The interim GET H facility (Discharge 003) found on Reserve Drive in Rancho Cordova uses resin-adsorption to remove perchlorate and granular activated carbon (GAC) to remove VOCs gpm. The interim system is being expanded to include a second temporary treatment system on Reserve Drive. The long-term GET H system (Discharge 004), currently being designed and constructed, utilizes the same treatment methods, but will treat a greater flow of extracted groundwater, approximately 4450 gpm. The long-term GET H system is anticipated to be on-line by January 2006 and will be in the north-central section of Mather Field. See Attachments C-3 and C-4.

d. GET J (Discharge 005). The GET J system is similar to GET H, but with the addition of ultraviolet treatment for the destruction of NDMA and particulate filtration to help the ultraviolet system. The system is designed to treat 4950 gpm and is found on Pyrites Way in Gold River. See Attachment C-5.

e. GET K (Discharge 006/007). The interim GET K (Discharge 006) uses ion-exchange (resin bed adsorption) to remove perchlorate and GAC to remove VOCs. The long-term GET K system (Discharge 007) will add ultraviolet light and particulate removal for treatment of NDMA from an influent of 4000 gpm. The interim GET K facility is on Zinfandel Drive and the long-term facility will be closer to the river, both in Rancho Cordova. See Attachment C-6 and C-7.

f. GET L/L1 (Discharge 008/009). GET L (Discharge 008) is in Carmichael, near Ancil Hoffman Park and GET L1 (Discharge 009) is northeast of GET L. The facility will initially treat for NDMA using ultraviolet light. If, in the future, VOCs and/or perchlorate are determined to found to be approaching the extraction wells in the groundwater, VOC and/or perchlorate treatment will be added utilizing the same processes described above. See Attachments C-8 and C-9.

g. Sailor Bar Park (Discharge 010). The Sailor Bar Park system provides for removal of VOCs by GAC on a water supply well for the pond on Sailor Bar Park. The park is on the north side of the American River adjacent to the village of Fair Oaks.

h. Chettenham (Discharge 011). The Discharger is currently negotiating with California American Water Company (CalAm), owner of the Chettenham Well, to use the Chettenham Well on an interim basis as an extraction point to control a portion of the groundwater pollution. Wellhead treatment consisting of ion exchange for perchlorate removal would be installed on the well and the discharge to the Boyd Station Channel. Currently there are only trace levels of perchlorate below the effluent limitation in the well and the Discharger may choose to operate the Chettenham well without wellhead treatment for a period of time. See Attachment C-11.

i. Purge and Aquifer Test Waters. The Discharger develops and purges wells prior to sampling and conducts aquifer tests on extraction/supply wells to determine aquifer characteristics to allow GET systems to be designed. These activities take place over vast areas on and off the Discharger's property. The purge water is generally low in volume (100's – 5000 gallons) and is

provided treatment prior to discharge. Treatment is provided on the discharges to remove the pollutants of concern.

Treated groundwater is discharged from Discharges 001, 002 and 005 to Buffalo Creek (tributary to the American River), from Discharges 003 and 004 to Morrison Creek (tributary to the Sacramento River), from Discharges 006, 007, 008, 009 and 011 are to drainage channels to the American River, and Discharge 010 is to a pond in Sailor Bar Park (see table on cover page), waters of the United States and part of the Sacramento-San Joaquin Delta (Delta) within the American River and Sacramento River watersheds. Sacramento County requested during development of the previous permit to allow for the potential discharge from some or all of the GETs covered in this permit to Alder Creek, to assist in their reuse of the treated groundwater. The previous permit and this permit include a provision allowing for the discharge to Alder Creek pending completion of an acceptable study of the potential thermal impacts on Alder Creek. Attachment B-1provides a map describing the locations of the Facilities. Attachments C-1 through C-11 provide wastewater flow schematics of the Facilities.

C. **Legal Authorities.** This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.

D. **Background and Rationale for Requirements**. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and through special studies. Attachments A through G,which contain background information and rationale for Order requirements, are hereby incorporated into this Order and, thus, constitute part of the Findings for this Order.

E. **California Environmental Quality Act (CEQA).** This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC. The Department of Toxic Substances Control certified a final Negative Declaration and Initial Study for the American River Study Area project in accordance with CEQA and State CEQA Guidelines. The Board has reviewed the negative declaration and these waste discharge requirements will mitigate or avoid any significant impacts on water quality due to the discharges from the ARGET facility.

F. **Technology-based Effluent Limitations.** The Code of Federal Regulations (CFR) at 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations that protect the beneficial uses of the receiving waters. The Regional Water Board has considered the factors listed in CWC §13241 in establishing these requirements. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. **Water Quality-based Effluent Limitations.** Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable

numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter.

H. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan.

The Basin Plan at page II-2.00 states that the beneficial uses of any specifically identified water body generally applies to its tributary streams. The Basin Plan does not specifically identify beneficial uses for Buffalo Creek and Alder Creek, or Morrison Creek, tributary to the American River and Sacramento River, respectively, but does identify present and potential uses for the American and Sacramento Rivers. These beneficial uses are municipal and domestic supply (MUN); agricultural supply, irrigation and stock watering (AGR); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); warm and cold migration of aquatic organisms (MIGR); warm and cold spawning (SPWN); wildlife habitat (WILD). In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Thus, as discussed in detail in this Fact Sheet, beneficial uses applicable to the American River, Sacramento River, Buffalo Creek, Alder Creek, Morrison Creek and Sailor Bar Park Pond are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
001, 002 and 005	Buffalo Creek and Alder Creek, Tributary of the American River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
003	Morrison Creek, Tributary of the Sacramento River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
004, 006, 007, 008, 009, 011 and 012	American River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
010	Sailor Bar Pond, Potentially tributary to American River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.

The Basin Plan includes a Wastewater Reuse Policy that encourages the reclamation and reuse of wastewater, including treated groundwater resulting from a cleanup action, where practicable. Those reuse options include municipal and industrial supply, crop irrigation, groundwater recharge, and wetland restoration. At this time, demonstrated cost-effective options that provides for reuse of the treated groundwater have been identified in the Discharger's Reuse Plan, but will likely not be implemented until Spring 2009. The Discharger and Sacramento County have entered into an agreement whereby the water discharged from the GETs is transferred to the County. The County is

currently developing a project for reuse of the treated groundwater that will proceed through the CEQA process.

Until it is feasible for the GET discharges to be reused, discharge to the American River and Sacramento River, and their tributaries, for a limited duration is a reasonable use of the treated groundwater on an interim basis since it implements the goals of cleaning up the aquifer, restoring its beneficial uses, and preventing additional public supply wells from being polluted as other alternatives are considered.

The remediation project has a potential effect on the sustainable yield of the groundwater basin from which the extraction fields takes its water. The Discharger, in accordance with requirements of a previous version of this Order, evaluated the sustainable yield of the aquifer south of the American River in a report dated 12 September 2003. That report stated that there would be an additional drawdown in the eastern part of Sacramento County in the vicinity of OU-3 of up to 30 feet. Implementation of the reuse alternatives contained in the Reuse Plan will help substantially mitigate the impact of the withdrawal of groundwater for remediation purposes. The required evaluations allowed the Regional Board to determine whether there are additional environmental impacts of the Discharger's pumping and will encourage the reuse of treated groundwater consistent with the Wastewater Reuse Policy set forth in the Basin Plan.

The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal* and *Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.

Requirements of this Order specifically implement the applicable Water Quality Control Plans.

I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995 and November 9, 1999, and the CTR on May 18, 2000, which was amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.

J. **State Implementation Policy.** On March 2, 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The SIP includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so.

K. **Compliance Schedules and Interim Requirements.** This permit has interim effluent limits for perchlorate at ARGET and for NDMA at GET J. The interim effluent limitation for perchlorate at ARGET is 8 μg/L until 1 January 2009, or earlier if perchlorate treatment has been added to

ARGET. The interim effluent for NDMA at GET J is 0.008 µg/L until 1 January 2008. See Attachment F, Sections IV(E)(1) and VII(1)(3).

L. **Antidegradation Policy.** Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. As discussed in detail in the Fact Sheet (Attachment F) the permitted discharge is consistent with the antidegradation provision of 40 CFR Section 131.12 and State Water Board Resolution 68-16.

M. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR § 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

N. **Monitoring and Reporting.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

O. **Standard and Special Provisions.** Standard Provisions, which in accordance with 40 CFR §§122.41and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet (Attachment F).

P. **Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity for a public hearing and to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F) of this Order.

Q. **Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet (Attachment F) of this Order.

R. This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on VOCs, perchlorate, and NDMA. Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent

limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on May 1, 2001. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the [Clean Water] Act" pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

III. DISCHARGE PROHIBITIONS

A. Discharge of wastewater at a location or in a manner different from that described in the Findings is prohibited.

B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision I.G of Attachment D, Federal Standard Provisions.

C. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.

D. Discharge of wastewater to Outfall 008 and 009 is prohibited until approved by the Executive Officer. Completion of an adequate assessment of the thermal impacts associated with those discharges at those two outfalls is required before consideration of approval by the Executive Officer.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points 001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012

1. **Final Effluent Limitations**

   a. **Discharger Point 001.**

      i. The discharge of effluent from the ARGET facilities shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location M-001, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 001	mgd	5.0	5.4	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.02	0.03	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.016	0.022	--	--
1,4-Dioxane	µg/L	3	6	--	--
	lbs/day	0.125	0.26	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.000083	0.00043	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.167	0.26	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.46	0.73	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

b. **Discharge Point 002**

i. The discharge of effluent from the GET E/F facilities shall maintain compliance with the following effluent limitations at Discharge Point 002, with compliance measured at Monitoring Location M-002, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 002	mgd	8.64	8.64	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.037	0.050	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.028	0.036	--	--
1,4-Dioxane	µg/L	3	6	--	--
	lbs/day	0.23	0.43	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.00015	0.00072	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.300	0.43	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Copper	µg/L	11	17	--	--
	lbs/day	0.82	1.22	--	--
Acetaldehyde	µg/L	5	5	--	--
	lbs/day	0.38	0.36	--	--
Formaldehyde	µg/L	50	50	--	--
	lbs/day	3.7	3.6		
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

c. **Discharge Point 003**

i. The discharge of effluent from the Interim GET H facilities shall maintain compliance with the following effluent limitations at Discharge Point 003, with compliance measured at Monitoring Location M-003, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 003	mgd	6.39	6.5	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.027	0.038	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.020	0.027	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.21	0.33	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.59	0.92	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

d. **Discharge Point 004**

i. The discharge of effluent from the GET H facilities shall maintain compliance with the following effluent limitations at Discharge Point 004, with compliance measured at Monitoring Location M-004, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 004	mgd	6.39	6.5	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.027	0.038	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.020	0.027	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.21	0.33	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.59	0.92	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

e. **Discharge Point 005**

i. The discharge of effluent from the GET J facilities shall maintain compliance with the following effluent limitations at Discharge Point 005, with compliance measured at Monitoring Location M-005, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 005	mgd	7.17	7.2	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.03	0.042	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.023	0.030	--	--
1,4-Dioxane	µg/L	3	6	--	--
	lbs/day	0.18	0.36	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.00012	0.00060	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.24	0.36	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.66	1.02	--	--
pH	standard units	--	--	6.5	8.5
Chlorform	µg/L	3.0	5.0		
	lbs/day	0.18	0.3		

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

f. **Discharge Point 006**

i. The discharge of effluent from the Interim GET K facilities shall maintain compliance with the following effluent limitations at Discharge Point 006, when measured at Monitoring Location M-006, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 006	mgd	0.58	0.72	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.0024	0.0042	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.0018	0.003	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.000001	0.00006	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.019	0.036	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.053	0.10	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

g. **Discharge Point 007**

i. The discharge of effluent from the GET K facilities shall maintain compliance with the following effluent limitations at Discharge Point 007, with compliance measured at Monitoring Location M-007, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 007	mgd	5.76	5.8	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.024	0.027	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.015	0.020	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.000078	0.00039	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.16	0.235	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.43	0.67	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

h. **Discharge Point 008**

i. The discharge of effluent from the GET L facilities shall maintain compliance with the following effluent limitations at Discharge Point 008, with compliance measured at Monitoring Location M-008, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 008	mgd	1.73	1.73	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.0072	0.010	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.00055	0.0072	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.000029	0.00014	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.058	0.087	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.16	0.22	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

i. **Discharge Point 009**

i. The discharge of effluent from the GET L1 facilities shall maintain compliance with the following effluent limitations at Discharge Point 009, with compliance measured at Monitoring Location M-009, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 009	mgd	1.3	1.3	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.0054	0.076	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.004	0.0054	--	--
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
	lbs/day	0.00002	0.0001	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.043	0.065	--	--
Total Copper	µg/L	11	17	--	--
	lbs/day	0.12	0.18	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

j. **Discharge Point 010**

i. The discharge of effluent from the Sailor Bar Park Well facilities shall maintain compliance with the following effluent limitations at Discharge Point 010, with compliance measured at Monitoring Location M-010, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 010	mgd	0.18	0.36	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	010	--	--
	lbs/day	0.00076	0.00152	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.00057	0.0015	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.006	0.018	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

k. **Discharge Point 011**

i. The discharge of effluent from the Chettenham Well facilities shall maintain compliance with the following effluent limitations at Discharge Point 011, with compliance measured at Monitoring Location M-011, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 011	mgd	0.86	1.1	--	--
Volatile Organic Contaminants[1]	µg/L	0.5	0.7	--	--
	lbs/day	0.0036	0.0064	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
	lbs/day	0.0027	0.0046	--	--
Perchlorate	µg/L	4	6	--	--
	lbs/day	0.029	0.055	--	--
pH	standard units	--	--	6.5	8.5

[1] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

ii. Survival of aquatic organisms in 96-hour bioassays shall be no less than 70% for any one bioassay and 90% for the median of any three or more consecutive bioassays.

l. **Discharge Point 012 - Purge and Aquifer Test Waters**

i. The discharge of purge water and aquifer test water from monitor wells, extraction wells, and supply wells shall maintain compliance with the following effluent limitations with compliance measured at Monitoring Point M-012, as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations			
		Total Maximum Discharge[1]	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Per Monitor Well	mgd	0.01	0.01		
Flow – Per Aquifer Test[1]	million gallons	11.5	1.15		
Volatile Organic Contaminants[2]	µg/L	--	5.0	--	--
1,4-Dioxane	µg/L		10		
N-nitrosodimethylamine	µg/L		0.020	--	--
Perchlorate	µg/L		12		
pH	standard units	--	--	6.5	8.5

[1] Based on an aquifer test at 800 gpm for a duration of 4 days.
[2] All volatile organic constituents listed in EPA Methods 8010/8020 or 8260. The concentration of each constituent shall not exceed 0.5 µg/L.

2. **Interim Effluent Limitations**

a. **Effective immediately and ending on 1 January 2009, or until the treatment system to remove perchlorate at the ARGET facility is constructed, whichever is sooner,** the discharge of treated effluent from the ARGET facility shall maintain compliance with the following effluent limitation for perchlorate at Discharge Point 001, as described in the attached Monitoring and Reporting Program (Attachment E). This interim effluent limitation shall apply in lieu of the corresponding final effluent limitation for perchlorate specified during the time period indicated in this Order.

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
perchlorate	µg/L	11	11	--	--

b. **Effective immediately and ending on 1 January 2008,** the discharge of treated effluent from the GET J facility shall maintain compliance with the following effluent limitation for NDMA at Discharge Point 005, as described in the attached Monitoring and

Reporting Program (Attachment E). This interim effluent limitation shall apply in lieu of the corresponding final effluent limitation for perchlorate specified during the time period indicated in this Order.

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
N-nitrosodimethylamine	µg/L	0.008	0.010	--	--

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving surface water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in Alder Creek, Buffalo Creek, Morrison Creek, and the American River:

1. **Bacteria**: The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.

2. **Dissolved Oxygen**: The monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation. The DO concentration shall not be reduced below 7.0 mg/L at any time.

3. **Oil and Grease**: Oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the water surface or on objects in the water, or otherwise adversely affect beneficial uses.

4. **Color**: Discoloration that causes nuisance or adversely affects beneficial uses.

5. **pH**: The ambient pH to be depressed below 6.5, nor raised above 8.5, nor changes in normal ambient pH levels to be exceeded by more than 0.5 units. A monthly averaging period may be used for determining compliance with the above 0.5 receiving water pH limitation.

6. **Temperature**: The natural receiving water temperature to increase more than 5°F.

7. **Settleable Matter**: Substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

8. **Radioactivity**:

   a. Radionuclides to be present in concentrations that are harmful to human, plant, animal or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life.

   b. Concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.

9. Toxicity: Toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

10. Biostimulatory Substances: Biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.

11. Floating Material: Floating material in amounts that cause nuisance or adversely affect beneficial uses.

12. Sediment: Suspended sediment load and suspended sediment discharge rate altered in such a manner to cause nuisance or adversely affect beneficial uses.

13. Suspended Sediment: Suspended sediment concentrations that cause nuisance or adversely affect beneficial uses.

14. Taste and Order: Taste- or odor-producing substances in concentrations that cause nuisance, adversely affect beneficial uses, or impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to domestic or municipal water supplies.

15. Turbidity: Changes in turbidity that cause nuisance or adversely affect beneficial uses. Turbidity attributable to controllable water quality factors to exceed the following:

    a. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.

    b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.

    c. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.

    d. More than 10 percent where natural turbidity is greater than 100 NTUs.

16. Pesticides:

    a. Pesticides in individual or combined concentrations that adversely affect beneficial uses.

b. Pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses.

c. Total identifiable persistent chlorinated hydrocarbon pesticides in concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer.

d. Concentrations exceeding those allowable by applicable antidegradation policies (see State Water Resources Control Board Resolution No. 68-16 and 40 C.F.R. Section 131.12.)

e. Concentrations exceeding the lowest levels technically and economically achievable.

f. Concentrations exceeding the Maximum Contaminant Levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.

g. Concentrations of thiobencarb in excess of 1.0 mg/L.

17. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. **Regional Water Board Standard Provisions.** The Discharger shall comply with the following provisions:

a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by the California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, California Code of Regulations (CCR), Division 3, Chapter 14.

b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

i. Violation of any term or condition contained in this Order;
ii. Obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;
iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and

iv. A material change in the character, location, or volume of discharge.

The causes for modification include:

i. **New regulations**. New regulations have been promulgated under Section 405(d) of the Clean Water Act, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

ii. **Land application plans**. When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.

iii. **Change in sludge use or disposal practice**. Under 40 Code of Federal Regulations (CFR) 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

The Regional Water Board may review and revise this Order at any time upon application of any affected person or the Regional Water Board's own motion.

c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Regional Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 04(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or

ii. Controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by USEPA under Section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.

h. The discharge of any radiological, chemical or biological warfare agent or high-level, radiological waste is prohibited.

i. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.

j. Safeguard to electric power failure:

   i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, failure of electric power, the discharge shall comply with the terms and conditions of this Order.

   ii. Upon written request by the Regional Water Board the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past five years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Regional Water Board.

   iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Regional Water Board not approve the existing safeguards, the Discharger shall, within ninety days of having been advised in writing by the Regional Water Board that the existing safeguards are inadequate, provide to the Regional Water Board and USEPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Regional Water Board, become a condition of this Order.

k. The Discharger, upon written request of the Regional Water Board, shall file with the Regional Water Board a technical report on its preventive (failsafe) and contingency

(cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events.

The technical report shall:

i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.

ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.

iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

The Regional Water Board, after review of the technical report, may establish conditions, which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

l. A publicly owned treatment works (POTW) whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the Discharger shall notify the Regional Water Board by **31 January.** A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Regional Water Board may extend the time for submitting the report.

m. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.

i. Unless otherwise specified, all metals shall be reported as Total Metals.

ii. Acute bioassays shall be performed in accordance with guidelines approved by the Regional Water Board and the Department of Fish and Game or in accordance with methods described in USEPA's manual for measuring acute toxicity of effluents (EPA-821-R-02-012 and subsequent amendments).

iii. Short-term chronic bioassays shall be performed in accordance with USEPA guidelines (EPA-821-R-02-013 and subsequent amendments).

n. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board and USEPA.

o. The Discharger shall conduct analysis on any sample provided by USEPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to USEPA's DMQA manager.

p. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, Sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, Sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

q. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

r. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, sections 13385, 13386, and 13387.

B. Monitoring and Reporting Program Requirements

The discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

a. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments

thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

b. If after review of effluent monitoring results it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective, or the discharge is causing groundwater degradation, this Order may be reopened and effluent limitations added for the subject constituents.

c. The Discharger may request the Executive Officer to reopen the permit to request a reduction in monitoring, if appropriate.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity Requirements.** For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E). Furthermore, this Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds numeric toxicity trigger levels established in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE workplan, and take actions to mitigate the impact of the discharge and prevent recurrence of the toxicity. A TRE is a site-specific study conducted in a stepwise process to identify source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes the requirements for the Discharger to develop and submit a TRE Workplan and also the procedures for accelerated chronic toxicity monitoring and TRE initiation.

(i) **Toxicity Reduction Evaluation (TRE) Workplan. Within 90 days of the effective date of this Order,** the Discharger shall submit to the Regional Water Board a TRE Workplan for approval by the Executive Officer. The TRE Workplan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Workplan shall be developed in accordance with EPA guidance and shall contain adequate detail to allow the Discharger to immediately implement a TRE as required in this Provision.

(ii) **Numeric Toxicity Trigger.** The numeric toxicity trigger is **1 TUc**[2] for any test species. The numeric toxicity trigger is not an effluent limitation, it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity

[1] See Attachment F (Fact Sheet) Section VII.B.2.a. for a list of EPA guidance documents that must be considered in development of the TRE Workplan.

[2] TUc – Chronic toxicity unit. The reciprocal of the effluent concentration that causes no observable effect on the test organism in a chronic toxicity test (TUc=100/NOEC)

monitoring to confirm effluent toxicity, as well as, the threshold to initiate a TRE. The accelerated monitoring specifications are described in subsection (iv), below.

(iii) **Accelerated Monitoring and TRE Initiation.** When the numeric toxicity trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring to confirm the effluent toxicity as required in the Accelerated Monitoring Specifications outlined in subsection iv, below. Any exceedance of the TRE Trigger during accelerated monitoring requires the Discharger to initiate a TRE in accordance with an approved TRE Work Plan. Notwithstanding the accelerated monitoring results, if there is adequate evidence of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.

(a) In the event the numeric toxicity trigger is exceeded during accelerated monitoring, specific actions the Discharger will take to investigate and identify the cause(s) of toxicity;

(b) In the event the numeric toxicity trigger is exceeded during accelerated monitoring, specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and

(c) A schedule for these actions.

(iv) **Accelerated Monitoring Specifications.** If the TRE Trigger is exceeded during regular chronic toxicity testing, within 14-days of notification by the laboratory of the exceedance, the Discharger shall initiate accelerated monitoring to confirm effluent toxicity. Accelerated monitoring shall consist of three (3) monthly chronic toxicity tests using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:

(a) If the results of three (3) consecutive accelerated monitoring tests do not exceed the TRE Trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. Notwithstanding the accelerated monitoring results, if there is adequate evidence of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.

(b) If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until three (3) consecutive accelerated tests do not exceed the TRE Trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

(c) If the result of any accelerated toxicity test exceeds the TRE Trigger, the Discharger shall cease accelerated monitoring and begin a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of the exceedance of the TRE Trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:

1. Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including TRE WET monitoring schedule;
2. Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
3. A schedule for these actions.

b. **Thermal Impacts Associated with Discharge to Outfall 008 or 009.** The Discharger is not permitted to discharge to Outfall 008 and/or 009 until an adequate thermal impact assessment is completed for Outfall 008 and/or 009 that demonstrates that the discharge will not cause an unacceptable thermal impact on the receiving water. The study must demonstrate that the discharge will meet the Water Quality Objectives for temperature found in the Basin Plan. Those objectives state "the natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not affect beneficial uses" and "at no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above the natural receiving water temperature".

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Compliance Schedules

a. Final Effluent Limitations for Perchlorate at Discharge 001

i. By **1 January 2009**, the Discharger shall provide treatment facilities at the ARGET facility to remove perchlorate to less than 4 µg/L, the AMEL found in IV(A)(1)(a).

b. Final Effluent Limitations for NDMA at Discharge 005

ii. By **1 January 2008**, the Discharger shall provide treatment facilities at the GET J facility to remove NDMA to less than 0.002 µg/L, the AMEL found in IV(A)(1)(e).

5. Construction, Operation and Maintenance Specifications

a. Operations and Maintenance Plan:

Within 60-days of startup of a GET, the Discharger shall certify in writing to the Regional Water Board that it has developed an Operation and Maintenance Plan (O&M). O&M plans have already developed for GET E/F, ARGET, Interim GET H and GET J under previous versions of the permit. The Discharger shall develop and implement the O&M plan to prevent or minimize the generation and discharge of wastes and pollutants to the waters of the United States and waters of the State. The Discharger shall develop and implement an O&M plan consistent with the following objectives:

i. Operations and Maintenance

1) Maintain in-system production and wastewater treatment technologies to prevent the overflow of any floating matter or bypassing of treatment technologies.

2) Inspect the treatment systems on a routine basis in order to identify and promptly repair any damage.

3) Ensure storage and containment of chemicals or other materials to prevent spillage or release into waters of the United States, or waters of the State.

4) Implement procedures for properly containing, cleaning, and disposing of any spilled material.

ii. Recordkeeping

1) Keep records documenting the frequency of cleaning, inspections, maintenance and repairs.

v. Training

1) Adequately train all relevant facility personnel in spill prevention and how to respond in the event of a spill in order to ensure the proper clean-up and disposal of spilled material.

2) Train staff on the proper operation and cleaning of production and wastewater treatment systems, including training in feeding procedures and proper use of equipment.

The Discharger shall ensure that its operations staff are familiar with the O&M Plan and have been adequately trained in the specific procedures it requires.

b. Solids disposal specifications:

i. Collected screenings, sludges, and other solids, shall be disposed of in a manner approved by the Executive Officer and consistent *with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.

ii. Any proposed change in solids disposal from a previously approved practice (as described in this Order) shall be reported to this office at least 90 days in advance of the change.

6. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

7. Other Special Provisions

a. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from the State Water Resources Control Board (Division of Water Rights).

b. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Water Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision V.B, Attachment D, and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

c. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition or limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Federal Standard Provision V.E.1 [40 CFR §122.41(l)(6)(i)].

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. Average Monthly Effluent Limitation (AMEL).
If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for that month only. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month. For NDMA and 1,4-dioxane, if the approved Practical Quantitation Level (PQL) is greater than the AMEL, then compliance is met if the monthly average is less than the PQL

B. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day. For NDMA and 1,4-dioxane, if the approved Practical Quantitation Level (PQL) is greater than the MDEL, then compliance is met if the daily value is less than the PQL

C. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

D. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

E. Maximum 1-Hour Average.

If the analytical result of a samples collected within 1-hour are higher than the maximum 1-hour average effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter.

ATTACHMENT A – DEFINITIONS

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

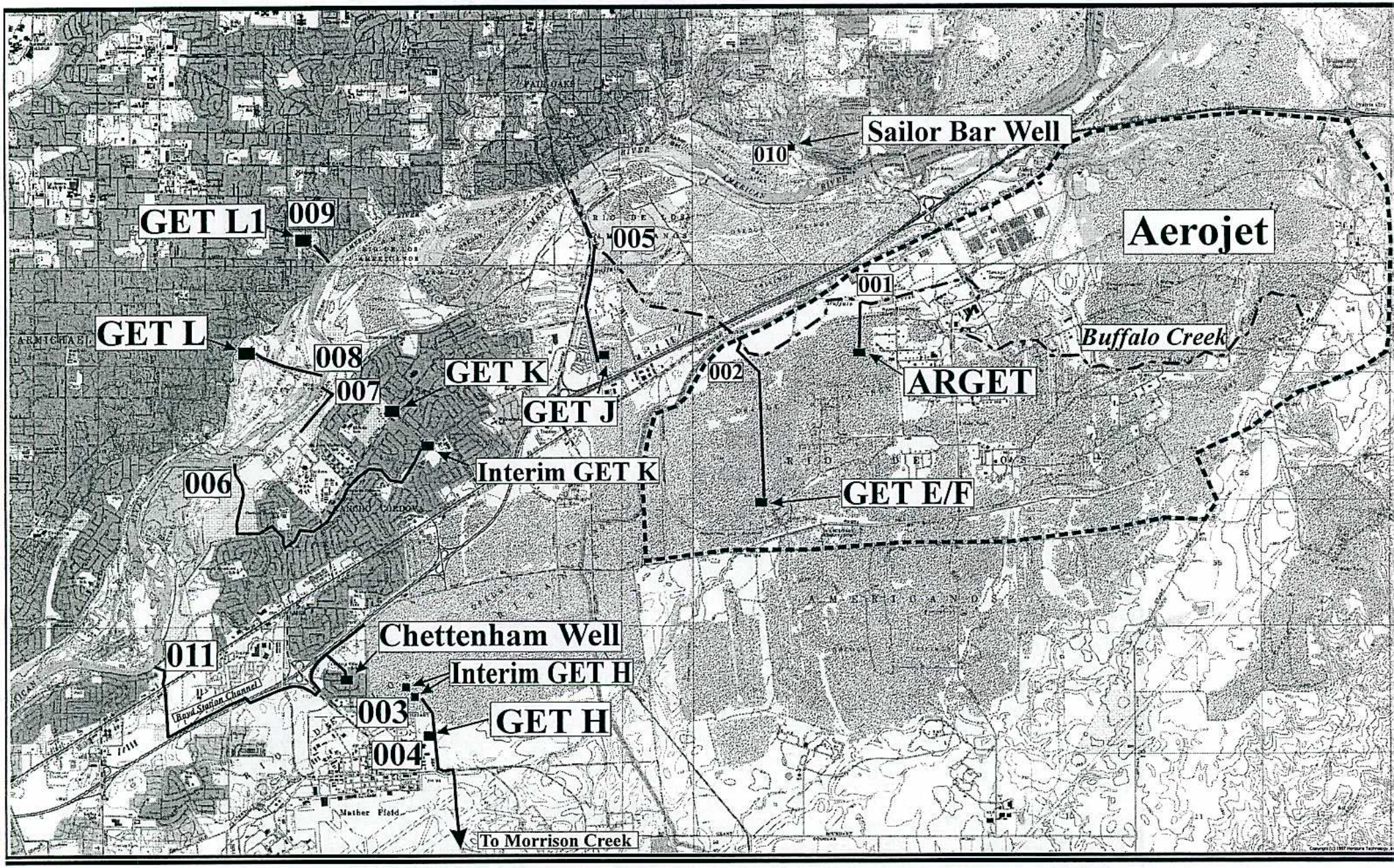
For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

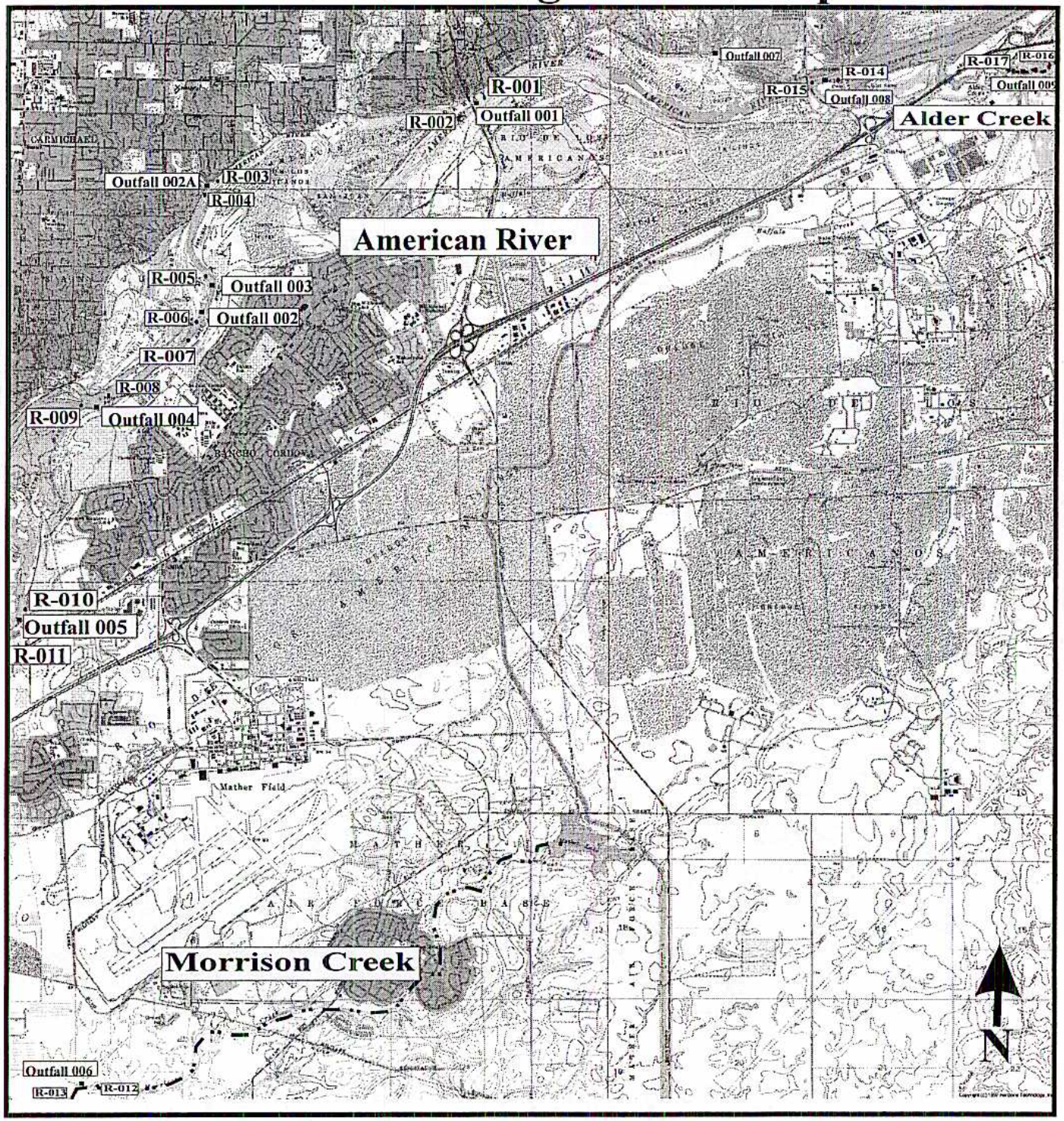
Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

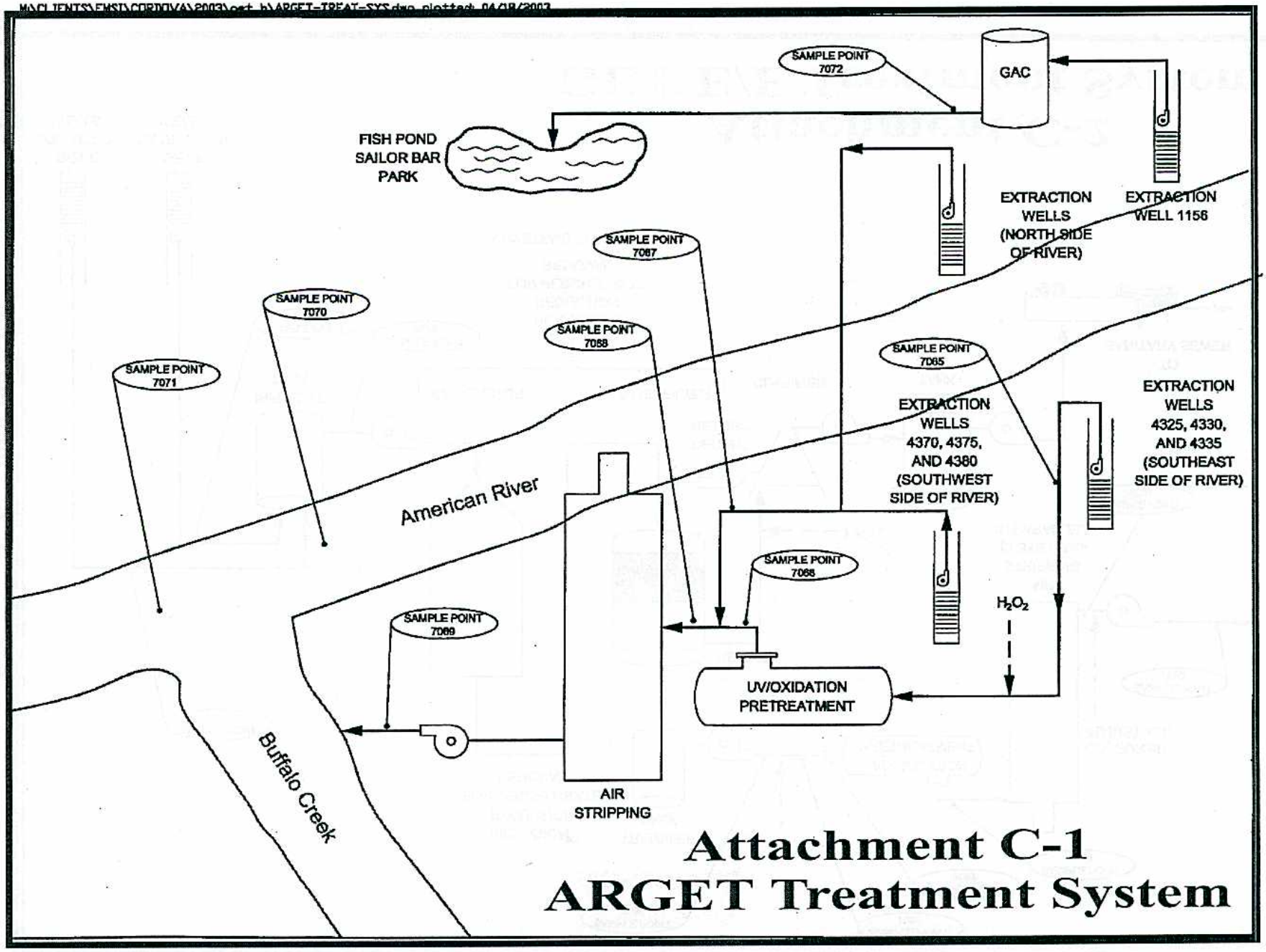
Maximum Daily Effluent Limitation (MDEL): the highest allowable daily discharge of a pollutant.

Attachment B-1 - Discharge and GET Locations

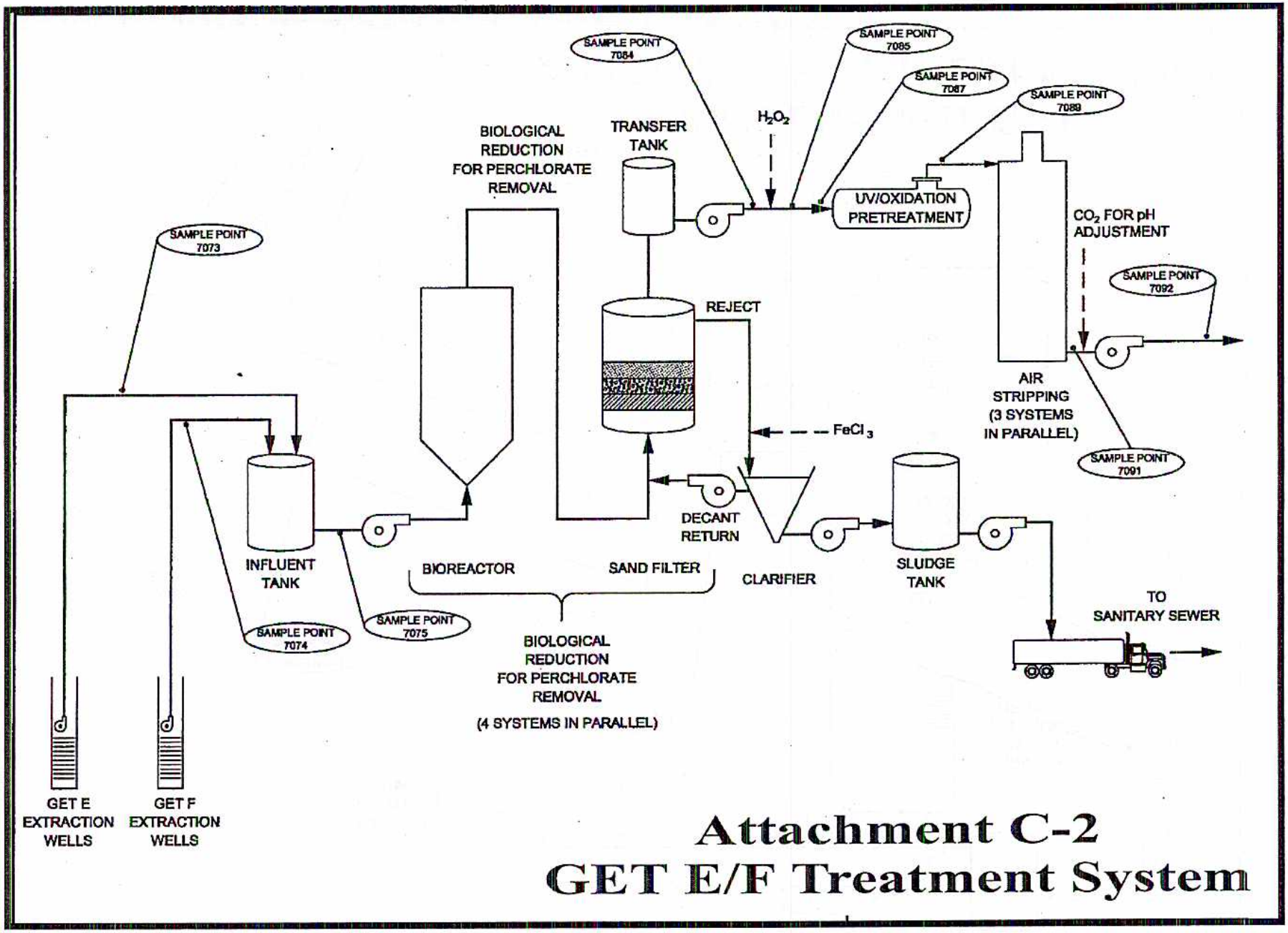


Attachment B-2 - Receiving Water Sample Locations

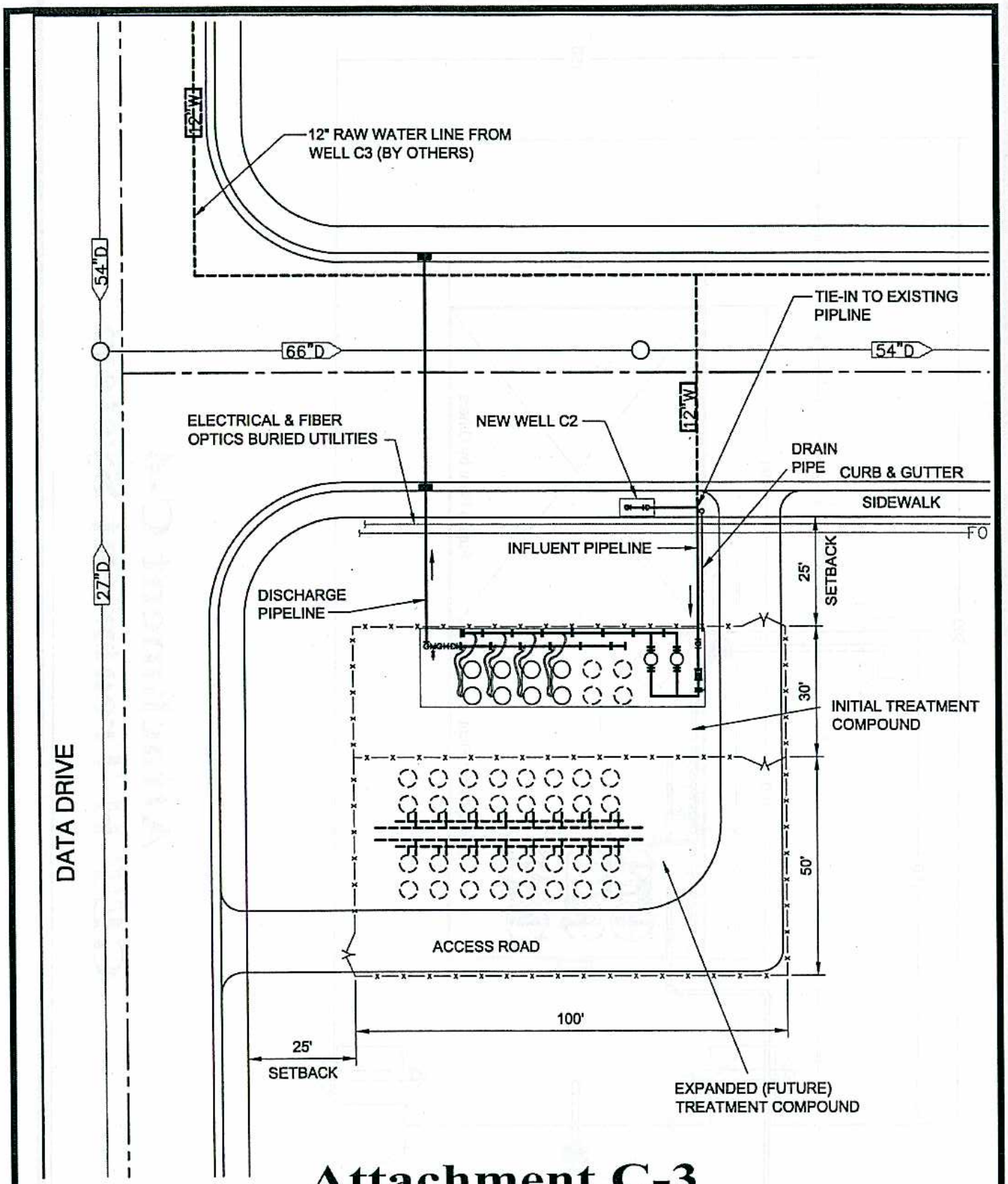




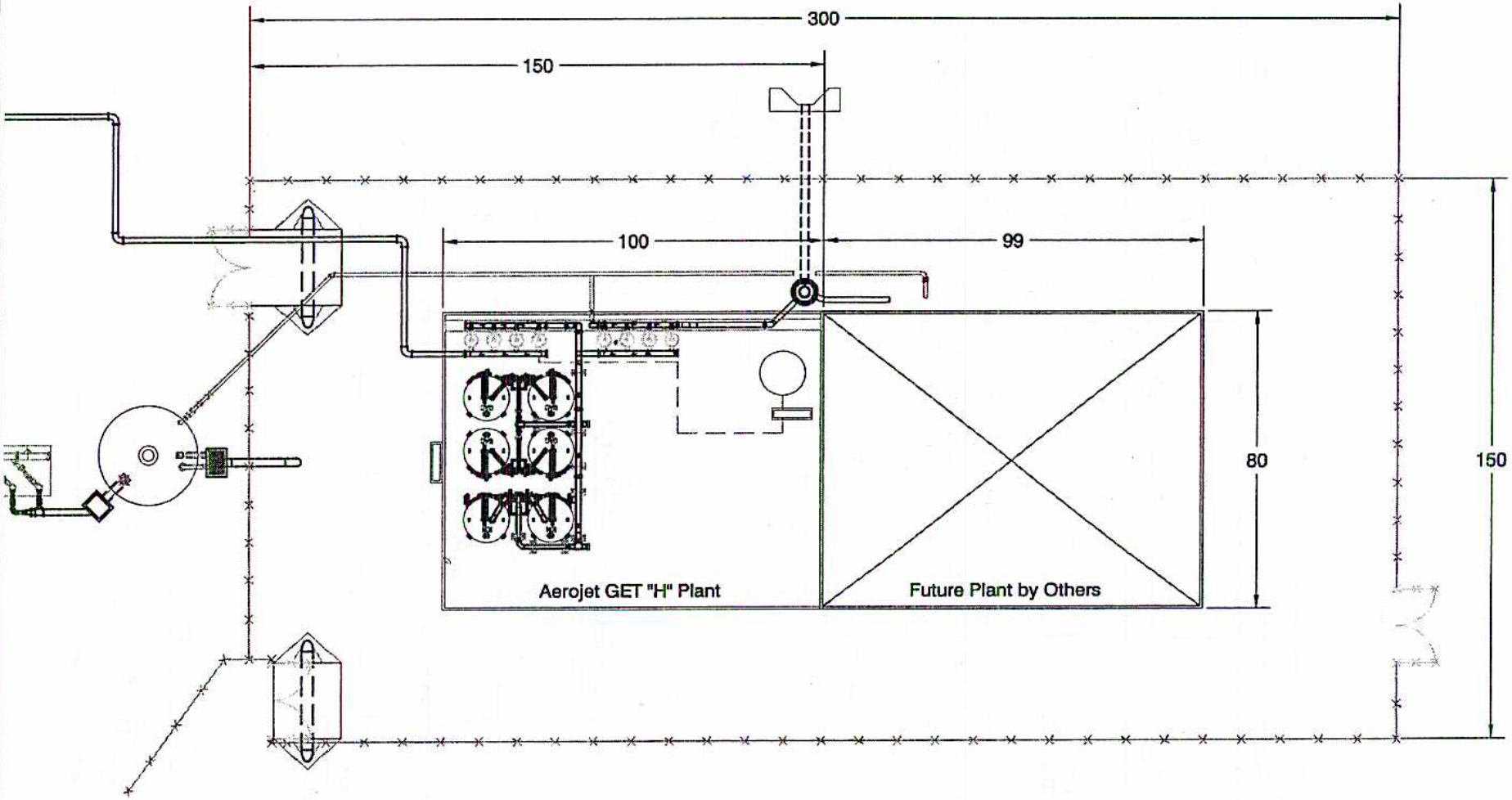
Attachment C-1
ARGET Treatment System



Attachment C-2
GET E/F Treatment System

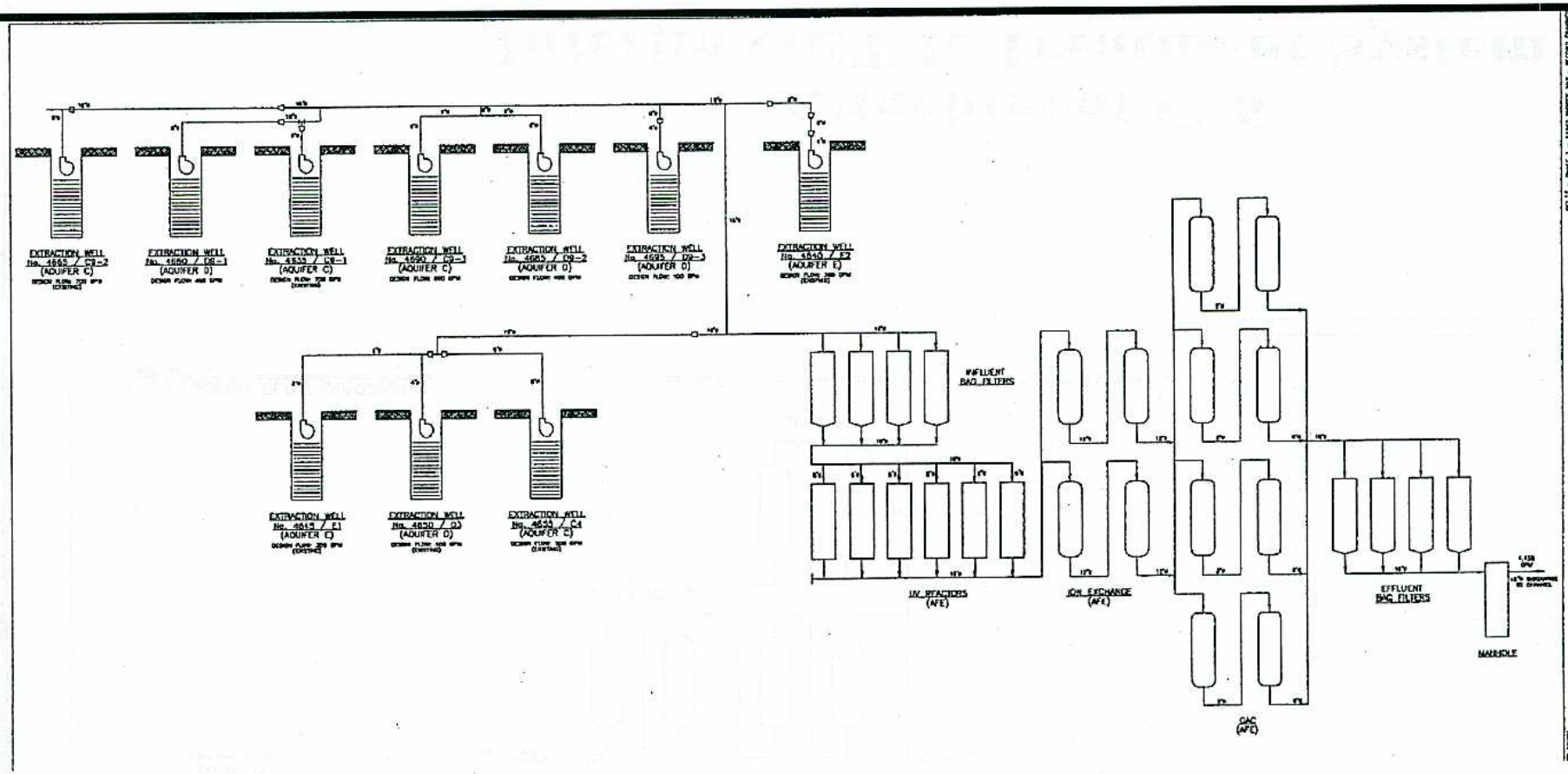


Attachment C-3
Interim GET H Treatment System

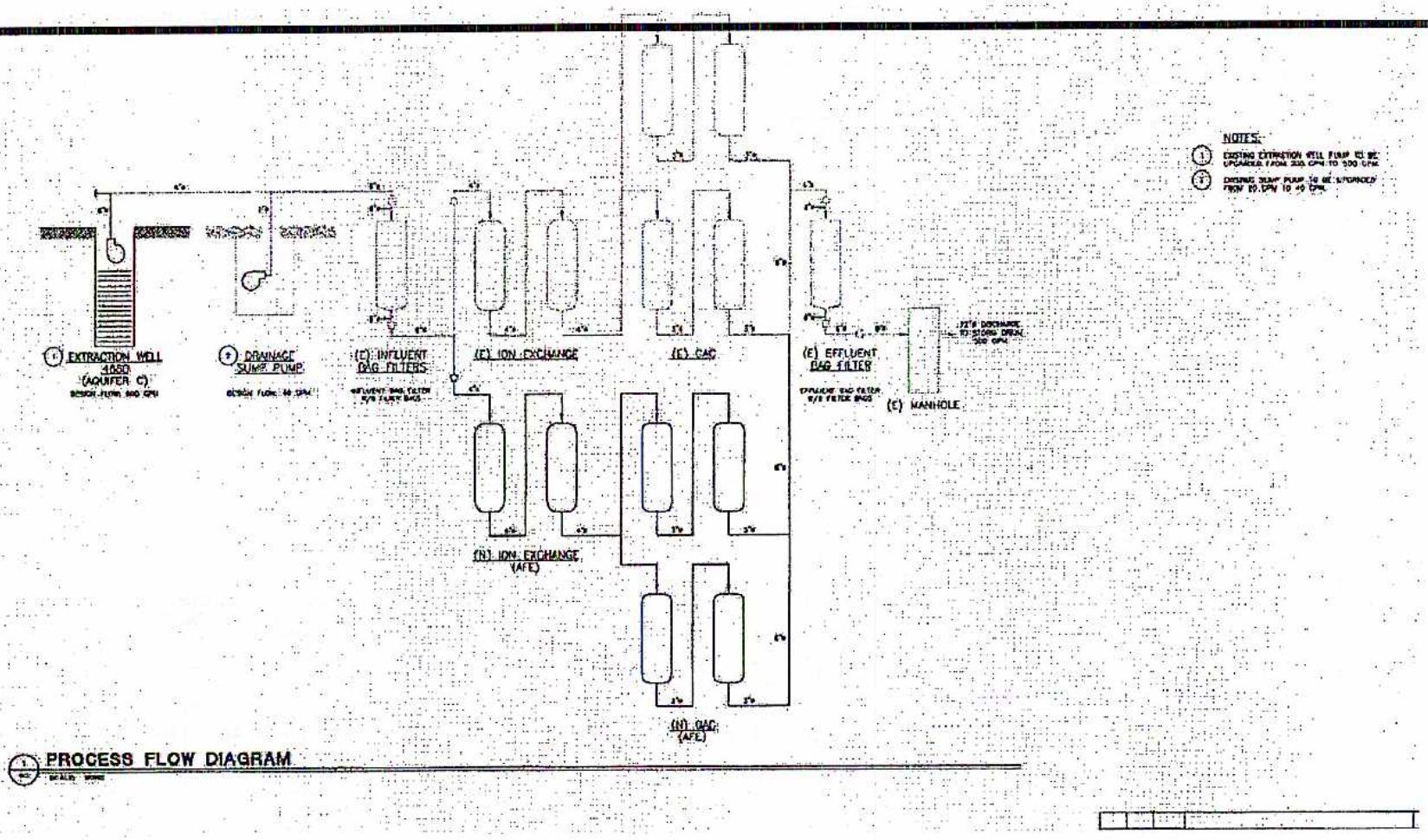


Scale: 1" = 40'

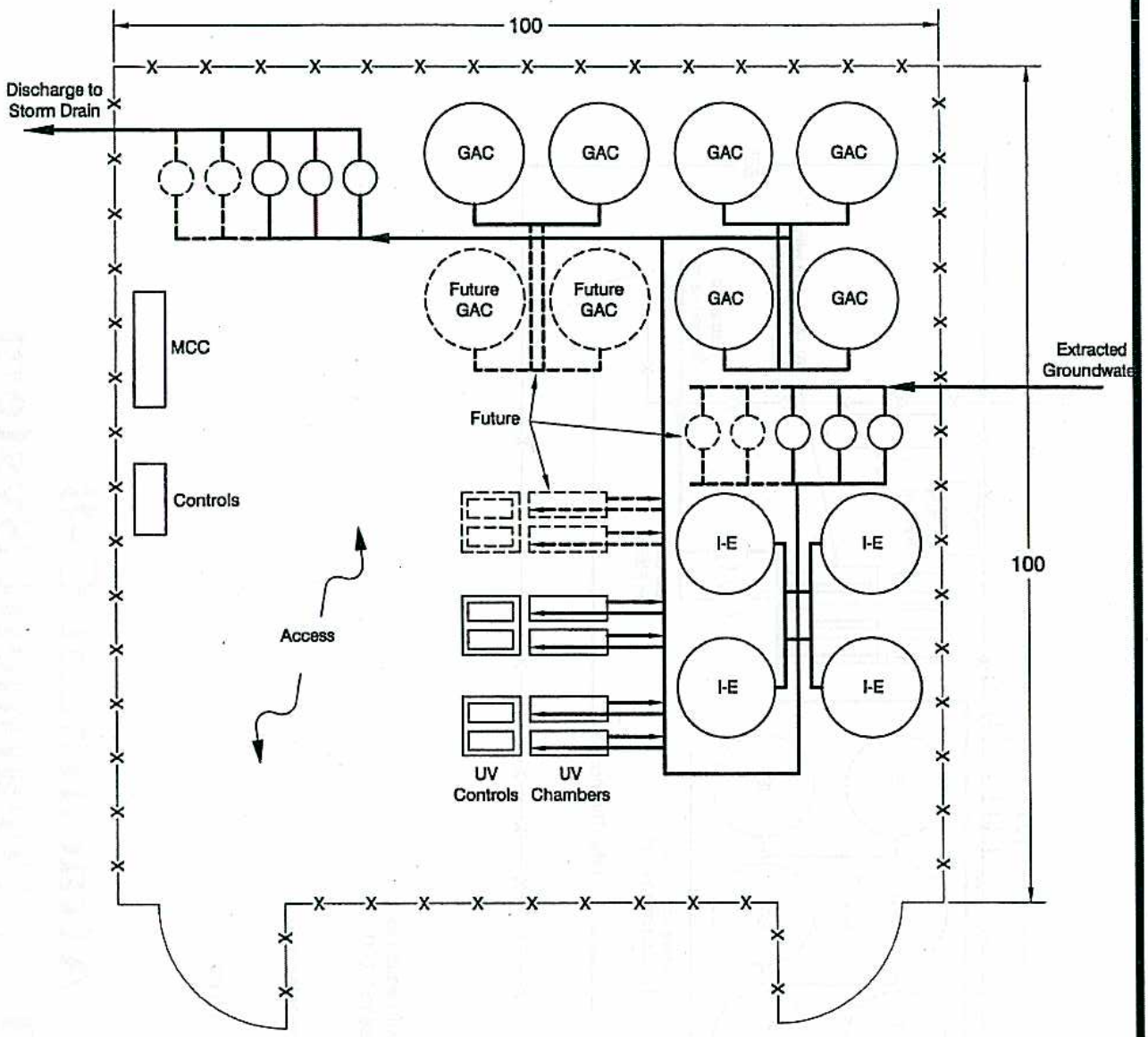
Attachment C-4
GET H Treatment System



Attachment C-5
GET J Treatment System



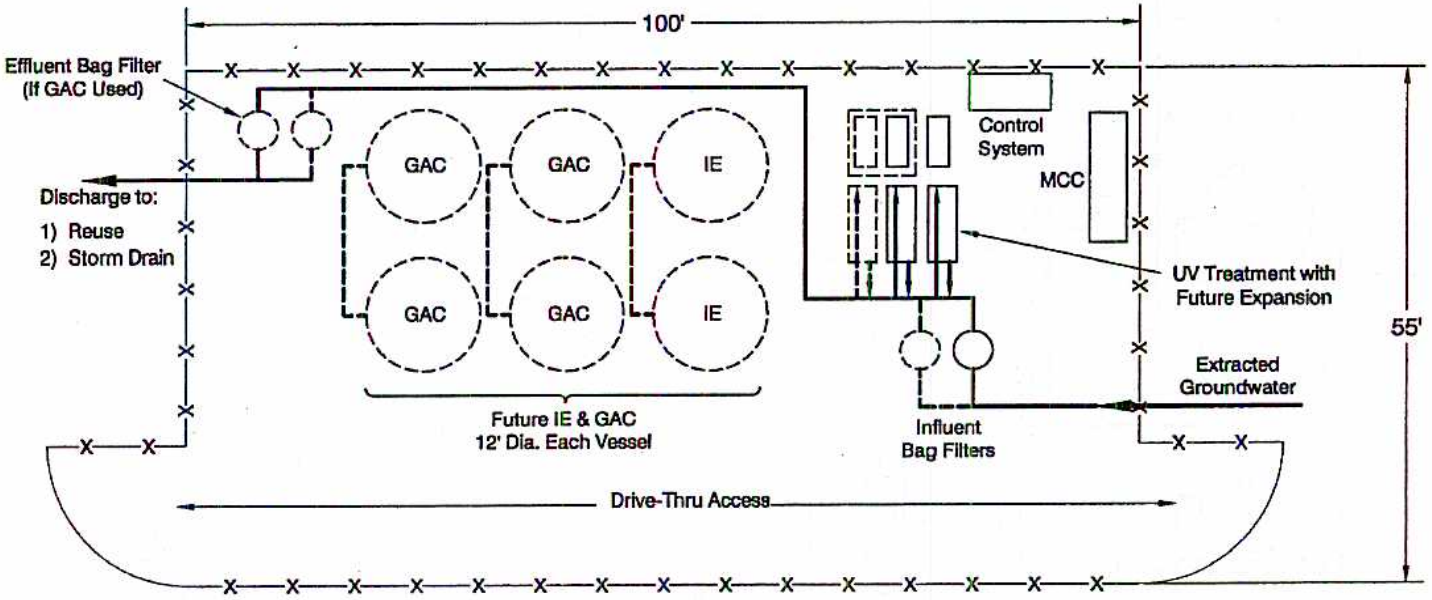
Attachment C-6
Interim GET K Treatment System



Notes: 1. Design capacity is for 3,000 gpm with space to expand to 4,000 gpm if required.

2. Anticipated to be installed outside; however, depending on use permit constraints may require exterior building.

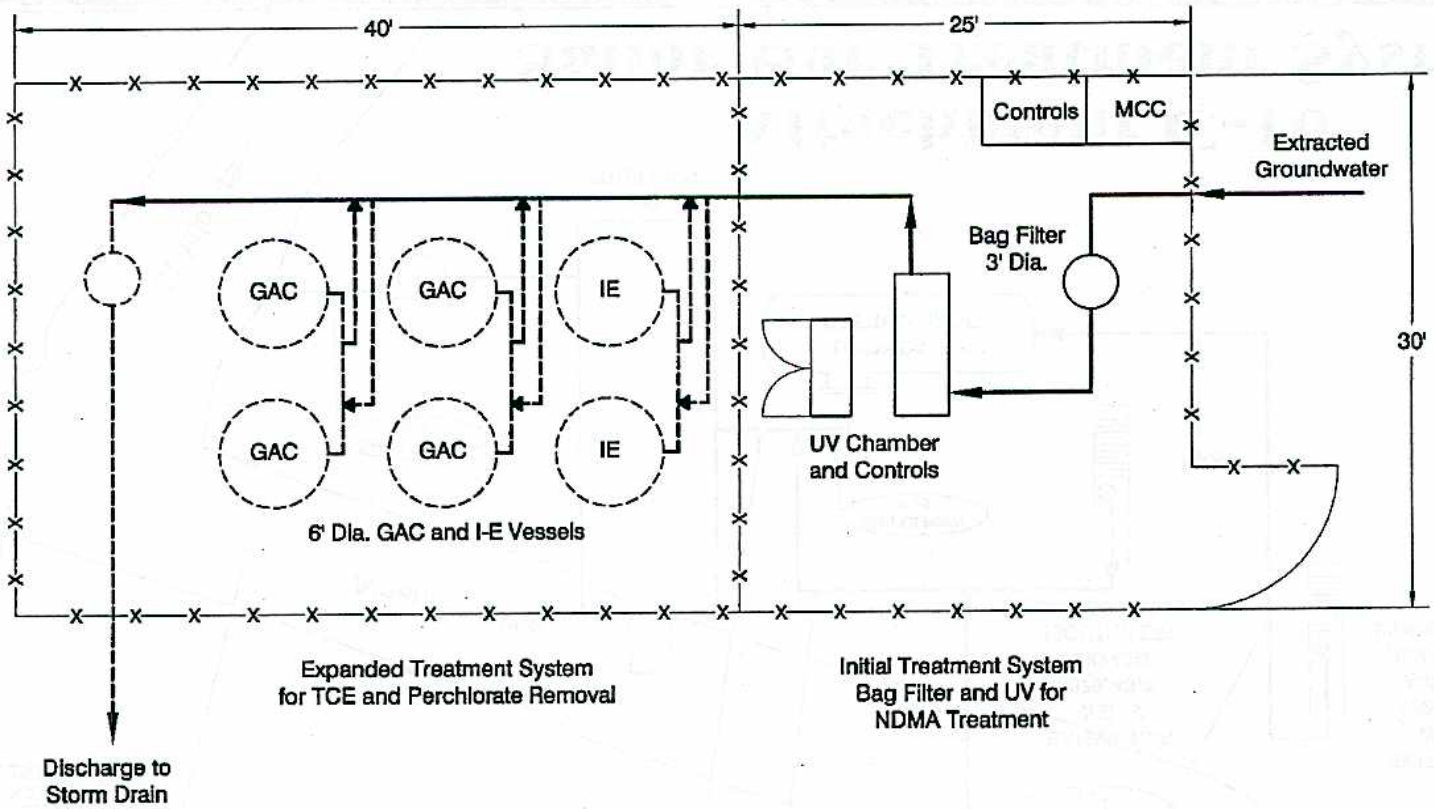
Attachment C-7
GET K Treatment System



Notes:

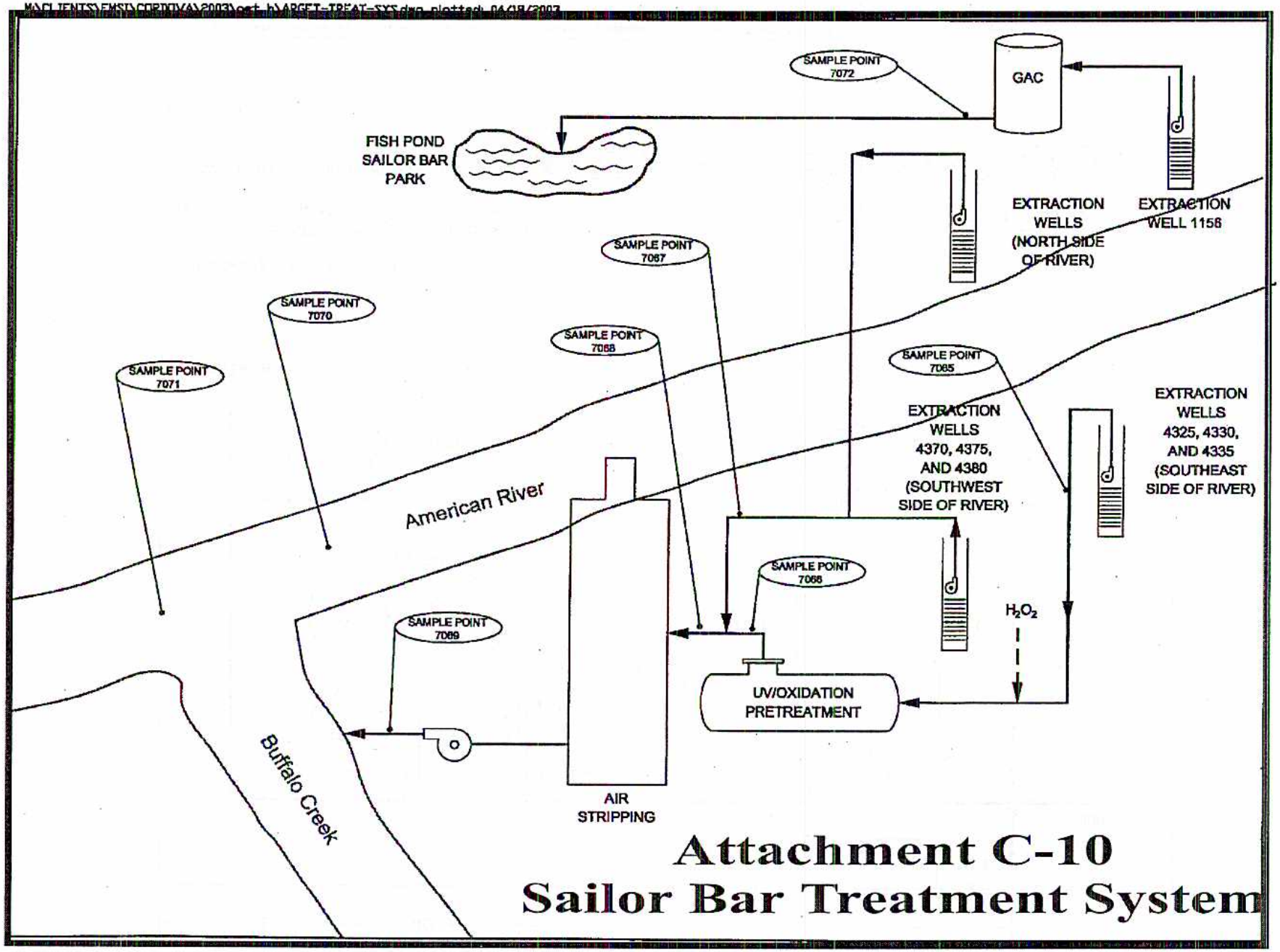
1. Design capacity set for 900 - 1,000 gpm with space to provided for future components to increase to 2,000 gpm.
2. Ion-exchange and GAC treatment not anticipated with initial start up.
3. Anticipated to be installed in fenced area with no building to house.

Attachment C-8
GET L Treatment System

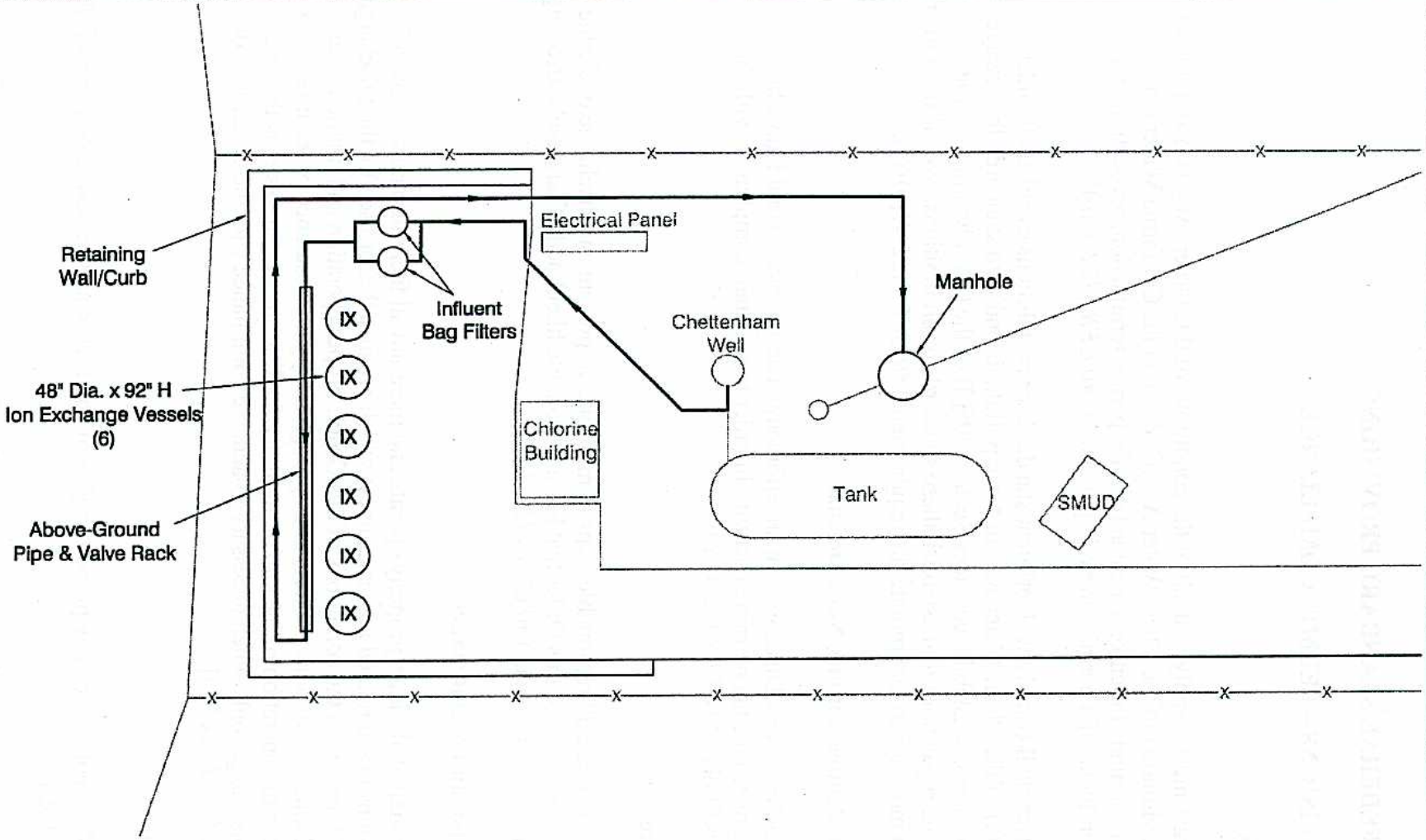


Notes:
1. Design capacity to treat up to 500 gpm.
2. Initial treatment for NDMA with space considerations for the addition of perchlorate and TCE treatment.
3. Anticipated to be installed in fenced area.

Attachment C-9
GET L1 Treatment System



Attachment C-10
Sailor Bar Treatment System



Attachment C-11
Chettenham Treatment System

ATTACHMENT D – FEDERAL STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [*40 CFR §122.41(a)*].

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not been modified to incorporate the requirement [*40 CFR §122.41(a)(1)*].

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order [*40 CFR §122.41(c)*].

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment [*40 CFR §122.41(d)*].

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order [*40 CFR §122.41(e)*].

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [*40 CFR §122.41(g)*].

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations [*40 CFR §122.5(c)*].

F. Inspection and Entry

The Discharger shall allow the Regional Water Quality Control Board (RWQCB), State Water Resources Control Board (SWRCB), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to [*40 CFR §122.41(i)*] [*CWC 13383(c)*]:

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order [*40 CFR §122.41(i)(1)*];

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [*40 CFR §122.41(i)(2)*];

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [*40 CFR §122.41(i)(3)*];

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location [*40 CFR §122.41(i)(4)*].

G. Bypass

1. Definitions

   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility [*40 CFR §122.41(m)(1)(i)*].

   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [*40 CFR §122.41(m)(1)(ii)*].

2. Bypass not exceeding limitations – The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3 and I.G.5 below [*40 CFR §122.41(m)(2)*].

3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [*40 CFR §122.41(m)(4)(i)*]:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [*40 CFR §122.41(m)(4)(A)*];

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [*40 CFR §122.41(m)(4)(B)*]; and

c. The Discharger submitted notice to the Regional Water Board as required under Standard Provision – Permit Compliance I.G.5 below [*40 CFR §122.41(m)(4)(C)*].

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above [*40 CFR §122.41(m)(4)(ii)*].

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass [*40 CFR §122.41(m)(3)(i)*].

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below [*40 CFR §122.41(m)(3)(ii)*].

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation [*40 CFR §122.41(n)(1)*].

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph H.2 of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review [*40 CFR §122.41(n)(2)*].

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that [*40 CFR §122.41(n)(3)*]:

a. An upset occurred and that the Discharger can identify the cause(s) of the upset [*40 CFR §122.41(n)(3)(i)*];

b. The permitted facility was, at the time, being properly operated [*40 CFR §122.41(n)(3)(i)*];

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b [*40 CFR §122.41(n)(3)(iii)*]; and

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [*40 CFR §122.41(n)(3)(iv)*].

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [*40 CFR §122.41(n)(4)*].

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition [*40 CFR §122.41(f)*].

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit [*40 CFR §122.41(b)*].

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the CWC [*40 CFR §122.41(l)(3)*] [*40 CFR §122.61*].

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [*40 CFR §122.41(j)(1)*].

B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [*40 CFR §122.41(j)(4)*] [*40 CFR §122.44(i)(1)(iv)*].

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [*40 CFR §122.41(j)(2)*].

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements [*40 CFR §122.41(j)(3)(i)*];
2. The individual(s) who performed the sampling or measurements [*40 CFR §122.41(j)(3)(ii)*];
3. The date(s) analyses were performed [*40 CFR §122.41(j)(3)(iii)*];
4. The individual(s) who performed the analyses [*40 CFR §122.41(j)(3)(iv)*];
5. The analytical techniques or methods used [*40 CFR §122.41(j)(3)(v)*]; and
6. The results of such analyses [*40 CFR §122.41(j)(3)(vi)*].

C. Claims of confidentiality for the following information will be denied [*40 CFR §122.7(b)*]:

1. The name and address of any permit applicant or Discharger [*40 CFR §122.7(b)(1)*]; and
2. Permit applications and attachments, permits and effluent data [*40 CFR §122.7(b)(2)*].

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, SWRCB, or USEPA within a reasonable time, any information which the Regional Water Board, SWRCB, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, SWRCB, or USEPA copies of records required to be kept by this Order [*40 CFR §122.41(h)*] [*CWC 13267*].

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, SWRCB, and/or USEPA shall be signed and certified in accordance with paragraph (2.) and (3.) of this provision [*40 CFR §122.41(k)*].

2. All permit applications shall be signed as follows:

   a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures [*40 CFR §122.22(a)(1)*];

   b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively [*40 CFR §122.22(a)(2)*]; or

   c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA) [*40 CFR §122.22(a)(3)*].

3. All reports required by this Order and other information requested by the Regional Water Board, SWRCB, or USEPA shall be signed by a person described in paragraph (b) of this

provision, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in paragraph (2.) of this provision [*40 CFR §122.22(b)(1)*];

b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company (a duly authorized representative may thus be either a named individual or any individual occupying a named position) [*40 CFR §122.22(b)(2)*]; and

c. The written authorization is submitted to the Regional Water Board, SWRCB, or USEPA [*40 CFR §122.22(b)(3)*].

4. If an authorization under paragraph (3.) of this provision is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (3.) of this provision must be submitted to the Regional Water Board, SWRCB or USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR §122.22(c)].

5. Any person signing a document under paragraph (2.) or (3.) of this provision shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations" [*40 CFR §122.22(d)*].

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order [*40 CFR §122.41(l)(4)*].

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or SWRCB for reporting results of monitoring of sludge use or disposal practices [*40 CFR §122.41(l)(4)(i)*].

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal,

approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board [*40 CFR §122.41(l)(4)(ii)*].

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order [*40 CFR §122.41(l)(4)(iii)*].

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date [*40 CFR §122.41(l)(5)*].

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [*40 CFR §122.41(l)(6)(i)*].

2. The following shall be included as information that must be reported within 24 hours under this paragraph [*40 CFR §122.41(l)(6)(ii)*]:

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(A)*].

   b. Any upset that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(B)*].

   c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [*40 CFR §122.41(l)(6)(ii)(C)*].

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours [*40 CFR §122.41(l)(6)(iii)*].

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when [*40 CFR §122.41(l)(1)*]:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b) [*40 CFR §122.41(l)(1)(i)*]; or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [*40 CFR §122.41(l)(1)(ii)*].

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan [*40 CFR §122.41(l)(1)(iii)*].

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or SWRCB of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements [*40 CFR §122.41(l)(2)]*.

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting E.3, E.4, and E.5 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E [*40 CFR §122.41(l)(7)*].

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, SWRCB, or USEPA, the Discharger shall promptly submit such facts or information [*40 CFR §122.41(l)(8)*].

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any

requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Clean Water Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions [*40 CFR §122.41(a)(2)*] [*CWC 13385 and 13387*].

B. Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000 [*40 CFR §122.41(a)(3)*].

C. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both [*40 CFR §122.41(j)(5)*].

D. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both [*40 CFR §122.41(k)(2)*].

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [*40 CFR §122.42(a)*]:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [*40 CFR §122.42(a)(1)*]:

    a. 100 micrograms per liter (µg/L) [*40 CFR §122.42(a)(1)(i)*];

    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [*40 CFR §122.42(a)(1)(ii)*];

    c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR §122.42(a)(1)(iii)*]; or

    d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [*40 CFR §122.42(a)(1)(iv)*].

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [*40 CFR §122.42(a)(2)*]:

    a. 500 micrograms per liter (µg/L) [*40 CFR §122.42(a)(2)(i)*];

    b. 1 milligram per liter (mg/L) for antimony [*40 CFR §122.42(a)(2)(ii)*];

    c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR §122.42(a)(2)(iii)*]; or

    d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [*40 CFR §122.42(a)(2)(iv)*].

B. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following [*40 CFR §122.42(b)*]:

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Sections 301 or 306 of the CWA if it were directly discharging those pollutants [*40 CFR §122.42(b)(1)*]; and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order [*40 CFR §122.42(b)(2)*].

Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW [*40 CFR §122.42(b)(3)*].

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR Section122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the Regional Water Quality Control Board (RWQCB) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.

B. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided the laboratory institutes a Quality Assurance-Quality Control Program. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.

C. All analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. Laboratories that perform sample analyses shall be identified in all monitoring reports.

D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

F. If the facility is not in operation, or there is no discharge during a required reporting period, the Discharger shall forward a letter to the Regional Water Board indicating that there has been no activity during the required reporting period.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
001	M-001	Effluent from ARGET.
002	M-002	Effluent from GET E/F.
003	M-003	Effluent from GET Interim GET H.
004	M-004	Effluent from GET H.
005	M-005	Effluent from GET J.
006	M-006	Effluent from Interim GET K.
007	M-007	Effluent from GET K.
008	M-008	Effluent from GET L.
009	M-009	Effluent from GET L1.
010	M-010	Effluent from Sailor Bar Park Well System.
011	M-011	Effluent from Chettenham Well System.
012	M-012	Effluent from Low-threat System.
	MINFA	Influent to ARGET
	MINFB	Influent to GET E/F
	MINFC	Influent to Interim GET H
	MINFD	Influent to GET H
	MINFE	Influent to GET J
	MINFF	Influent to Interim GET K
	MINFG	Influent to GET K
	MINFH	Influent to GET L
	MINFI	Influent to GET L1
	MINFJ	Influent to Sailor Bar Park Well System
	MINFK	Influent to Chettenham Well System
	R-001 and R-002	R-001 (upstream) and R-002 (downstream) on American River from discharge of Buffalo Creek into American River at Latitude 38°, 38', 01" N, Longitude 121°, 16', 05" W. Outfall 001 is representative of ARGET, GET E/F and GET J discharges (Discharges 001, 002, and 005, respectively.
	R-003 and R-004	R-003 (upstream) and R-004 (downstream) on American River from discharge water from GET L1 (Discharge 009) into American River at Latitude 38°, 37', 32" N, Longitude 121°, 18', 15" W.
	R-005 and R-006	R-005 (upstream) and R-006 (downstream) on American River from discharge water from GET L (Discharge 008) into American River at Latitude 38°, 36', 52" N, Longitude 121°, 18', 14" W.
	R-006 and R-007	R-006 (upstream) and R-007 (downstream) on American River from discharge water from long term GET K (Discharge 007) into American River at Latitude 38°, 36', 36" N, Longitude 121°, 18', 24" W.
	R-008 and R-009	R-008 (upstream) and R-009 (downstream) on American River from discharge water from Interim GET K (Discharge 006) into American River at Latitude 38°, 36', 05" N, Longitude 121°, 18', 57" W.
	R-010 and R-011	R-010 (upstream) and R-011 (downstream) on American River from discharge from Chettenham Well (Discharge 011) into American River via the Boyd Station Channel at Latitude 38°, 34', 43" N, Longitude 121°, 19', 37" W. May receive water from long term GET H (Discharge 004) in the future

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
	R-012 and R-013	R-012 (upstream) and R-013 (downstream) on Morrison Creek from discharge of drainage ditch to Morrison Creek at Latitude 38°, 31', 53" N, Longitude 121°, 19', 36" W. Outfall 006 represents discharge from interim GET H (Discharge 003 and long term GET H (Discharge 004).
	R-014 and R-015	R-014 (upstream) and R-015 (downstream) on American River from a potential discharge from various GETs into American River via pipeline at Latitude 38°, 38', 06" N, Longitude 121°, 13', 13" W.
	R-016 and R-017	R-016 (upstream) and R-017 (downstream) on Alder Creek from a potential discharge water from various GETs via pipeline into Alder Creek at American River at Latitude 38°, XX', XX" N, Longitude 121°, XX', XX" W.

III. INFLUENT MONITORING REQUIREMENTS

A. The Discharger shall monitor **MINFA, MINFB, and MINFJ** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
VOCs	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]
1,4-Dioxane	µg/L	Grab	Monthly	[5]
Total Copper	µg/L	Grab	Monthly	[6]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
5. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical level shall be reported as trace.
6. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

B. The Discharger shall monitor **MINFC, MINFD and MINFK** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
VOCs	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Monthly	[2]
Semi-Volatile Organics	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
3. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

C. The Discharger shall monitor **MINFE** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
VOCs	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]
Total Copper	µg/L	Grab	Monthly	[5]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
5. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

D. The Discharger shall monitor **MINFF, MINFG, MINFH and MINFI** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
VOCs	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations M-001 through M-012

1. The Discharger shall monitor wastewater discharged at **M-001** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[9]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]
1,4-Dioxane	µg/L	Grab	Monthly	[5]
Total Copper	µg/L	Grab	Monthly	[6]
Flow[7]	mgd	Measure	Continuous	--
Temperature[7]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[7]	µmhos/cm	Grab	Monthly	--
pH[7]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
Acute Toxicity	% Survival	Grab	Quarterly	[8]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
5. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
6. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
7. Field Measurements.
8. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
9. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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2. The Discharger shall monitor wastewater discharged at **M-002** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[13]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[13]
1,4-Dioxane	µg/L	Grab	Monthly	[5]
Total Copper	µg/L	Grab	Monthly	[6]
Flow[7]	mgd	Measure	Continuous	--
Temperature[7]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[7]	µmhos/cm	Grab	Monthly	--
pH[7]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
PROWL	µg/L	Grab	Monthly	[8]
Formaldehyde	µg/L	Grab	Monthly	[9]
Glyoxal	µg/L	Grab	Monthly	[10]
Acetaldehyde	µg/L	Grab	Monthly	[11]
Acute Toxicity	% Survival	Grab	Quarterly	[12]

3. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
4. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
5. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
6. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
7. Field Measurements.
8. PROWL analysis with a practical quanitation level no greater than 10 µg/L. All concentrations between the detection level and practical quanitiation level shall bereported as trace.
9. Formaldehyde analysis with a practical quanitation level no greater than 5 µg/L. All concentrations between the detection level and practical quanitiation level shall bereported as trace.
10. Glyoxal analysis with a practical quanitation level no greater than 5 µg/L. All concentrations between the detection level and practical quanitiation level shall bereported as trace.
11. Acetaldehyde analysis with a practical quanitation level no greater than 1µg/L. All concentrations between the detection level and practical quanitiation level shall bereported as trace.
12. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
13. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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2. The Discharger shall monitor wastewater discharged at **M-003 and M-004** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[7]
Volatile Organics	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Monthly	[2]
Semi-Volatile Organics	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[7]
Flow[5]	mgd	Measure	Continuous	--
Temperature[5]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[5]	µmhos/cm	Grab	Monthly	--
pH[5]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
Acute Toxicity	% Survival	Grab	Quarterly	[6]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
3. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
5. Field Measurements.
6. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
7. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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3. The Discharger shall monitor wastewater discharged at **M-005** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[8]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Semi-Volatile Organics	µg/L	Grab	Monthly	[4]
Total Copper	µg/L	Grab	Monthly	[5]
Flow[6]	mgd	Measure	Continuous	--
Temperature[6]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[6]	µmhos/cm	Grab	Monthly	--
pH[6]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
Acute Toxicity	% Survival	Grab	Quarterly	[7]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.

3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Methods 8270 or 500 Series Method, or an equivalent method approved by the Regional Board with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
5. Tst Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
6. Field Measurements.
7. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
8. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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4. The Discharger shall monitor wastewater discharged at **M-006, M-007, M-008 and M-009** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[7]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethylamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]
Flow[5]	mgd	Measure	Continuous	--
Temperature[5]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[5]	µmhos/cm	Grab	Monthly	--
pH[6]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--
Acute Toxicity	% Survival	Grab	Quarterly	[6]

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
5. Field Measurements.
6. Acute toxicity testing shall performed as described in Whole Effluent Toxicity Testing Requirements V.A., below.
7. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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5. The Discharger shall monitor wastewater discharged at **M-010** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[5]
Volatile Organics	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Monthly	[2]
1,4-Dioxane	µg/L	Grab	Monthly	[3]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[5]
Flow[4]	mgd	Measure	Continuous	--
Temperature[4]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen[	mg/L	Grab	Monthly	--
Electrical Conductivity[4]	µmhos/cm	Grab	Monthly	--
pH[4]	Standard	Grab	Monthly	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
3. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
4. Field Measurements.
5. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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5. The Discharger shall monitor wastewater discharged at **M-011** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[4]
Volatile Organics	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Weekly	[2]
Flow[3]	mgd	Measure	Continuous	--
Temperature[3]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen	mg/L	Grab	Monthly	--
Electrical Conductivity[3]	µmhos/cm	Grab	Monthly	--
pH[3]	Standard	Grab	Monthly	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
3. Field Measurements.
4. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

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6. The Discharger shall monitor wastewater discharged at **M-012** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[4]
Volatile Organics	µg/L	Grab	Once per 10,000 gallons purge water for Well Purge Beginning, middle and end of Aquifer Test	[1]
N-nitrosodimethylamine	µg/L	Grab	Once per well purge Beginning, middle and end of Aquifer Test	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[4]
Perchlorate	µg/L	Grab	Once per well purge Beginning, middle and end of Aquifer Test	[3]
1,4-Dioxane	µg/L	Grab	Once per well purge Beginning, middle and end of Aquifer Test	[3]
Flow[4]	gallons	Measure	Continuous	--
Temperature[4]	°F(°C)	Grab	Once per well purge Beginning, middle and end of Aquifer Test	--
pH[4]	Standard	Grab	Once per well purge Beginning, middle and end of Aquifer Test	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
4. Field Measurements.

7. If the discharge is intermittent rather than continuous, then on the first day of each such discharge, the Discharger shall monitor and record data for all of the constituents listed above, after which the frequency of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

8. If no discharge occurs at a particular discharge point during the monitoring period, then samples need not be collected for that particular discharge. It must be reported under the reporting program that no sampling was conducted at a particular monitoring point due to no discharge.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. **Acute Toxicity Testing.** The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

1. *Monitoring Frequency* – the Discharger shall perform quarterly acute toxicity testing, concurrent with effluent sampling for volatile organics and copper.

2. *Sample Types* – Effluent samples shall be grab samples taken at M-001, M-002, M-003, M-004, M-005, M-006, M-007, M-008 and M-009.

3. *Test Species* – Test species shall be larval stage (0 to 14 days old) fathead minnows (Pimephales promelas).

4. *Methods* – The acute bioassay tests samples shall be conducted in accordance with EPA-821-R-02-012, Fifth Edition, or later amendment with Executive Officer approval. Temperature and pH shall be recorded at the time of bioassay sample collection. No pH adjustment may be made unless approved by the Executive Officer.

5. *Test Failure* – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 3 business days following notification of test failure.

B. **Chronic Toxicity Testing.** The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:

1. *Monitoring Frequency* – the Discharger shall perform quarterly chronic toxicity testing for the first 4 quarters and annually thereafter.

2. *Sample Types* – Effluent samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at effluent monitoring locations M-001 and M-002. The receiving water control shall be a grab sample obtained from the R-001 sampling location.

3. *Sample Volumes* – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.

4. *Test Species* – Chronic toxicity testing measures either lethal or sublethal (e.g. reduced growth, reproduction) effects to experimental test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:

   - The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
   - The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
   - The green alga, *Selenastrum capricornutum* (growth test).

5. *Methods* – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition,* EPA/821-R-02-013, October 2002, or later amendment with Executive Officer approval.

6. *Reference Toxicant* – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.

7. *Dilutions* – The chronic toxicity testing shall be performed using the 100% effluent, 25% effluent/75% R-001, 10% effluent/90% R-001 and 5%effluent/95% R-001.

8. *Test Failure* – If either the reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002, and its subsequent amendments or revisions, the Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of test failure.

C. **WET Testing Notification Requirements.** The Discharger shall notify the Regional Board within 24-hrs after the receipt of the results of an exceedance of a toxicity trigger during regular or accelerated monitoring.

D. **WET Testing Reporting Requirements.** All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Regional Water Board within 30 days following completion of the test, and shall contain, at minimum:

   a. The results expressed in TUc, measured as 100/NOEC, and also measured as 100/LC50 $100/EC_{25}$, $100/IC_{25}$, and $100/IC_{50}$, as appropriate.

   b. The statistical methods used to calculate endpoints;

   c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);

   d. The dates of sample collection and initiation of each toxicity test; and

   e. The results compared to the numeric toxicity trigger.

   Additionally, the monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or TRE.

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports, reported as percent survival.

3. **TRE Reporting.** Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Workplan.

4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes:

   a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.

   b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.

c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Surface Water Monitoring – American River, Morrison Creek and Alder Creek

1. The Discharger shall monitor the American River at R-001, R-002, R-003, R-004, R-005, R-006, R-007, R-008, R-009, R-010, and R-011, R-014, R-015 and Alder Creek at R-016 and R-017 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[6]
Volatile Organics	µg/L	Grab	Monthly	[1]
N-nitrosodimethlyamine	µg/L	Grab	Monthly	[2]
Perchlorate	µg/L	Grab	Monthly	[3]
Total Copper	µg/L	Grab	Monthly	[4]
Temperature[5]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen[5]	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[5]	µmhos/cm	Grab	Monthly	--
pH[5]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. A test method with a practical quantitation level no greater than 0.005 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
3. A test method with a practical quantitation level no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
4. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
5. Field Measurements.
6. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-001 and R-016. Attention shall be given to the presence or absence of:

a. Floating or suspended matter
b. Discoloration
c. Bottom deposits
d. Aquatic life
e. Visible films, sheens or coatings
f. Fungi, slimes, or objectionable growths
g. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the monitoring report.

2. The Discharger shall monitor Morrison Creek R-012 and R-013 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[5]
Volatile Organics	µg/L	Grab	Monthly	[1]
Perchlorate	µg/L	Grab	Monthly	[2]
Total Copper	µg/L	Grab	Monthly	[3]
Temperature[4]	°F(°C)	Grab	Monthly	--
Dissolved Oxygen[4]	mg/L	Grab	Monthly	--
Turbidity	NTU	Grab	Monthly	--
Electrical Conductivity[4]	µmhos/cm	Grab	Monthly	--
pH[4]	Standard	Grab	Monthly	--
Hardness as $CaCO_3$	mg/L	Grab	Quarterly	--
Total Dissolved Solids	mg/L	Grab	Monthly	--

1. Test Method to be EPA Methods 601and 602 or 8010 and 8020 or 8260, or 500 Series, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 0.5 µg/L. All concentrations between the detection level and practical quanitation level shall be reported as trace.
2. Test Method to be EPA Methods 314.0 or 314.1, or an equivalent method approved by the Regional Board. with a Practical Quantitation Level no greater than 4.0 µg/L. All concentrations between the detection limit and practical quanitation level shall be reported as trace.
3. Test Method to be EPA Method 1638/200.8 or an equivalent method approved by the Regional Board with a practical quantitation limit no greater than 3 µg/L. All concentrations between the detection limit and practical quantitation level shall be reported as trace.
4. Field Measurements.
5. Parameters shall be analyzed using the analytical methods described in 40 CFR sections 136.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-012 and R-013. Attention shall be given to the presence or absence of:

a. Floating or suspended matter
b. Discoloration
c. Bottom deposits
d. Aquatic life
e. Visible films, sheens or coatings
f. Fungi, slimes, or objectionable growths
g. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the monitoring report.

3. If no discharge occurs at a particular discharge point during the monitoring period, then receiving water samples associated with that discharge need not be collected for that monitoring period. It must be reported under the reporting program that no sampling was conducted at a particular monitoring point due to no discharge.

B. Groundwater Monitoring – Not Applicable

IX. OTHER MONITORING REQUIREMENTS

A. State Implementation Plan Monitoring

The State Water Resources Control Board (SWRCB) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP). The SIP states that the Regional Water Boards will require periodic monitoring (at least once prior to issuance and reissuance of a permit) for pollutants for which criteria or objectives apply and for which no effluent limitations have been established.

Accordingly, the Regional Water Board is requiring, as part of this Monitoring and Reporting Program, that the Discharger monitor effluent and analyze the sample for all SIP constituents **one time at least 180 days but no more than 365 days prior to expiration of this Order.** The Discharger must analyze pH and hardness of the effluent at the same time as priority pollutant metals.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Regional Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.

3. The Discharger shall report to the Regional Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986.

4. **Within 24-hours** after the Discharger has received information that its discharge exceeds effluent limitations, the Discharger shall notify the Board, City of Sacramento Department of Utilities, and Carmichael Water District. Arden-Cordova Water Service shall be notified if the discharge that is in violation is to Lake Natoma.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is given,

the Discharger shall submit self-monitoring reports in accordance with the requirements described below.

2. The Discharger shall submit monthly, quarterly, and annual Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Monthly reports shall be due on the 15th day of the second month following the end of each calendar month.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Day after permit effective date	All	Fifteenth day of second calendar month following month of sampling
1 / week	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	Fifteenth day of second calendar month following month of sampling
1 / month	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	Fifteenth day of second calendar month following month of sampling
1 / quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 15 August 15 November 15 February 15
1/year	January 1 following (or on) permit effective date	January 1 through December 31	February 15

4. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

5. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations.

6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the standard provisions (Attachment D), to the address listed below:

Submit monitoring reports to:
Central Valley Regional Water Quality Control Board 11020 Sun Center Drive #200 Rancho Cordova, CA 95670-6114

C. Discharge Monitoring Reports (DMRs)

1. When requested by U.S. EPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self Monitoring Reports.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy to the address listed below:

   State Water Resources Control Board
   Discharge Monitoring Report Processing Center
   Post Office Box 671
   Sacramento, CA 95812

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self generated or modified cannot be accepted.

D. Other Reports

1. **Annual Solids Disposal Report.** An annual solids disposal report shall be submitted with annual self-monitoring reports. The report shall describe the annual volume of solids, including spent ion exchange resin and granular activated carbon, generated by the Facility and specify the disposal practices.

Attachment F – Fact Sheet – Table of Contents

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ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

WDID	**5A342000006**
Discharger	Aerojet-General Corporation
Name of Facilities	ARGET, GET E/F, GET H, Interim GET H, GET J, GET K, Interim GET K, GET L, GET L1, Sailor Bar Park Well
Facility Address	Aerojet Road
	Sacramento, CA 95813-6000
	Sacramento County
Facility Contact, Title and Phone	Chris Fennessy, Project Manager, (916) 355-3341
Authorized Person to Sign and Submit Reports	Gerald Swanick, Director Environmental Operations, (916) 355-3558
Mailing Address	P.O. Box 13222, Sacramento, CA 95813-6000
Billing Address	P.O. Box 13222, Sacramento, CA 95813-6000
Type of Facility	Groundwater Extraction and Treatment Facilities
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	B
Pretreatment Program	Not Applicable
Reclamation Requirements	Not Applicable
Facilities Permitted Flow	34.65 million gallons per day (mgd)
Facilities Design Flow	Not Applicable
Watershed	American and Sacramento Rivers
Receiving Water	Buffalo Creek, Morrison Creek, American River, Alder Creek, Sailor Bar Park Pond
Receiving Water Type	Stream and Pond

A. Aerojet-General Corporation (Aerojet) operates a rocket testing and chemical manufacturing facility on 8500 acres in eastern Sacramento County. In order to address groundwater pollution beneath and beyond the Aerojet property, Aerojet has constructed many groundwater extraction and treatment facilities (GETs). GETs covered under this permit are on both Aerojet-owned property and property leased by Aerojet. Aerojet is responsible for maintaining compliance with this Order and is responsible for the Facilities' operations and discharge to surface waters

B. The Facilities discharge to Buffalo Creek, drainage canals, Alder Creek and Sailor Bar Park Pond, all tributary to the American River, and to Morrison Creek, tributary to the Sacramento River, waters of the United States. The Facilities are both existing facilities regulated by a

Regional Water Board Order and new facilities that are not currently regulated by a Regional Water Board Order.

C. The Discharger submitted a Report of Waste Discharge (RWD), dated 11 April 2005, and applied for a National Pollutant Discharge Elimination System (NPDES) permit authorization to discharge up to 32.57 mgd of treated groundwater from the Aerojet GET facilities. Supplemental Information was received on 28 April, 12 May and 15 May 2005.

II. FACILITIES DESCRIPTIONS

The Facilities are found both on and off Aerojet's 8500 acres in eastern Sacramento County, approximately 17 miles east of downtown Sacramento, in and around the City of Rancho Cordova, Sacramento County, as shown in Attachment B.

According to the Discharger's RWD, the Facilities treat extracted groundwater primarily containing volatile organics (VOCs) and/or perchlorate and/or n-nitrosodimethylamine (NDMA). These pollutants originated, for the most part, from historical rocket-testing and chemical manufacturing operations on the Aerojet site.

The groundwater the Facilities extract contains solvents consisting primarily of VOCs, such as trichloroethylene (TCE), chloroform, vinyl chloride (VC), 1,2-dichloroethylene (1,2-DCE), 1,1-dichloroethylene (1,1-DCE), and tetrachloroethylene (PCE), perchlorate, n-nitrosodimethylamine (NDMA), and 1,4-dioxane. Various treatment methods are used to reduce the pollutants down to acceptable levels prior to discharge

A. Description of Wastewater and Biosolids Treatment or Controls

1. VOCs can be easily removed from the extracted groundwater using a variety of treatment processes. Aerojet uses air-stripping, carbon adsorption (GAC), and ultraviolet or ozone oxidation in different combinations to remove the VOCs. At GET facilities that have high concentrations of VOCs Aerojet uses ultraviolet oxidation or oxidation using ozone, along with hydrogen peroxide, to destroy a majority of the VOCs, utilizing air stripping or GAC to remove residual VOCs. For lower concentrations of VOCs, GAC alone is utilized. Spent GAC is trucked to a permitted destruction facility.

2. Perchlorate is removed from the extracted groundwater using either biological reduction or ion-exchange. Biological reduction is performed by growing bacteria on carbon or sand in a fluidized bed reactor. Ethanol is injected into the influent to provide food for the bacteria. The bacteria will remove oxygen and nitrate prior to destroying the perchlorate. Biosolids are generated as bacteria material is removed from the system. The biosolids are collected on sand filters and the filters periodically backwashed. The backwash water proceeds through a clarifier to remove the solids prior to discharge. The solids collected in the clarifier and trucked to the sanitary sewer and the supernatant off of the clarifier is returned to the treatment process. The ion-exchange process uses a perchlorate-specific ion exchange resin that is disposed of when the resin's capacity for taking up perchlorate is

exhausted. The resin is then replaced with fresh resin and the spent resin taken to a permitted disposal facility.

3. Removal of NDMA is accomplished using ultraviolet light oxidation in combination with hydrogen peroxide.

4. ARGET Facility. The American River Study Area (ARSA) treatment system is on the Aerojet site. The facility was constructed in 1997 and originally consisted of ultraviolet/peroxide treatment to reduce concentrations of volatile organic compounds (VOCs) and 1,4-dioxane, and air-stripping to remove any remaining VOCs. This facility has been shown to remove VOCs to below detection levels (0.5 µg/L) and 1,4-dioxane to below its detection level (2-10 µg/L). This facility is designed to treat up to 3500 gallons per minute (gpm). Aerojet is modifying the VOC-removal portion of the facility to utilize ozone/hydrogen peroxide to remove the chlorinated ethene VOCs and 1,4-dioxane at a lower cost than the ultraviolet light system. Treatment for removal of low concentrations of perchlorate may be added in the future as the flow from new extraction wells are brought to the facility and the influent concentrations of perchlorate increase.

5. GET E/F Facility. The GET E/F facility is also on Aerojet property. GET E and GET F were originally constructed in the mid-1980's and were subsequently combined into one facility in 2000. The combined facility uses biological reduction to remove perchlorate, ultraviolet light/hydrogen peroxide to destroy NDMA and most of the VOCS, and air stripping to remove the remainder of VOCs from up to 6000 gpm of influent. There is also a sand filter and clarifier for solids control. The solids from the clarifier are discharged to the sanitary sewer under a permit. The treatment process has been shown to be effective in removing VOCs to below detection levels (0.5 µg/L), perchlorate to below 4 µg/L, and NDMA to below detection (0.002 –0.0075 µg/L). Testing of the influent and effluent to the treatment facility for full-scan analysis, including tentatively identified compound analysis, did not indicate additional contaminants of concern.

6. GET H Facilities. The interim GET H facility is found on Reserve Drive in Rancho Cordova. It treats up to 1500 gpm using resin-adsorption to remove perchlorate to less than 4 µg/L, and granular activated carbon (GAC) to remove VOCs to less than 0.5 µg/L. The interim system has been expanded to include a second temporary treatment system on Reserve Drive with the same outfall location. The long-term GET H system, currently being designed and constructed, utilizes the same treatment methods, but will treat a greater flow of extracted groundwater, approximately 4450 gpm. The long-term GET H system is anticipated to be on-line in summer 2006 and will be in the north-central section of Mather Field. The interim facility has shown to be able to consistently meet effluent limitations.

7. GET J Facility. The GET J system is similar to GET H, but with the addition of ultraviolet treatment for the destruction of NDMA to less than 0.002 µg/L and particulate filtration to help the ultraviolet system. The system is designed to treat 4950 gpm and is found on Pyrites Way in Gold River. The GET J facility has shown to be capable of consistently meeting effluent limitations though it has had difficulty meeting the effluent limitation

utilizing only ultraviolet light. Aerojet is evaluating the capabilities and potential improvements of the existing NDMA treatment system.

8. GET K Facilities. The interim GET K uses ion-exchange (resin bed adsorption) to remove perchlorate and GAC to remove VOCs from an influent of 400gpm. The long-term GET K system, anticipated to be operational in early 2007, will add ultraviolet light and particulate removal for treatment of NDMA to the ion-exchange and GAC treatment units, and treat approximately 4000 gpm. The interim GET K facility is on Zinfandel Drive and the long-term facility will be near Haggin Park, both in Rancho Cordova. The interim facility will be decommissioned when the long-term facility becomes operational. The interim GET K facility has consistently met effluent limitations.

9. GET L/L1 Facilities. GET L is currently being designed and constructed and will be in Carmichael, near Ancil Hoffman Park. The facility will initially treat for NDMA using ultraviolet light. If, in the future, VOCs and/or perchlorate are determined to be approaching the extraction wells in the groundwater, VOC and/or perchlorate treatment will be added utilizing the same processes described above. Flow to the plant, anticipated to commence operation in 2006, is 2100 gpm. A satellite treatment system, GET L1, will likely be constructed in order to reduce pipeline lengths from extraction wells to GET L. A portion of the extracted flow (estimated to be 900 gpm) would be sent to GET L1 for processing using the same type of treatment as GET L. The total treated flow remains the same.

10. Sailor Bar Park Facility. The Sailor Bar Park system provides for removal of VOCs by GAC on a water supply well that is used to maintain the water elevation in the pond on Sailor Bar Park. The flow through the treatment plant is intermittent and is a maximum of 250 gpm. The park is on the north side of the American River adjacent to the village of Fair Oaks.

11. Chettenham Facility. Aerojet is currently negotiating with California American Water Company (CalAm), owner of the Chettenham Well, to use the Chettenham Well on an interim basis as an extraction point to control a portion of the groundwater pollution. Wellhead treatment consisting of ion exchange for perchlorate removal would be installed on the well and the discharge would be to the Boyd Station Channel. If the Chettenham Well will not be used for control of the plume, a dedicated extraction may be constructed and the extracted groundwater piped to the GET H treatment system. The Chettenham Well currently contains no pollutants requiring treatment to meet effluent limitations. The well may be operated without treatment for a period of time prior to Aerojet committing to adding treatment as the upgradient GET J system may be providing sufficient plume containment to protect the Chettenhanm Well.

12. Groundwater Extraction Well Aquifer Test Water and Well purge and development water. After construction of an extraction well Aerojet will perform an aquifer test on the well for up to 4 days. The purpose of the test is to provide information that will allow design of a GET system for treatment of water generated by an extraction field. The aquifer test water is passed through a portable treatment system designed using the type of treatment systems

described above to remove the suspected pollutants. Under the previous permit, Aerojet was able to meet consistently meet effluent limitations with the portable system. Aerojet also develops and purges wells prior to sampling. Treatment is applied as needed to remove the pollutants.

B. Discharge Points and Receiving Waters

1. Treated groundwater is discharged from Discharges 001, 002 and 005 (respectively, ARGET, GET E/F, GET J) to Buffalo Creek (tributary to the American River). Discharges 003 and 004 (Interim GET H and GET H) are to Morrison Creek (tributary to the Sacramento River). Discharges 006 (Interim GET K) 007 (GET K), 008 (GET L), 009 (GET L1) and 011 (Chettentham Well) are to drainage channels to the American River between the Sunrise Boulevard and Watt Avenue overcrossings. Discharge 010 (Sailor Bar Park) is to a pond in Sailor Bar Park, with a potential for overflow to the American River. Sacramento County requested during development of the previous permit to allow for the potential discharge from some or all of the GETs covered in this permit to Alder Creek and/or the Natomas Stilling Basin, to assist in their reuse of treated groundwater. The previous permit and this permit included a provision allowing for the discharge to Alder Creek/Natomas Stilling Basin pending completion of an acceptable study of the potential thermal impacts on Alder Creek/American River. In addition, in the future the County may pipe the GET H discharge (004) to the Boyd Station Channel in order to better accommodate reuse projects for the water.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

1. Effluent limitations/Discharge Specifications contained in the existing Order for discharges from Discharge Point 001 and representative monitoring data since July 1998 from the term of the previous Order are as follows:

Parameter (units)	Average Monthly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
1,4-dioxane (µg/L)	3	10	<3	<3
Perchlorate (µg/L)	4	8	<4	<4
Copper (µg/L)	11	17	29	29
N-itrosodimethylamine (µg/L)	0.002	0.005	0.001	0.0023
Trichloroethylene (µg/L)	--	0.5	0.7	1.4
1,2-Dichloroethane (µg/L)	0.38	0.5	0.25	0.45
Lead (µg/L)	15	2.5	1.3	2.7
Acetaldehyde (µg/L)	--	5	5.0	7.0
Formaldehyde (µg/L)	--	50	30	36
Zinc (µg/L)	110	100	21	42

2. The RWD and Aerojet Monitoring describe the discharges as follows:

ARGET

Constituent	Units	Maximum Daily
Flow	mgd	5.4
pH	Standard Units	7.8-8.3
COD	mg/L	<3
Total Suspended Solids	mg/L	<6
Chlorides	mg/L	15
Sulfate	mg/L	12
Manganese	mg/L	0.02
Aluminum	mg/L	<0.030
Iron	mg/L	<0.040
Zinc	mg/L	0.020
Arsenic	mg/L	<0.002
Lead	mg/L	<0.005
Hardness (as $CaCO_3$)	mg/L	130
Barium	mg/L	0.07
Copper	mg/L	0.027
Chromium	mg/L	<0.002
Nickel	mg/L	<0.005
All VOCs	mg/L	<0.0005
Perchlorate	mg/L	0.007

GET E/F

Constituent	Units	Maximum Daily
Flow	mgd	8.64
pH	Standard Units	7.2-8.2
COD	mg/L	<3
Total Suspended Solids	mg/L	<6
Chlorides	mg/L	6.6
Sulfate	mg/L	15
Manganese	mg/L	0.07
Aluminum	mg/L	<0.050
Iron	mg/L	0.050
Zinc	mg/L	<0.050
Arsenic	mg/L	<0.002
Lead	mg/L	<0.002
Hardness (as $CaCO_3$)	mg/L	110
Barium	mg/L	0.1
Copper	mg/L	<0.003
Chromium	mg/L	<0.002
Nickel	mg/L	<0.005
All VOCs	mg/L	<0.0005
Perchlorate	mg/L	<0.004

GET H/CHETTENHAM WELL

Constituent	Units	Maximum Daily
Flow	mgd	6.39
pH	Standard Units	7.6-7.8
COD	mg/L	<3
Total Suspended Solids	mg/L	<6
Chlorides	mg/L	4.4
Sulfate	mg/L	3.3
Manganese	mg/L	0.07
Aluminum	mg/L	<0.050
Iron	mg/L	<0.050
Zinc	mg/L	<0.050
Arsenic	mg/L	<0.002
Lead	mg/L	<0.002
Hardness (as $CaCO_3$)	mg/L	53
Barium	mg/L	0.046
Copper	mg/L	<0.003
Chromium	mg/L	<0.002
Nickel	mg/L	<0.005
All VOCs	mg/L	<0.0005
Perchlorate	mg/L	<0.004

GET J

Constituent	Units	Maximum Daily
Flow	mgd	7.17
pH	Standard Units	6.8-7.6
COD	mg/L	<3
Total Suspended Solids	mg/L	<6
Chlorides	mg/L	6.6
Sulfate	mg/L	15
Manganese	mg/L	0.07
Aluminum	mg/L	<0.050
Iron	mg/L	0.050
Zinc	mg/L	<0.050
Arsenic	mg/L	<0.002
Lead	mg/L	<0.002
Hardness (as $CaCO_3$)	mg/L	160
Barium	mg/L	0.18
Copper	mg/L	<0.003
Chromium	mg/L	<0.002
Nickel	mg/L	<0.005
All VOCs	mg/L	<0.0005
Perchlorate	mg/L	<0.004

GET K

Constituent	Units	Maximum Daily
Flow	mgd	7.17
pH	Standard Units	7.7-7.8
COD	mg/L	<3
Total Suspended Solids	mg/L	<6
Chlorides	mg/L	4.4
Sulfate	mg/L	3.3
Manganese	mg/L	0.07
Aluminum	mg/L	<0.050
Iron	mg/L	0.050
Zinc	mg/L	<0.050
Arsenic	mg/L	<0.002
Lead	mg/L	<0.002
Hardness (as $CaCO_3$)	mg/L	110
Barium	mg/L	0.110
Copper	mg/L	<0.003
Chromium	mg/L	<0.002
Nickel	mg/L	<0.005
All VOCs	mg/L	<0.0005
Perchlorate	mg/L	<0.004

GET L/L1

Constituent	Units	Maximum Daily
Flow	mgd	3.0
pH	Standard Units	6.4-9.0
Chlorides	mg/L	6.4
Sulfate	mg/L	7.1
Manganese	mg/L	0.07
Aluminum	mg/L	<0.005
Iron	mg/L	0.050
Zinc	mg/L	<0.050
Arsenic	mg/L	<0.002
Lead	mg/L	<0.002
Hardness (as $CaCO_3$)	mg/L	110
Barium	mg/L	0.18
Copper	mg/L	<0.003
Chromium	mg/L	<0.002
Nickel	mg/L	<0.005
All VOCs	mg/L	<0.0005
Perchlorate	mg/L	<0.004

D. Compliance Summary

ARGET, GET E/F, GET H, GET J and Sailor Bar Park Well discharges have been in substantial compliance with effluent limitations since the inception of the discharges from

those facilities. There have been two detections of TCE in the GET E/F effluent at slightly above the effluent limitation of 0.50 µg/L (maximum 0.8 µg/L). These excursions were not verified by follow-up sampling by Aerojet or Regional Board staff. Other effluent limitation excursions were for exceedances of the daily maximum effluent limit for copper for the ARGET effluent. Twice in the past two years copper has been detected at up to 29 µg/L (limit of 17 µg/L). The effluent limitation does not allow for dilution in the receiving water. There have been no violations of receiving water limitations for any of the discharges.

E. Planned Changes

As stated above in Sections II(A) and II(B), Aerojet will be eliminating the two temporary GET facilities, Interim GET H (Discharge 003) and Interim GET K (Discharge 007), and replacing them with a larger facilities at new locations, GET H (Discharge 004) and GET K (Discharge 008) during the life of this permit. The interim GET K facility may operate longer depending on the need for additional pollutant removal. A treatment facility may be constructed on the Chettenham Water Supply Well (Discharge 011), the Chettenham Well may be operated without treatment, or a dedicated extraction well will be constructed near the Chettentham well with the extracted water being treated at GET H. This decision on whether or not to operate the Chettenham well should happen in the near future. In addition, in order to more easily reuse the treated groundwater, Sacramento County may redirect Discharge 004 to the Boyd Station Channel for ultimate discharge to the American River. The County is developing a plan for reuse of the treated groundwater and will develop the necessary CEQA documents. Revision of the permit will necessary prior to taking Discharge 004 to the Boyd Station Channel. The County may also redirect the discharges from ARGET and/or GET E/F to the Natomas Stilling Basin or Alder Creek. Prior to doing so, a thermal impact study will need to be completed that demonstrates that there are no adverse impacts with discharging to the new location(s). The CEQA document will evaluate the thermal impacts.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from these facilities to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.

B. California Environmental Quality Act (CEQA)

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with

Section 13389 of the CWC. The Department of Toxic Substances Control certified a final Negative Declaration and Initial Study for the American River Study Area project in accordance with CEQA and State CEQA Guidelines. The Board has reviewed the negative declaration and these waste discharge requirements will mitigate or avoid any significant impacts on water quality due to the discharges from the ARGET facility.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan.

   The Basin Plan at page II-2.00 states that the beneficial uses of any specifically identified water body generally applies to its tributary streams. The Basin Plan does not specifically identify beneficial uses for Buffalo Creek, Alder Creek or Sailor Bar Park Pond, but does identify present and potential uses for the American River, to which Buffalo Creek, Alder Creek and potentially Sailor Bar Park Pond are tributary. In addition the Basin Plan does not specifically identify beneficial uses for Morrison Creek, but does identify present and potential uses for the Sacramento River, to which Morrison Creek is tributary. These beneficial uses of the American and Sacramento Rivers are municipal and domestic supply (MUN); agricultural supply, irrigation and stock watering (AGR); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); warm and cold migration of aquatic organisms (MIGR); warm and cold spawning (SPWN); wildlife habitat (WILD). The Sacramento River has an additional designated beneficial use of navigation (NAV). In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Thus, as discussed in detail in this Fact Sheet, beneficial uses applicable to the American River, Buffalo Creek, Alder Creek, Morrison Creek and the Sailor Bar Park Pond are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
001, 002 and 005	Buffalo Creek and Alder Creek, Tributaries of the American River	Existing: MUN, AGR, IND, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
003/004	Morrison Creek, Tributary of the Sacramento River	Existing: MUN, AGR, IND, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
004, 006, 007, 008, 009 and 011	American River	Existing: MUN, AGR, IND, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
010	Sailor Bar Pond, Potentially tributary to American River	Existing: MUN, AGR, IND, REC-1, REC-2, WARM, COLD, WILD.

The Basin Plan on page II-1.00 states: "*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...*" *and with respect to disposal of wastewaters states that "...disposal of wastewaters is* [not] *a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*"
The federal Clean Water Act, Section 101(a)(2), states: "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983." Federal Regulations, developed to implement the requirements of the Clean Water Act, create a rebuttable presumption that all waters be designated as fishable and swimable. Federal Regulations, 40 CFR Sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after November 28, 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR Section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

In reviewing whether the existing and/or potential uses of the American and Sacramento River apply to Buffalo Creek, Alder Creek, and Sailor Bar Park Pond, and Morrison Creek, respectively, the Regional Water Board has considered the following facts:

a. **Domestic Supply and Agricultural Supply**

The Regional Water Board is required to apply the beneficial uses of municipal and domestic supply to Buffalo Creek, Alder Creek, Morrison Creek and Sailor Bar Park Pond based on State Water Board Resolution No. 88-63 which was incorporated in the Basin Plan pursuant to Regional Water Board Resolution No. 89-056.

b. **Water Contact and Noncontact Recreation and Esthetic Enjoyment**

The Regional Water Board finds that the discharges flow through residential areas, there is ready public access to the receiving waters, exclusion of the public is unrealistic and contact recreational activities currently exist along Buffalo Creek, Alder Creek, Morrison Creek and Sailor Bar Park Pond and downstream waters. Prior to flowing into the American River, Buffalo Creek, Alder Creek and Morrison Creek flow through areas of general public access, meadows, and residential and commercial areas. Sailor Bar Park Pond is accessible to the public and is used for fishing. The American and Sacramento Rivers offer considerable recreational opportunities.

c. **Preservation and Enhancement of Fish, Wildlife, and Other Aquatic Resources**

Buffalo Creek, Alder Creek and the Sailor Bar Park pond flow to the American River. It is highly unlikely that the overflow from Sailor Bar Park would ever directly reach

the American River due to the dredger tailings through which the overflow must traverse. However, there is a potential for the pond to indirectly discharge to the American River via a subsurface pathway. The Basin Plan (Table II-1) designates the American River as being both a cold and warm freshwater habitat; wildlife habitat; warm and cold migration of aquatic organisms; and warm and cold spawning, reproduction, and/or early development of freshwater organisms. The American River supports significant aquatic life, and therefore these beneficial uses apply to it's tributaries. Morrison Creek flows to the Sacramento River. The Basin Plan (Table II-1) designates the Sacramento River below the American the confluence with American River as being both a cold and warm freshwater habitat; wildlife habitat; warm and cold migration of aquatic organisms; and warm spawning, reproduction, and/or early development of freshwater organisms. The Sacramento River supports significant aquatic life, and therefore these beneficial uses apply to it's tributaries

Upon review of the flow conditions, habitat values, and beneficial uses of Buffalo Creek and Alder Creek, and Morrison Creek, and the facts described above, the Regional Water Board finds that the beneficial uses identified in the Basin Plan for the American River and Sacramento River are applicable to Buffalo Creek and Alder Creek, and Morrison Creek, respectively, in the vicinity of the discharges. Given the location of the Sailor Bar Park Pond, the beneficial uses of SPWN and MIGR are not applicable.

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.

3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995 and November 9, 1999, and the CTR on May 18, 2000, which was amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.

4. **State Implementation Policy.** On March 2, 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The SIP includes procedures for determining the need for and calculating water quality-based effluent limitations (WQBELs), and requires Dischargers to submit data sufficient to do so.

5. **Compliance Schedules and Interim Requirements.** In accordance with Section 2.1 of the SIP, compliance schedules and interim requirements may only be granted to existing

discharges. Two of the existing discharges, ARGET (Discharge 001) and GET J (Discharge 005) have compliance schedules and associated interim requirements.

The ARGET facility currently has 4 to 6 µg/L perchlorate in the influent to the facility. Concentrations of perchlorate have historically been as high as 8 µg/L in the effluent. The previous effluent limit was 12 µg/L perchlorate as it was determined not to be cost effective to reduce the concentrations from 6 µg/l to 4 µg/L and there was significant dilution available in the American River. The Discharger has proposed adding additional groundwater extraction wells in the future, with treatment at the ARGET facility. Those additional extraction wells currently are treated at the GET D facility, with discharge to land. The influent at the GET D facility contains approximately 200 µg/L perchlorate. Prior to adding those extraction wells the Discharger will add facilities to remove perchlorate at ARGET. Once the treatment facilities are added, the Discharger will be able to meet the same effluent limits established for the other GET facilities. Therefore, interim effluent limits (until January 2009) for perchlorate are established at 11 µg/L for daily maximum and monthly averages. In the interim, mixing of the ARGET effluent with the effluent from GETE/F in Buffalo Creek (<4 µg/L perchlorate) will keep the perchlorate concentration below the WQO fore perchlorate of 6 µg/L.

The GET J treatment system utilizes low-watt ultraviolet light for the destruction of NDMA. Operation of this system to date has shown that there are periodic detections (estimated >0.005 µg/L) in the effluent from the treatment facility. This is greater than the Monthly Average Limitation of 0.002 µg/L. The ability of the treatment system to consistently remove low concentrations of NDMA in the influent to at or below 0.002 µg/L is not certain. The design of the system was based on a pilot test at the Discharger's GET B facility and the data extrapolated to the lower concentrations needed to meet effluent limitations. The Discharger is evaluating options for treatment of NDMA at GET J. In the interim, the effluent limitation for GET J is established in at 0.008 µg/L, the Notification Level for NDMA established by the California Department of Health Services. Mixing of the GET J effluent with that from GET E/F and ARGET, both non-detect for NDMA, in Buffalo Creek will reduce the concentration of NDMA in Buffalo Creek to approximately at 0.002 µg/L, the WQO and final effluent limitation for NDMA. The Discharger has been given until January 2008 to complete the studies and make the necessary modifications to GET J to meet the final effluent limitation of 0.002 µg/L NDMA.

6. **Antidegradation Policy.** The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

7. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR Section122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. The effluent limits are at least as stringent as those in contained in the previous order. There are

new facilities added in this permit, therefore anti-backsliding provisions do not apply to those new facilities.

D. Impaired Water Bodies on CWA 303(d) List

1. The Basin Plan includes a list of Water Quality Limited Segments (WQLSs), which are defined as "*...those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 CFR 130, et seq.).*" The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to WQLSs. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment.*" The listing for the western portion Sacramento-San Joaquin Delta waterways includes: diazinon and chlorpyrifos, organo-chlorine Group A pesticides, mercury, and unknown toxicity. The listing for the American River includes mercury and unknown toxicity. There have been no detections of mercury, diazanon, chlorpyrifos, or organo-chlorine Group A pesticides in the effluent from the GETs nor in the plumes of groundwater pollution captured by the GETs. Buffalo Creek, Alder Creek and Morrison Creek are not listed on the 303(d) list.

E. Other Plans, Policies and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.

The federal Clean Water Act (CWA) mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law. (33 U.S.C., Section 1311(b)(1)(C); 40 C.F.R., Section 122.44(d)(1)) NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to Federal Regulations, 40 C.F.R. section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that "*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality.*" Federal Regulations, 40 CFR, Section 122.44(d)(1)(vi), further provide that "[w]*here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits.*"

The Regional Water Board's Basin Plan, page IV-17.00 contains an implementation policy ("Policy for Application of Water Quality Objectives") that specifies that the Regional Water

Board "*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives*." This Policy complies with 40 CFR 122.44(d)(1). With respect to narrative objectives, the Regional Water Board must establish effluent limitations using one or more of three specified sources, including EPA's published water quality criteria, a proposed state criterion (*i.e.*, water quality objective), or an explicit state policy interpreting its narrative water quality criteria (*i.e.*, the Regional Water Board's "Policy for Application of Water Quality Objectives")(40 C.F.R. 122.44(d)(1) (vi) (A), (B) or (C)). The Basin Plan contains a narrative objective requiring that: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*". The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. The beneficial uses include MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, and WILD. The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as municipal, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCL) of CCR Title 22. The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs. When a reasonable potential exists for exceeding a narrative objective, Federal Regulations mandate numerical effluent limitations and the Basin Plan clearly establishes a procedure for translating the narrative objectives into numerical effluent limitations.

A. Discharge Prohibitions

1. As stated in Section I.G of Attachment D, Federal Standard Provisions, this Order prohibits bypass from any portion of the treatment Facility. Federal Regulations, 40 CFR 122.41 (m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the Federal Regulations, 40 CFR 122.41 (m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board's prohibition of bypasses, the State Water Resources Control Board adopted a presidential decision, Order No. WQO 2002-0015, which cites the Federal Regulations, 40 CFR 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation. In the case of United States v. City of Toledo, Ohio (63 F. Supp 2d 834, N.D. Ohio 1999) the Federal Court ruled that "any bypass which occurs because of inadequate plant capacity is unauthorized…to the extent that there are 'feasible alternatives', including the construction or installation of additional treatment capacity".

B. Technology-Based Effluent Limitations

1. Scope and Authority

a. As specified in 40 CFR Section122.44(a)(1), permits are required to include technology based effluent limitations

2. Applicable Technology-Based Effluent Limitations

a. **Volatile Organic Compounds (VOCs).** The effluent limits for VOCs are based on Best Available Technology utilizing either air stripping or carbon adsorption which have been demonstrated to readily reduce VOCs to below 0.5 µg/L. The 0.5µg/L effluent limitation is below the Water Quality Based Effluent Limits (WQBEL) calculated below for VOCs of concern, with the exception of 1,2-Dichloroethane. The WQBEL will be used for 1,2-Dichloroethane. Carbon adsorption and ultraviolet light are not entirely effective on the removal of chloroform at low concentrations. GET J has low concentrations of chloroform (1 µg/L) and relying on removal to 0.5 µg/L by carbon increases the cost of operating GET J by over $500,000 per year. The effluent limit for chloroform for GET J is set at 3 µg/L which will meet the WQBEL for chloroform of 1.1 µg/L in Buffalo Creek. The proposed effluent limitations are consistent with those found in the existing Order.

b. **Perchlorate.** The monthly average effluent limitation for perchlorate is established at 4 µg/L, a value that the Discharger, utilizing commercially available technology at GET E/F, Interim GET H, GET and Interim GET K, has shown to be capable of technically and economically meeting on a consistent basis

c. **Flow.** This Order contains a maximum daily and long term average effluent limitations of 5.4 mgd for ARGET, 8.64 mgd for GET E/F, 6.39 mgd for GET H/Chettentham, 7.17 mgd for GET J, 0.72/5.76 mgd for interim GETK/longterm GET K, 3.1 mgd, 1.56 for GET L/L1, and 0.36 mgd for Sailor Bar Park Well based on the maximum daily effluent flows reported in Aerojet's RWD. In accordance with 40 CFR Section 122.45, this Order includes mass effluent limitations based on the long term average effluent flows listed above and reported in the Discharger's RWD.

3. Final Technology-Based Effluent Limitations

Table F-1 summarizes the final technology-based effluent limitations established in this Order.

Table F-1
Summary of Technology-based Effluent Limitations
Discharge Points 001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
ARGET Flow	mgd	5.4	--	5.4	--	--
GET E/F Flow	mgd	8.64		8.64		
GET H/Chettenham Flow	mgd	6.39		6.39		

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
GET J Flow	mgd	7.17		7.17		
Interim GET K Flow	mgd	0.58		0.72		
Long-term GET K Flow	mgd	5.76		5.76		
GET L/L1 Flow	mgd	3.03		3.03		
Sailor Bar Park Well Flow	mgd	0.36		0.36		
VOCs[1]	µg/L	0.5		0.75		
Perchlorate[2]	µg/L	4.0		6.0		
N-nitrosodimethylamine	µg/L	0.002		0.005		
chloroform – GET J	µg/L	3.0		5.0		

1 1,2-dichloroethane has a WQBELs listed below that are more stringent than the 0.5 µg/L listed on this table.

2 In the existing permit ARGET has an effluent limitation of 10 µg/L for a monthly average and 18 µg/L for a daily maximum. The current ARGET influent is between 4 and 6 µg/L. As planned new extraction wells are added and their extracted groundwater sent to the ARGET facility, treatment for removal of perchlorate will be added and the effluent limitations will be the same as those for the other treatment facilities.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in 40 CFR Section122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. **Beneficial Uses.** The Basin Plan at page II-2.00 states that the beneficial uses of any specifically identified water body generally applies to its tributary streams. The Basin Plan does not specifically identify beneficial uses for Buffalo Creek and Alder Creek, or Morrison Creek, tributary to the American River and Sacramento River, respectively, but does identify present and potential uses for the American and Sacramento Rivers. These beneficial uses are municipal and domestic supply (MUN); agricultural supply, irrigation and stock watering (AGR); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); warm and cold migration of aquatic organisms (MIGR); warm and cold spawning (SPWN); wildlife habitat (WILD). In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin

Plan. Thus, as discussed in detail in this Fact Sheet, beneficial uses applicable to the American River, Sacramento River, Buffalo Creek, Alder Creek, Morrison Creek and Sailor Bar Park Pond are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
001, 002 and 005	Buffalo Creek and Alder Creek, Tributary of the American River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
003	Morrison Creek, Tributary of the Sacramento River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
004, 006, 007, 008, 009, 011 and 012	American River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.
010	Sailor Bar Pond, Potentially tributary to American River	Existing: MUN, AGR, REC-1, REC-2, WARM, COLD, MIGR, SPWN, WILD.

b. **Dilution Credits/Mixing Zones.** The Regional Board finds that based on the available information that three of the receiving waters, Buffalo Creek, Morrison Creek and Alder Creek, and on the Discharger's application, that these three creeks, absent the discharges, are ephemeral streams, or at times the flow upstream of the discharges is significantly less than that of the discharge. The ephemeral an/or low flow nature of the creeks means that the designated beneficial uses must be protected, but that no credit for receiving water dilution is available. Although the discharge, at times, maintains the aquatic habitat, constituents may not be discharged that may cause harm to aquatic life. At other times, natural flows within the creeks help support the aquatic life. Dry conditions occur primarily in the summer months, but dry conditions may also occur throughout the year, particularly in low rainfall years. The lack of dilution results in more stringent effluent limitations to protect contact recreational uses, drinking water standards, agricultural water quality goals and aquatic life. Therefore, the Regional Water Board has evaluated the need for water quality-based effluent limitations for pollutants without benefit of dilution in this Order. These water quality-based effluent limitations are based on the application of water quality criteria or objectives at the points of discharge.

c. **Hardness.** The minimum effluent hardness, maximum receiving water pH limitation, and measured effluent temperature were used to develop hardness, pH, and/or temperature dependent WQBELs. These worst-case values have been chosen to protect the beneficial uses of the receiving water and are summarized below:

Hardness:	130 mg/L
pH:	8.5 standard units
Temperature:	21 °C

3. Determining the Need for WQBELs

a. Reasonable potential (RP) was determined by calculating the projected maximum effluent concentration (MEC) for each constituent and comparing it to applicable water quality criteria; if a criterion was exceeded, the discharge was determined to have reasonable potential to exceed a water quality objective for that constituent. The projected MEC is determined by multiplying the observed MEC by a factor that accounts for statistical variation. The multiplying factor is determined (for 99% confidence level and 99% probability basis) using the number of results available and the coefficient of variation (standard deviation divided by the mean) of the sample results. In accordance with the SIP, non-detect results were counted as one-half the detection level when calculating the mean. For all constituents for which the source of the applicable water quality standard is the CTR or NTR, the multiplying factor is 1. Reasonable potential evaluation was based on the methods used in the SIP and the U.S. EPA Technical Support Document for Water Quality-Based Toxics Control [EPA/505/2-90-001].

b. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs the Regional Water Board finds that the discharge does have a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for copper. Effluent limitations for copper are included in this Order.

c. The reasonable potential analysis for detected constituents is summarized below in Table F-2.

Table F-2.
RPA Summary for Detected Constituents
Discharges 001-012

Parameter	Units	MEC[1]	99th MEC[1]	WQO/ WQC[2]	Source	RP[3]
Perchlorate	µg/L	4	4	6	OEHHA Public Health Goal	Y
NDMA	µg/L	0.005	0.005	0.002	CTR HH	Y
Copper	µg/L	27	27	12/18	CTR CCC/CMC	Y
Mercury	µg/L	0.001	0.001	0.05	CTR HH	N
Nickel	µg/L	13	13	65/590	CTR CCC/CMC	N
Zinc	µg/L	42	42	150	CTR CCC/CMC	N
Barium	µg/L	90	124	1000	California Primary MCL	N
Iron	µg/L	55	75	300	California Secondary MCL	N
Manganese	µg/L	<5	23	50	California Secondary MCL	N
Chloride	mg/L	13	39	106	Water Quality for Agriculture	N
Nitrate	mg/L	0.8	4	10	California Primary MCL	N
Sulfate	mg/L	12	60	250	California Secondary MCL	N
Electrical Conductivity	umhos/cm	210	230	700	Water Quality for Agriculture	N

Parameter	Units	MEC[1]	99th MEC[1]	WQO/ WQC[2]	Source	RP[3]
Total Dissolved Solids	mg/L	220	260	450	Water Quality for Agriculture	N

1. MEC: maximum effluent concentration. 99th MEC: maximum predicted effluent concentration using 99th percentile multiplier, note that multiplier is equal to "1" when applying CTR criteria.
2. WQO: water quality objective. WQC: water quality criteria.
3. Reasonable potential.
4. Indeterminate, inadequate information to establish limitations. See discussion below.
5. Reasonable potential found due to use of salt at the facility

d. **Copper.** Copper is known to cause adverse impacts on aquatic species, particularly fish. The Basin Plan's chemical constituents water quality objective has a copper limit for the American River of 0.01 mg/L. Furthermore, the same water quality objective prohibits chemical constituents in concentrations that adversely affect beneficial uses. Applying a hardness of 130 mg/L (worst case effluent hardness) the allowable continuous concentration is 0.011 mg/L and the allowable instantaneous concentration is 0.017 mg/L.

e. **pH.** The Basin Plan includes numeric water quality objectives that the pH "…not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses." The receiving water is designated as having both COLD and WARM beneficial uses. An effluent limitation for pH is included in this Order, and is based on the Basin Plan objectives for pH.

f. **1,2-Dichloroethane.** 1,2-Dichloroethane has not been detected in the effluent of the GET facilities (PQL of 0.5 µg/L) but has been detected in the groundwater contaminant plumes. The estimated incremental $1x10^{-6}$ excess cancer risk value established by the Office of Environmental Health Hazard Assessment for the State of California for this volatile organic is 0.38 µg/L. As there is little to no dilution in Buffalo Creek and Morrison Creek, the monthly average effluent limitation is established at the risk value.

g. **Perchlorate.** Perchlorate has been determined to have a potential adverse impact on the thyroid. The California Office of Health Hazard Assessment has developed a Public Health Goal for perchlorate of 6 µg/L. Concentrations below 6 µg/L would pose a *de minimus* risk to human health.

h. **NDMA.** NDMA is believed to be a human carcinogen at very low concentrations. The estimated incremental $1x10^{-6}$ excess cancer risk value established by the Office of Environmental Health Hazard Assessment for the State of California for this pollutant is 0.002 µg/L. As there is little to no dilution in Buffalo Creek and Morrison Creek, the monthly average effluent limitation is established at the risk value.

4. WQBEL Calculations

a. The Discharger conducted monitoring for priority and non-priority pollutants. The analytical results of one comprehensive sampling event were submitted to the Regional

Water Board. The results of this sampling event were used in developing the requirements of this Order. Effluent limitations are included in this Order to protect the beneficial uses of the receiving stream and to ensure that the discharge complies with the Basin Plan objective that toxic substances not be discharged in toxic amounts.

b. **Calculations for Effluent Limitations.** In calculating maximum effluent limitations, the effluent concentration allowances were set equal to the criteria/standards/objectives.

$$ECA_{acute} = CMC \qquad ECA_{chronic} = CCC$$

$$ECA_{HH} = HH$$

where: ECA_{acute} = effluent concentration allowance for acute (one-hour average) toxicity criterion
$ECA_{chronic}$ = effluent concentration allowance for chronic (four-day average) toxicity criterion
ECA_{HH} = effluent concentration allowance for human health, agriculture, or other long-term criterion/objective
CMC = criteria maximum concentration (one-hour average)
CCC = criteria continuous concentration (four-day average, unless otherwise noted)
HH = human health, agriculture, or other long-term criterion/objective

Acute and chronic toxicity ECAs were then converted to equivalent long-term averages (LTA) using statistical multipliers and the lowest is used. Additional statistical multipliers were then used to calculate the maximum daily effluent limitation (MDEL) and the average monthly effluent limitation (AMEL). The statistical multipliers were calculated using data shown in Table 1.

Human health ECAs are set equal to the AMEL and a statistical multiplier is used to calculate the MDEL.

$$MDEL = mult_{MDEL}\left[\min\left(\overbrace{M_A ECA_{acute}}^{LTA_{acut}}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}}\right)\right]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}}\right) AMEL_{HH}$$

where: $mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
$mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
M_A = statistical multiplier converting CMC to LTA
M_C = statistical multiplier converting CCC to LTA

c. **Mass-based Effluent Limitations.** In accordance with 40 CFR 122.45(b)(2), mass-based limitations are calculated by multiplying the concentration limitation by the long-

term average flow and the appropriate unit conversion factors. Mass based limits are found in Tables IV(A)(1) through IV(A)(12).

Mass-based effluent limitations, or mass emission rates (MERs), for WQBELs applicable to Discharge 001-011 are calculated as follows:

$$MER = 8.34\left(\frac{lb-L}{mg-gal}\right) \times AMEL-or-MDEL \times flow(mgd)$$

d. Final WQBELs. Table F-3 summarizes the final WQBELs contained in this Order.

Table F-3
Discharge Points 001-011

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
perchlorate	µg/L	6				
NDMA	µg/L	0.002				
Total Copper	µg/L	11	--	17	--	--
pH	standard units	--	--	--	6.5	8.5
1,2-DCA	µg/L	0.38	--	0.50	--	--

5. Whole Effluent Toxicity (WET)

The Basin Plan specifies a narrative objective for toxicity, requiring that "All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life." Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration and/or other appropriate methods as specified by the Regional Water Board. The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for "experimental water" as defined in Standard Methods for the Examination of Water and Wastewater (American Public Health Association, et al. 1992).

In addition to the Basin Plan requirements, Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters.

Numeric water quality criteria, or Basin Plan numeric objectives currently are not available for many of the aquaculture drugs and chemicals used by aquaculture facilities. Therefore, the Regional Water Board uses the narrative water quality objective for toxicity from the Basin Plan as a basis for determining "reasonable potential" for discharges of these drugs and chemicals. USEPA's *Technical Support Document Water Quality-based Toxics Control* (TSD) specifies two toxicity measurement techniques that can be employed in effluent characterization; the first is Whole Effluent Toxicity (WET) testing, and the second is chemical-specific toxicity analyses. Whole effluent toxicity (WET) requirements protect the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative "no toxics in toxic amounts" criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and generally measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. For fish hatcheries WET testing is used most appropriately when the toxic constituents in an effluent are not completely known; whereas chemical-specific analysis is more appropriately used when an effluent contains only one, or very few, well-known constituents.

D. Final Effluent Limitations

1. 40 CFR Section122.45 states that:

   "…All pollutants limited in permits shall have limitations…expressed in terms of mass except…[f]or pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass…Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations."

2. Tables F-4 and F-5summarizes the final technology-based and water quality-based effluent limits established in this Order.

Table F-4
Summary of Final Effluent Limitations
Discharge Points 001 through 011

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Discharge 001	mgd	5.0	5.4	--	--
Flow – Discharge 002	mgd	7.92	8.64		
Flow – Discharge 003	mgd	6.39	6.5		
Flow – Discharge 004	mgd	6.39	6.5		
Flow – Discharge 005	mgd	7.17	7.2		
Flow – Discharge 006	mgd	0.58	0.72		
Flow – Discharge 007	mgd	5.76	5.76		
Flow – Discharge 008	mgd	1.73	1.73		
Flow – Discharge 009	mgd	1.3	1.3		
Flow – Discharge 010	mgd	0.18	0.36		
Flow – Discharge 011	mgd	0.86	1.1		
Volatile Organic Contaminants	µg/L	0.5	0.7	--	--
1,2-Dichloroethane	µg/L	0.38	0.5	--	--
1,4-Dioxane	µg/L	3	6		
N-nitrosodimethylamine	µg/L	0.002	0.010	--	--
Perchlorate	µg/L	4	6		
Total Copper	µg/L	17	11	--	--
Acetaldehyde	µg/L	5	--	--	--
Formaldehyde	µg/L	50	--		
pH	standard units	--	--	6.5	8.5

Table F-5
Summary of Final Effluent Limitations
Discharge Point 012

Parameter	Units	Effluent Limitations			
		Total Maximum Discharge[1]	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow – Per Well Purge/Development Water	mgd	0.01	0.01		
Flow – Per Aquifer Test	mgd	4.6	1.15		
Volatile Organic Contaminants	µg/L	--	5.0	--	--
1,4-Dioxane	µg/L		10		
N-nitrosodimethylamine	µg/L		0.020	--	--
Perchlorate	µg/L		12		
pH	standard units	--	--	6.5	8.5

E. Interim Effluent Limitations

1. See Section IV(A)(2)(a) and IV(A)(6)(2).

Table F-6
Summary of Interim Effluent Limitations
Discharge Points 001 and 005

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Discharge 001 - Perchlorate	µg/L	11	11		
Discharge 005 - N-nitrosodimethylamine	µg/L	0.008	0.010	--	--

F. Land Discharge Specifications – Not Applicable

G. Reclamation Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. The Clean Water Act, Section 303(a-c), required states to adopt numeric criteria where they are necessary to protect designated uses. The Regional Water Board adopted numeric criteria in the Basin Plan. The Basin Plan is a regulatory reference for meeting the state and federal requirements for water quality control (40 CFR 131.20). State Water Board Resolution No. 68-16, the Antidegradation Policy, does not allow changes in water quality less than that prescribed in Water Quality Control Plans (Basin Plans). The Basin Plan states that; "The numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses." This Order contains Receiving Water Limitations based on the Basin Plan numerical and narrative water quality objectives for Biostimulatory Substances, Chemical Constituents, Color, Dissolved Oxygen, Floating Material, Oil and Grease, pH, Pesticides, Radioactivity, Salinity, Sediment, Settleable Material, Suspended Material, Tastes and Odors, Temperature, Toxicity and Turbidity.

2. Numeric Basin Plan objectives for bacteria, dissolved oxygen, pH, temperature, and turbidity are applicable to this discharge and have been incorporated as Receiving Surface Water Limitations. Rational for these numeric receiving surface water limitations are as follows:

   a. **Bacteria.** The Basin Plan includes a water quality objective that "*[I]n water designated for contact recreation (REC-1), the fecal coliform concentration based on*

a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml." Numeric Receiving Water Limitations for bacteria are included in this Order and are based on the Basin Plan objective.

b. **Dissolved Oxygen.** The Basin Plan includes a water quality objective that "[*F*]*or water bodies outside of the legal boundaries of the Delta, the monthly median of the mean daily dissolved oxygen (DO) concentrations shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation. The dissolved oxygen concentrations shall not fall below the following minimum levels at any time – Waters designated WARM – 5.0 mg/L, Waters designated COLD – 7.0 mg/L, and Waters designated SPAWN – 7.0 mg/L.* The American River is designated as having WARM, COLD, and SPAWN designated uses. Numeric Receiving Water Limitations for dissolved oxygen are included in this Order and are based on the Basin Plan objective.

c. **pH.** The Basin Plan includes water quality objectives that the pH "…not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses." The American River is designated as having both COLD and WARM beneficial uses. The change in pH of 0.5 (standard pH units) is not included as necessary to protect aquatic life in U.S. EPA's Ambient Criteria for the Protection of Freshwater Aquatic Life as long as pH does not fall below 6.5 or exceed 8.5 units. Therefore, an averaging period of 30 days has been applied to the Basin Plan receiving water objective for changes in pH. Numeric Receiving Water Limitations for pH are included in this Order and are based on the Basin Plan objectives for pH.

d. **Temperature.** The Basin Plan includes water quality objectives that prohibit the temperature ". . . of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water." The American River is designated having both COLD and WARM beneficial uses. Receiving Water Limitations for temperatures are included in this Order and are based on the Basin Plan objectives for temperature.

e. **Turbidity.** The Basin Plan includes a water quality objective that "[I]*ncreases in turbidity attributable to controllable water quality factors shall not exceed the following limits:*

- *Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.*
- *Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.*
- *Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.*

- *Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent."*

A numeric Receiving Surface Water Limitation for turbidity is included in this Order and is based on the Basin Plan objective for turbidity.

B. Groundwater – Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the CWC authorize the Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for this facility

A. Influent Monitoring

The Order establishes influent monitoring requirements to allow the Discharger to monitor the treatment efficiency of the treatment systems and make sure that influent concentrations are within the design parameters of the treatment systems. As such, monitoring is required for volatile organics, semi-volatile organics, perchlorate, 1,4-Dioxane, n-nitrosodimethylamine, and copper.

B. Effluent Monitoring

Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. The Monitoring and Reporting Requirements include effluent monitoring requirements in Attachment E. Section IV.

C. Whole Effluent Toxicity Testing

1. **Acute Toxicity.** Weekly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity (Effluent Limitations IV.A.1.e.).

2. **Chronic Toxicity**. Quarterly chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

1. **Surface Water**. Receiving water monitoring is required to demonstrate compliance with the Receiving Water Limitations.

2. **Groundwater – Not Applicable**

Groundwater monitoring associated with the treatment facilities is not required. Extensive groundwater monitoring is conducted by the Discharger to meet compliance associated with groundwater cleanup requirements established by the Regional Water Board and USEPA under other programs.

F. Other Monitoring Requirements

1. Solids Disposal Monitoring

This Order requires an annual solids disposal report describing the annual volume of solids generated by the Facilities and specifying the disposal practices. Solids disposal reporting is required to evaluate compliance with Construction, Operation, and Maintenance Specifications, Section VI.C.5.a, of this Order.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** In accordance with 40 CFR section 122.41and 122.42, the Federal Standard Provisions provided in Attachment D of this Order apply to this discharge.

2. **Regional Water Board Standard Provisions.** In addition to the Federal Standard Provisions (Attachment D), the Discharger must comply with the Regional Water Board Standard Provisions provided in Standard Provisions VI.A.2.

   40 CFR Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR Section 123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with Section 123.35, this Order omits federal conditions that address enforcement authority specified in 40CFR Sections 122.41(j)(5) and (k)(2) because the enforcement authority under the CWC is more stringent . In lieu of these conditions, this Order incorporates by reference CWC section13387(e) .

B. Special Provisions

1. Reopener Provisions

a. **Special Provisions VI.C.1.a.** Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, which include the following:

   i. When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if more stringent applicable water quality standards are promulgated or

approved pursuant to section 303 of the Federal Water Pollution Control Act or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.

b. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a chronic toxicity limitation based on that objective.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity Requirements (Special Provisions VI.C.2.a.).** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at III-8.00.) Based on quarterly whole effluent chronic toxicity testing performed by the Discharger from March 2, 2001 through October 15, 2004, the discharge has reasonable potential to cause or contribute to an to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

Special Provisions VI.C.2.a. requires the Discharger to develop a Toxicity Reduction Evaluation (TRE) work plan in accordance with EPA guidance. In addition, the provision establishes a numeric toxicity trigger, requirements for accelerated monitoring to confirm effluent toxicity, and a protocol for requiring the Discharger to initiate a TRE.

TRE Trigger. A numeric TRE Trigger of > 1 TUc (where TUc = 100/NOEC) is applied in the provision, because this Order does not allow any dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits toxicity at 100% effluent.

Accelerated Monitoring. The provision requires accelerated WET testing when a regular WET test result exceeds the TRE Trigger to confirm effluent toxicity prior to requiring implementation of a TRE.

TRE Guidance. The Discharger is required to prepare the TRE work plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

- Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, *(EPA/833B-99/002), August 1999.*

- Generalized Methodology for Conducting Industrial TREs, *(EPA/600/2-88/070), April 1989.*

- Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, *Second Edition, EPA 600/6-91/005F, February 1991.*

- Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, *EPA 600/6-91/005F, May 1992.*

- Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting acute and Chronic Toxicity, *Second Edition, EPA 600/R-92/080, September 1993.*

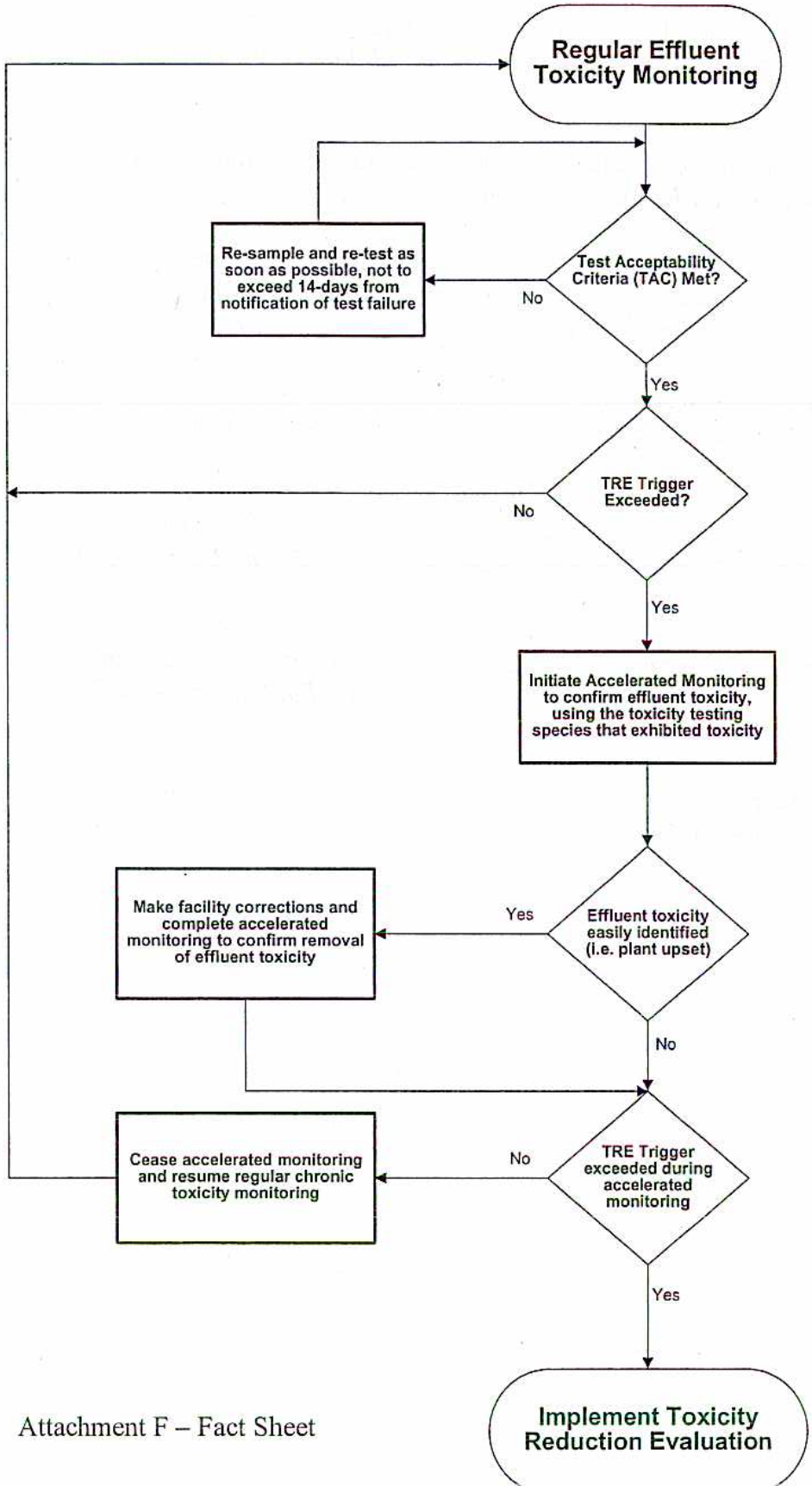
- Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, *Second Edition, EPA 600/R-92/081, September 1993.*

- Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, *Fifth Edition, EPA-821-R-02-012, October 2002.*

- Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, *Fourth Edition, EPA-821-R-02-013, October 2002.*

- Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991

Figure F-15
WET Accelerated Monitoring Flow Chart



3. Best Management Practices and Pollution Prevention – Not Applicable

4. Compliance Schedules

a. **ARGET Perchlorate Effluent Limitation.** Effective immediately and ending on 1 January 2009, or until the treatment system to remove perchlorate at the ARGET facility is constructed, whichever is sooner, the discharge of treated effluent from the ARGET facility shall maintain compliance with 8.0 µg/l as the effluent limitation for perchlorate at Discharge Point 001. Mixing with the GET E/F effluent will keep the perchlorate concentration below the Water Quality Objective of 6 µg/L in Buffalo Creek. No additional extraction wells containing perchlorate will be added to the ARGET system until perchlorate treatment is added at ARGET.

b. **GET J NDMA Effluent Limitation**. Effective immediately and ending on 1 January 2008, the discharge of treated effluent from the GET J facility shall maintain compliance with 0.008 µg/L as the effluent limitation for NDMA at Discharge Point 005. This interim effluent limitation shall apply in lieu of the corresponding final effluent limitation for NDMA specified during the time period indicated in this Order. The Discharger will be evaluating the current NDMA treatment system and alternate treatment systems in order to determine the best means of complying with the final effluent limitation, the Water Quality Objective of 0.002 µg/L.

5. Construction, Operation, and Maintenance Specifications

a. **Provisions VI.C.5.a,b.** Solid waste disposal provisions in this Order are based on the requirements of CCR Title 27 and prevention of unauthorized discharge of solid wastes into waters of the United States or waters of the State. Other construction, operation, and maintenance specifications are to prevent other unauthorized discharges to waters of the United States or waters of the State.

6. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

7. Other Special Provisions

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Tsar Nicoulai Sturgeon Farm. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on **January 20, 2006.**

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date:	**26/27 January 2006**
Time:	8:30 am
Location:	Regional Water Quality Control Board 11020 Sun Center Dr #200 Rancho Cordova, CA

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is http://www.waterboa rds.ca.gov/centralvalley/ where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The RWD, related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (916) 464-3291.

F. Register of Interested Persons

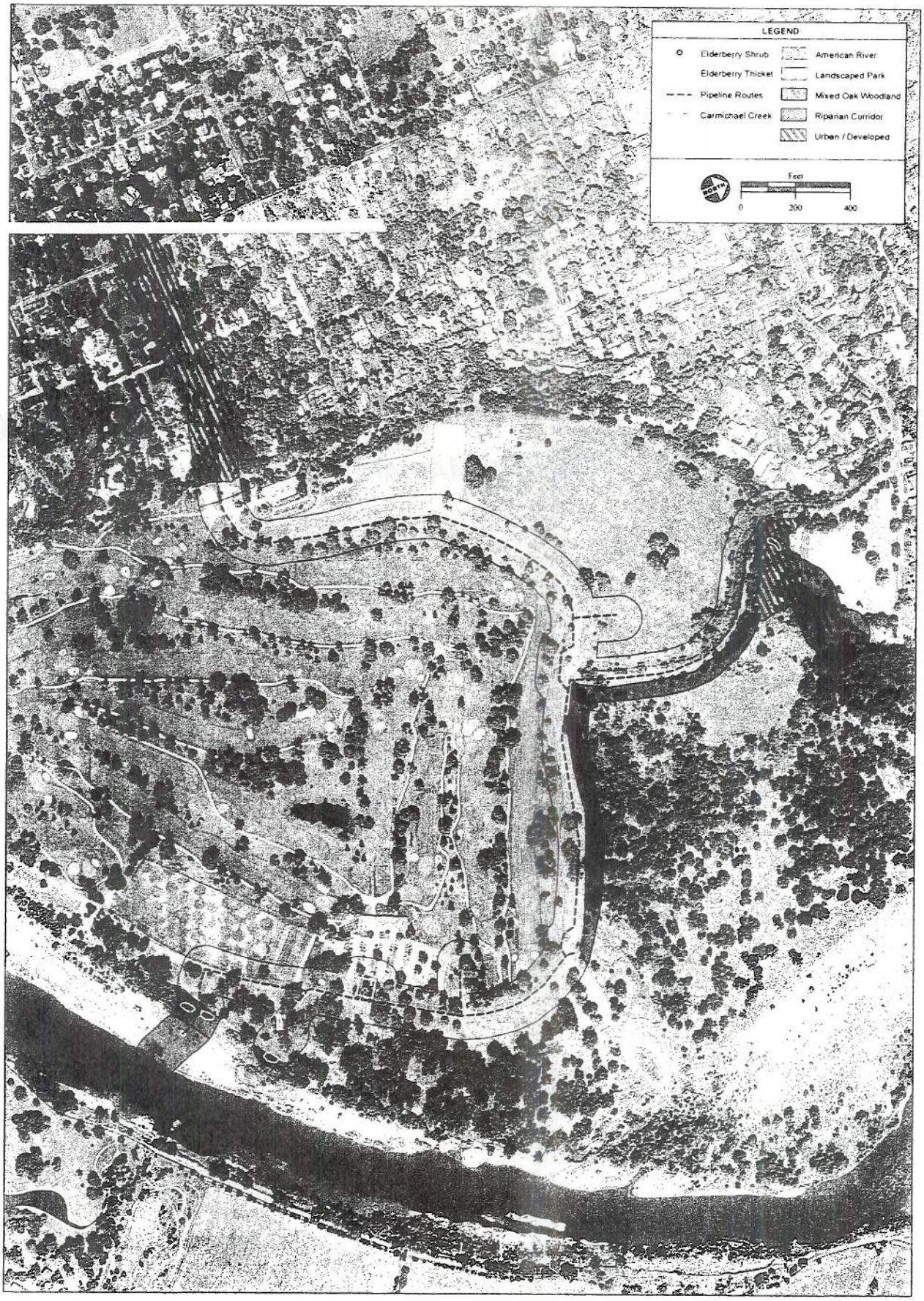
Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Alexander MacDonald at (916) 464-4625.

APPENDIX B

HABITAT MAP AND BIOLOGICAL SPECIES LIST



SOURCE: CWD / Genecorp Aerojet, 2006; GoogleEarth, 2005; AES, 2007

Ancil Hoffman Park GET "L" Project / 205547

Habitat Map

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 061129040935
Database Last Updated: October 27, 2006

Species of Concern - The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. See www.fws.gov/sacramento/es/spp_concern.htm for more information and links to these sensitive species lists.

Red-Legged Frog Critical Habitat - The Service has designated final critical habitat for the California red-legged frog. The designation became final on May 15, 2006. See our map index.

Species

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
Critical habitat, valley elderberry longhorn beetle (X)
valley elderberry longhorn beetle (T)

Lepidurus packardi
Critical habitat, vernal pool tadpole shrimp (X)
vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana aurora draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Birds

Haliaeetus leucocephalus
bald eagle (T)

Plants
Orcuttia tenuis
Critical habitat, slender Orcutt grass (X)

Orcuttia viscida
Critical habitat, Sacramento Orcutt grass (X)

Candidate Species

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

Selected Quads

CITRUS HEIGHTS (512A) CARMICHAEL (512D)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed 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.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this 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.

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 regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the nine surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

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 Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above 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 compensates 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. 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). See our critical habitat page for maps.

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.

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 and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be February 27, 2007.

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name
Special status species reported within the "Carmichael and Citrus Heights" 7.5' USGS quadrangles.

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	*Accipiter cooperii* Cooper's hawk	ABNKC12040			G5	S3	SC
2	*Agelaius tricolor* tricolored blackbird	ABPBXB0020			G2G3	S2	SC
3	*Andrena subapasta*	IIHYM35050			G1G3	S1S3	
4	*Ardea alba* great egret	ABNGA05010			G5	S4	
5	*Ardea herodias* great blue heron	ABNGA04010			G5	S4	
6	*Athene cunicularia* burrowing owl	ABNSB10010			G4	S2	SC
7	*Branchinecta lynchi* vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3	
8	*Branchinecta mesovallensis* midvalley fairy shrimp	ICBRA03150			G2	S2	
9	*Buteo regalis* ferruginous hawk	ABNKC19120			G4	S3S4	SC
10	*Buteo swainsoni* Swainson's hawk	ABNKC19070		Threatened	G5	S2	
11	*Desmocerus californicus dimorphus* valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2	
12	*Dumontia oregonensis*	ICBRA23010			G1G3	S1	
13	*Elanus leucurus* white-tailed kite	ABNKC06010			G5	S3	
14	*Emys (=Clemmys) marmorata marmorata* northwestern pond turtle	ARAAD02031			G3G4T3	S3	SC
15	*Gratiola heterosepala* Boggs Lake hedge-hyssop	PDSCR0R060		Endangered	G3	S3.1	1B.2
16	*Hydrochara ricksekeri* Ricksecker's water scavenger beetle	IICOL5V010			G1G2	S1S2	
17	*Juncus leiospermus var. ahartii* Ahart's dwarf rush	PMJUN011L1			G2T1	S1.2	1B.2
18	*Legenere limosa* legenere	PDCAM0C010			G2	S2.2	1B.1
19	*Lepidurus packardi* vernal pool tadpole shrimp	ICBRA10010	Endangered		G3	S2S3	
20	*Linderiella occidentalis* California linderiella	ICBRA06010			G3	S2S3	
21	*Northern Hardpan Vernal Pool*	CTT44110CA			G3	S3.1	
22	*Northern Volcanic Mud Flow Vernal Pool*	CTT44132CA			G1	S1.1	
23	*Orcuttia viscida* Sacramento orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1.1	1B.1
24	*Riparia riparia* bank swallow	ABPAU08010		Threatened	G5	S2S3	

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
25 *Sagittaria sanfordii* Sanford's arrowhead	PMALI040Q0			G3	S3.2	1B.2
26 *Spea (=Scaphiopus) hammondii* western spadefoot	AAABF01030			G3	S3	SC
27 *Taxidea taxus* American badger	AMAJF04010			G5	S4	SC

CNPS Inventory of Rare and Endangered Plants

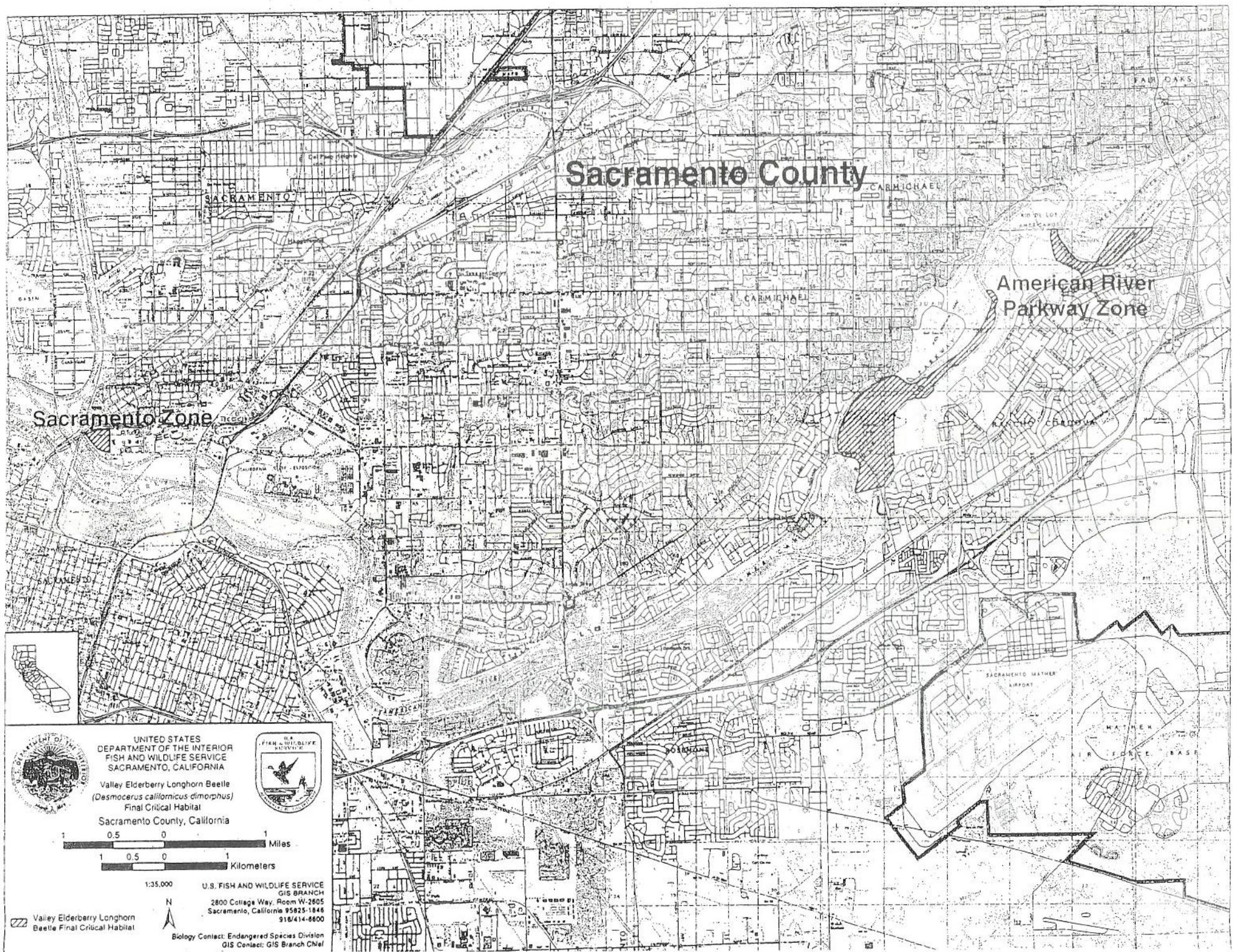
Status: Plant Press Manager window with 4 items - Fri, Jan. 5, 2007, 09:18 b

- During each visit, we provide you with an empty "Plant Press" for collecting items of interest.
- Several report formats are available. Use the CSV and XML options to download raw data.

Reformat list as: Standard List - with Plant Press controls

DELETE unchecked items | check all | check none

open	save	scientific	common	family	CNPS
	☑	Gratiola heterosepala	Boggs Lake hedge-hyssop	Scrophulariaceae	List 1B.2
	☑	Juncus leiospermus var. ahartii	Ahart's dwarf rush	Juncaceae	List 1B.2
	☑	Legenere limosa	legenere	Campanulaceae	List 1B.1
	☑	Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	List 1B.2


Sacramento County
American River Parkway Zone
Sacramento Zone
SACRAMENTO
CARMICHAEL
FAIR OAKS
RANCHO CORDOVA
SACRAMENTO MATHER AIRPORT
MATHER AIR FORCE BASE
UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
SACRAMENTO, CALIFORNIA
Valley Elderberry Longhorn Beetle
(Desmocerus californicus dimorphus)
Final Critical Habitat
Sacramento County, California
1 0.5 0 1 Miles
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1:35,000
U.S. FISH AND WILDLIFE SERVICE
GIS BRANCH
2800 College Way, Room W-2605
Sacramento, California 95825-1846
916/414-6600
N
Valley Elderberry Longhorn Beetle Final Critical Habitat
Biology Contact: Endangered Species Division
GIS Contact: GIS Branch Chief

APPENDIX C

CONSERVATION GUIDELINES FOR THE VALLEY ELDERBERRY LONGHORN BEETLE

United States Department of the Interior

Fish and Wildlife Service

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

Conservation Guidelines for the Valley Elderberry Longhorn Beetle

Revised July 9, 1999

The following guidelines have been issued by the U.S. Fish and Wildlife Service (Service) to assist Federal agencies and non-federal project applicants needing incidental take authorization through a section 7 consultation or a section 10(a)(1)(B) permit in developing measures to avoid and minimize adverse effects on the valley elderberry longhorn beetle. The Service will revise these guidelines as needed in the future. The most recently issued version of these guidelines should be used in developing all projects and habitat restoration plans. The survey and monitoring procedures described below are designed to avoid any adverse effects to the valley elderberry longhorn beetle. Thus a recovery permit is not needed to survey for the beetle or its habitat or to monitor conservation areas. If you are interested in a recovery permit for research purposes please call the Service's Regional Office at (503) 231-2063.

Background Information

The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), was listed as a threatened species on August 8, 1980 (Federal Register 45: 52803-52807). This animal is fully protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). The valley elderberry longhorn beetle (beetle) is completely dependent on its host plant, elderberry (Sambucus species), which is a common component of the remaining riparian forests and adjacent upland habitats of California's Central Valley. Use of the elderberry by the beetle, a wood borer, is rarely apparent. Frequently, the only exterior evidence of the elderberry's use by the beetle is an exit hole created by the larva just prior to the pupal stage. The life cycle takes one or two years to complete. The animal spends most of its life in the larval stage, living within the stems of an elderberry plant. Adult emergence is from late March through June, about the same time the elderberry produces flowers. The adult stage is short-lived. Further information on the life history, ecology, behavior, and distribution of the beetle can be found in a report by Barr (1991) and the recovery plan for the beetle (USFWS 1984).

Surveys

Proposed project sites within the range of the valley elderberry longhorn beetle should be surveyed for the presence of the beetle and its elderberry host plant by a qualified biologist. The beetle's range extends throughout California's Central Valley and associated foothills from about the 3,000-foot elevation contour on the east and the watershed of the Central Valley on the west (Figure 1). All or portions of 31 counties are included: Alameda, Amador, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Madera, Mariposa, Merced, Napa, Nevada, Placer, Sacramento, San Benito, San Joaquin, San Luis Obispo, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba.

If elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level occur on or adjacent to the proposed project site, or are otherwise located where they may be directly or indirectly affected by the proposed action, minimization measures which include planting replacement habitat (conservation planting) are required (Table 1).

All elderberry shrubs with one or more stems measuring 1.0 inch or greater in diameter at ground level that occur on or adjacent to a proposed project site must be thoroughly searched for beetle exit holes (external evidence of beetle presence). In addition, all elderberry stems one inch or greater in diameter at ground level must be tallied by diameter size class (Table 1). As outlined in Table 1, the numbers of

elderberry seedlings/cuttings and associated riparian native trees/shrubs to be planted as replacement habitat are determined by stem size class of affected elderberry shrubs, presence or absence of exit holes, and whether a proposed project lies in a riparian or non-riparian area.

Elderberry plants with no stems measuring 1.0 inch or greater in diameter at ground level are unlikely to be habitat for the beetle because of their small size and/or immaturity. Therefore, no minimization measures are required for removal of elderberry plants with no stems measuring 1.0 inch or greater in diameter at ground level with no exit holes. Surveys are valid for a period of two years.

Avoid and Protect Habitat Whenever Possible

Project sites that do not contain beetle habitat are preferred. If suitable habitat for the beetle occurs on the project site, or within close proximity where beetles will be affected by the project, these areas must be designated as avoidance areas and must be protected from disturbance during the construction and operation of the project. When possible, projects should be designed such that avoidance areas are connected with adjacent habitat to prevent fragmentation and isolation of beetle populations. Any beetle habitat that cannot be avoided as described below should be considered impacted and appropriate minimization measures should be proposed as described below.

Avoidance: Establishment and Maintenance of a Buffer Zone

Complete avoidance (i.e., no adverse effects) may be assumed when a 100-foot (or wider) buffer is established and maintained around elderberry plants containing stems measuring 1.0 inch or greater in diameter at ground level. Firebreaks may not be included in the buffer zone. In buffer areas construction-related disturbance should be minimized, and any damaged area should be promptly restored following construction. The Service must be consulted before any disturbances within the buffer area are considered. In addition, the Service must be provided with a map identifying the avoidance area and written details describing avoidance measures.

Protective Measures

1. Fence and flag all areas to be avoided during construction activities. In areas where encroachment on the 100-foot buffer has been approved by the Service, provide a minimum setback of at least 20 feet from the dripline of each elderberry plant.

2. Brief contractors on the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements.

3. Erect signs every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.

4. Instruct work crews about the status of the beetle and the need to protect its elderberry host plant.

Restoration and Maintenance

Restore any damage done to the buffer area (area within 100 feet of elderberry plants) during construction. Provide erosion control and re-vegetate with appropriate native plants.

Buffer areas must continue to be protected after construction from adverse effects of the project. Measures such as fencing, signs, weeding, and trash removal are usually appropriate.

No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant should be used in the buffer areas, or within 100 feet of any elderberry plant with one or more stems measuring 1.0 inch or greater in diameter at ground level.

The applicant must provide a written description of how the buffer areas are to be restored, protected, and maintained after construction is completed.

Mowing of grasses/ground cover may occur from July through April to reduce fire hazard. No mowing should

occur within five (5) feet of elderberry plant stems. Mowing must be done in a manner that avoids damaging plants (e.g., stripping away bark through careless use of mowing/trimming equipment).

Transplant Elderberry Plants That Cannot Be Avoided

Elderberry plants must be transplanted if they can not be avoided by the proposed project. All elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level must be transplanted to a conservation area (see below). At the Service's discretion, a plant that is unlikely to survive transplantation because of poor condition or location, or a plant that would be extremely difficult to move because of access problems, may be exempted from transplantation. In cases where transplantation is not possible the minimization ratios in Table 1 may be increased to offset the additional habitat loss.

Trimming of elderberry plants (e.g., pruning along roadways, bike paths, or trails) with one or more stems 1.0 inch or greater in diameter at ground level, may result in take of beetles. Therefore, trimming is subject to appropriate minimization measures as outlined in Table 1.

1. Monitor. A qualified biologist (monitor) must be on-site for the duration of the transplanting of the elderberry plants to insure that no unauthorized take of the valley elderberry longhorn beetle occurs. If unauthorized take occurs, the monitor must have the authority to stop work until corrective measures have been completed. The monitor must immediately report any unauthorized take of the beetle or its habitat to the Service and to the California Department of Fish and Game.

2. Timing. Transplant elderberry plants when the plants are dormant, approximately November through the first two weeks in February, after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the plant and increase transplantation success.

3. Transplanting Procedure.

a. Cut the plant back 3 to 6 feet from the ground or to 50 percent of its height (whichever is taller) by removing branches and stems above this height. The trunk and all stems measuring 1.0 inch or greater in diameter at ground level should be replanted. Any leaves remaining on the plant should be removed.

b. Excavate a hole of adequate size to receive the transplant.

c. Excavate the plant using a Vemeer spade, backhoe, front end loader, or other suitable equipment, taking as much of the root ball as possible, and replant immediately at the conservation area. Move the plant only by the root ball. If the plant is to be moved and transplanted off site, secure the root ball with wire and wrap it with burlap. Dampen the burlap with water, as necessary, to keep the root ball wet. Do not let the roots dry out. Care should be taken to ensure that the soil is not dislodged from around the roots of the transplant. If the site receiving the transplant does not have adequate soil moisture, pre-wet the soil a day or two before transplantation.

d. The planting area must be at least 1,800 square feet for each elderberry transplant. The root ball should be planted so that its top is level with the existing ground. Compact the soil sufficiently so that settlement does not occur. As many as five (5) additional elderberry plantings (cuttings or seedlings) and up to five (5) associated native species plantings (see below) may also be planted within the 1,800 square foot area with the transplant. The transplant and each new planting should have its own watering basin measuring at least three (3) feet in diameter. Watering basins should have a continuous berm measuring approximately eight (8) inches wide at the base and six (6) inches high.

e. Saturate the soil with water. Do not use fertilizers or other supplements or paint the tips of stems with pruning substances, as the effects of these compounds on the beetle are unknown.

f. Monitor to ascertain if additional watering is necessary. If the soil is sandy and well-drained, plants may need to be watered weekly or twice monthly. If the soil is clayey and poorly-drained, it may not be necessary to water after the initial saturation. However, most transplants require watering through the first summer. A drip watering system and timer is ideal. However, in situations where this is not possible, a water truck or other apparatus may be used.

Plant Additional Seedlings or Cuttings

Each elderberry stem measuring 1.0 inch or greater in diameter at ground level that is adversely affected (i.e., transplanted or destroyed) must be replaced, in the conservation area, with elderberry seedlings or cuttings at a ratio ranging from 1:1 to 8:1 (new plantings to affected stems). Minimization ratios are listed and explained in Table 1. Stock of either seedlings or cuttings should be obtained from local sources. Cuttings may be obtained from the plants to be transplanted if the project site is in the vicinity of the conservation area. If the Service determines that the elderberry plants on the proposed project site are unsuitable candidates for transplanting, the Service may allow the applicant to plant seedlings or cuttings at higher than the stated ratios in Table 1 for each elderberry plant that cannot be

transplanted.

Plant Associated Native Species

Studies have found that the beetle is more abundant in dense native plant communities with a mature overstory and a mixed understory. Therefore, a mix of native plants associated with the elderberry plants at the project site or similar sites will be planted at ratios ranging from 1:1 to 2:1 [native tree/plant species to each elderberry seedling or cutting (see Table 1)]. These native plantings must be monitored with the same survival criteria used for the elderberry seedlings (see below). Stock of saplings, cuttings, and seedlings should be obtained from local sources. If the parent stock is obtained from a distance greater than one mile from the conservation area, approval by the Service of the native plant donor sites must be obtained prior to initiation of the revegetation work. Planting or seeding the conservation area with native herbaceous species is encouraged. Establishing native grasses and forbs may discourage unwanted non-native species from becoming established or persisting at the conservation area. Only stock from local sources should be used.

Examples

Example 1

The project will adversely affect beetle habitat on a vacant lot on the land side of a river levee. This levee now separates beetle habitat on the vacant lot from extant Great Valley Mixed Riparian Forest (Holland 1986) adjacent to the river. However, it is clear that the beetle habitat located on the vacant lot was part of a more extensive mixed riparian forest ecosystem extending farther from the river's edge prior to agricultural development and levee construction. Therefore, the beetle habitat on site is considered riparian. A total of two elderberry plants with at least one stem measuring 1.0 inch or greater in diameter at ground level will be affected by the proposed action. The two plants have a total of 15 stems measuring over 1.0 inch. No exit holes were found on either plant. Ten of the stems are between 1.0 and 3.0 inches in diameter and five of the stems are greater than 5.0 inches in diameter. The conservation area is suited for riparian forest habitat. Associated natives adjacent to the conservation area are box elder (Acer negundo californica), walnut (Juglans californica var. hindsii), sycamore (Platanus racemosa), cottonwood (Populus fremontii), willow (Salix gooddingii and S. laevigata), white alder (Alnus rhombifolia), ash (Fraxinus latifolia), button willow (Cephalanthus occidentalis), and wild grape (Vitis californica).

Minimization (based on ratios in Table 1):

- Transplant the two elderberry plants that will be affected to the conservation area.

- Plant 40 elderberry rooted cuttings (10 affected stems compensated at 2:1 ratio and 5 affected stems compensated at 4:1 ratio, cuttings planted:stems affected)

- Plant 40 associated native species (ratio of associated natives to elderberry plantings is 1:1 in areas with no exit holes):

  5 saplings each of box elder, sycamore, and cottonwood

  5 willow seedlings

  5 white alder seedlings

  5 saplings each of walnut and ash

  3 California button willow

  2 wild grape vines

  Total: 40 associated native species

- Total area required is a minimum of 1,800 sq. ft. for one to five elderberry seedlings and up to 5 associated natives. Since, a total of 80 plants must be planted (40 elderberries and 40 associated natives), a total of 0.33 acre (14,400 square feet) will be required for conservation plantings. The conservation area will be seeded and planted with native grasses and forbs, and closely monitored and maintained throughout the monitoring period.

Example 2

The project will adversely affect beetle habitat in Blue Oak Woodland (Holland 1986). One elderberry plant with at least one stem measuring 1.0 inch or greater in diameter at ground level will be affected by the proposed action. The plant has a total of 10 stems measuring over 1.0 inch. Exit holes were found on the plant. Five of the stems are between 1.0 and 3.0 inches in diameter and five of the stems are between 3.0 and 5.0 inches in diameter. The conservation area is suited for elderberry savanna (non-riparian habitat). Associated natives adjacent to the conservation area are willow (Salix species), blue oak (Quercus douglasii), interior live oak (Q. wislizenii), sycamore, poison oak (Toxicodendron diversilobum), and wild grape.

Minimization (based on ratios in Table 1):

- Transplant the one elderberry plant that will be affected to the conservation area.

- Plant 30 elderberry seedlings (5 affected stems compensated at 2:1 ratio and 5 affected stems compensated at 4:1 ratio, cuttings planted:stems affected)

- Plant 60 associated native species (ratio of associated natives to elderberry plantings is 2:1 in areas with exit holes):

  20 saplings of blue oak, 20 saplings of sycamore, and 20 saplings of willow, and seed and plant with a mixture of native grasses and forbs

- Total area required is a minimum of 1,800 sq. ft. for one to five elderberry seedlings and up to 5 associated natives. Since, a total of 90 plants must be planted (30 elderberries and 60 associated natives), a total of 0.37 acre (16,200 square feet) will be required for conservation plantings. The conservation area will be seeded and planted with native grasses and forbs, and closely monitored and maintained throughout the monitoring period.

Conservation Area—Provide Habitat for the Beetle in Perpetuity

The conservation area is distinct from the avoidance area (though the two may adjoin), and serves to receive and protect the transplanted elderberry plants and the elderberry and other native plantings. The Service may accept proposals for off-site conservation areas where appropriate.

1. Size. The conservation area must provide at least 1,800 square feet for each transplanted elderberry plant. As many as 10 conservation plantings (i.e., elderberry cuttings or seedlings and/or associated native plants) may be planted within the 1800 square foot area with each transplanted elderberry. An additional 1,800 square feet shall be provided for every additional 10 conservation plants. Each planting should have its own watering basin measuring approximately three feet in diameter. Watering basins should be constructed with a continuous berm measuring approximately eight inches wide at the base and six inches high.

The planting density specified above is primarily for riparian forest habitats or other habitats with naturally dense cover. If the conservation area is an open habitat (i.e., elderberry savanna, oak woodland) more area may be needed for the required plantings. Contact the Service for assistance if the above planting recommendations are not appropriate for the proposed conservation area.

No area to be maintained as a firebreak may be counted as conservation area. Like the avoidance area, the conservation area should connect with adjacent habitat wherever possible, to prevent isolation of beetle populations.

Depending on adjacent land use, a buffer area may also be needed between the conservation area and the adjacent lands. For example, herbicides and pesticides are often used on orchards or vineyards. These chemicals may drift or runoff onto the conservation area if an adequate buffer area is not provided.

2. Long-Term Protection. The conservation area must be protected in perpetuity as habitat for the valley elderberry longhorn beetle. A conservation easement or deed restrictions to protect the conservation area must be arranged. Conservation areas may be transferred to a resource agency or appropriate private organization for long-term management. The Service must be provided with a map and written details identifying the conservation area; and the applicant must receive approval from the Service that the conservation area is acceptable prior to initiating the conservation program. A true, recorded copy of the deed transfer, conservation easement, or deed restrictions protecting the conservation area in perpetuity must be provided to the Service before project implementation.

Adequate funds must be provided to ensure that the conservation area is managed in perpetuity. The applicant must dedicate an endowment fund for this purpose, and designate the party or entity that will be

responsible for long-term management of the conservation area. The Service must be provided with written documentation that funding and management of the conservation area (items 3-8 above) will be provided in perpetuity.

3. Weed Control. Weeds and other plants that are not native to the conservation area must be removed at least once a year, or at the discretion of the Service and the California Department of Fish and Game. Mechanical means should be used; herbicides are prohibited unless approved by the Service.

4. Pesticide and Toxicant Control. Measures must be taken to insure that no pesticides, herbicides, fertilizers, or other chemical agents enter the conservation area. No spraying of these agents must be done within one 100 feet of the area, or if they have the potential to drift, flow, or be washed into the area in the opinion of biologists or law enforcement personnel from the Service or the California Department of Fish and Game.

5. Litter Control. No dumping of trash or other material may occur within the conservation area. Any trash or other foreign material found deposited within the conservation area must be removed within 10 working days of discovery.

6. Fencing. Permanent fencing must be placed completely around the conservation area to prevent unauthorized entry by off-road vehicles, equestrians, and other parties that might damage or destroy the habitat of the beetle, unless approved by the Service. The applicant must receive written approval from the Service that the fencing is acceptable prior to initiation of the conservation program. The fence must be maintained in perpetuity, and must be repaired/replaced within 10 working days if it is found to be damaged. Some conservation areas may be made available to the public for appropriate recreational and educational opportunities with written approval from the Service. In these cases appropriate fencing and signs informing the public of the beetle's threatened status and its natural history and ecology should be used and maintained in perpetuity.

7. Signs. A minimum of two prominent signs must be placed and maintained in perpetuity at the conservation area, unless otherwise approved by the Service. The signs should note that the site is habitat of the federally threatened valley elderberry longhorn beetle and, if appropriate, include information on the beetle's natural history and ecology. The signs must be approved by the Service. The signs must be repaired or replaced within 10 working days if they are found to be damaged or destroyed.

Monitoring

The population of valley elderberry longhorn beetles, the general condition of the conservation area, and the condition of the elderberry and associated native plantings in the conservation area must be monitored over a period of either ten (10) consecutive years or for seven (7) years over a 15-year period. The applicant may elect either 10 years of monitoring, with surveys and reports every year; or 15 years of monitoring, with surveys and reports on years 1, 2, 3, 5, 7, 10, and 15. The conservation plan provided by the applicant must state which monitoring schedule will be followed. No change in monitoring schedule will be accepted after the project is initiated. If conservation planting is done in stages (i.e., not all planting is implemented in the same time period), each stage of conservation planting will have a different start date for the required monitoring time.

Surveys. In any survey year, a minimum of two site visits between February 14 and June 30 of each year must be made by a qualified biologist. Surveys must include:

1. A population census of the adult beetles, including the number of beetles observed, their condition, behavior, and their precise locations. Visual counts must be used; mark-recapture or other methods involving handling or harassment must not be used.

2. A census of beetle exit holes in elderberry stems, noting their precise locations and estimated ages.

3. An evaluation of the elderberry plants and associated native plants on the site, and on the conservation area, if disjunct, including the number of plants, their size and condition.

4. An evaluation of the adequacy of the fencing, signs, and weed control efforts in the avoidance and conservation areas.

5. A general assessment of the habitat, including any real or potential threats to the beetle and its host plants, such as erosion, fire, excessive grazing, off-road vehicle use, vandalism, excessive weed growth, etc.

The materials and methods to be used in the monitoring studies must be reviewed and approved by the Service. All appropriate Federal permits must be obtained prior to initiating the field studies.

Reports. A written report, presenting and analyzing the data from the project monitoring, must be prepared by a qualified biologist in each of the years in which a monitoring survey is required. Copies of the report must be submitted by December 31 of the same year to the Service (Chief of Endangered Species, Sacramento Fish and Wildlife Office), and the Department of Fish and Game (Supervisor, Environmental Services, Department of Fish and Game, 1416 Ninth Street, Sacramento, California 95814; and Staff Zoologist, California Natural Diversity Data Base, Department of Fish and Game, 1220 S Street, Sacramento, California 95814). The report must explicitly address the status and progress of the transplanted and planted elderberry and associated native plants and trees, as well as any failings of the conservation plan and the steps taken to correct them. Any observations of beetles or fresh exit holes must be noted. Copies of original field notes, raw data, and photographs of the conservation area must be included with the report. A vicinity map of the site and maps showing where the individual adult beetles and exit holes were observed must be included. For the elderberry and associated native plants, the survival rate, condition, and size of the plants must be analyzed. Real and likely future threats must be addressed along with suggested remedies and preventative measures (e.g. limiting public access, more frequent removal of invasive non-native vegetation, etc.).

A copy of each monitoring report, along with the original field notes, photographs, correspondence, and all other pertinent material, should be deposited at the California Academy of Sciences (Librarian, California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118) by December 31 of the year that monitoring is done and the report is prepared. The Service's Sacramento Fish and Wildlife Office should be provided with a copy of the receipt from the Academy library acknowledging receipt of the material, or the library catalog number assigned to it.

Access. Biologists and law enforcement personnel from the California Department of Fish and Game and the Service must be given complete access to the project site to monitor transplanting activities. Personnel from both these agencies must be given complete access to the project and the conservation area to monitor the beetle and its habitat in perpetuity.

Success Criteria

A minimum survival rate of at least 60 percent of the elderberry plants and 60 percent of the associated native plants must be maintained throughout the monitoring period. Within one year of discovery that survival has dropped below 60 percent, the applicant must replace failed plantings to bring survival above this level. The Service will make any determination as to the applicant's replacement responsibilities arising from circumstances beyond its control, such as plants damaged or killed as a result of severe flooding or vandalism.

Service Contact

These guidelines were prepared by the Endangered Species Division of the Service's Sacramento Fish and Wildlife Office. If you have questions regarding these guidelines or to request a copy of the most recent guidelines, telephone (916) 414-6600, or write to:

U.S. Fish and Wildlife Service
Ecological Services
2800 Cottage Way, W-2605
Sacramento, CA 95825

Literature Cited

Barr, C. B. 1991. The distribution, habitat, and status of the valley elderberry longhorn beetle *Desmocerus californicus dimorphus*. U.S. Fish and Wildlife Service; Sacramento, California.

Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Unpublished Report. State of California, The Resources Agency, Department of Fish and Game, Natural Heritage Division, Sacramento, California.

USFWS. 1980. Listing the valley elderberry longhorn beetle as a threatened species with critical habitat. Federal Register 45:52803-52807.

USFWS. 1984. Recovery plan for the valley elderberry longhorn beetle. U.S. Fish and Wildlife Service,

Endangered Species Program; Portland, Oregon.

Table 1: Minimization ratios based on location (riparian vs. non-riparian), stem diameter of affected elderberry plants at ground level, and presence or absence of exit holes.

Location	Stems (maximum diameter at ground level)	Exit Holes on Shrub Y/N (quantify) [1]	Elderberry Seedling Ratio[2]	Associated Native Plant Ratio[3]
non-riparian	stems >=1" & =<3"	No:	1:1	1:1
		Yes:	2:1	2:1
non-riparian	stems >3" & <5"	No:	2:1	1:1
		Yes:	4:1	2:1
non-riparian	stems >=5"	No:	3:1	1:1
		Yes:	6:1	2:1
riparian	stems >=1" & <=3"	No:	2:1	1:1
		Yes:	4:1	2:1
riparian	stems > 3" & < 5"	No:	3:1	1:1
		Yes:	6:1	2:1
riparian	stems >=5"	No:	4:1	1:1
		Yes:	8:1	2:1

[1] All stems measuring one inch or greater in diameter at ground level on a single shrub are considered occupied when exit holes are present anywhere on the shrub.

[2] Ratios in the Elderberry Seedling Ratio column correspond to the number of cuttings or seedlings to be planted per elderberry stem (one inch or greater in diameter at ground level) affected by a project.

[3] Ratios in the Associated Native Plant Ratio column correspond to the number of associated native species to be planted per elderberry (seedling or cutting) planted.

Click for range map

Endangered Species Div., Sacramento Fish & Wildlife Office, U.S. Fish & Wildlife Service

APPENDIX D

CULTURAL RESOURCES LETTER REPORT

ANALYTICAL ENVIRONMENTAL SERVICES

February 9, 2006

Kennedy-Jenks Consultants
Alex Peterson
10850 Gold Center Dr., Suite 350
Rancho Cordova, CA 95670

RE: CWD Aerojet Project-Ancil Hoffman Site

Dear Mr. Peterson:

This letter reports the finding cultural resources investigations conducted in support of the proposed Ancil Hoffman Park GET "L" Project (Proposed Project). As shown in **Figure 1**, the project site is located within Unsection Lands, T9N, R6W, MDBM, Sacramento County, as shown on the attached Carmichael USGS 7.5 minute quadrangle. The physical Area of Potential Effects (APE) for the Proposed Project has been defined as the entire area of ground disturbing activities as indicated on **Figure 2**. The physical APE is primarily within previously disturbed roadbeds. The APE for visual impacts has been defined as a .25-mile radius from the location of the proposed Groundwater Treatment Plant.

All cultural resources work was performed in compliance with Section 106 of the National Historic Preservation Act (NHPA) as amended, and its implementing regulations found at 36 CFR 800 and conformed with the Secretary of the Interior's Standards in cultural resource management. Mr. Haydu meets the Secretary of the Interior's Standards for conducting cultural resources studies within a both State and Federal regulatory context. The work was also performed in accordance with CEQA *Guidelines* 15064.5 and Public Resources Code (PRC) Section 21083.2.

The purposes of this study, in accordance with Section 106 of the NHPA and CEQA, were to (1) identify and record cultural resources on the project site, (2) make preliminary evaluations based on such resources' significance according to the criteria of the NHPA and CEQA, and (3) recommend procedures for avoidance or mitigation of adverse effects to resources potentially eligible for listing on the National Register of Historic Places (NRHP) or the California Register of Historic Resources.

A records search for cultural resources within the study area was conducted at the North Central Information Center (NCIC), California State University, Sacramento, on September 9, 2006, by

1801 7th Street, Suite 100 * Sacramento, CA 95814 * (916) 447-3479 Fax (916) 447-1665
www.analyticalcorp.com

NCIC staff. The summary of results for the NCIC records search (NCIC File No.: SAC-06-102) is as follows.

> Sites Within or Adjacent: No cultural resources were located within the project site. Seven cultural resources have been recorded within a 0.5-mile radius of the project site. These include four prehistoric archaeological sites (CA-SAC-220, -318, -470, -479) and three multi-component archaeological sites (CA-SAC-155, -156, 317/H),.
>
> Studies Within or Adjacent: No cultural resources studies have been conducted within or adjacent to the project site. Eight studies have been conducted within a 0.5-mile radius of the project site. These include Report No. 173, 563, 2764, 4200, 6028, 6029.

Database Queries:

- OHP Historic Property Directory (HPD): Nothing found
- California Inventory (1976): Nothing Found
- California Place Names (Gudde 1969): Nothing Found
- California Gold District (Clark 1979): Nothing Found
- California Dept. of Transportation Bridge Inventory: Nothing Found
- California Historical Landmark (1996): Nothing Found
- Point of Historical Interest (1992): Nothing Found
- Historic Spots in California (1990): Nothing Found

On November 27, 2006, the State of California Native American Heritage Commission (NAHC) was asked to review the Sacred Lands file for information on Native American cultural resources on the project site. On January 23, 2007, the NAHC responded indicating that they have no record of sacred lands within or near the project area. However, they did provide a list of Native American individuals and groups with whom to consult further. Consultation letters to these individuals and groups were sent out January 23, 2007. To date, AES has not received any responses from stakeholders.

On September 9 and 28, 2005, AES Archaeologist Damon Haydu conducted a field survey of the project site. Ground visibility of the APE in areas outside the paved roadway was generally good, as the areas had been recently mowed. No evidence of prehistoric or historic-period cultural resources were identified as a result of the records search and field study. No further study is recommended at this time unless the project design changes to include new areas of impact or there is an unanticipated discovery of subsurface artifacts.

There is always the possibility that unidentified buried cultural deposits exist in the study area. If concentrations of prehistoric or historic-period cultural materials are encountered, it is

recommended that all work in the immediate vicinity halt until a qualified archaeologist can evaluate the finds and make recommendations. Prehistoric materials might include obsidian and chert flaked-stone tools (projectile points, knives, scraping implements) or tool-making debris; culturally darkened soil ("midden") containing heat-altered rock, shellfish remains, and cultural materials; and stone milling equipment (mortars, pestles, handstones, and milling stones). Historic materials might include stone footings or walls; building materials or other remains with square nails; backfilled wells or privies; or other deposits of historic-period metal, glass, and/or ceramic refuse.

Encountering Human Remains

The possibility of encountering human remains cannot be discounted. Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial.

If human burials are encountered, work should halt in the vicinity of the remains and, as required by law, the Sacramento County Coroner should be notified immediately. At the same time, an archaeologist should be contacted to evaluate the situation. If human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of that determination.

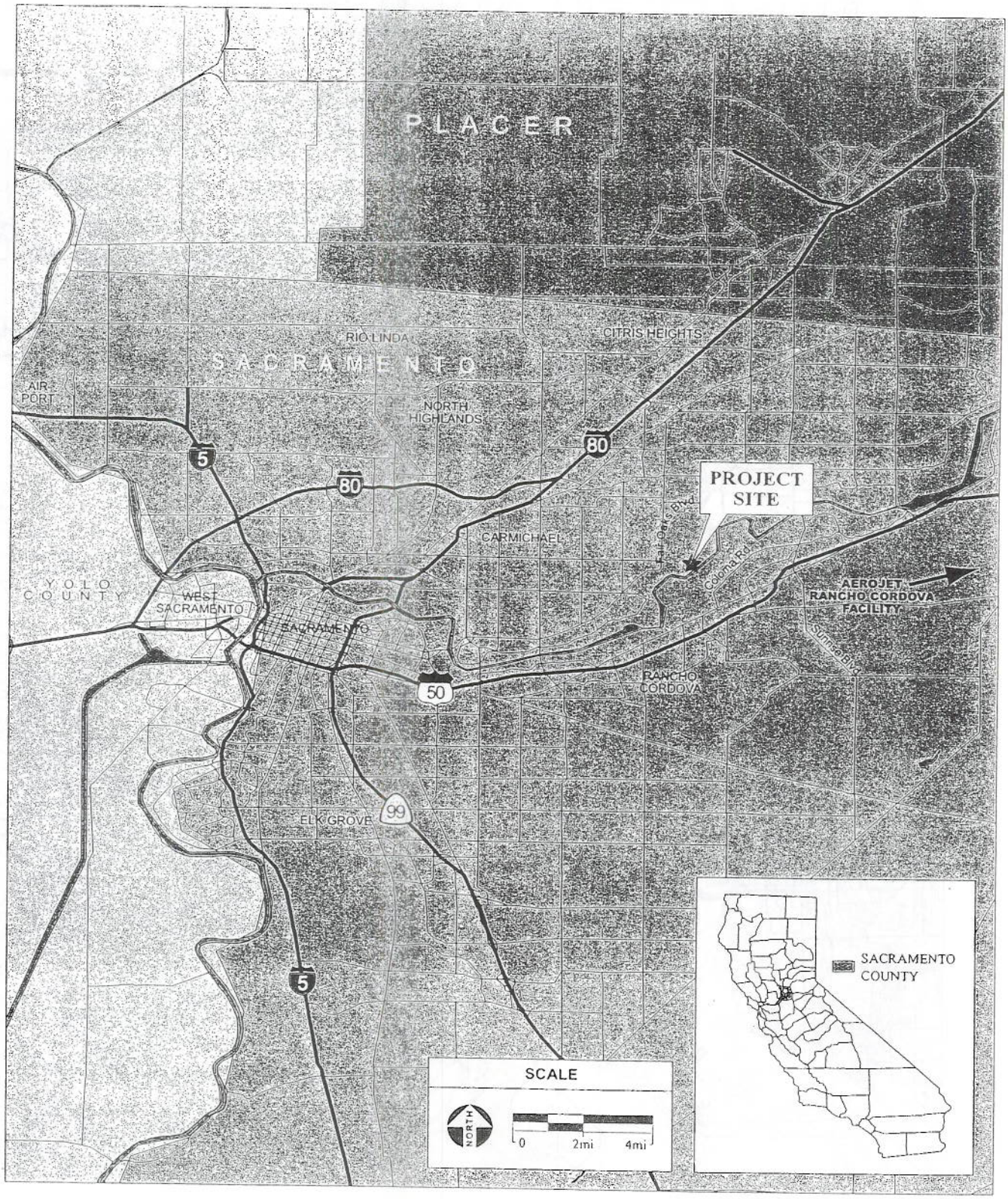
If you have any questions, please contact Doug Edward or me at (916) 447-3479. Thank you for using the services of Analytical Environmental Services.

Sincerely,

Damon Mark Haydu
AES Archaeologist

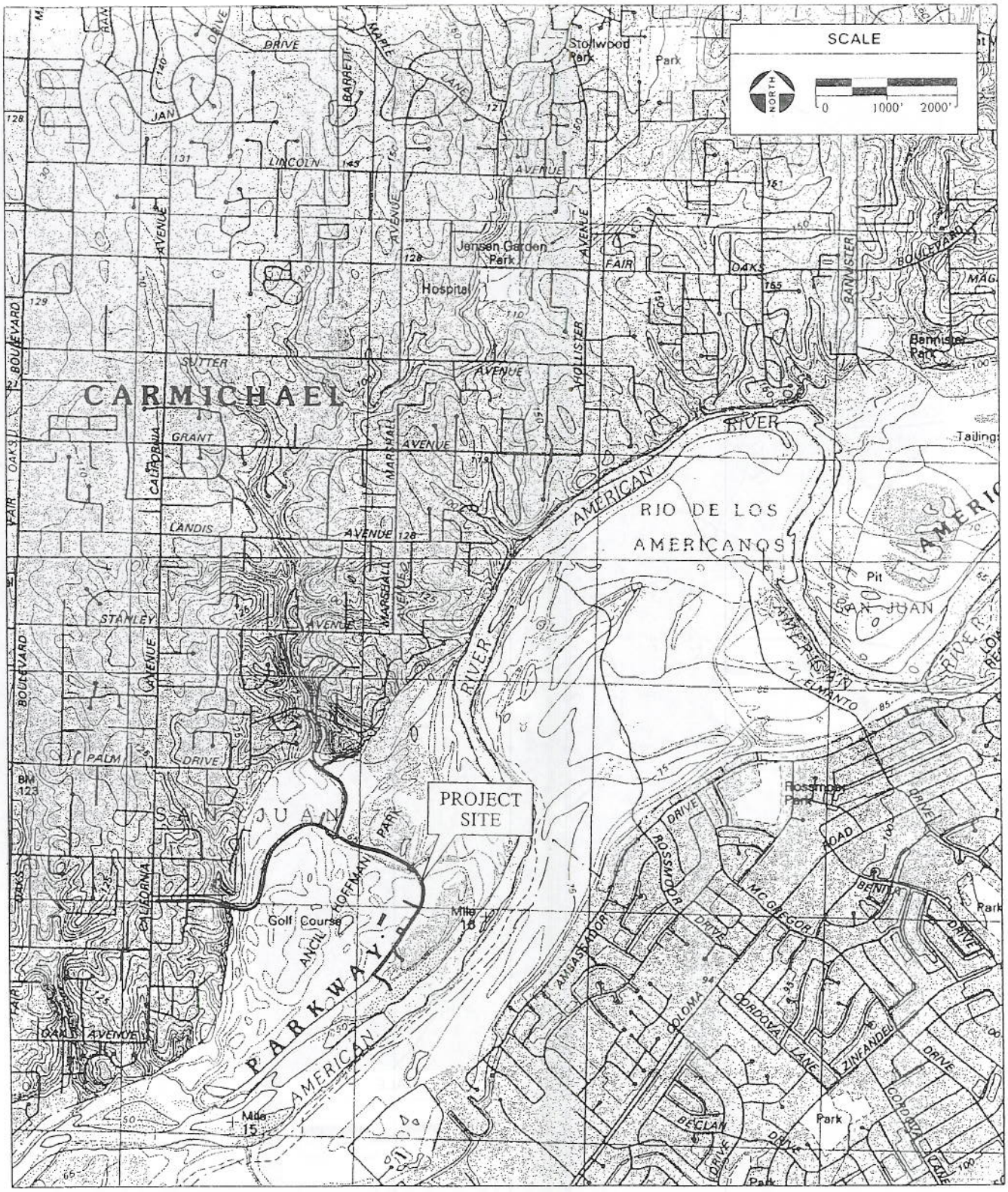
Attachments:

NCIC Records Search
NAHC Records Search



SOURCE: ESRI Data, 2002; AES, 2007

Figure 1
Regional Location



SOURCE: "Carmichael, CA" USGS 7.5 Minute Topographic Quadrangle, Unsectioned Area of San Juan, T9N, R6E, Mt. Diablo Baseline & Meridian; AES, 2007

Figure 2
Survey Area

NAHC CORRESPONDENCE

ANALYTICAL ENVIRONMENTAL SERVICES

November 27, 2006

Rob Wood
Native American Heritage Commission
915 Capitol Mall, Rm. 364
Sacramento, CA 95814

RE: Ancil Hoffman CWD Aerojet Project

Dear Mr. Wood;

Analytical Environmental Services (AES) is conducting a cultural resources as[illegible] in support of Section 106 for the above referenced project. We would like to request a check of the Sacred Lands files for the project area, and a list of appropriate Native American contacts for consultation regarding the project site.

The acre project area is located within Ancil Hoffman Park, in the community of Carmichael, Sacramento County, California, in T9 North, R6 East, Unsectioned Land, MDBM, on the Carmichael 7.5' Quad., as depicted on the attached map. The project involves the development of monitoring wells and extraction facilities.

If you have any questions or concerns, or need more information, please feel free to contact me directly. Thank you for your assistance in this matter. Results may be faxed to the number below.

Sincerely,

Damon Mark Haydu
Cultural Resources Specialist

enc.

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

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

January 19, 2007

Damon Haydu
Cultural Resources Specialist
AES

Sent by Fax: 916-447-1665
Number of Pages: 2

Re: Proposed Ancil Hoffman CWD Aeroject Project, Sacramento County.

Dear Mr. Haydu:

A record search of the sacred land 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 others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. 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 of 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
Sacramento County
January 19, 2007

Rose Eños
15310 Bancroft Road Maidu
Auburn , CA 95603 Washoe
(530) 878-2378

Shingle Springs Band of Miwok Indians
Jeff Murray, Cultural Resources Manager
P.O. Box 1340 Miwok
Shingle , CA 95682 Maidu
shingle_springs_rancheria@hotmail.com
(530) 676-8010
(530) 676-8033 Fax

Shingle Springs Band of Miwok Indians
Nicholas Fonseca, Chairperson
P.O. Box 1340 Miwok
Shingle , CA 95682 Maidu
shingle_springs_rancheria@hotmail.com
(530) 676-8010
(530) 676-8033 Fax

United Auburn Indian Community of the Auburn
Jessica Tavares, Chairperson
575 Menlo Drive, Suite 2 Maidu
Rocklin , CA 95765 Miwok
916 663-3720
916 663-3727 - Fax

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 regard to cultural resources for the proposed Ancil Hoffman CWD Aeroject project, Sacramento County.

ANALYTICAL ENVIRONMENTAL SERVICES

January 23, 2007

Rose Enos
15310 Bancroft Road
Auburn, CA 95603

RE: CWD Aerojet Extraction Wells Project-Ancil Hoffman Site

Dear Ms. Enos;

Analytical Environmental Services (AES) is conducting a cultural resources assessment in support of Section 106 for the above referenced project. We would like to request any information you may have regarding Native American cultural resources located within the project site.

The project area is located within Ancil Hoffman Park, within the community of Carmichael, Sacramento County, California. The two project sites consist, in total, of approximately 60 feet located in Unsection Lands, T9N, R6W, MDBM, Sacramento County, as shown on the attached Carmichael USGS 7.5 minute quadrangle. The project involves the development of monitoring wells and extraction facilities.

If you have any questions or concerns, or need more information, please feel free to contact me directly. Thank you for your assistance in this matter. Results may be faxed to the number below.

Sincerely,

Damon Haydu

Damon Haydu
Cultural Resources Specialist

enc.

ANALYTICAL ENVIRONMENTAL SERVICES

January 23, 2007

Jeff Murray
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle Springs, CA 95682

RE: CWD Aerojet Extraction Wells Project-Ancil Hoffman Site

Dear Mr. Murray;

Analytical Environmental Services (AES) is conducting a cultural resources assessment in support of Section 106 for the above referenced project. We would like to request any information you may have regarding Native American cultural resources located within the project site.

The project area is located within Ancil Hoffman Park, within the community of Carmichael, Sacramento County, California. The two project sites consist, in total, of approximately 60 feet located in Unsection Lands, T9N, R6W, MDBM, Sacramento County, as shown on the attached Carmichael USGS 7.5 minute quadrangle. The project involves the development of monitoring wells and extraction facilities.

If you have any questions or concerns, or need more information, please feel free to contact me directly. Thank you for your assistance in this matter. Results may be faxed to the number below.

Sincerely,

Damon Haydu

Damon Haydu
Cultural Resources Specialist

enc.

ANALYTICAL ENVIRONMENTAL SERVICES

January 23, 2007

Nicholas Fonseca
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle Springs, CA 95682

RE: CWD Aerojet Extraction Wells Project-Ancil Hoffman Site

Dear Mr. Fonseca;

Analytical Environmental Services (AES) is conducting a cultural resources assessment in support of Section 106 for the above referenced project. We would like to request any information you may have regarding Native American cultural resources located within the project site.

The project area is located within Ancil Hoffman Park, within the community of Carmichael, Sacramento County, California. The two project sites consist, in total, of approximately 60 feet located in Unsection Lands, T9N, R6W, MDBM, Sacramento County, as shown on the attached Carmichael USGS 7.5 minute quadrangle. The project involves the development of monitoring wells and extraction facilities.

If you have any questions or concerns, or need more information, please feel free to contact me directly. Thank you for your assistance in this matter. Results may be faxed to the number below.

Sincerely,

Damon Haydu

Damon Haydu
Cultural Resources Specialist

enc.

ANALYTICAL ENVIRONMENTAL SERVICES

January 23, 2007

Jessica Talvares
United Auburn Indian Community
575 Menlo Drive
Suite 2
Rocklin, CA 95765

RE: CWD Aerojet Extraction Wells Project-Ancil Hoffman Site

Dear Ms. Talvarez;

Analytical Environmental Services (AES) is conducting a cultural resources assessment in support of Section 106 for the above referenced project. We would like to request any information you may have regarding Native American cultural resources located within the project site.

The project area is located within Ancil Hoffman Park, within the community of Carmichael, Sacramento County, California. The two project sites consist, in total, of approximately 60 feet located in Unsection Lands, T9N, R6W, MDBM, Sacramento County, as shown on the attached Carmichael USGS 7.5 minute quadrangle. The project involves the development of monitoring wells and extraction facilities.

If you have any questions or concerns, or need more information, please feel free to contact me directly. Thank you for your assistance in this matter. Results may be faxed to the number below.

Sincerely,

Damon Haydu

Damon Haydu
Cultural Resources Specialist

enc.

NCIC RECORDS SEARCH

ANALYTICAL ENVIRONMENTAL SERVICES

September 9, 2005

Sally Duckworth
North Central Information Center
Department of Anthropology
6000 J Street, Adams Bldg., Suite #103
California State University, Sacramento
Chico, CA 95819-6100

RE; Record Search Request for two extraction wells in Sacramento County (AES project #205547)

Dear Ms. Duckworth:

Analytical Environmental Services AES) requests a record search for the above referenced project located in Sacramento County. The NEIC is authorized to bill AES up to $300 for this record search without prior verbal approval. Please map all sites and surveys within a 1/2-mile radius of the project site: provide copies of all site records for sites located (partially or fully) within the project site; provide bibliographic references for all surveys located (partially or fully) within the project site; provide copies of reports (partially or fully) within the project area; check the most recent listings for the Historic Properties Database for Sacramento County and any other relevant local register; and check historic plats and maps for the project site.

The two project sites consist, in total, of approximately 60 feet located in Unsection Lands, T9N, R6W, MDBM, Sacramento County, as shown on the attached Carmichael USGS 7.5 minute quadrangle.

Please feel free to contact me directly if you have any questions or concerns regarding this record search request. I can be reached at 916-447-3479, or by email at dhaydu@analyticalcorp.com. Thank you for your quick attention to this matter.

Sincerely,

Damon Haydu

Damon Mark Haydu, M.A.
Environmental Specialist--Archaeology

enc. map

APPENDIX E

ENVIRONMENTAL DATA RESOURCES (EDR) REPORT

The EDR Radius Map
with GeoCheck®

Carmichael Water District
Ancil Hoffman Park site
Carmichael, CA 95608

Inquiry Number: 1806589.1s

November 29, 2006

EDR® Environmental
Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	6
Orphan Summary	7
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-9
Physical Setting Source Map Findings	A-10
Physical Setting Source Records Searched	A-33

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

ANCIL HOFFMAN PARK SITE
CARMICHAEL, CA 95608

COORDINATES

Latitude (North):	38.610000 - 38' 36' 36.0"
Longitude (West):	121.309000 - 121' 18' 32.4"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	647235.6
UTM Y (Meters):	4274648.0
Elevation:	74 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	38121-E3 CARMICHAEL, CA
Most Recent Revision:	1992
North Map:	38121-F3 CITRUS HEIGHTS, CA
Most Recent Revision:	1992

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
Delisted NPL..... National Priority List Deletions
NPL RECOVERY..... Federal Superfund Liens
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned

CORRACTS	Corrective Action Report
RCRA-TSDF	Resource Conservation and Recovery Act Information
RCRA-LQG	Resource Conservation and Recovery Act Information
RCRA-SQG	Resource Conservation and Recovery Act Information
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
US BROWNFIELDS	A Listing of Brownfields Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

HIST Cal-Sites	Historical Calsites Database
CA BOND EXP. PLAN	Bond Expenditure Plan
SCH	School Property Evaluation Program
Toxic Pits	Toxic Pits Cleanup Act Sites
SWF/LF	Solid Waste Information System
CA WDS	Waste Discharge System
WMUDS/SWAT	Waste Management Unit Database
Cortese	"Cortese" Hazardous Waste & Substances Sites List
SWRCY	Recycler Database
LUST	Geotracker's Leaking Underground Fuel Tank Report
CA FID UST	Facility Inventory Database
SLIC	Statewide SLIC Cases
Sacramento Co. CS	CS - Contaminated Sites
UST	Active UST Facilities
HIST UST	Hazardous Substance Storage Container Database
AST	Aboveground Petroleum Storage Tank Facilities
SWEEPS UST	SWEEPS UST Listing
CHMIRS	California Hazardous Material Incident Report System
Notify 65	Proposition 65 Records
DEED	Deed Restriction Listing
VCP	Voluntary Cleanup Program Properties
CLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
CDL	Clandestine Drug Labs
Sacramento Co. ML	ML - Regulatory Compliance Master List
RESPONSE	State Response Sites

EXECUTIVE SUMMARY

HAZNET..... Facility and Manifest Data
EMI..... Emissions Inventory Data
ENVIROSTOR..... EnviroStor Database

TRIBAL RECORDS

INDIAN RESERV..... Indian Reservations
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
INDIAN UST..... Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

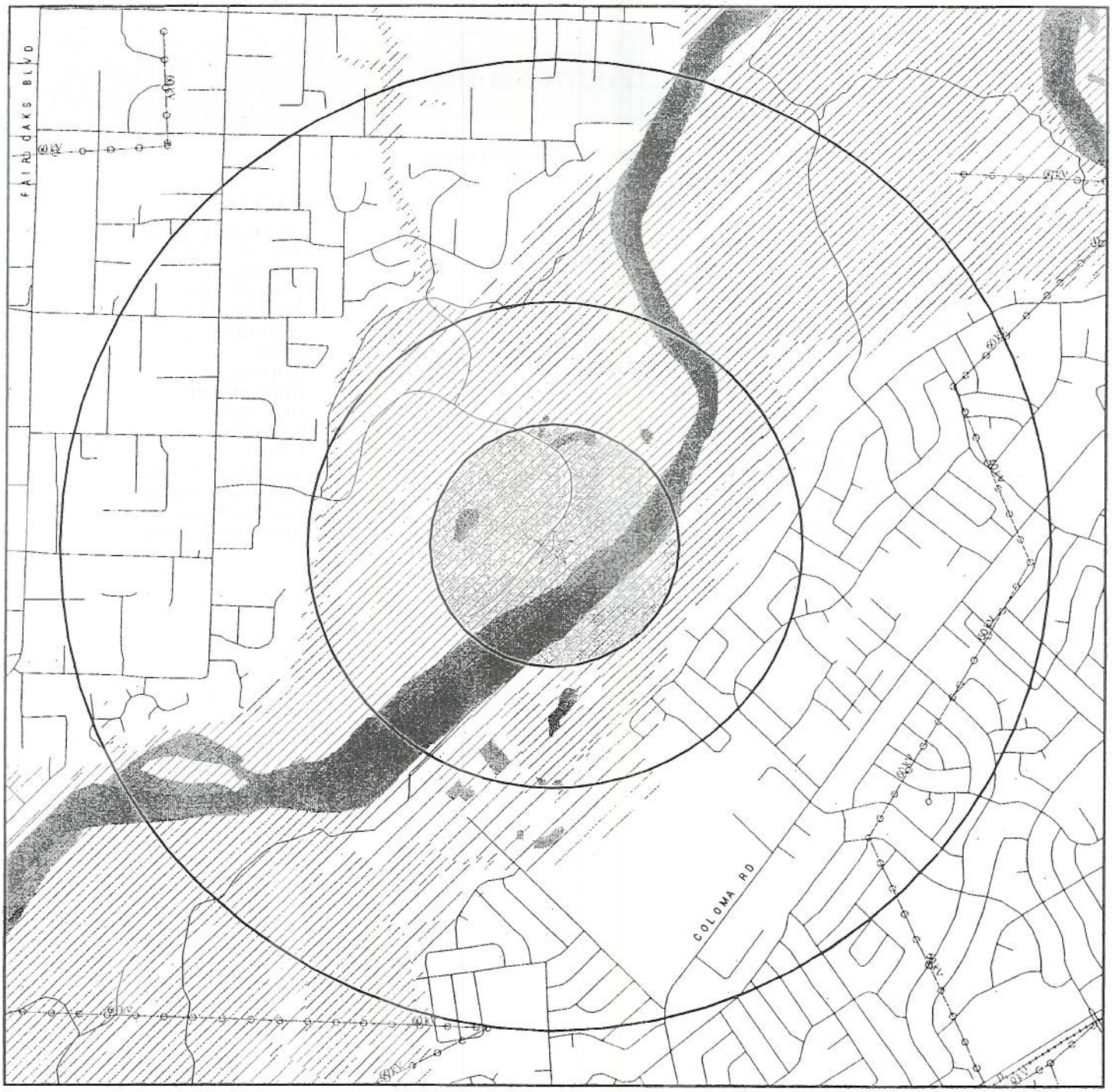
Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
H.M. KUPPENBENDER	CA FID UST, SWEEPS UST
AEROJET GENERAL CORPORATION	SWEEPS UST
AEROJET STRATEGIC PROPULSION C	SWEEPS UST
AEROJET TACTICAL SYSTEMS COMPA	SWEEPS UST
ASPC (CHEMICAL OPERATIONS)	SWEEPS UST
CLEAN-N-SAVE OF CARMICHAEL	CLEANERS
AEROJET GENERAL CORPORATION	DEED
TWITCHELL ISLAND ROAD .5 MI WEST OF RIO VISTA	CHMIRS, SLIC
TEICHERT CONSTRUCTION PROPERTY	CERC-NFRAP
H.M. KUPPENBENDER	HIST UST
COOK'S COLLISION OF CARMICHAEL	HAZNET
CARMICHAEL WATER DISTRICT	FINDS
CARMICHAEL OVERHEAD DOOR	Sacramento Co. ML
CLEAN N SAVE OF CARMICHAEL	Sacramento Co. ML
CARMICHAEL SMOG-TEST ONLY	Sacramento Co. ML
ARDEN CORDOVA WATER	Sacramento Co. ML

OVERVIEW MAP - 1806589.1s



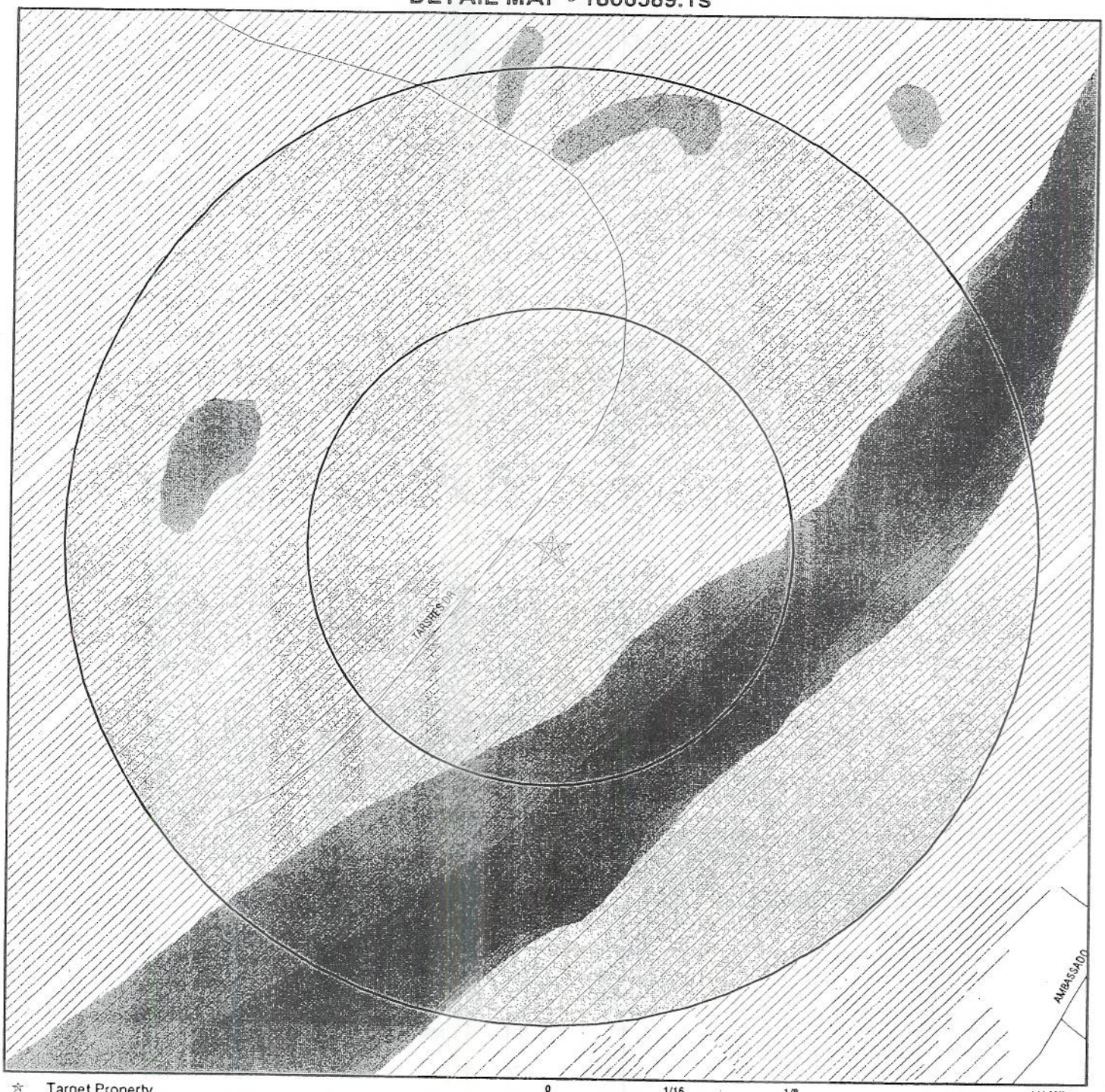
- ☆ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

0 1/4 1/2 1 Miles

N

SITE NAME: Carmichael Water District	CLIENT: AES
ADDRESS: Ancil Hoffman Park site Carmichael CA 95608	CONTACT: Pete Connelly INQUIRY #: 1806589.1s
LAT/LONG: 38.6100 / 121.3090	DATE: November 29, 2006 6:29 pm

DETAIL MAP - 1806589.1s



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

SITE NAME: Carmichael Water District ADDRESS: Ancil Hoffman Park site Carmichael CA 95608 LAT/LONG: 38.6100 / 121.3090	CLIENT: AES CONTACT: Pete Connelly INQUIRY #: 1806589.1s DATE: November 29, 2006, 6:30 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL RECORDS								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
NPL RECOVERY		TP	NR	NR	NR	NR	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.500	0	0	0	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRA TSD		0.500	0	0	0	NR	NR	0
RCRA Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
STATE AND LOCAL RECORDS								
Hist Cal-Sites		1.000	0	0	0	0	NR	0
CA Bond Exp. Plan		1.000	0	0	0	0	NR	0
SCH		0.250	0	0	NR	NR	NR	0
Toxic Pits		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
CA WDS		TP	NR	NR	NR	NR	NR	0
WMUDS/SWAT		0.500	0	0	0	NR	NR	0
Cortese		0.500	0	0	0	NR	NR	0
SWRCY		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
CA FID UST		0.250	0	0	NR	NR	NR	0
SLIC		0.500	0	0	0	NR	NR	0
Sacramento Co. CS		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
HIST UST		0.250	0	0	NR	NR	NR	0
AST		0.250	0	0	NR	NR	NR	0
SWEEPS UST		0.250	0	0	NR	NR	NR	0
CHMIRS		TP	NR	NR	NR	NR	NR	0
Notify 65		1.000	0	0	0	0	NR	0
DEED		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
WIP		0.250	0	0	NR	NR	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
Sacramento Co. ML		0.250	0	0	NR	NR	NR	0
RESPONSE		1.000	0	0	0	0	NR	0
HAZNET		TP	NR	NR	NR	NR	NR	0
EMI		TP	NR	NR	NR	NR	NR	0
ENVIROSTOR		1.000	0	0	0	0	NR	0
TRIBAL RECORDS								
INDIAN RESERV		1.000	0	0	0	0	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
EDR PROPRIETARY RECORDS								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site	Database(s)	EDR ID Number EPA ID Number
	NO SITES FOUND		

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CARMICHAEL	S101627728	H.M. KUPPENBENDER	HWY 45 AT MILLERS LNDG	95608	CA FID UST, SWEEPS UST
CARMICHAEL	U001612374	H.M. KUPPENBENDER	HWY 45 AT MILLERS LANDING	95608	HIST UST
CARMICHAEL	S106093247	COOK'S COLLISION OF CARMICHAEL	5800 N AVE	95608	HAZNET
CARMICHAEL	S107769641	CARMICHAEL OVERHEAD DOOR	4045 CALIFORNIA AVE STE A	95608	Sacramento Co. ML
CARMICHAEL	1008042267	CARMICHAEL WATER DISTRICT	CARMICHAEL WATER DISTRICT	95608	FINDS
CARMICHAEL	S107769659	CLEAN N SAVE OF CARMICHAEL	7250 FAIR OAKS BLVD A	95608	Sacramento Co. ML
CARMICHAEL	S107769642	CARMICHAEL SMOG-TEST ONLY	7846 FAIR OAKS BLVD C	95608	Sacramento Co. ML
CARMICHAEL	S106167469	CLEAN-N-SAVE OF CARMICHAEL	7250 FAIR OAKS BLVD STE A	95608	CLEANERS
RANCHO CORDOVA	S106922440	AEROJET GENERAL CORPORATION	AEROJET RD / HWY 50	95670	SWEEPS UST
RANCHO CORDOVA	S106922443	AEROJET STRATEGIC PROPULSION C	AEROJET RD / HWY 50	95670	SWEEPS UST
RANCHO CORDOVA	S106922444	AEROJET TACTICAL SYSTEMS COMPA	AEROJET RD / HWY 50	95670	SWEEPS UST
RANCHO CORDOVA	S106922906	ASPC (CHEMICAL OPERATIONS)	AEROJET RD / HWY 50	95670	SWEEPS UST
RANCHO CORDOVA	S106782312	AEROJET GENERAL CORPORATION	US HWY 50 / AEROJET ROAD	95670	DEED
RANCHO CORDOVA	S103707669	ARDEN CORDOVA WATER	3310 KILGORE RD	95670	Sacramento Co. ML
RANCHO CORDOVA	1003878965	TEICHERT CONSTRUCTION PROPERTY	SYSTEMS PKWY/OLD PLACERVILLE R	95670	CERC-NFRAP
SACRAMENTO COUNTY	S105641112		TWITCHELL ISLAND ROAD .5 MI WEST OF RIO VISTA		CHMIRS, SLIC

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/27/2006
Date Data Arrived at EDR: 11/01/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 21

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

Date of Government Version: 09/27/2006
Date Data Arrived at EDR: 11/01/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 21

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/27/2006
Date Data Arrived at EDR: 11/01/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 21

Source: EPA
Telephone: N/A
Last EDR Contact: 11/01/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL RECOVERY: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/09/2006
Date Data Arrived at EDR: 09/21/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 62

Source: EPA
Telephone: 703-603-8960
Last EDR Contact: 09/21/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/10/2006
Date Data Arrived at EDR: 10/25/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 28

Source: EPA
Telephone: 703-603-8960
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/15/2006
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/13/2006
Date Data Arrived at EDR: 06/28/2006
Date Made Active in Reports: 08/23/2006
Number of Days to Update: 56

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/22/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 01/12/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 40

Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Last EDR Contact: 10/24/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 10/18/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 35

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/18/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/21/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 09/07/2006
Next Scheduled EDR Contact: 10/02/2006
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/21/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 09/07/2006
Next Scheduled EDR Contact: 10/02/2006
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 11/10/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 09/20/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 63

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 07/10/2006
Date Data Arrived at EDR: 07/13/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 55

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/11/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/14/2004
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 04/25/2005
Number of Days to Update: 69

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/10/2006
Date Data Arrived at EDR: 07/21/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 47

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 11/04/2005
Date Data Arrived at EDR: 11/28/2005
Date Made Active in Reports: 01/30/2006
Number of Days to Update: 63

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 06/22/2006
Date Made Active in Reports: 08/23/2006
Number of Days to Update: 62

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/22/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 10/18/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 10/27/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 26

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 10/27/2006
Date Made Active in Reports: 11/22/2006
Number of Days to Update: 26

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 05/11/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 11

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 11/07/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 02/13/2006
Date Data Arrived at EDR: 04/21/2006
Date Made Active in Reports: 05/11/2006
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 07/17/2006
Next Scheduled EDR Contact: 10/16/2006
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/07/2006
Date Data Arrived at EDR: 08/09/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 28

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 11/29/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/10/2006
Date Data Arrived at EDR: 07/20/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 48

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/09/2006
Date Data Arrived at EDR: 09/27/2006
Date Made Active in Reports: 11/27/2006
Number of Days to Update: 61

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/27/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Semi-Annually

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/21/2006
Date Data Arrived at EDR: 07/25/2006
Date Made Active in Reports: 09/06/2006
Number of Days to Update: 43

Source: EPA
Telephone: N/A
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 06/17/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 48

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 10/20/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Biennially

STATE AND LOCAL RECORDS

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 11/27/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: No Update Planned

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 08/29/2006
Date Data Arrived at EDR: 08/30/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 36

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/29/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 10/30/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: No Update Planned

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/13/2006
Date Data Arrived at EDR: 09/13/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 22

Source: Integrated Waste Management Board
Telephone: 916-341-6320
Last EDR Contact: 09/13/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Quarterly

CA WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 09/20/2006
Date Data Arrived at EDR: 09/21/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 34

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 09/21/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Quarterly

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 05/29/2001
Date Made Active in Reports: 07/26/2001
Number of Days to Update: 58

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 10/10/2006
Date Data Arrived at EDR: 10/12/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 13

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 10/12/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/11/2006
Date Data Arrived at EDR: 10/12/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 13

Source: State Water Resources Control Board
Telephone: 916-341-5752
Last EDR Contact: 10/12/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Quarterly

LUST REG 5: Leaking Underground Storage Tank Database

Date of Government Version: 09/30/2006
Date Data Arrived at EDR: 10/25/2006
Date Made Active in Reports: 11/28/2006
Number of Days to Update: 34

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 10/25/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Quarterly

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-346-7491
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-4130
Last EDR Contact: 11/07/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 10/17/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-346-7491
Last EDR Contact: 11/16/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 916-542-5424
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 09/25/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-576-2220
Last EDR Contact: 11/16/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 10/09/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases

The Spills, Leaks, Investigations, and Cleanups (SLIC) listings includes unauthorized discharges from spills and leaks, other than from underground storage tanks or other regulated sites.

Date of Government Version: 10/11/2006
Date Data Arrived at EDR: 10/12/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 13

Source: State Water Resources Control Board
Telephone: 916-341-5752
Last EDR Contact: 10/12/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 11/16/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 10/09/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Unregulated sites that impact groundwater or have the potential to impact groundwater.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 11/16/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 04/06/2006
Date Data Arrived at EDR: 04/06/2006
Date Made Active in Reports: 05/11/2006
Number of Days to Update: 35

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 10/05/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 08/30/2006
Date Data Arrived at EDR: 08/31/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 35

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 11/27/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Annually

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 10/11/2006
Date Data Arrived at EDR: 10/12/2006
Date Made Active in Reports: 11/13/2006
Number of Days to Update: 32

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 10/12/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Semi-Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AST: Aboveground Petroleum Storage Tank Facilities

Registered Aboveground Storage Tanks.

Date of Government Version: 01/30/2006
Date Data Arrived at EDR: 01/30/2006
Date Made Active in Reports: 02/17/2006
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 10/30/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1980's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 11/30/2005
Date Made Active in Reports: 01/19/2006
Number of Days to Update: 50

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 11/20/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NOTIFY 65: Proposition 65 Records

Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 10/16/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: No Update Planned

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 10/04/2006
Date Data Arrived at EDR: 10/05/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/05/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Semi-Annually

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/29/2006
Date Data Arrived at EDR: 08/30/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 36

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/29/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 04/18/2005
Date Data Arrived at EDR: 04/18/2005
Date Made Active in Reports: 05/06/2005
Number of Days to Update: 18

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 10/02/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 10/25/2006
Date Data Arrived at EDR: 10/31/2006
Date Made Active in Reports: 11/28/2006
Number of Days to Update: 28

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 05/17/2006
Date Data Arrived at EDR: 05/17/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 29

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Varies

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 08/29/2006
Date Data Arrived at EDR: 08/30/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 36

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/29/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Quarterly

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 10/11/2005
Date Made Active in Reports: 10/31/2005
Number of Days to Update: 20

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 11/20/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/11/2006
Number of Days to Update: 27

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 10/20/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Varies

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 08/29/2006
Date Data Arrived at EDR: 08/30/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 36

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/29/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Quarterly

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 11/10/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 09/07/2006
Date Data Arrived at EDR: 09/08/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 61

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 09/11/2006
Date Data Arrived at EDR: 09/11/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 58

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 09/06/2006
Date Data Arrived at EDR: 10/04/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/30/2006
Date Data Arrived at EDR: 09/06/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/06/2006
Date Data Arrived at EDR: 10/04/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 35

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/04/2005
Date Data Arrived at EDR: 01/21/2005
Date Made Active in Reports: 02/28/2005
Number of Days to Update: 38

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Minnesota, Mississippi and North Carolina.

Date of Government Version: 08/24/2006
Date Data Arrived at EDR: 09/11/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 58

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Semi-Annually

INDIAN UST R4: Underground Storage Tanks on Indian Land

Date of Government Version: 08/24/2006
Date Data Arrived at EDR: 09/11/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 58

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Semi-Annually

INDIAN UST R9: Underground Storage Tanks on Indian Land

Date of Government Version: 09/06/2006
Date Data Arrived at EDR: 10/04/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 35

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

Date of Government Version: 09/06/2006
Date Data Arrived at EDR: 10/04/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 35

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

Date of Government Version: 08/30/2006
Date Data Arrived at EDR: 09/06/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

Date of Government Version: 12/02/2004
Date Data Arrived at EDR: 12/29/2004
Date Made Active in Reports: 02/04/2005
Number of Days to Update: 37

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

Date of Government Version: 09/11/2006
Date Data Arrived at EDR: 09/11/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 58

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land
A listing of underground storage tank locations on Indian Land.

Date of Government Version: 09/07/2006
Date Data Arrived at EDR: 09/08/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 61

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

Date of Government Version: 08/28/2006
Date Data Arrived at EDR: 08/29/2006
Date Made Active in Reports: 11/08/2006
Number of Days to Update: 71

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Semi-Annually

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 10/26/2006
Date Data Arrived at EDR: 10/27/2006
Date Made Active in Reports: 11/28/2006
Number of Days to Update: 32

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Semi-Annually

Underground Tanks

Date of Government Version: 10/26/2006
Date Data Arrived at EDR: 10/27/2006
Date Made Active in Reports: 11/13/2006
Number of Days to Update: 17

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 09/05/2006
Date Data Arrived at EDR: 09/05/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 30

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 11/27/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Semi-Annually

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 07/11/2006
Date Data Arrived at EDR: 07/12/2006
Date Made Active in Reports: 07/27/2006
Number of Days to Update: 15

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 11/20/2006
Next Scheduled EDR Contact: 02/05/2007
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing

Kern County Sites and Tanks Listing.

Date of Government Version: 09/05/2006
Date Data Arrived at EDR: 09/05/2006
Date Made Active in Reports: 09/18/2006
Number of Days to Update: 13

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 07/07/1999
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 05/16/2006
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/31/2006
Date Data Arrived at EDR: 10/30/2006
Date Made Active in Reports: 11/28/2006
Number of Days to Update: 29

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Date of Government Version: 08/15/2006
Date Data Arrived at EDR: 08/25/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 41

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 11/15/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Varies

City of Los Angeles Landfills

Date of Government Version: 03/01/2006
Date Data Arrived at EDR: 04/06/2006
Date Made Active in Reports: 05/11/2006
Number of Days to Update: 35

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 09/11/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/05/2006
Date Data Arrived at EDR: 02/16/2006
Date Made Active in Reports: 03/13/2006
Number of Days to Update: 25

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Date of Government Version: 09/11/2006
Date Data Arrived at EDR: 09/22/2006
Date Made Active in Reports: 11/06/2006
Number of Days to Update: 45

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 11/27/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 11/21/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Date of Government Version: 08/15/2006
Date Data Arrived at EDR: 08/17/2006
Date Made Active in Reports: 09/18/2006
Number of Days to Update: 32

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 02/12/2007
Data Release Frequency: Semi-Annually

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 08/08/2006
Date Data Arrived at EDR: 08/29/2006
Date Made Active in Reports: 09/18/2006
Number of Days to Update: 20

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 10/30/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination

Date of Government Version: 10/09/2006
Date Data Arrived at EDR: 10/09/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 16

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/25/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Closed and Operating Underground Storage Tank Sites

Date of Government Version: 10/09/2006
Date Data Arrived at EDR: 10/09/2006
Date Made Active in Reports: 11/06/2006
Number of Days to Update: 28

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/25/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Annually

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 09/01/2006
Date Data Arrived at EDR: 09/18/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 37

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 09/06/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 09/01/2006
Date Data Arrived at EDR: 09/20/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 35

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 09/06/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 09/01/2006
Date Data Arrived at EDR: 09/20/2006
Date Made Active in Reports: 10/20/2006
Number of Days to Update: 30

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 09/06/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 08/30/2006
Date Data Arrived at EDR: 08/31/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 35

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 08/14/2006
Next Scheduled EDR Contact: 12/19/2006
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 11/09/2006
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 11/28/2006
Number of Days to Update: 18

Source: Department of Public Health
Telephone: 951-358-5055
Last EDR Contact: 10/16/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Date of Government Version: 08/08/2006
Date Data Arrived at EDR: 08/08/2006
Date Made Active in Reports: 09/18/2006
Number of Days to Update: 41

Source: Health Services Agency
Telephone: 951-358-5055
Last EDR Contact: 10/16/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Contaminated Sites

Date of Government Version: 08/02/2006
Date Data Arrived at EDR: 08/18/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 48

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

ML - Regulatory Compliance Master List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/02/2006
Date Data Arrived at EDR: 08/25/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 41

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 11/17/2006
Next Scheduled EDR Contact: 01/29/2007
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 09/26/2006
Date Data Arrived at EDR: 10/17/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 8

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 05/16/2005
Date Data Arrived at EDR: 05/18/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 29

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 10/20/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 11/01/2005
Date Data Arrived at EDR: 12/29/2005
Date Made Active in Reports: 01/19/2006
Number of Days to Update: 21

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 11/20/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Varies

SAN FRANCISCO COUNTY:

Local Oversite Facilities

Date of Government Version: 09/18/2006
Date Data Arrived at EDR: 09/20/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 35

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

Underground Storage Tank Information

Date of Government Version: 09/18/2006
Date Data Arrived at EDR: 09/20/2006
Date Made Active in Reports: 10/20/2006
Number of Days to Update: 30

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 07/25/2006
Date Data Arrived at EDR: 08/10/2006
Date Made Active in Reports: 09/18/2006
Number of Days to Update: 39

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 10/30/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Semi-Annually

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 08/25/2006
Date Data Arrived at EDR: 08/25/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 41

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 10/09/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Annually

Fuel Leak List

Date of Government Version: 10/10/2006
Date Data Arrived at EDR: 10/11/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 14

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 10/09/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Semi-Annually

SANTA CLARA COUNTY:

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 09/25/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: No Update Planned

LOP Listing

A listing of open leaking underground storage tanks.

Date of Government Version: 09/29/2006
Date Data Arrived at EDR: 10/02/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 23

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 09/25/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Varies

Hazardous Material Facilities

Date of Government Version: 09/07/2006
Date Data Arrived at EDR: 09/08/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 27

Source: City of San Jose Fire Department
Telephone: 408-277-4659
Last EDR Contact: 09/05/2006
Next Scheduled EDR Contact: 12/04/2006
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks

Date of Government Version: 07/05/2006
Date Data Arrived at EDR: 07/25/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 30

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 10/18/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Quarterly

Underground Storage Tanks

Date of Government Version: 07/03/2006
Date Data Arrived at EDR: 07/26/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 29

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 10/18/2006
Next Scheduled EDR Contact: 12/25/2006
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites

Date of Government Version: 10/23/2006
Date Data Arrived at EDR: 10/24/2006
Date Made Active in Reports: 11/28/2006
Number of Days to Update: 35

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/22/2007
Data Release Frequency: Quarterly

SUTTER COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Underground Storage Tanks

Date of Government Version: 12/31/0005
Date Data Arrived at EDR: 01/05/2006
Date Made Active in Reports: 01/31/2006
Number of Days to Update: 26

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 10/27/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 08/28/2006
Date Data Arrived at EDR: 09/26/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 29

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/13/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 09/05/2006
Date Made Active in Reports: 10/05/2006
Number of Days to Update: 30

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/16/2006
Next Scheduled EDR Contact: 02/19/2007
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 08/28/2006
Date Data Arrived at EDR: 09/22/2006
Date Made Active in Reports: 10/25/2006
Number of Days to Update: 33

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/13/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 06/28/2006
Date Data Arrived at EDR: 07/27/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 28

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/12/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Date of Government Version: 07/19/2006
Date Data Arrived at EDR: 08/01/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 23

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 01/15/2007
Data Release Frequency: Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/17/2006
Date Made Active in Reports: 04/07/2006
Number of Days to Update: 49

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 09/11/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/01/2006
Date Data Arrived at EDR: 07/06/2006
Date Made Active in Reports: 08/01/2006
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 11/13/2006
Next Scheduled EDR Contact: 01/01/2007
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2006
Date Data Arrived at EDR: 08/30/2006
Date Made Active in Reports: 10/16/2006
Number of Days to Update: 47

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/29/2006
Next Scheduled EDR Contact: 02/26/2007
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 06/06/2006
Number of Days to Update: 81

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 09/11/2006
Next Scheduled EDR Contact: 12/11/2006
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 09/30/2005
Date Data Arrived at EDR: 05/09/2006
Date Made Active in Reports: 05/24/2006
Number of Days to Update: 15

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 09/18/2006
Next Scheduled EDR Contact: 12/18/2006
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 05/02/2006
Number of Days to Update: 46

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 10/23/2006
Next Scheduled EDR Contact: 01/08/2007
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CARMICHAEL WATER DISTRICT
ANCIL HOFFMAN PARK SITE
CARMICHAEL, CA 95608

TARGET PROPERTY COORDINATES

Latitude (North):	38.61000 - 38˚ 36' 36.0"
Longitude (West):	121.309 - 121˚ 18' 32.4"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	647235.6
UTM Y (Meters):	4274648.0
Elevation:	74 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	38121-E3 CARMICHAEL, CA
Most Recent Revision:	1992
North Map:	38121-F3 CITRUS HEIGHTS, CA
Most Recent Revision:	1992

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

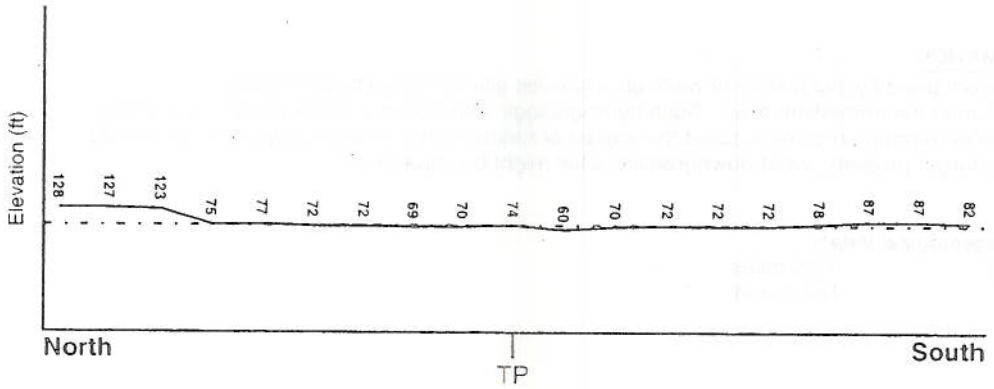
TOPOGRAPHIC INFORMATION

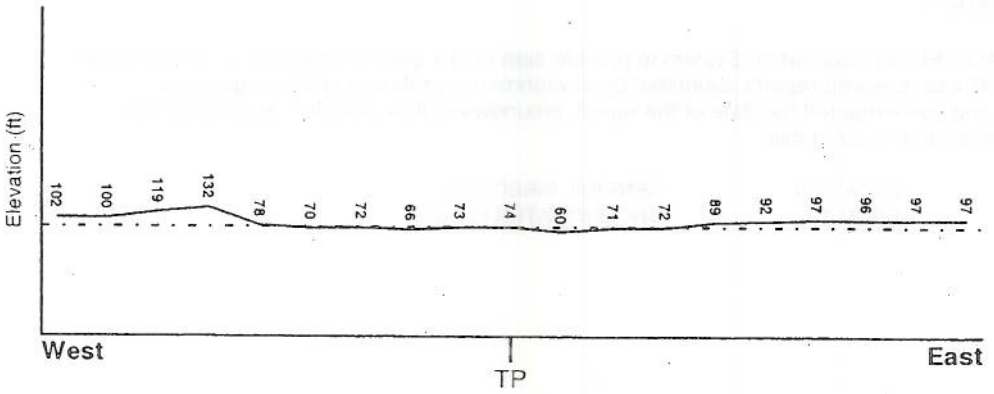
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

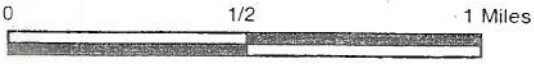
General Topographic Gradient: General NW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 74 ft.



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
SACRAMENTO, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	0602620210D
Additional Panels in search area:	0602620205D

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
CARMICHAEL	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

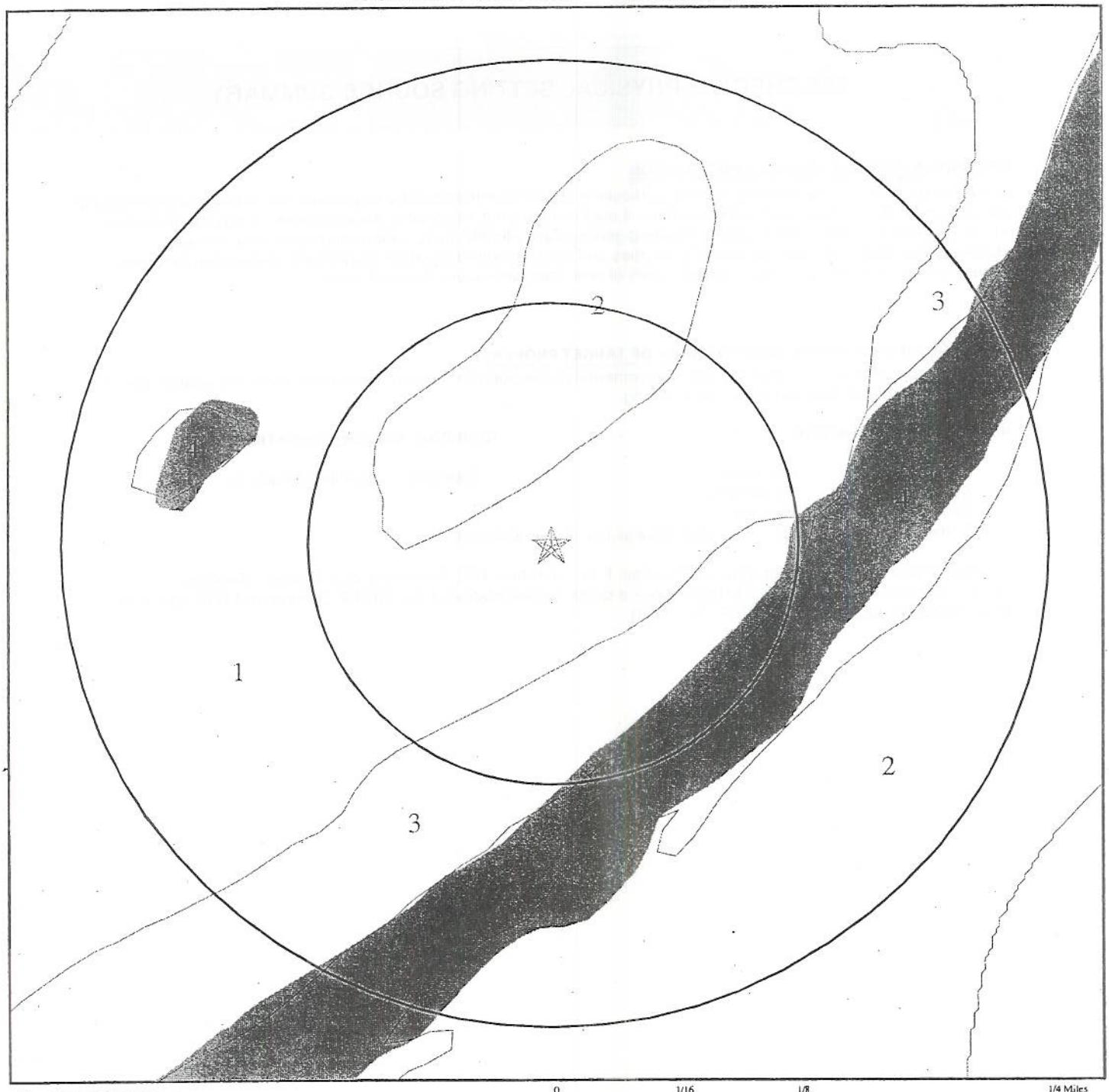
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 1806589.1s



Target Property
SSURGO Soil
Water

SITE NAME: Carmichael Water District ADDRESS: Ancil Hoffman Park site Carmichael CA 95608 LAT/LONG: 38.6100 / 121.3090	CLIENT: AES CONTACT: Pete Connelly INQUIRY #: 1806589.1s DATE: November 29, 2006 6:30 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: XEROFLUVENTS

Soil Surface Texture: variable

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Somewhat excessive. Soils have high hydraulic conductivity and low water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil meets the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 0 inches

Depth to Bedrock Max: > 0 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	60 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

Soil Map ID: 2

Soil Component Name: ROSSMORE

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 0 inches

Depth to Bedrock Max: > 0 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	6 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 7.80 Min: 6.60
2	6 inches	62 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 7.80 Min: 6.60

Soil Map ID: 3

Soil Component Name: RIVERWASH

Soil Surface Texture: variable

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil meets the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Bedrock Max: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	60 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

Soil Map ID: 4

Soil Component Name: WATER

Soil Surface Texture: Not reported

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Bedrock Max: > 0 inches

No Layer Information available.

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS3225469	1/2 - 1 Mile ESE
2	USGS3225491	1/2 - 1 Mile East
A12	USGS3225445	1/2 - 1 Mile SE
13	USGS3225612	1/2 - 1 Mile South
14	USGS3225462	1/2 - 1 Mile ESE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A3	9162	1/2 - 1 Mile SSE
A4	9161	1/2 - 1 Mile SSE
A5	9167	1/2 - 1 Mile SSE
A6	9166	1/2 - 1 Mile SSE
A7	9146	1/2 - 1 Mile SSE
A8	9144	1/2 - 1 Mile SSE
B9	23876	1/2 - 1 Mile SW
B10	9107	1/2 - 1 Mile SW
B11	9145	1/2 - 1 Mile SW

PHYSICAL SETTING SOURCE MAP - 1806589.1s

County Boundary
Major Roads
Contour Lines
Earthquake Fault Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Closest Hydrogeological Data
Oil, gas or related wells

SITE NAME: Carmichael Water District	CLIENT: AES
ADDRESS: Ancil Hoffman Park site Carmichael CA 95608	CONTACT: Pete Connelly INQUIRY #: 1806589.1s
LAT/LONG: 38.6100 / 121.3090	DATE: November 29, 2006 6:30 pm

Map ID Direction Distance Elevation		Database	EDR ID Number
1 **ESE** **1/2 - 1 Mile** **Higher**		**FED USGS**	**USGS3225469**

Agency cd:	USGS	Site no:	383620121175601
Site name:	009N006E27H001M		
Latitude:	383620		
Longitude:	1211756	Dec lat:	38.60546075
Dec lon:	-121.29995019	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	067
Country:	US	Land net:	Not Reported
Location map:	CARMICHAEL	Map scale:	24000
Altitude:	92.00	Altitude method:	M
Altitude accuracy:	2.5	Altitude datum:	NGVD29
Hydrologic:	Lower American. California. Area = 299 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19591101
Date inventoried:	19871207	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	268	Hole depth:	556
Source of depth data:	other government (other than USGS)	Project number:	470688896
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1987-12-07	Ground water data end date:	1987-12-07
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1987-12-07	74.12	

2 **East** **1/2 - 1 Mile** **Higher**		**FED USGS**	**USGS3225491**

Agency cd:	USGS	Site no:	383632121174701
Site name:	009N006E26E001M		
Latitude:	383632		
Longitude:	1211747	Dec lat:	38.60879401
Dec lon:	-121.29745013	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	067
Country:	US	Land net:	Not Reported
Location map:	CARMICHAEL	Map scale:	24000

Altitude:	92.00	Altitude method:	M
Altitude accuracy:	2.5	Altitude datum:	NGVD29
Hydrologic:	Lower American. California. Area = 299 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	195807
Date inventoried:	19871107	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	240	Hole depth:	445
Source of depth data:	other government (other than USGS)	Project number:	470688896
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

A3
SSE
1/2 - 1 Mile
Higher

CA WELLS **9162**

Water System Information:

Prime Station Code:	09N/06E-34G01 M	User ID:	TEN
FRDS Number:	3410015005	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Untreated
Source Lat/Long:	383600.0 1211800.0	Precision:	Undefined
Source Name:	WELL 03 - GILBERT		
System Number:	3410015		
System Name:	Southern CA Water Co - Cordova Water Srv		
Organization That Operates System:	630 East Foothill Blvd San Dimas, CA 91773		
Pop Served:	41840	Connections:	11068
Area Served:	Not Reported		

Sample Collected:	05/19/1999 00:00:00	Findings:	19 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	09/21/1999 00:00:00	Findings:	18 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	09/21/1999 00:00:00	Findings:	468 PCI/L
Chemical:	RADON 222		
Sample Collected:	05/25/2000 00:00:00	Findings:	21 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	09/13/2000 00:00:00	Findings:	1 UG/L
Chemical:	TRICHLOROETHYLENE		

Sample Collected:	05/22/2001 00:00:00	Findings:	4400 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	10/10/2001 00:00:00	Findings:	.56 UG/L
Chemical:	TRICHLOROETHYLENE		

A4
SSE
1/2 - 1 Mile
Higher

CA WELLS 9161

Water System Information:

Prime Station Code:	09N/06E-34C01 M	User ID:	TEN
FRDS Number:	3410015010	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Untreated
Source Lat/Long:	383600.0 1211800.0	Precision:	1 Mile (One Minute)
Source Name:	WELL 08 - AGNES		
System Number:	3410015		
System Name:	Southern CA Water Co - Cordova Water Srv		
Organization That Operates System:	630 East Foothill Blvd San Dimas, CA 91773		
Pop Served:	41840	Connections:	11068
Area Served:	Not Reported		

Sample Collected:	09/21/1999 00:00:00	Findings:	21 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	09/21/1999 00:00:00	Findings:	574 PCI/L
Chemical:	RADON 222		
Sample Collected:	05/25/2000 00:00:00	Findings:	6.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	05/22/2001 00:00:00	Findings:	1300 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	03/26/2002 00:00:00	Findings:	270 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	03/26/2002 00:00:00	Findings:	8
Chemical:	PH, LABORATORY		
Sample Collected:	03/26/2002 00:00:00	Findings:	120 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	03/26/2002 00:00:00	Findings:	146 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	03/26/2002 00:00:00	Findings:	150 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	03/26/2002 00:00:00	Findings:	35 MG/L
Chemical:	CALCIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	14 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	16 MG/L
Chemical:	SODIUM		

Sample Collected:	03/26/2002 00:00:00	Findings:	3.4 MG/L
Chemical:	POTASSIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	9.6 MG/L
Chemical:	CHLORIDE		
Sample Collected:	03/26/2002 00:00:00	Findings:	210 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	03/26/2002 00:00:00	Findings:	13 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03/26/2002 00:00:00	Findings:	12
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	03/26/2002 00:00:00	Findings:	.51 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	06/11/2002 00:00:00	Findings:	.52 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	06/11/2002 00:00:00	Findings:	270 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/11/2002 00:00:00	Findings:	1.8 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	06/11/2002 00:00:00	Findings:	6 UG/L
Chemical:	VANADIUM		
Sample Collected:	09/24/2002 00:00:00	Findings:	.5 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	12/10/2002 00:00:00	Findings:	.57 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	12/10/2002 00:00:00	Findings:	548.1 UG/L
Chemical:	ENDOTHALL		
Sample Collected:	12/10/2002 00:00:00	Findings:	549.1 UG/L
Chemical:	DIQUAT		
Sample Collected:	12/10/2002 00:00:00	Findings:	270 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	12/10/2002 00:00:00	Findings:	2.8 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	12/10/2002 00:00:00	Findings:	.62 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	12/10/2002 00:00:00	Findings:	.62 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	01/28/2003 00:00:00	Findings:	12 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	01/27/2004 00:00:00	Findings:	13 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	01/19/2005 00:00:00	Findings:	110 UG/L
Chemical:	BARIUM		
Sample Collected:	01/19/2005 00:00:00	Findings:	330 US
Chemical:	SPECIFIC CONDUCTANCE		

Sample Collected:	01/19/2005 00:00:00	Findings:	7.78
Chemical:	PH, LABORATORY		
Sample Collected:	01/19/2005 00:00:00	Findings:	130 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	01/19/2005 00:00:00	Findings:	130 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	01/19/2005 00:00:00	Findings:	30 MG/L
Chemical:	CALCIUM		
Sample Collected:	01/19/2005 00:00:00	Findings:	12 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	01/19/2005 00:00:00	Findings:	13 MG/L
Chemical:	SODIUM		
Sample Collected:	01/19/2005 00:00:00	Findings:	3.3 MG/L
Chemical:	POTASSIUM		
Sample Collected:	01/19/2005 00:00:00	Findings:	11 MG/L
Chemical:	CHLORIDE		
Sample Collected:	01/19/2005 00:00:00	Findings:	230 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	01/19/2005 00:00:00	Findings:	12
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	01/19/2005 00:00:00	Findings:	7.76
Chemical:	PH, LABORATORY		
Sample Collected:	01/19/2005 00:00:00	Findings:	15 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	01/19/2005 00:00:00	Findings:	1.3 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	01/19/2005 00:00:00	Findings:	3500 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	01/26/2006 00:00:00	Findings:	13 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04/19/2006 00:00:00	Findings:	1.1 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		

A5
SSE
1/2 - 1 Mile
Higher

CA WELLS 9167

Water System Information:

Prime Station Code:	09N/06E-35C03 M	User ID:	TEN
FRDS Number:	3410015004	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Abandoned
Source Lat/Long:	383600.0 1211800.0	Precision:	Undefined
Source Name:	WELL 02 - CHARBONO - ABANDONED		
System Number:	3410015		
System Name:	Southern CA Water Co - Cordova Water Srv		
Organization That Operates System:			
	630 East Foothill Blvd		
	San Dimas, CA 91773		
Pop Served:	41840	Connections:	11068
Area Served:	Not Reported		

Map ID Direction Distance Elevation	Database	EDR ID Number
A6 **SSE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**9166**

Water System Information:

Prime Station Code:	09N/06E-35C02 M	User ID:	TEN
FRDS Number:	3410015003	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Untreated
Source Lat/Long:	383600.0 1211800.0	Precision:	Undefined
Source Name:	WELL 01 - ALICANTE		
System Number:	3410015		
System Name:	Southern CA Water Co - Cordova Water Srv		
Organization That Operates System:	630 East Foothill Blvd San Dimas, CA 91773		
Pop Served:	41840	Connections:	11068
Area Served:	Not Reported		

Sample Collected:	10/20/1999 00:00:00	Findings:	.78 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	03/07/2000 00:00:00	Findings:	1.5 UG/L
Chemical:	TETRACHLOROETHYLENE		
Sample Collected:	03/07/2000 00:00:00	Findings:	1.1 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	05/23/2000 00:00:00	Findings:	12 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	07/12/2000 00:00:00	Findings:	7.3 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	08/22/2000 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	09/13/2000 00:00:00	Findings:	1 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	09/13/2000 00:00:00	Findings:	9 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	10/04/2000 00:00:00	Findings:	13 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	10/25/2000 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	11/01/2000 00:00:00	Findings:	12 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	11/08/2000 00:00:00	Findings:	10 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	12/05/2000 00:00:00	Findings:	1.1 UG/L
Chemical:	TETRACHLOROETHYLENE		

Sample Collected:	12/05/2000 00:00:00	Findings:	1.2 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/26/2001 00:00:00	Findings:	1.3 UG/L
Chemical:	TETRACHLOROETHYLENE		
Sample Collected:	01/26/2001 00:00:00	Findings:	1.6 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	04/05/2001 00:00:00	Findings:	1.4 UG/L
Chemical:	TETRACHLOROETHYLENE		
Sample Collected:	04/05/2001 00:00:00	Findings:	1.7 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	05/08/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	05/22/2001 00:00:00	Findings:	2000 UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	05/22/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	06/28/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	07/11/2001 00:00:00	Findings:	14 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	07/17/2001 00:00:00	Findings:	9.7 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	07/24/2001 00:00:00	Findings:	15 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	08/01/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	08/08/2001 00:00:00	Findings:	10 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	08/14/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	08/23/2001 00:00:00	Findings:	10 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	08/29/2001 00:00:00	Findings:	9 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	09/06/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	09/13/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	09/18/2001 00:00:00	Findings:	11 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	10/03/2001 00:00:00	Findings:	10 UG/L
Chemical:	PERCHLORATE		
Sample Collected:	11/14/2001 00:00:00	Findings:	4.6 UG/L
Chemical:	PERCHLORATE		

Sample Collected:	01/27/1999 00:00:00	Findings:	1.5 UG/L
Chemical:	TETRACHLOROETHYLENE		
Sample Collected:	01/27/1999 00:00:00	Findings:	1.1 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	04/14/1999 00:00:00	Findings:	1.9 UG/L
Chemical:	TETRACHLOROETHYLENE		
Sample Collected:	04/14/1999 00:00:00	Findings:	1.6 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	05/20/1999 00:00:00	Findings:	12 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	07/08/1999 00:00:00	Findings:	.51 UG/L
Chemical:	TETRACHLOROETHYLENE		
Sample Collected:	07/08/1999 00:00:00	Findings:	.97 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	09/21/1999 00:00:00	Findings:	22 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	09/21/1999 00:00:00	Findings:	839 PCI/L
Chemical:	RADON 222		
Sample Collected:	10/20/1999 00:00:00	Findings:	1.1 UG/L
Chemical:	TETRACHLOROETHYLENE		

A7
SSE
1/2 - 1 Mile
Higher

CA WELLS 9146

Water System Information:

Prime Station Code:	09N/06E-27H01 M	User ID:	TEN
FRDS Number:	3410015014	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	383600.0 1211800.0	Precision:	Undefined
Source Name:	WELL 12 - WOODCLIFF		
System Number:	3410015		
System Name:	Southern CA Water Co - Cordova Water Srv		
Organization That Operates System:	630 East Foothill Blvd San Dimas, CA 91773		
Pop Served:	41840	Connections:	11068
Area Served:	Not Reported		

Sample Collected:	08/27/1999 00:00:00	Findings:	1.8 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	08/27/1999 00:00:00	Findings:	8.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	09/16/1999 00:00:00	Findings:	18 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	09/16/1999 00:00:00	Findings:	496 PCI/L
Chemical:	RADON 222		

Sample Collected:	01/29/2002 00:00:00	Findings:	260 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	01/29/2002 00:00:00	Findings:	7.6
Chemical:	PH, LABORATORY		
Sample Collected:	01/29/2002 00:00:00	Findings:	120 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	01/29/2002 00:00:00	Findings:	146 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	01/29/2002 00:00:00	Findings:	130 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	01/29/2002 00:00:00	Findings:	30 MG/L
Chemical:	CALCIUM		
Sample Collected:	01/29/2002 00:00:00	Findings:	14 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	01/29/2002 00:00:00	Findings:	15 MG/L
Chemical:	SODIUM		
Sample Collected:	01/29/2002 00:00:00	Findings:	3.5 MG/L
Chemical:	POTASSIUM		
Sample Collected:	01/29/2002 00:00:00	Findings:	7.7 MG/L
Chemical:	CHLORIDE		
Sample Collected:	01/29/2002 00:00:00	Findings:	3.2 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	01/29/2002 00:00:00	Findings:	4.8 UG/L
Chemical:	VANADIUM		
Sample Collected:	01/29/2002 00:00:00	Findings:	210 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	01/29/2002 00:00:00	Findings:	- .19
Chemical:	LANGELIER INDEX @ 60 C		
Sample Collected:	01/29/2002 00:00:00	Findings:	9.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	01/29/2002 00:00:00	Findings:	.54 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	02/26/2002 00:00:00	Findings:	1.1 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	03/12/2002 00:00:00	Findings:	.5 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	03/27/2002 00:00:00	Findings:	280 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	03/27/2002 00:00:00	Findings:	7.6
Chemical:	PH, LABORATORY		
Sample Collected:	03/27/2002 00:00:00	Findings:	120 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	03/27/2002 00:00:00	Findings:	146 MG/L
Chemical:	BICARBONATE ALKALINITY		

Sample Collected:	03/27/2002 00:00:00	Findings:	130 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	03/27/2002 00:00:00	Findings:	31 MG/L
Chemical:	CALCIUM		
Sample Collected:	03/27/2002 00:00:00	Findings:	14 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	03/27/2002 00:00:00	Findings:	16 MG/L
Chemical:	SODIUM		
Sample Collected:	03/27/2002 00:00:00	Findings:	2 MG/L
Chemical:	POTASSIUM		
Sample Collected:	03/27/2002 00:00:00	Findings:	7.8 MG/L
Chemical:	CHLORIDE		
Sample Collected:	03/27/2002 00:00:00	Findings:	.13 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	03/27/2002 00:00:00	Findings:	3.2 UG/L
Chemical:	ARSENIC		
Sample Collected:	03/27/2002 00:00:00	Findings:	130 UG/L
Chemical:	BARIUM		
Sample Collected:	03/27/2002 00:00:00	Findings:	200 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	03/27/2002 00:00:00	Findings:	9.8 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03/27/2002 00:00:00	Findings:	11.6
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	06/26/2002 00:00:00	Findings:	280 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/26/2002 00:00:00	Findings:	7.7
Chemical:	PH, LABORATORY		
Sample Collected:	06/26/2002 00:00:00	Findings:	120 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	06/26/2002 00:00:00	Findings:	146 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	06/26/2002 00:00:00	Findings:	140 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	06/26/2002 00:00:00	Findings:	32 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/26/2002 00:00:00	Findings:	15 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	06/26/2002 00:00:00	Findings:	16 MG/L
Chemical:	SODIUM		
Sample Collected:	06/26/2002 00:00:00	Findings:	2 MG/L
Chemical:	POTASSIUM		
Sample Collected:	06/26/2002 00:00:00	Findings:	7.2 MG/L
Chemical:	CHLORIDE		

Sample Collected:	06/26/2002 00:00:00	Findings:	.25 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	06/26/2002 00:00:00	Findings:	220 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	06/26/2002 00:00:00	Findings:	9.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	06/26/2002 00:00:00	Findings:	11.7
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	06/26/2002 00:00:00	Findings:	.45 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	06/26/2002 00:00:00	Findings:	310 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/26/2002 00:00:00	Findings:	3.3 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	06/26/2002 00:00:00	Findings:	6 UG/L
Chemical:	VANADIUM		
Sample Collected:	09/26/2002 00:00:00	Findings:	.5 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	12/11/2002 00:00:00	Findings:	.55 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	12/11/2002 00:00:00	Findings:	310 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	12/11/2002 00:00:00	Findings:	3 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	01/28/2003 00:00:00	Findings:	87 UG/L
Chemical:	MANGANESE		
Sample Collected:	01/28/2003 00:00:00	Findings:	9.7 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	01/28/2003 00:00:00	Findings:	.54 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	04/29/2003 00:00:00	Findings:	26 UG/L
Chemical:	MANGANESE		
Sample Collected:	04/29/2003 00:00:00	Findings:	.98 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	08/13/2003 00:00:00	Findings:	.003 UG/L
Chemical:	N-NITROSODIMETHYLAMINE (NDMA)		
Sample Collected:	10/23/2003 00:00:00	Findings:	.8 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/26/2004 00:00:00	Findings:	2 TON
Chemical:	ODOR THRESHOLD @ 60 C		
Sample Collected:	01/26/2004 00:00:00	Findings:	24 UG/L
Chemical:	MANGANESE		
Sample Collected:	01/26/2004 00:00:00	Findings:	.52 UG/L
Chemical:	TRICHLOROETHYLENE		

Sample Collected:	01/26/2004 00:00:00	Findings:	9.7 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	07/20/2004 00:00:00	Findings:	.87 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	10/20/2004 00:00:00	Findings:	1.2 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/26/2005 00:00:00	Findings:	1.2 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/26/2005 00:00:00	Findings:	310 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	01/26/2005 00:00:00	Findings:	7.6
Chemical:	PH, LABORATORY		
Sample Collected:	01/26/2005 00:00:00	Findings:	130 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	01/26/2005 00:00:00	Findings:	130 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	01/26/2005 00:00:00	Findings:	120 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	01/26/2005 00:00:00	Findings:	26 MG/L
Chemical:	CALCIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	13 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	13 MG/L
Chemical:	SODIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	1.9 MG/L
Chemical:	POTASSIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	8.2 MG/L
Chemical:	CHLORIDE		
Sample Collected:	01/26/2005 00:00:00	Findings:	190 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	01/26/2005 00:00:00	Findings:	12
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	01/26/2005 00:00:00	Findings:	5 UNITS
Chemical:	COLOR		
Sample Collected:	01/26/2005 00:00:00	Findings:	7.49
Chemical:	PH, LABORATORY		
Sample Collected:	01/26/2005 00:00:00	Findings:	1.9 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	03/07/2005 00:00:00	Findings:	9.8 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04/27/2005 00:00:00	Findings:	1 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	07/13/2005 00:00:00	Findings:	.95 UG/L
Chemical:	TRICHLOROETHYLENE		

Sample Collected:	10/19/2005 00:00:00	Findings:	1 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/25/2006 00:00:00	Findings:	.76 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/25/2006 00:00:00	Findings:	9.4 MG/L
Chemical:	NITRATE (AS NO3)		

A8
SSE
1/2 - 1 Mile
Higher

CA WELLS 9144

Water System Information:

Prime Station Code:	09N/06E-26L01 M	User ID:	TEN
FRDS Number:	3410015012	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	383600.0 1211800.0	Precision:	Undefined
Source Name:	WELL 10 - NEGRARA		
System Number:	3410015		
System Name:	Southern CA Water Co - Cordova Water Srv		
Organization That Operates System:	630 East Foothill Blvd San Dimas, CA 91773		
Pop Served:	41840	Connections:	11068
Area Served:	Not Reported		

Sample Collected:	04/29/2003 00:00:00	Findings:	42 UG/L
Chemical:	MANGANESE		
Sample Collected:	04/29/2003 00:00:00	Findings:	.93 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	10/23/2003 00:00:00	Findings:	30 UG/L
Chemical:	MANGANESE		
Sample Collected:	01/27/2004 00:00:00	Findings:	2 TON
Chemical:	ODOR THRESHOLD @ 60 C		
Sample Collected:	01/27/2004 00:00:00	Findings:	25 UG/L
Chemical:	MANGANESE		
Sample Collected:	01/27/2004 00:00:00	Findings:	2.6 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04/22/2004 00:00:00	Findings:	32 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/08/2004 00:00:00	Findings:	32 UG/L
Chemical:	MANGANESE		
Sample Collected:	07/20/2004 00:00:00	Findings:	32 UG/L
Chemical:	MANGANESE		
Sample Collected:	10/20/2004 00:00:00	Findings:	2 TON
Chemical:	ODOR THRESHOLD @ 60 C		
Sample Collected:	10/20/2004 00:00:00	Findings:	58 UG/L
Chemical:	MANGANESE		

Sample Collected:	10/20/2004 00:00:00	Findings:	.53 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01/26/2005 00:00:00	Findings:	32 UG/L
Chemical:	MANGANESE		
Sample Collected:	01/26/2005 00:00:00	Findings:	4.2 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	01/26/2005 00:00:00	Findings:	.6 UG/L
Chemical:	DICHLOROMETHANE		
Sample Collected:	01/26/2005 00:00:00	Findings:	4.2 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	01/26/2005 00:00:00	Findings:	270 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	01/26/2005 00:00:00	Findings:	7.55
Chemical:	PH, LABORATORY		
Sample Collected:	01/26/2005 00:00:00	Findings:	120 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	01/26/2005 00:00:00	Findings:	120 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	01/26/2005 00:00:00	Findings:	98 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	01/26/2005 00:00:00	Findings:	21 MG/L
Chemical:	CALCIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	11 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	11 MG/L
Chemical:	SODIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	4.7 MG/L
Chemical:	POTASSIUM		
Sample Collected:	01/26/2005 00:00:00	Findings:	9.5 MG/L
Chemical:	CHLORIDE		
Sample Collected:	01/26/2005 00:00:00	Findings:	190 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	01/26/2005 00:00:00	Findings:	11
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	01/26/2005 00:00:00	Findings:	5 UNITS
Chemical:	COLOR		
Sample Collected:	01/26/2005 00:00:00	Findings:	7.68
Chemical:	PH, LABORATORY		
Sample Collected:	01/26/2005 00:00:00	Findings:	1.7 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07/13/2005 00:00:00	Findings:	36 UG/L
Chemical:	MANGANESE		
Sample Collected:	10/19/2005 00:00:00	Findings:	33 UG/L
Chemical:	MANGANESE		

Sample Collected:	01/25/2006 00:00:00	Findings:	32 UG/L
Chemical:	MANGANESE		
Sample Collected:	04/19/2006 00:00:00	Findings:	1 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	09/16/1999 00:00:00	Findings:	21 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	09/16/1999 00:00:00	Findings:	663 PCI/L
Chemical:	RADON 222		
Sample Collected:	07/12/2000 00:00:00	Findings:	30 UG/L
Chemical:	MANGANESE		
Sample Collected:	04/05/2001 00:00:00	Findings:	28 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/27/2001 00:00:00	Findings:	260 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/27/2001 00:00:00	Findings:	7.6
Chemical:	PH, LABORATORY		
Sample Collected:	06/27/2001 00:00:00	Findings:	94 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	06/27/2001 00:00:00	Findings:	115 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	06/27/2001 00:00:00	Findings:	120 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	06/27/2001 00:00:00	Findings:	27 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/27/2001 00:00:00	Findings:	12 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	06/27/2001 00:00:00	Findings:	15 MG/L
Chemical:	SODIUM		
Sample Collected:	06/27/2001 00:00:00	Findings:	5.5 MG/L
Chemical:	POTASSIUM		
Sample Collected:	06/27/2001 00:00:00	Findings:	8.2 MG/L
Chemical:	CHLORIDE		
Sample Collected:	06/27/2001 00:00:00	Findings:	26 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/27/2001 00:00:00	Findings:	200 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	06/27/2001 00:00:00	Findings:	-.34
Chemical:	LANGELIER INDEX @ 60 C		
Sample Collected:	06/27/2001 00:00:00	Findings:	2.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	09/12/2001 00:00:00	Findings:	30 UG/L
Chemical:	MANGANESE		
Sample Collected:	10/10/2001 00:00:00	Findings:	23 UG/L
Chemical:	MANGANESE		

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	03/26/2002 00:00:00	Findings:	240 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	03/26/2002 00:00:00	Findings:	8
Chemical:	PH, LABORATORY		
Sample Collected:	03/26/2002 00:00:00	Findings:	100 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	03/26/2002 00:00:00	Findings:	122 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	03/26/2002 00:00:00	Findings:	27 MG/L
Chemical:	CALCIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	13 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	13 MG/L
Chemical:	SODIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	5.5 MG/L
Chemical:	POTASSIUM		
Sample Collected:	03/26/2002 00:00:00	Findings:	7.9 MG/L
Chemical:	CHLORIDE		
Sample Collected:	03/26/2002 00:00:00	Findings:	29 UG/L
Chemical:	MANGANESE		
Sample Collected:	03/26/2002 00:00:00	Findings:	190 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	03/26/2002 00:00:00	Findings:	2.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03/26/2002 00:00:00	Findings:	11.8
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	03/26/2002 00:00:00	Findings:	.48 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	06/11/2002 00:00:00	Findings:	28 UG/L
Chemical:	MANGANESE		
Sample Collected:	06/11/2002 00:00:00	Findings:	.56 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	06/11/2002 00:00:00	Findings:	250 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/11/2002 00:00:00	Findings:	2.5 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	06/11/2002 00:00:00	Findings:	4 UG/L
Chemical:	VANADIUM		
Sample Collected:	09/24/2002 00:00:00	Findings:	.54 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	12/10/2002 00:00:00	Findings:	45 UG/L
Chemical:	MANGANESE		
Sample Collected:	12/10/2002 00:00:00	Findings:	.49 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		

Sample Collected:	12/10/2002 00:00:00	Findings:	210 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	12/10/2002 00:00:00	Findings:	8 UG/L
Chemical:	VANADIUM		
Sample Collected:	01/29/2003 00:00:00	Findings:	42 UG/L
Chemical:	MANGANESE		

B9
SW
1/2 - 1 Mile
Lower

CA WELLS 23876

Water System Information:

Prime Station Code:	R34/004-DET RAW	User ID:	TEN
FRDS Number:	3410004017	County:	Sacramento
District Number:	09	Station Type:	STREAM/AMBNT
Water Type:	Surface Water	Well Status:	Active Raw
Source Lat/Long:	383600.0 1211900.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	DETERDING COLLECTOR - RAW		
System Number:	3410004		
System Name:	Carmichael Water District		
Organization That Operates System:			
	P.O. Box 929		
	Carmichael, CA 95609-0929		
Pop Served:	38700	Connections:	11051
Area Served:	CARMICHAEL		

B10
SW
1/2 - 1 Mile
Lower

CA WELLS 9107

Water System Information:

Prime Station Code:	09N/06E-09G01 M	User ID:	TEN
FRDS Number:	3410024028	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	383600.0 1211900.0	Precision:	1 Mile (One Minute)
Source Name:	WELL 31 - BARRTT MEADOWS		
System Number:	3410024		
System Name:	Northridge Water District		
Organization That Operates System:			
	P.O. Box 41258		
	Sacramento, CA 95841		
Pop Served:	72400	Connections:	19143
Area Served:	CARMICHAEL,CITRUS HTS,N.HIGHLD		
Sample Collected:	06/19/2001 00:00:00	Findings:	- 1.1
Chemical:	LANGELIER INDEX @ 60 C		
Sample Collected:	06/19/2001 00:00:00	Findings:	4 MG/L
Chemical:	NITRATE (AS NO3)		

Sample Collected:	06/19/2001 00:00:00	Findings:	.3 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	06/19/2001 00:00:00	Findings:	4 UG/L
Chemical:	CHROMIUM (TOTAL CR-CRVI SCREEN)		
Sample Collected:	06/19/2001 00:00:00	Findings:	.8 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	08/28/2001 00:00:00	Findings:	.8 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	11/27/2001 00:00:00	Findings:	200 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	11/27/2001 00:00:00	Findings:	7 UG/L
Chemical:	VANADIUM		
Sample Collected:	12/13/2001 00:00:00	Findings:	1.5 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	12/13/2001 00:00:00	Findings:	.8 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	03/28/2002 00:00:00	Findings:	3 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03/11/2003 00:00:00	Findings:	3 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	02/11/2004 00:00:00	Findings:	3 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	02/11/2004 00:00:00	Findings:	.54 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	02/11/2004 00:00:00	Findings:	.69 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	05/17/2004 00:00:00	Findings:	220 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	05/17/2004 00:00:00	Findings:	7.8
Chemical:	PH, LABORATORY		
Sample Collected:	05/17/2004 00:00:00	Findings:	91 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	05/17/2004 00:00:00	Findings:	91 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	05/17/2004 00:00:00	Findings:	82 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	05/17/2004 00:00:00	Findings:	17 MG/L
Chemical:	CALCIUM		
Sample Collected:	05/17/2004 00:00:00	Findings:	9.6 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	05/17/2004 00:00:00	Findings:	11 MG/L
Chemical:	SODIUM		
Sample Collected:	05/17/2004 00:00:00	Findings:	4 MG/L
Chemical:	POTASSIUM		

Sample Collected:	05/17/2004 00:00:00	Findings:	9 MG/L
Chemical:	CHLORIDE		
Sample Collected:	05/17/2004 00:00:00	Findings:	180 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	05/17/2004 00:00:00	Findings:	- .14
Chemical:	LANGELIER INDEX @ 60 C		
Sample Collected:	05/17/2004 00:00:00	Findings:	4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	05/17/2004 00:00:00	Findings:	.2 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	05/17/2004 00:00:00	Findings:	2 UG/L
Chemical:	CHROMIUM (TOTAL CR-CRVI SCREEN)		
Sample Collected:	05/17/2004 00:00:00	Findings:	.67 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	01/13/2005 00:00:00	Findings:	.71 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	02/03/2005 00:00:00	Findings:	3 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04/05/2005 00:00:00	Findings:	1.4 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	03/11/1999 00:00:00	Findings:	5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	10/21/1999 00:00:00	Findings:	33 PCI/L
Chemical:	RADON 222 COUNTING ERROR		
Sample Collected:	10/21/1999 00:00:00	Findings:	744 PCI/L
Chemical:	RADON 222		
Sample Collected:	03/09/2000 00:00:00	Findings:	.62 UG/L
Chemical:	BROMODICHLORMETHANE (THM)		
Sample Collected:	03/09/2000 00:00:00	Findings:	7.3 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	03/09/2000 00:00:00	Findings:	7.9 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	12/26/2000 00:00:00	Findings:	.9 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	03/29/2001 00:00:00	Findings:	.8 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	06/19/2001 00:00:00	Findings:	200 US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	06/19/2001 00:00:00	Findings:	6.8
Chemical:	PH, LABORATORY		
Sample Collected:	06/19/2001 00:00:00	Findings:	88 MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	06/19/2001 00:00:00	Findings:	88 MG/L
Chemical:	BICARBONATE ALKALINITY		

Sample Collected:	06/19/2001 00:00:00	Findings:	85 MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	06/19/2001 00:00:00	Findings:	18 MG/L
Chemical:	CALCIUM		
Sample Collected:	06/19/2001 00:00:00	Findings:	9.7 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	06/19/2001 00:00:00	Findings:	10 MG/L
Chemical:	SODIUM		
Sample Collected:	06/19/2001 00:00:00	Findings:	3 MG/L
Chemical:	POTASSIUM		
Sample Collected:	06/19/2001 00:00:00	Findings:	8 MG/L
Chemical:	CHLORIDE		
Sample Collected:	06/19/2001 00:00:00	Findings:	3 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	06/19/2001 00:00:00	Findings:	8 UG/L
Chemical:	VANADIUM		
Sample Collected:	06/19/2001 00:00:00	Findings:	170 MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		

B11
SW
1/2 - 1 Mile
Lower

CA WELLS **9145**

Water System Information:

Prime Station Code:	09N/06E-27F01 M	User ID:	TEN
FRDS Number:	3410004003	County:	Sacramento
District Number:	09	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Treated
Source Lat/Long:	383600.0 1211900.0	Precision:	Undefined
Source Name:	DETERDING COLLECTOR - TREATED		
System Number:	3410004		
System Name:	Carmichael Water District		
Organization That Operates System:			
	P.O. Box 929		
	Carmichael, CA 95609-0929		
Pop Served:	38700	Connections:	11051
Area Served:	CARMICHAEL		

A12
SE
1/2 - 1 Mile
Higher

FED USGS **USGS3225445**

Agency cd:	USGS	Site no:	383600121175601
Site name:	009N006E27R001M		
Latitude:	383600		
Longitude:	1211756	Dec lat:	38.59990535
Dec lon:	-121.29995017	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	067
Country:	US	Land net:	Not Reported
Location map:	CARMICHAEL	Map scale:	24000

Altitude:	85.00	Altitude method:	M
Altitude accuracy:	2.5	Altitude datum:	NGVD29
Hydrologic:	Lower American. California. Area = 299 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19560801
Date inventoried:	19871207	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	152	Hole depth:	405
Source of depth data:	other government (other than USGS)	Project number:	470688896
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1987-12-07	Ground water data end date:	1987-12-07
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1987-12-07	70.4	

Note: The site had been pumped recently.

13
South
1/2 - 1 Mile
Higher

FED USGS **USGS3225612**

Agency cd:	USGS	Site no:	383552121183601
Site name:	009N006E34C001M		
Latitude:	383552		
Longitude:	1211836	Dec lat:	38.59768315
Dec lon:	-121.31106157	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	067
Country:	US	Land net:	Not Reported
Location map:	CARMICHAEL	Map scale:	24000
Altitude:	80.00	Altitude method:	M
Altitude accuracy:	2.5	Altitude datum:	NGVD29
Hydrologic:	Lower American. California. Area = 299 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19590501
Date inventoried:	19871207	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	250	Hole depth:	470
Source of depth data:	other government (other than USGS)	Project number:	470688896
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00

Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1987-12-07	Ground water data end date:	1987-12-07
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1987-12-07	72.31	

14
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS3225462**

Agency cd:	USGS	Site no:	383614121173501
Site name:	009N006E26L001M		
Latitude:	383614		
Longitude:	1211735	Dec lat:	38.60379415
Dec lon:	-121.29411669	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	067
Country:	US	Land net:	Not Reported
Location map:	CARMICHAEL	Map scale:	24000
Altitude:	92.00	Altitude method:	M
Altitude accuracy:	2.5	Altitude datum:	NGVD29
Hydrologic:	Lower American. California. Area = 299 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19590801
Date inventoried:	19871207	Mean greenwich time offset:	PST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	276	Hole depth:	416
Source of depth data:	other government (other than USGS)	Project number:	470688896
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1987-12-07	Ground water data end date:	1987-12-07
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1987-12-07	72.73	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zip	Total Sites	> 4 Pci/L	Pct. > 4 Pci/L
95608	15	0	0.00

Federal EPA Radon Zone for SACRAMENTO County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 95608

Number of sites tested: 6

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.317 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.800 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

ANALYTICAL ENVIRONMENTAL SERVICES

April 3, 2007

RECEIVED
APR 0 4 2007
STATE CLEARING HOUSE

California State Clearinghouse
State of California
1400 Tenth Street
Sacramento, California 95812

Re: Notice of Determination for consideration of the Final Mitigated Negative Declaration (MND) for Ancil Hoffman Groundwater Extraction and Treatment "L" System Project

Enclosed are two copies of a Notice of Determination (NOD) for the above project, which is located in the City of Carmichael, Sacramento County, California. The California Environmental Quality Act (CEQA) document (Final Mitigated Negative Declaration) for the proposed project was adopted by the Carmichael Water District on April 2, 2007. Please record the attached NOD according to the provisions of CEQA. A check in the amount of $1,800 is enclosed for the California Department of Fish and Game filing fee for a Mitigated Negative Declaration.

If you have any questions, you can call me at (916) 447-3479.

Sincerely,

Doug Edwards
Project Manager

DEPT OF FISH & GAME
APR 1 0 2007
REGION 2

NOTICE OF DETERMINATION

y Clerk
y of Sacramento
39

From: *Carmichael Water District*
7837 Fair Oaks Boulevard

56587

REF # 314295

CARMICHAEL WATER DISTRICT
7837 FAIR OAKS BLVD.
CARMICHAEL, CA 95608
916-483-2452

WESTAMERICA BANK
POINT WEST OFFICE
1610 ARDEN WAY, SUITE 199
SACRAMENTO, CA 95815
90-4021-1211

3/19/2007 — DATE

$1,800.00 — AMOUNT

One Thousand Eight Hundred Dollars And 00 Cents

003883

CA Dept of Fish & Game

AMOUNT OVER $5,000.00 REQUIRES 2 SIGNATURES

AUTHORIZED SIGNATURE

⑈056587⑈ ⑆121140218⑆ 0601067036⑈

Arden Hogman Park, Carmichael, CA 95608

Project Description: *The Proposed Project is a component of the existing groundwater containment and treatment program undertaken through a cooperative agreement between Aerojet and CWD. Initiated in response to detection of NDMA groundwater contamination within the CWD, the Proposed Project is designed to arrest the down gradient spread of the contaminant plume, thereby protecting the downgradient quality of the aquifer, remediating the contaminated portions of the acquifer, and preventing additional impacts to public drinking water supply wells, including existing CWD wells. The Proposed Project is comprised of six primary physical components: (1) a groundwater treatment plant (GWTP) with an underground storage reservoir; (2) one proposed and one potential extraction well; (3) underground pipelines for conveyance of untreated and treated groundwater; (4) one proposed and one potential outfall; (5) connection to the existing golf course irrigation system; (6) and underground pipelines to provide potable water supply and fire protection.*

This is to advise that the Carmichael Water District (CWD) as the Lead Agency for the above described project has made the following determinations regarding the above described project:

POSTED
APR 25 2007
DATE
BATCH 138
FM
ENT.

1. A Final MND was prepared and adopted for this project by the CWD pursuant to the provisions of CEQA. The Draft MND was circulated for the review period of 30-days as permitted by the State Clearinghouse.
2. The Final MND concluded that the Proposed Project would not have significant unavoidable adverse impacts on the environment.

1800.00 003883 APR 13 2007

NOTICE OF DETERMINATION

To: *County Clerk*
County of Sacramento
P.O. 839
Sacramento, California 95814

From: *Carmichael Water District*
7837 Fair Oaks Boulevard
Carmichael, CA 95608

SUBJECT: *FILING OF NOTICE OF DETERMINATION IN COMPLIANCE WITH SECTION 21108 OF THE PUBLIC RESOURCES CODE AND SECTION 15094 OF THE CEQA GUIDELINES*

Project Title: *Final Mitigated Negative Declaration (MND) for Ancil Hoffman Groundwater Extraction and Treatment "L" System Project*

ENDORSED:

APR - 4 2007

CRAIG A. KRAMER, CLERK-RECORDER
By DEPUTY

SCH Number: *2007022100*

Date Adopted: *April 2, 2007*

Contact Person: *Steve Nugent* **Telephone Number:** *(916) 396-3954*

Project Location: *The Carmichael Water District Ancil Hoffman Groundwater Extraction and Treatment Facility is located along Tarshes Drive, the main access road through Ancil Hoffman Park, Carmichael, CA 95608*

Project Description: *The Proposed Project is a component of the existing groundwater containment and treatment program undertaken through a cooperative agreement between Aerojet and CWD. Initiated in response to detection of NDMA groundwater contamination within the CWD, the Proposed Project is designed to arrest the down gradient spread of the contaminant plume, thereby protecting the downgradient quality of the aquifer, remediating the contaminated portions of the acquifer, and preventing additional impacts to public drinking water supply wells, including existing CWD wells. The Proposed Project is comprised of six primary physical components: (1) a groundwater treatment plant (GWTP) with an underground storage reservoir; (2) one proposed and one potential extraction well; (3) underground pipelines for conveyance of untreated and treated groundwater; (4) one proposed and one potential outfall; (5) connection to the existing golf course irrigation system; (6) and underground pipelines to provide potable water supply and fire protection.*

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1. A Final MND was prepared and adopted for this project by the CWD pursuant to the provisions of CEQA. The Draft MND was circulated for the review period of 30-days as permitted by the State Clearinghouse.
2. The Final MND concluded that the Proposed Project would not have significant unavoidable adverse impacts on the environment.

1800.00 003883 APR 13 2007

3. Pursuant to the CEQA Guidelines, the CWD as the Lead Agency is filing this Notice of Determination.
4. Mitigation measures were made a condition of the approval of this project.
5. A statement of Findings was not adopted for this project since no significant impacts were identified.
6. A statement of Overriding Considerations was not adopted for this project since no significant impacts were identified.
7. The CWD has adopted a mitigation monitoring program pursuant to Public Resource Code §21081.6 and CEQA Guidelines §15097 for this project.

The Final MND, supporting documentation, and record of project approval may be examined at the CWD Office located at 7837 Fair Oaks Boulevard, Carmichael, CA. 95608.

April 3, 2007

Date Received for filing

Signature: Steven M. Nugent

Steve Nugent.
General Manager CWD

NOTICE OF DETERMINATION

To: *California State Clearinghouse*
State of Califonia
1400 Tenth Street
Sacramento, California 95812

From: *Carmichael Water District*
7837 Fair Oaks Boulevard
Carmichael, CA 95608

SUBJECT: *FILING OF NOTICE OF DETERMINATION IN COMPLIANCE WITH SECTION 21108 OF THE PUBLIC RESOURCES CODE AND SECTION 15094 OF THE CEQA GUIDELINES*

Project Title: *Final Mitigated Negative Declaration (MND) for Ancil Hoffman Groundwater Extraction and Treatment "L" System Project*

RECEIVED
APR 0 4 2007
STATE CLEARING HOUSE

SCH Number: *2007022100*

Date Adopted: *April 2, 2007*

Contact Person: *Steve Nugent* **Telephone Number:** *(916) 396-3054*

Project Location: *The Carmichael Water District Ancil Hoffman Groundwater Extraction and Treatment Facility is located along Tarshes Drive, the main access road through Ancil Hoffman Park, Carmichael, CA 95608*

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Signature: Steven M. Nugent

Steve Nugent.
General Manager CWD