

Preliminary Water Quality Management Plan

For: **Prielipp Road Project**

On Prielipp Road between Elizabeth Lane and Yamas Drive in the City of Wildomar

DEVELOPMENT NO. **TBD**
DESIGN REVIEW NO. **PRELIMINARY**

Prepared for:

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WQMP Preparation Date: March 21, 2014

ENGINEER'S CERTIFICATION

"I certify under penalty of law that this document and all attachments and appendices were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted."



March 21, 2014

Engineer's Signature

Date



OWNER'S CERTIFICATION

This project-specific Water Quality Management Plan (WQMP) has been prepared for:

Prielipp Road Project

by JLC Engineering and Consulting, Inc. for the project known as **Prielipp Road Project on Prielipp Road between Elizabeth Lane and Yamas Drive in the City of Wildomar.**

This WQMP is intended to comply with the requirements of the City of Wildomar for **PRIELIPP ROAD PROJECT**, which includes the requirement for the preparation and implementation of a project-specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity.

The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under the Riverside County Stormwater/Urban Runoff Management and Discharge Controls Ordinance (County Ordinance No. 754.2). Any subsequent final WQMP prepared for this project shall replace any Preliminary WQMP.

If the undersigned transfers its interest in the subject property/project, its successor in interest the undersigned shall notify the successor in interest of its responsibility to implement this WQMP.

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner's Signature

Date

Owner's Printed Name

Owner's Title/Position

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APPENDICES

- A. CONDITIONS OF APPROVAL
- B. VICINITY MAP, WQMP SITE PLAN, AND RECEIVING WATERS MAP
- C. SUPPORTING DETAIL RELATED TO HYDRAULIC CONDITIONS OF CONCERN (IF APPLICABLE)
- D. EDUCATIONAL MATERIALS
- E. SOILS REPORT (IF APPLICABLE)
- F. TREATMENT CONTROL BMP SIZING CALCULATIONS AND DESIGN DETAILS
- G. AGREEMENTS – CC&RS, COVENANT AND AGREEMENTS AND/OR OTHER MECHANISMS FOR ENSURING ONGOING OPERATION, MAINTENANCE, FUNDING AND TRANSFER OF REQUIREMENTS FOR THIS PROJECT-SPECIFIC WQMP
- H. PHASE 1 ENVIRONMENTAL SITE ASSESSMENT – SUMMARY OF SITE REMEDIATION CONDUCTED AND USE RESTRICTIONS

I. Project Description

Instructions:

The project description shall be completely and accurately described in narrative form. In the field provided on page A-3, describe and with supporting figures (maps or exhibits), where facilities will be located, what activities will be conducted and where, what kinds of materials will be used and/or stored, how and where materials will be delivered, and the types of wastes that will be generated. The following information shall be described and/or addressed in the "Project Description" section of the project-specific WQMP:

- Project owner and WQMP preparer;
 - Project location;
 - Project size;
 - Standard Industrial Classification (SIC), if applicable;
 - Location of facilities;
 - Activities and location of activities;
 - Materials Storage and Delivery Areas;
 - Wastes generated by project activities.
-

Project Owner: Stata Equity Group
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**Preliminary Water Quality Management Plan (WQMP)
Prielipp Road Project**

Project Site Address: Located on Prielipp Road between Elizabeth Lane and Yamas Drive in the City of Wildomar

Planning Area/
Community Name/
Development Name: Prielipp Road Project

APN Number(s): 380-250-023

Thomas Bros. Map: 927-H1

Project Watershed: Murrieta (HA 902.30)

Sub-watershed: Murrieta (HSA 902.32)

Project Site Size: 19 acres

Standard Industrial Classification (SIC) Code: TBD

Formation of Home Owners' Association (HOA) or Property Owners Association (POA): HOA
 Y N

Additional Permits/Approvals required for the Project

AGENCY	Permit required
State Department of Fish and Game, 1601 Streambed Alteration Agreement	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
State Water Resources Control Board, Clean Water Act (CWA) section 401 Water Quality Certification	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
US Army Corps of Engineers, CWA section 404 permit	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
US Fish and Wildlife, Endangered Species Act section 7 biological opinion	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Other <i>(please list in the space below as required)</i> 1. State General Construction Activities Stormwater Permit (Order No. 99-08-DWQ)	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>

The Prielipp Road Project is a proposed condominium and assisted living development that will incorporate sand filter basins and subsurface basins for water quality treatment and mitigation of increased runoff. The project is roughly bounded by Elizabeth Lane to the east, Prielipp Road to the south, Yamas Drive to the west and Clinton Keith Road to the north. The project site is approximately 19 acres, which is currently undeveloped, and is located in Section 6 of Township 7 South, Range 3 West.

The project site will collect flows via subsurface storm drain and sheet flow, and discharge into one of the three proposed best management practices (BMPs). "A" will discharge into Sand Filter Basin "A", Area "B1" will discharge into Sand Filter Basin "B", and Area "B2" will discharge into Subsurface Basin "C". Subsurface System "C" will mitigate for HCOC's for the total Area B. The tributary offsite flows at the northerly project boundary will be collected via subsurface storm drain and conveyed to the southerly boundary of the project site, which is the existing downstream tributary for the offsite flows emanating from the north. The untreated onsite flows will not comingle with offsite flows.

The onsite flows will discharge into the offsite storm drain system (after treatment for water quality purposes and mitigation for increased runoff). A small portion of the south westerly corner (approximately 0.4 acres) will be diverted, however, this is less than the 1 acre of allowable diverted area.

Appendix A of this project-specific WQMP includes a complete copy of the final Conditions of Approval. Appendix B of this project-specific WQMP shall include:

1. A Vicinity Map identifying the project site and surrounding planning areas in sufficient detail to allow the project site to be plotted on Co-Permittee base mapping; and
2. A Site Plan for the project. The Site Plan included as part of Appendix B depicts the following project features:
 - Location and identification of all structural BMPs, including Treatment Control BMPs.
 - Landscaped areas.
 - Paved areas and intended uses (i.e., parking, outdoor work area, outdoor material storage area, sidewalks, patios, tennis courts, etc.).
 - Number and type of structures and intended uses (i.e., buildings, tenant spaces, dwelling units, community facilities such as pools, recreation facilities, tot lots, etc.).
 - Infrastructure (i.e., streets, storm drains, etc.) that will revert to public agency ownership and operation.
 - Location of existing and proposed public and private storm drainage facilities (i.e., storm drains, channels, basins, etc.), including catch basins and other inlets/outlet structures. Existing and proposed drainage facilities should be clearly differentiated.
 - Location(s) of Receiving Waters to which the project directly or indirectly discharges.
 - Location of points where onsite (or tributary offsite) flows exit the property/project site.
 - Proposed drainage areas boundaries, including tributary offsite areas, for each location where flows exits the property/project site. Each tributary area should be clearly denoted.
 - Pre- and post-project topography.

Appendix G of this project-specific WQMP shall include copies of CC&Rs, Covenant and Agreements, and/or other mechanisms used to ensure the ongoing operation, maintenance, funding, transfer and implementation of the project-specific WQMP requirements.

II. Site Characterization

Land Use Designation or Zoning: Land Use: Business Park (BP)
Zoning: Rural Residential (R-R)

Current Property Use: Undeveloped

Proposed Property Use: Condominium Residential, Assisted Living

Availability of Soils Report: Y N *Note: A soils report is required if infiltration BMPs are utilized. Attach report in Appendix E. A Soils Report will be submitted with the final WQMP.*

Phase 1 Site Assessment: Y N *Note: If prepared, attached remediation summary and use restrictions in Appendix H.*

Receiving Waters for Urban Runoff from Site

Instructions:

On the following page, list in order of upstream to downstream, the receiving waters that the project is tributary to. Continue to fill each row with the receiving water's 303(d) listed impairments, designated beneficial uses, and proximity, if any, to a RARE beneficial use.

Receiving Waters for Urban Runoff from Site – Santa Margarita Watershed

Receiving Waters	303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Murrieta Creek	Pesticides (Chlorpyrifos); Metals (Copper, Iron, Manganese); Nutrients (Nitrogen, Phosphorus), Toxicity (Toxicity)	MUN, AGR, IND, PROC, GWR, REC-2, WARM, WILD	Not a RARE water body 2.57 miles
Santa Margarita River – Upper portion (HSA 2.22, 2.21)	Nutrients (Phosphorus), Toxicity (Toxicity)	MUN, AGR, IND, REC-1, REC-2, WARM, COLD, WILD, RARE	A RARE WATERBODY 12.00 miles
Santa Margarita River – Lower portion (HSA 2.13, 2.12, 2.11)	Bacteria & Viruses (Enterococcus, Fecal Coliform), Nutrients (Phosphorus, Nitrogen)	MUN, AGR, IND, PROC, REC-1, REC-2, WARM, COLD, WILD, RARE	A RARE WATERBODY 18.15 miles
Santa Margarita Lagoon	Nutrients (Eutrophic)	REC-1, REC-2, EST, WILD, RARE, MAR, MIGR, SPWN	A RARE water body, 27.5 miles
Pacific Ocean	None	IND, NAV, REC-1, REC-2, COMM, BIOL, WILD, RARE, MAR, AQUA, MIGR, SPWN, SHELL	A RARE WATERBODY 29.1 miles

III. Pollutants of Concern

Potential pollutants associated with Urban Runoff from the proposed project must be identified. Exhibit B of the WQMP provides brief descriptions of typical pollutants associated with Urban Runoff and a table that associates typical potential pollutants with types of development (land use). It should be noted that at the Co-Permittees discretion, the Co-Permittees may also accept updated studies from the California Association of Stormwater Quality Agencies (CASQA), USEPA, SWRCB and/or other commonly accepted agencies/associations acceptable to the Co-Permittee for determination of Pollutants of Concern associated with given land use. Additionally, in identifying Pollutants of Concern, the presence of legacy pesticides, nutrients, or hazardous substances in the site's soils as a result of past uses and their potential for exposure to Urban Runoff must be addressed in project-specific WQMPs. The Co-Permittee may also require specific pollutants commonly associated with urban runoff to be addressed based on known problems in the watershed. The list of potential Urban Runoff pollutants identified for the project must be compared with the pollutants identified as causing an impairment of Receiving Waters, if any. To identify pollutants impairing proximate Receiving Waters, each project proponent preparing a project-specific WQMP shall, at a minimum, do the following:

1. For each of the proposed project discharge points, identify the proximate Receiving Water for each discharge point, using hydrologic unit basin numbers as identified in the most recent version of the Water Quality Control Plan for the Santa Ana River Basin or the San Diego Region.
2. Identify each proximate identified above that is listed on the most recent list of Clean Water Act Section 303(d) list of impaired water bodies, which can be found at website www.swrcb.ca.gov/tmdl/303d_lists.html. List all pollutants for which the proximate Receiving Waters are impaired.
3. Compare the list of pollutants for which the proximate Receiving Waters are impaired with the potential pollutants to be generated by the project.

Urban Runoff Pollutants: Potential Pollutants for the project site are Bacterial Indicators, Nutrients, Pesticides, Sediments, Trash & Debris, Oil & Grease, and Toxicity (specifically pesticides).

POLLUTANTS		EXPECTED/POTENTIAL SOURCE	303 (d) LISTING
Potential	Not Potential		
Bacterial Indicators		Pets and wildlife, sewer overflows	YES
	Metals		YES
Nutrients		Fertilizer, leaf & grass clippings, landscaped areas	YES
Pesticides		Landscaped areas	YES
	Toxic Organic Compounds		NO
Sediments		Streets	YES
Trash & Debris		Residential developments, streets, parking areas	NO
Oil & Grease		Streets, parking areas	NO
Toxicity (Toxic Pollutants)		Landscaped areas (pesticides)	YES

IV. Hydrologic Conditions of Concern

Impacts to the hydrologic regime resulting from the Project may include increased runoff volume and velocity; reduced infiltration; increased flow frequency, duration, and peaks; faster time to reach peak flow; and water quality degradation. Under certain circumstances, changes could also result in the reduction in the amount of available sediment for transport; storm flows could fill this sediment-carrying capacity by eroding the downstream channel. These changes have the potential to permanently impact downstream channels and habitat integrity. A change to the hydrologic regime of a Project's site would be considered a hydrologic condition of concern if the change would have a significant impact on downstream erosion compared to the pre-development condition or have significant impacts on stream habitat, alone or as part of a cumulative impact from development in the watershed.

This project-specific WQMP must address the issue of Hydrologic Conditions of Concern unless one of the following conditions are met:

- **Condition A:** Runoff from the Project is discharged directly to a publicly-owned, operated and maintained MS4; the discharge is in full compliance with Co-Permittee requirements for connections and discharges to the MS4 (including both quality and quantity requirements); the discharge would not significantly impact stream habitat in proximate Receiving Waters; and the discharge is authorized by the Co-Permittee.
- **Condition B:** The project disturbs less than 1 acre. The disturbed area calculation should include all disturbances associated with larger plans of development.
- **Condition C:** The project's runoff flow rate, volume, velocity and duration for the post-development condition do not exceed the pre-development condition for the 2-year, 24-hour and 10-year 24-hour rainfall events. This condition can be achieved by minimizing impervious area on a site and incorporating other site-design concepts that mimic pre-development conditions. This condition must be substantiated by hydrologic modeling methods acceptable to the Co-Permittee.

This Project meets the following condition: This project satisfies Condition C.

Supporting engineering studies, calculations, and reports are included in Appendix C.

In order to insure that flows will be mitigated, the extended detention basins have been designed to have a volume that is equal to or greater than the volume associated with the pre-project peak flow rate from the unit hydrograph calculations for the 10-year, 24-hour storm duration. Detailed basin routing calculations will be provided during final engineering. The table below summarizes the results:

Area A

	2 year – 24 hour		10 year – 24 hour	
	Precondition	Post-condition	Precondition	Post-condition
Discharge (cfs)	0.41	2.73**	5.08	5.76**
Velocity (fps)***	N/A*	N/A*	N/A*	N/A*
Volume (cubic feet)	11,073	72,184	73,591	132,074
Duration (minutes)	1490	1460	1490	1460

*NOTE – Velocity calculations were not performed during the preliminary stages. However, during final engineering, the storm drain systems will be designed so that the post-project velocities do not exceed the pre-project velocities.

**NOTE – Detailed basin routing calculations will be performed during final engineering to demonstrate that post-project flows discharging from the project site do not exceed pre-project levels. During the preliminary stages, the systems have

**Preliminary Water Quality Management Plan (WQMP)
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been sized to store the increase in volume for the 2-year, 24-hour storm duration, as this resulted in the largest volume increase.

Area B

	2 year – 24 hour		10 year – 24 hour	
	Precondition	Post-condition	Precondition	Post-condition
Discharge (cfs)	0.14	1.75**	0.97	1.61**
Velocity (fps)***	N/A	N/A	N/A	N/A
Volume (cubic feet)	3,721	25,540	25,318	46,605
Duration (minutes)	1455	1445	1455	1445

*NOTE – Velocity calculations were not performed during the preliminary stages. However, during final engineering, the storm drain systems will be designed so that the post-project velocities do not exceed the pre-project velocities.

**NOTE – Detailed basin routing calculations will be performed during final engineering to demonstrate that post-project flows discharging from the project site do not exceed pre-project levels. During the preliminary stages, the systems have been sized to store the increase in volume for the 2-year, 24-hour storm duration, as this resulted in the largest volume increase.

V. Best Management Practices

V.1 SITE DESIGN BMPs

Project proponents shall implement Site Design concepts that achieve each of the following:

- 1) Minimize Urban Runoff
- 2) Minimize Impervious Footprint
- 3) Conserve Natural Areas
- 4) Minimize Directly Connected Impervious Areas (DCIAs)

The project proponent should identify the specific BMPs implemented to achieve each Site Design concept and provide a brief explanation for those Site Design concepts considered not applicable.

Instructions:

In field below, provide narrative describing which site design concepts were incorporated into project plans. If the project proponent implements a Co-Permittee approved alternative or equally-effective Site Design BMP not specifically described below, the Site Design BMP checkbox in Table I should be marked and an additional description indicating the nature of the BMP and how it addresses the Site Design concept should be provided. Continue with completion of Table I.

Note: *The Co-Permittees general plan or other land use regulations/documents may require several measures that are effectively site design BMPs (such as minimization of directly connected impervious areas and/or setbacks from natural stream courses). The Project Proponent should work with Co-Permittee staff to determine if those requirements may be interpreted as site design BMPs for use in this table/narrative. See Section 4.5.1 of the WQMP for additional guidance on Site Design BMPs.*

*Following Table 1: if a particular Site Design BMP concept is found to be not applicable, please provide a brief explanation as to why the concept cannot be implemented. Also include descriptions explaining how each **included** BMP will be implemented. In those areas where Site Design BMPs require ongoing maintenance, the inspection and maintenance frequency, the inspection criteria, and the entity or party responsible for implementation, maintenance, and/or inspection shall be described. The location of each Site Design BMP must also be shown on the WQMP Site Plan included in Appendix B.*

The Prielipp Road Project will incorporate two sand filter basins and one subsurface basin system to treat for water quality purposes and mitigate for increased runoff. Impervious areas will be designed to drain to adjacent landscaping, where feasible, to minimize the directly connected impervious areas consistent with the Low-Impact Development (LID) guidelines.

Table 1. Site Design BMPs

Design Concept	Technique	Specific BMP	Included		
			Yes	No	N/A
Site Design Concept 1	<i>Minimize</i>	Maximize the permeable area (See Section 4.5.1 of the WQMP).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Incorporate landscaped buffer areas between sidewalks and streets.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Urban</i>	Use natural drainage systems.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Runoff</i>	Where soils conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Construct onsite ponding areas or retention facilities to increase opportunities for infiltration consistent with vector control objectives.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Other comparable and equally effective site design concepts as approved by the Co-Permittee (Note: Additional narrative required to describe BMP and how it addresses Site Design concept).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table 1. Site Design BMPs (Cont.)

Design Concept	Technique	Specific BMP	Included		
			Yes	No	N/A
Site Design Concept 2	<i>Minimize Impervious Footprint</i>	Maximize the permeable area (See Section 4.5.1 of the WQMP).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Construct walkways, trails, patios, overflow parking lots, alleys, driveways, low-traffic streets and other low-traffic areas with open-jointed paving materials or permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Construct streets, sidewalks and parking lot aisles to the minimum widths necessary, provided that public safety and a walk able environment for pedestrians are not compromised.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Reduce widths of street where off-street parking is available.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Minimize the use of impervious surfaces, such as decorative concrete, in the landscape design.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Other comparable and equally effective site design concepts as approved by the Co-Permittee (Note: Additional narrative required describing BMP and how it addresses Site Design concept).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Site Design Concept 3	<i>Conserve Natural Areas</i>	Conserve natural areas (See WQMP Section 4.5.1).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use natural drainage systems.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Other comparable and equally effective site design concepts as approved by the Co-Permittee (Note: Additional narrative required describing BMP and how it addresses Site Design concept).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table 1. Site Design BMPs (Cont.)

Design Concept	Technique	Specific BMP	Included			
			Yes	No	N/A	
Site Design Concept 4		Residential and commercial sites must be designed to contain and infiltrate roof runoff, or direct roof runoff to vegetative swales or buffer areas, where feasible.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Where landscaping is proposed, drain impervious sidewalks, walkways, trails, and patios into adjacent landscaping.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Increase the use of vegetated drainage swales in lieu of underground piping or imperviously lined swales.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	<i>Minimize</i>		Rural swale system: street sheet flows to vegetated swale or gravel shoulder, curbs at street corners, culverts under driveways and street crossings.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
			Urban curb/swale system: street slopes to curb; periodic swale inlets drain to vegetated swale/biofilter.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<i>Directly Connected</i>		Dual drainage system: First flush captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder, high flows connect directly to MS4s.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
			Design driveways with shared access, flared (single lane at street) or wheel strips (paving only under tires); or, drain into landscaping prior to discharging to the MS4.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<i>Impervious Areas (DCIAs)</i>		Uncovered temporary or guest parking on private residential lots may be paved with a permeable surface, or designed to drain into landscaping prior to discharging to the MS4.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
			Where landscaping is proposed in parking areas, incorporate landscape areas into the drainage design.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Overflow parking (parking stalls provided in excess of the Co-Permittee's minimum parking requirements) may be constructed with permeable paving.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Other comparable and equally effective design concepts as approved by the Co-Permittee (Note: Additional narrative required describing BMP and how it addresses Site Design concept).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Non-applicable Site Design BMPs:

- Rural swale system: street sheet flows to vegetated swale or gravel shoulder, curbs at street corners, culverts under driveways and street crossings – *N/A*
 - The proposed project is not a rural development.
- Dual drainage system: First flush captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder, high flows connect directly to MS4s. – *N/A*

- The proposed project does not drain into an MS4 facility.
- Design driveways with shared access, flared (single lane at street) or wheel strips (paving only under tires); or, drain into landscaping prior to discharging to the MS4. – *N/A*
 - The proposed project does not drain into an MS4 facility.
- Uncovered temporary or guest parking on private residential lots may be paved with a permeable surface, or designed to drain into landscaping prior to discharging to the MS4. – *N/A*
 - The proposed project does not drain to an MS4 facility.

Project Site Design BMPs:

Site Design Concept #1

Minimize Urban Runoff

- Maximize the permeable area – ***YES***
 - The County of Riverside guidelines were utilized in order to determine the minimum pavement width for public streets, minimum width for driveways, and minimum widths for sidewalks, as well as evaluations of low impact developed materials such as landscape buffers.
- Incorporate Landscaped buffer areas between sidewalks and streets – ***YES***
 - The proposed project incorporates landscaped buffers between sidewalks and streets, where feasible.
- Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs – ***YES***
 - The project will incorporate native or drought tolerant trees and shrubs, where feasible.
- Use natural drainage systems – ***YES***
 - Sand Filter Basin A discharges in the natural drainage course adjacent to the project site.
- Where soil conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration – ***YES***
 - The project will incorporate two sand filter basins which utilize perforated pipes. Additionally, the project will incorporate a subsurface basin, which will utilize gravel filtration.
- Construct onsite ponding areas or retention facilities to increase opportunities for infiltration consistent with vector control objectives – ***YES***
 - The proposed project incorporates sand filter basins which will promote onsite ponding.
- Other comparable and equally effective site design concepts as approved by the Co-Permittee – ***YES***
 - The project site will utilize the proposed landscaped area within the assisted living development for water quality and mitigation for increased runoff. Additionally, the project will design the site so that impervious areas will drain to adjacent landscaping, where feasible, to minimize the directly connected impervious areas, and to be consistent with the Low-Impact Development (LID) guidelines.

Site Design Concept #2

Minimize Impervious Footprint

- Maximize the permeable area – **YES**
 - The County of Riverside guidelines were utilized in order to determine the minimum pavement width for public streets, minimum width for driveways, and minimum widths for sidewalks, as well as evaluations of low impact developed materials such as landscape buffers.
- Construct walkways, trails, patios, overflow parking lots, alleys, driveways, low-traffic streets and other low-traffic areas with open-jointed paving materials or permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials – **NO**
 - The proposed project does not incorporate porous pavers or materials.
- Construct streets, sidewalks and parking lot aisles to the minimum widths necessary, provided that public safety and a walk able environment for pedestrians are not compromised. – **YES**
 - Streets and parking lot aisles are to be constructed per the County of Riverside Guidelines.
- Reduce widths of street where off-street parking is available. – **YES**
 - Streets and sidewalks are to be constructed per the County of Riverside Guidelines.
- Minimize the use of impervious surfaces, such as decorative concrete, in the landscape design – **YES**
 - The proposed project does not incorporate decorative concrete in the landscape design.
- Other comparable and equally effective site design concepts as approved by the Co-Permittee – **YES**
 - The project site will utilize the proposed landscaped area within the assisted living development for water quality and mitigation for increased runoff. Additionally, the project will design the site so that impervious areas will drain to adjacent landscaping, where feasible, to minimize the directly connected impervious areas, and to be consistent with the Low-Impact Development (LID) guidelines.

Site Design Concept #3

Conserve Natural Areas

- Conserve natural areas – **NO**
 - The proposed project does not conserve natural areas.
- Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs– **YES**
 - The project will incorporate native or drought tolerant trees and shrubs, where feasible.
- Use natural drainage systems – **YES**
 - Sand Filter Basin “A” discharges in the natural drainage course adjacent to the project site.
- Other comparable and equally effective site design concepts as approved by the Co-Permittee – **YES**
 - The project site will utilize the proposed landscaped area within the assisted living development for water quality and mitigation for increased runoff. Additionally, the project will design the site so that impervious areas will drain to adjacent landscaping, where feasible, to minimize the directly connected impervious areas, and to be consistent with the Low-Impact Development (LID) guidelines.

Site Design Concept #4

Minimize Directly Connected Impervious Areas (DCIAs)

- Residential and commercial sites must be designed to contain and infiltrate roof runoff, or direct roof runoff to vegetative swales or buffer areas, where feasible - **YES**
 - The proposed project will incorporate landscaped areas wherever feasible to intercept roof runoff.
- Where landscaping is proposed, drain impervious sidewalks, walkways, trails, and patios into adjacent landscaping. – **YES**
 - The proposed project will drain impervious surfaces to adjacent landscaping wherever feasible.
- Increase the use of vegetated drainage swales in lieu of underground piping or imperviously lined swales – **NO**
 - The proposed project does not incorporate vegetated drainage swales.
- Urban curb/swale system: street slopes to curb; periodic swale inlets drain to vegetated swale/biofilter – **NO**
 - The proposed project does not incorporate vegetated drainage swales.
- Where landscaping is proposed in parking areas, incorporate landscape areas into the drainage design – **YES**
 - The project incorporates a sand filter basin in the landscaped area within the assisted living development.
- Overflow parking (parking stalls provided in excess of the Co-Permittee’s minimum parking requirements) may be constructed with permeable paving – **NO**
 - The project does not incorporate porous pavers within the overflow parking areas.
- Other comparable and equally effective site design concepts as approved by the Co-Permittee – **YES**
 - The project site will utilize the proposed landscaped area within the assisted living development for water quality and mitigation for increased runoff. Additionally, the project will design the site so that impervious areas will drain to adjacent landscaping, where feasible, to minimize the directly connected impervious areas, and to be consistent with the Low-Impact Development (LID) guidelines.

V.2 SOURCE CONTROL BMPs

Instructions: Complete Table 2.

Table 2. Source Control BMPs

BMP Name	Check One		If not applicable, state brief reason
	Included	Not Applicable	
Non-Structural Source Control BMPs			
Education for Property Owners, Operators, Tenants, Occupants, or Employees	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Activity Restrictions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Irrigation System and Landscape Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Common Area Litter Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Street Sweeping Private Streets and Parking Lots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Drainage Facility Inspection and Maintenance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Structural Source Control BMPs			
MS4 Stenciling and Signage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A for Project Development
Landscape and Irrigation System Design	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Protect Slopes and Channels	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Provide Community Car Wash Racks	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A for Project Development
Properly Design:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fueling Areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A for Project Development
Air/Water Supply Area Drainage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A for Project Development
Trash Storage Areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Loading Docks	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A for Project Development
Maintenance Bays	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A for Project Development
Vehicle and Equipment Wash Areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A for project development
Outdoor Material Storage Areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A for project development
Outdoor Work Areas or Processing Areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A for project development
Provide Wash Water Controls for Food Preparation Areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A for project development

Instructions: Provide narrative below describing how each **included** BMP will be implemented, the implementation frequency, inspection and maintenance frequency, inspection criteria, and the entity or party responsible for implementation, maintenance, and/or inspection. The location of each structural BMP must also be shown on the WQMP Site Plan included in Appendix B.

Non-Structural Source Control BMP's

Non-Structural Source Control BMP's

- Education for Property Owners, Tenants, and Occupants – **YES**
 - Education materials will be provided to property owners, occupants, operators and employees at the time of purchase, occupancy or hire. These materials are included in Appendix D.
- Activity Restrictions – **YES**
 - Activity restrictions will be enforced. These restrictions include:

- Prohibit onsite power washes.
- Prohibit blowing of landscaping and debris into catch basins and sand filter basins.
- Prohibit dumping of oils into the streets.
- Prohibit discharges of fertilizer, pesticides, or animal wastes to streets or storm drains.
- Requirement to keep trash receptacles covered or sheltered by a roof overhang or canopy.
- Prohibit discharges of paint or masonry wastes to streets or storm drains.

Irrigation System and Landscape Maintenance - *YES*

- The irrigation system and landscape maintenance shall be maintained by a professional contractor. The professional contractor shall be determined by the Home Owner's Association.
- **Common Area Litter Control – *YES***
 - Street sweeping and waste management will be implemented. The frequency is yet to be determined.
- **Drainage Facility Inspection and Maintenance - *YES***
 - All drainage facilities will be inspected and maintained by the Home Owners Association.

Structural Source Control BMP's

Structural Source Control BMP's

- **MS4 Stenciling and Signage – *NO***
 - The project does not drain into an MS4 facility.
- **Landscape and Irrigation System Design - *YES***
 - Landscaping and associated irrigation will be incorporated into the project site.
- **Protect Slopes and Channels – *YES***
 - Slopes and channels will be protected by landscaping.
- **Properly Design:**
 - Trash Storage Areas

Appendix D includes copies of the educational materials that will be used in implementing this project-specific WQMP.

V.3 TREATMENT CONTROL BMPs

Instructions:

1. Provide narrative below describing each Treatment Control BMP. Include location, identify the sizing criteria [i.e., Urban Runoff quality design flow (QBMP) or the Urban Runoff quality design volume (VBMP), preliminary design calculations, for sizing BMPs, maintenance procedures, and the frequency of maintenance procedures necessary to sustain BMP effectiveness. The location of each Treatment Control BMP must also be shown on the Site Plan included in Appendix B.

2. Complete Table 3: Treatment Control BMP Selection Matrix

Directions for completing Table 3:

- ◆ For each pollutant of concern enter "yes" if identified using Exhibit B (Riverside County WQMP - General Categories of Pollutants of Concern per the instructions specified in Section III of this Template), or "no" if not identified for the project.
 - ◆ Check the boxes of selected BMPs that will be implemented for the project to address each pollutant of concern from the project as identified using Exhibit B. Treatment Control BMPs must be selected and installed with respect to identified pollutant characteristics and concentrations that will be discharged from the site.
 - ◆ For any identified pollutants of concern not listed in the Treatment Control BMP Selection Matrix, provide an explanation (in space below) of how they will be addressed by Treatment Control BMPs.
3. In addition to completing Table 3, provide detailed descriptions on the location, implementation, installation, and long-term O&M of planned Treatment Control BMPs.

For identified pollutants of concern that are **causing an impairment in receiving waters**, the project WQMP shall incorporate one or more Treatment Control BMPs of medium or high effectiveness in reducing those pollutants. It is the responsibility of the project proponent to demonstrate, and document in the project WQMP, that all pollutants of concern will be fully addressed. The Agency may require information beyond the minimum requirements of this WQMP to demonstrate that adequate pollutant treatment is being accomplished.

Supporting engineering calculations for Q_{BMP} and/or V_{BMP} , and Treatment Control BMP design details are included in Appendix F.

Note: Projects that will utilize infiltration-based Treatment Control BMPs (e.g., Infiltration Basins, Infiltration Trenches, Porous Pavement) must include a copy of the property/project soils report as Appendix E to the project-specific WQMP. The selection of a Treatment Control BMP (or BMPs) for the project must specifically consider the effectiveness of the Treatment Control BMP for pollutants identified as causing an impairment of Receiving Waters to which the project will discharge Urban Runoff.

The proposed project will incorporate two sand filter basins and one subsurface basin to treat for water quality purposes and mitigate for increased runoff. Area A drains to Sand Filter Basin "A" for water quality treatment and mitigation of increased runoff. Area B1 drains to Sand Filter Basin "B" for water quality treatment, and then is conveyed to Subsurface System "C" for mitigation of increased runoff. Area B2 is treated for water quality purposes and mitigated for increased runoff in Subsurface System "C".

The required water quality volume for Areas A, B1, and B2 were determined using the Santa Margarita Watershed Design Volume Spreadsheet. The rainfall value of 0.70 inches was obtained from the Isohyetal Map for the 85th Percentile 24-hour Storm Event. The effective impervious fractions were calculated using the impervious areas determined as part of the hydrology analyses. The pervious areas were given an effective impervious ratio of 0.1 and the impervious areas were given an effective impervious ratio of 1.0. The weighted effective impervious fraction calculations are summarized below:

**Preliminary Water Quality Management Plan (WQMP)
Prielipp Road Project**

Area Designation	Area (AC)	Rational Method Impervious Fraction	Corresponding Effective Impervious Fraction	Pervious Fraction	Corresponding Effective Impervious Fraction	Weighted Impervious Fraction
A	12.2	0.69	1.0	0.31	0.1	0.72
B1	2.2	0.64	1.0	0.36	0.1	0.68
B2	1.9	0.84	1.0	0.16	0.1	0.86

The results for the required water quality volume determined using the spreadsheets is summarized below:

BMP Designation	Tributary Area	Required WQ Volume (ft ³)
Sand Filter Basin "A"	12.2 acres	15,943
Sand Filter Basin "B"	2.2 acres	3,512
Subsurface Basin "C"	1.9 acres	4,207

The required mitigation volume was determined by subtracting the pre-project unit hydrograph volume from the post-project unit hydrograph volume for Areas A and B for the 2-year, 24-hour and 10-year, 24-hour storm durations. The storm event that resulted in the largest delta difference was utilized to size for the mitigation volumes during the preliminary stage. During final engineering, detailed basin routing calculations will be performed for each system to demonstrate that post-project flow rates are mitigated to less than or equal to pre-project levels. The tables below summarize the unit hydrograph results:

FLOW RATE SUMMARY

AREA	Pre-Project		Post-Project		Post-Pre	
	2-yr, 24-hr	10-yr, 24-hr	2-yr, 24-hr	10-yr, 24-hr	2-yr, 24-hr	10-yr, 24-hr
Area A	0.41	5.08	2.73	5.76	2.31	0.68
Area B	0.14	0.97	1.75	2.00	1.61	1.03

VOLUME RATE SUMMARY

AREA	Pre-Project		Post-Project		Post-Pre	
	2-yr, 24-hr	10-yr, 24-hr	2-yr, 24-hr	10-yr, 24-hr	2-yr, 24-hr	10-yr, 24-hr
Area A	11,073	73,591	72,184	132,074	61,111	58,483
Area B	3,721	25,318	25,540	46,605	21,819	21,287

Sand Filter Basin "A" is located in the south westerly corner of the project site and collects flows from onsite Area A. The sand filter basin has been designed to store the required water quality volume of 15,943 ft³, and the required mitigation volume of 61,111 ft³, for a total required volume of 77,054 ft³. Sand Filter Basin "A" has a total storage volume of 79,400 ft³ at 1 foot below the top of the sand filter basin, which provides 1 foot of freeboard.

Sand Filter Basin "B" is located within the landscaped area of the assisted living development on the north side of the proposed building. The sand filter basin has been designed to store the required water quality volume of 3,512 ft³. Sand Filter Basin "B" has a total storage volume of 3,695 ft³ at 1 foot below the top of the sand filter basin, which provides 1 foot of freeboard.

Subsurface Basin "C" is located within the street and parking area of the assisted living development adjacent to Prielipp Road. The subsurface basin has been designed to store the water quality volume of 4,207 ft³ from Area B2, and the total required mitigation volume from Area B of 21,819 ft³, for a total volume of 26,026 ft³. During the preliminary stage, it is assumed that this system will function via filtration, however, infiltration testing will be performed during final engineering to verify if infiltration is feasible. Should infiltration be feasible, the subsurface system will be adjusted accordingly and the perforated underdrains will be removed. The storage volume within the subsurface system accounted for the storage within the proposed 48" pipes, and for 40% storage within the surrounding gravel layer (see section on Exhibit D – Drainage Facilities Map). A total of 1,570 LF of 48" pipe and

surrounding gravel is proposed, resulting in a total of 34,430 ft³ of storage volume available. The gravel is assumed to surround the 48" pipe with 1' on both sides and 2' above the pipe.

The water quality sizing calculations have been included in Appendix F.

Table 3: Treatment Control BMP Selection Matrix

Pollutant of Concern	Treatment Control BMP Categories ⁽⁹⁾							
	Veg. Swale /Veg. Filter Strips ⁽²⁾	Detention Basins ⁽³⁾	Infiltration Basins & Trenches/Porous Pavement ⁽⁴⁾⁽¹⁰⁾	Wet Ponds or Wetlands ⁽⁵⁾	Sand Filter or Filtration ⁽⁶⁾	Water Quality Inlets	Hydrodynamic Separator Systems ⁽⁷⁾	Manufactured/ Proprietary Devices ⁽⁸⁾
Sediment/Turbidity Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	H/M <input type="checkbox"/>	M <input type="checkbox"/>	H/M <input type="checkbox"/>	H/M <input type="checkbox"/>	H/M <input checked="" type="checkbox"/>	L <input type="checkbox"/>	H/M (L for turbidity) <input type="checkbox"/>	U <input type="checkbox"/>
Nutrients Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	L <input type="checkbox"/>	M <input type="checkbox"/>	H/M <input type="checkbox"/>	H/M <input type="checkbox"/>	L/M <input checked="" type="checkbox"/>	L <input type="checkbox"/>	L <input type="checkbox"/>	U <input type="checkbox"/>
Organic Compounds Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	U <input type="checkbox"/>	U <input type="checkbox"/>	U <input type="checkbox"/>	U <input type="checkbox"/>	H/M <input checked="" type="checkbox"/>	L <input type="checkbox"/>	L <input type="checkbox"/>	U <input type="checkbox"/>
Trash & Debris Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	L <input type="checkbox"/>	M <input type="checkbox"/>	U <input type="checkbox"/>	U <input type="checkbox"/>	H/M <input checked="" type="checkbox"/>	M <input type="checkbox"/>	H/M <input type="checkbox"/>	U <input type="checkbox"/>
Oxygen Demanding Substances Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	L <input type="checkbox"/>	M <input type="checkbox"/>	H/M <input type="checkbox"/>	H/M <input type="checkbox"/>	H/M <input checked="" type="checkbox"/>	L <input type="checkbox"/>	L <input type="checkbox"/>	U <input type="checkbox"/>
Bacteria & Viruses Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	U <input type="checkbox"/>	U <input type="checkbox"/>	H/M <input type="checkbox"/>	U <input type="checkbox"/>	H/M <input checked="" type="checkbox"/>	L <input type="checkbox"/>	L <input type="checkbox"/>	U <input type="checkbox"/>
Oils & Grease Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	H/M <input type="checkbox"/>	M <input type="checkbox"/>	U <input type="checkbox"/>	U <input type="checkbox"/>	H/M <input checked="" type="checkbox"/>	M <input type="checkbox"/>	L/M <input type="checkbox"/>	U <input type="checkbox"/>
Pesticides (non-soil bound) Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	U <input type="checkbox"/>	U <input type="checkbox"/>	U <input type="checkbox"/>	U <input type="checkbox"/>	U <input checked="" type="checkbox"/>	L <input type="checkbox"/>	L <input type="checkbox"/>	U <input type="checkbox"/>
Metals Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	H/M <input type="checkbox"/>	M <input type="checkbox"/>	H <input type="checkbox"/>	H <input type="checkbox"/>	H <input checked="" type="checkbox"/>	L <input type="checkbox"/>	L <input type="checkbox"/>	U <input type="checkbox"/>

Abbreviations:

L: Low removal efficiency H/M: High or medium removal efficiency U: Unknown removal efficiency

Notes:

- (1) Periodic performance assessment and updating of the guidance provided by this table may be necessary.
- (2) Includes grass swales, grass strips, wetland vegetation swales, and bioretention.
- (3) Includes extended/dry detention basins with grass lining and extended/dry detention basins with impervious lining. Effectiveness based upon minimum 36-48-hour drawdown time.
- (4) Includes infiltration basins, infiltration trenches, and porous pavements.
- (5) Includes permanent pool wet ponds and constructed wetlands.
- (6) Includes sand filters and media filters.
- (7) Also known as hydrodynamic devices, baffle boxes, swirl concentrators, or cyclone separators.
- (8) Includes proprietary stormwater treatment devices as listed in the CASQA Stormwater Best Management Practices Handbooks, other stormwater treatment BMPs not specifically listed in this WQMP, or newly developed/emerging stormwater treatment technologies.
- (9) Project proponents should base BMP designs on the Riverside County Stormwater Quality Best Management Practice Design Handbook. However, project proponents may also wish to reference the California Stormwater BMP Handbook – New Development and Redevelopment (www.cabmphandbooks.com). The Handbook contains additional information on BMP operation and maintenance.
- (10) Note: Projects that will utilize infiltration-based Treatment Control BMPs (e.g., Infiltration Basins, Infiltration Trenches, Porous Pavement) must include a copy of the property/project soils report as Appendix E to the project-specific WQMP. The selection of a Treatment Control BMP (or BMPs) for the project must specifically consider the effectiveness of the Treatment Control BMP for pollutants identified as causing an impairment of Receiving Waters to which the project will discharge Urban Runoff.

V.4 EQUIVALENT TREATMENT CONTROL ALTERNATIVES

Not Applicable

V.5 REGIONALLY-BASED TREATMENT CONTROL BMPs

Not Applicable

VI. Operation and Maintenance Responsibility for Treatment Control BMPs

Operation and maintenance (O&M) requirements for all structural Source Control and Treatment Control BMPs shall be identified in the project-specific WQMP. The project-specific WQMP shall address the following:

- Identification of each BMP that requires O&M.
- Thorough description of O&M activities, the O&M process, and the handling and placement of any wastes.
- BMP start-up dates.
- Schedule of the frequency of O&M for each BMP.
- Identification of the parties (name, address, and telephone number) responsible for O&M, including a written agreement with the entities responsible for O&M. This agreement can take the form of a Covenant and Agreement recorded by the Project Proponent with the County Recorder, HOA or POA CC&Rs, formation of a maintenance district or assessment district or other instrument sufficient to guarantee perpetual O&M. The preparer of this project-specific WQMP should carefully review Section 4.6 of the WQMP prior to completing this section of the project-specific WQMP.
- Self-inspections and record-keeping requirements for BMPs (review local specific requirements regarding self-inspections and/or annual reporting), including identification of responsible parties for inspection and record-keeping.
- Thorough descriptions of water quality monitoring, if required by the Co-Permittee.

Instructions: Identify below all operations and maintenance requirements, as described above, for each structural BMP. Where a public agency is identified as the funding source and responsible party for a Treatment Control BMP, a copy of the written agreement stating the public agency's acceptance of these responsibilities must be provided in Appendix G.

The HOA will be responsible for operations and maintenance. Detailed operations and maintenance, including specific activities and checklists, will be provided during final engineering.

VII. Funding

A funding source or sources for the O&M of each Treatment Control BMP identified in the project-specific WQMP must be identified. By certifying the project-specific WQMP, the Project applicant is certifying that the funding responsibilities have been addressed and will be transferred to future owners. One example of how to adhere to the requirement to transfer O&M responsibilities is to record the project-specific WQMP against the title to the property.

The HOA will provide a mechanism for funding of all BMP improvements. Detailed funding information will be provided during final engineering.

Appendix A

Conditions of Approval

Planning Commission Resolution TBD

Dated TBD

Appendix B

Vicinity Map, WQMP Site Plan, and Receiving Waters Map

Figure 1: Vicinity Map

Drawing Name: O:\108.25.13\Engineering\WQMP\Appendix B - Exhibits\Receiving waters and vicinity map_recover.dwg
Last Opened: Mar 06, 2014 - 2:59pm by jcarver



PRIELIPP ROAD VICINITY MAP

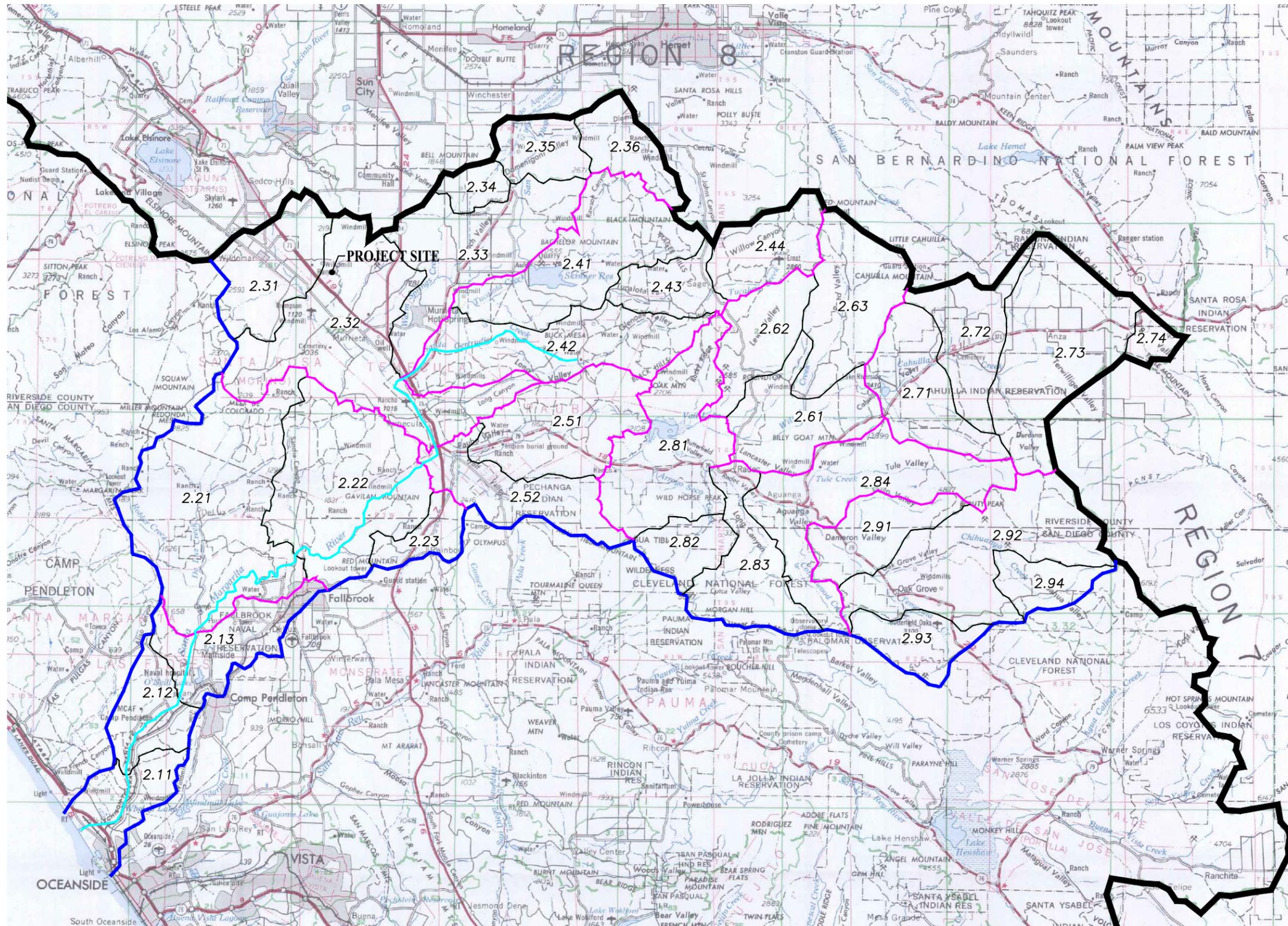


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FIGURE 1

Figure 2: Receiving Waters Map

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 Last Opened: Mar 06, 2014 - 3:01pm by jcarver



LEGEND

- Regional Boundary
- Hydrologic Unit Boundary (HU)
- Hydrologic Area Boundary (HA)
- Hydrologic Subarea Boundary (SA)
- FLOW PATH

902.00	SANTA MARGARITA HYDROLOGIC UNIT
902.10	Ysidora HA
2.11	Lower Ysidora HSA
2.12	Chappo HSA
2.13	Upper Ysidora HSA
902.20	DelLuz HA
2.21	DelLuz Creek HSA
2.22	Gavilan HSA
2.23	Vallecitos HSA
902.30	Murrieta HA
2.31	Wildomar HSA
2.32	Murrieta HSA
2.33	French HSA
2.34	Lower Domenigoni HSA
2.35	Domenigoni HSA
2.36	Diamond HSA
902.40	Auld HA
2.41	Bachelor Mountain HSA
2.42	Gertrudis HSA
2.43	Lower Tualota HSA
2.44	Tualota HSA
902.50	Pechanga HA
2.51	Pauba HSA
2.52	Wolf HSA
902.60	Wilson HA
2.61	Lancaster Valley HSA
2.62	Lewis HSA
2.63	Reed Valley HSA
902.70	Cave Rocks HA
2.71	Lower Coahuila HSA
2.72	Upper Coahuila HSA
2.73	Anza HSA
2.74	Burnt HSA
902.80	Aguanga HA
2.81	Vail HSA
2.82	Devils Hole HSA
2.83	Redec HSA
2.84	Tule Creek HSA
902.90	Oakgrove HA
2.91	Lower Culp HSA
2.92	Previtt Canyon HSA
2.93	Dodge HSA
2.94	Chihuahua HSA

PRIELIPP ROAD RECEIVING WATERS MAP



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FIGURE 2

Figure 3: Site Plan

PRIELIPP ROAD PROJECT

IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

WQMP SITE PLAN

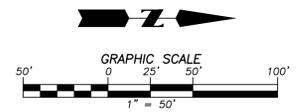
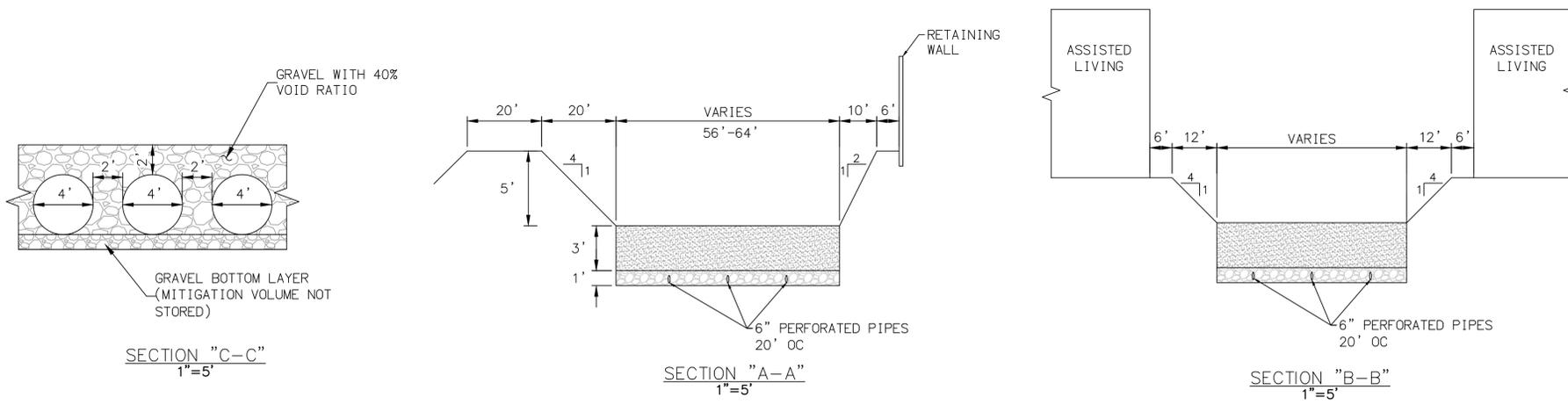
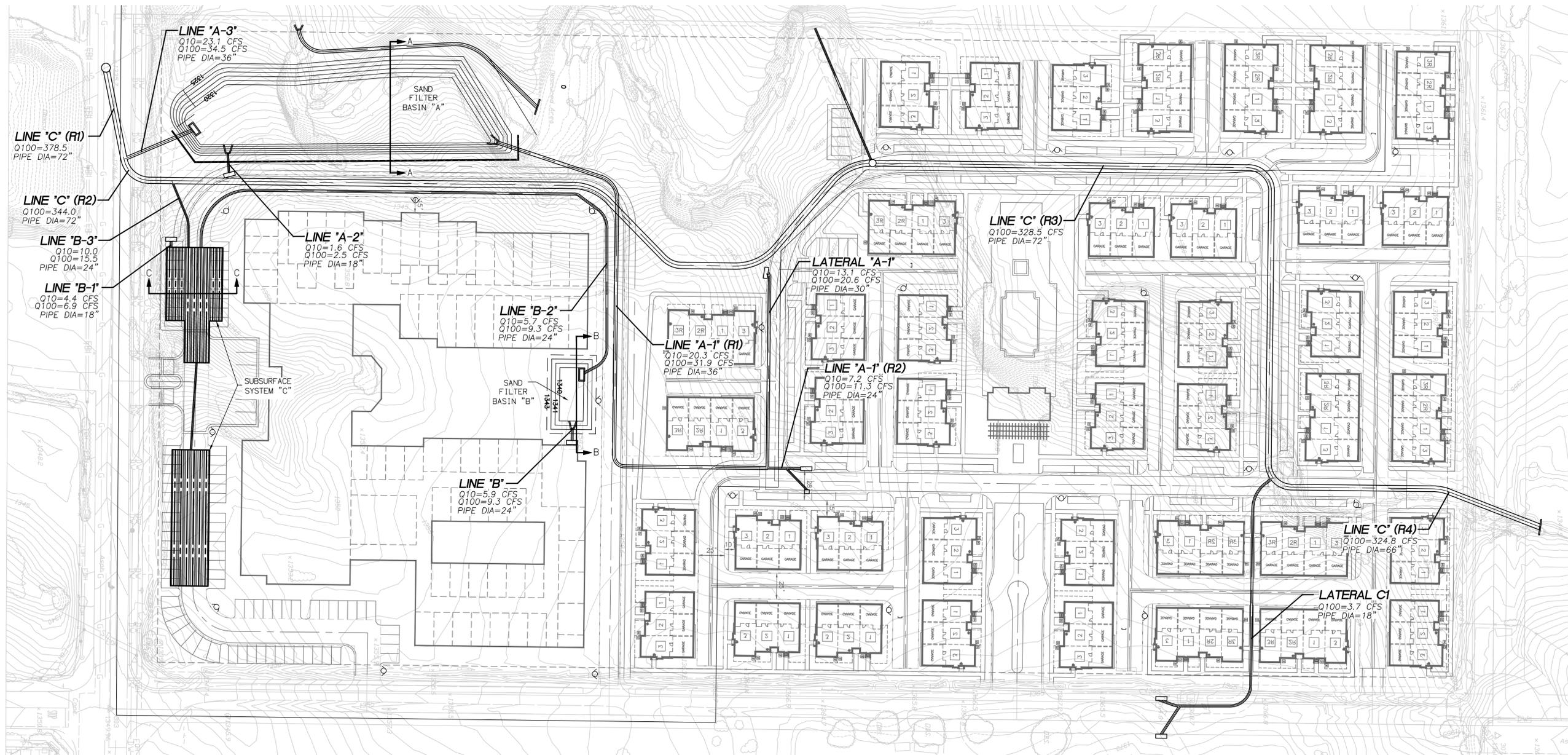


FIGURE 3
PRIELIPP RD PROJECT
WQMP SITE PLAN

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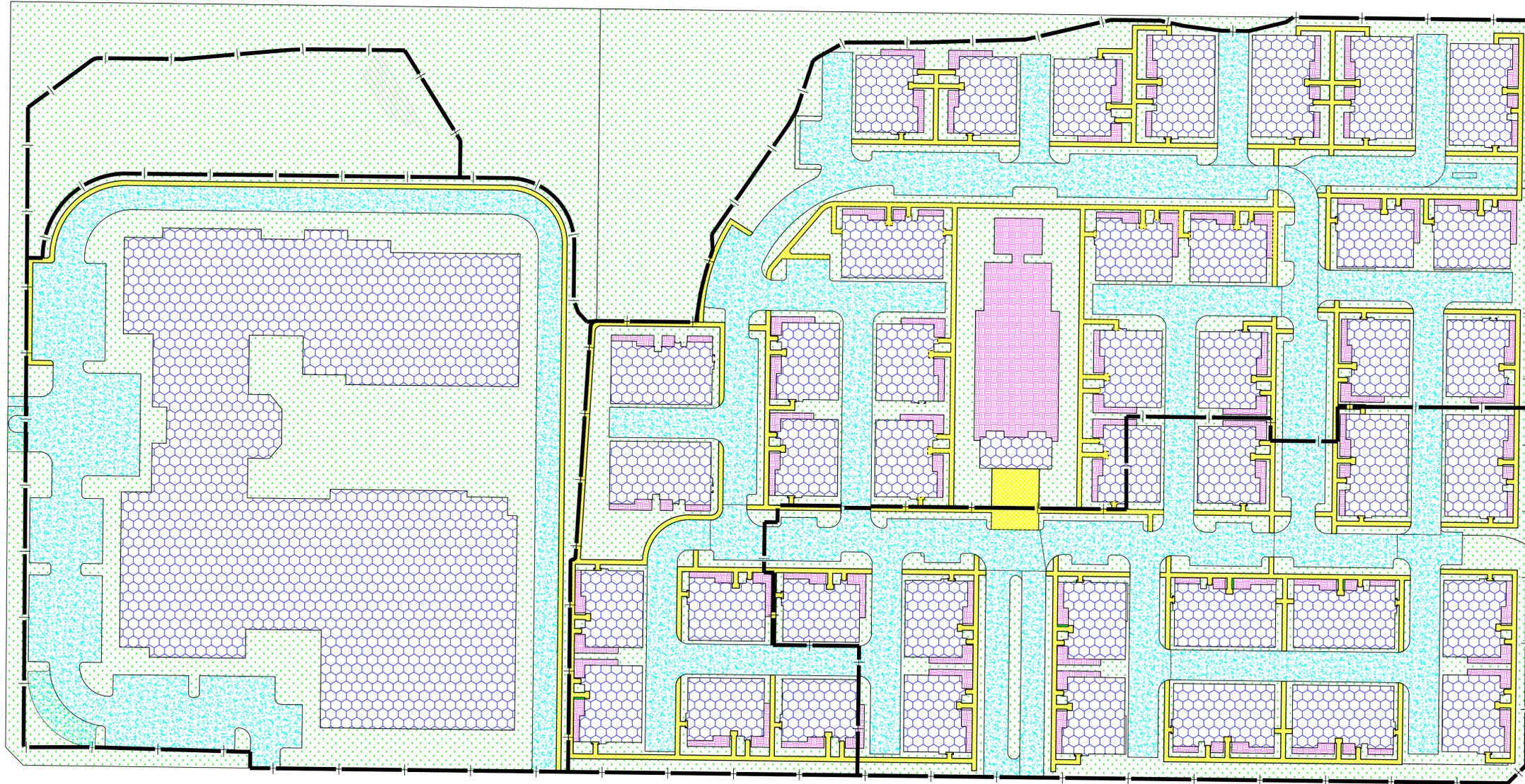
Drawing Name: C:\108_25\13\Engineering\WQMP_Appendix B - Exhibits\Figure 3 - Site Plan.dwg
Last Opened: Mar 21, 2014 4:14pm by Ecorver

Figure 4: Onsite Post-Project Land Cover Map

PRIELIPP ROAD PROJECT

IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

ONSITE LAND USE MAP



LEGEND:

	LANDSCAPE
	BUILDING/ROOF
	CONCRETE
	SIDEWALK
	STREET

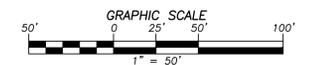


FIGURE 4
PRIELIPP RD

ONSITE LAND USE
MAP

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Appendix C

Supporting Detail Related to Hydraulic Conditions of Concern

Pre-Project Onsite Unit Hydrograph Hydrology

Area A, 2-Year, 24-Hour

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
Study date 03/21/14 File: ARA242.out

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6269

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

PRIELIPP ROAD PRE-PROJECT CONDITION HYDROLOGY
UNIT HYDROGRAPH ANALYSIS, 2-YEAR, 24-HOUR STORM DURATION
FILENAME: ARA

Drainage Area = 12.20(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 12.20(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 1603.00(Ft.)
Length along longest watercourse measured to centroid = 830.00(Ft.)
Length along longest watercourse = 0.304 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 39.00(Ft.)
Slope along watercourse = 128.4591 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.105 Hr.
Lag time = 6.31 Min.
25% of lag time = 1.58 Min.
40% of lag time = 2.52 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.20	2.50	30.50

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.20	7.00	85.40

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 7.000(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %
12.200 83.83 0.000
Total Area Entered = 12.20(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
83.8	68.4	0.380	0.000	0.380	1.000	0.380
						Sum (F) = 0.380

Area averaged mean soil loss (F) (In/Hr) = 0.380
 Minimum soil loss rate ((In/Hr)) = 0.190
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.900

 U n i t H y d r o g r a p h
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	79.302	13.106
2	0.167	158.603	44.176
3	0.250	237.905	20.139
4	0.333	317.207	8.292
5	0.417	396.508	4.982
6	0.500	475.810	3.155
7	0.583	555.112	2.262
8	0.667	634.413	1.566
9	0.750	713.715	1.059
10	0.833	793.016	0.799
11	0.917	872.318	0.466
		Sum = 100.000	Sum= 12.295

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max Low	Effective (In/Hr)
1	0.08	0.07	(0.673) 0.018	0.002
2	0.17	0.07	(0.670) 0.018	0.002
3	0.25	0.07	(0.668) 0.018	0.002
4	0.33	0.10	(0.665) 0.027	0.003
5	0.42	0.10	(0.663) 0.027	0.003
6	0.50	0.10	(0.660) 0.027	0.003
7	0.58	0.10	(0.658) 0.027	0.003
8	0.67	0.10	(0.655) 0.027	0.003
9	0.75	0.10	(0.652) 0.027	0.003
10	0.83	0.13	(0.650) 0.036	0.004
11	0.92	0.13	(0.647) 0.036	0.004
12	1.00	0.13	(0.645) 0.036	0.004
13	1.08	0.10	(0.642) 0.027	0.003
14	1.17	0.10	(0.640) 0.027	0.003
15	1.25	0.10	(0.637) 0.027	0.003
16	1.33	0.10	(0.635) 0.027	0.003
17	1.42	0.10	(0.632) 0.027	0.003
18	1.50	0.10	(0.630) 0.027	0.003
19	1.58	0.10	(0.627) 0.027	0.003
20	1.67	0.10	(0.624) 0.027	0.003
21	1.75	0.10	(0.622) 0.027	0.003
22	1.83	0.13	(0.619) 0.036	0.004
23	1.92	0.13	(0.617) 0.036	0.004
24	2.00	0.13	(0.614) 0.036	0.004
25	2.08	0.13	(0.612) 0.036	0.004
26	2.17	0.13	(0.610) 0.036	0.004
27	2.25	0.13	(0.607) 0.036	0.004
28	2.33	0.13	(0.605) 0.036	0.004
29	2.42	0.13	(0.602) 0.036	0.004
30	2.50	0.13	(0.600) 0.036	0.004
31	2.58	0.17	(0.597) 0.045	0.005

32	2.67	0.17	0.050	(0.595)	0.045	0.005
33	2.75	0.17	0.050	(0.592)	0.045	0.005
34	2.83	0.17	0.050	(0.590)	0.045	0.005
35	2.92	0.17	0.050	(0.587)	0.045	0.005
36	3.00	0.17	0.050	(0.585)	0.045	0.005
37	3.08	0.17	0.050	(0.583)	0.045	0.005
38	3.17	0.17	0.050	(0.580)	0.045	0.005
39	3.25	0.17	0.050	(0.578)	0.045	0.005
40	3.33	0.17	0.050	(0.575)	0.045	0.005
41	3.42	0.17	0.050	(0.573)	0.045	0.005
42	3.50	0.17	0.050	(0.571)	0.045	0.005
43	3.58	0.17	0.050	(0.568)	0.045	0.005
44	3.67	0.17	0.050	(0.566)	0.045	0.005
45	3.75	0.17	0.050	(0.563)	0.045	0.005
46	3.83	0.20	0.060	(0.561)	0.054	0.006
47	3.92	0.20	0.060	(0.559)	0.054	0.006
48	4.00	0.20	0.060	(0.556)	0.054	0.006
49	4.08	0.20	0.060	(0.554)	0.054	0.006
50	4.17	0.20	0.060	(0.552)	0.054	0.006
51	4.25	0.20	0.060	(0.549)	0.054	0.006
52	4.33	0.23	0.070	(0.547)	0.063	0.007
53	4.42	0.23	0.070	(0.545)	0.063	0.007
54	4.50	0.23	0.070	(0.542)	0.063	0.007
55	4.58	0.23	0.070	(0.540)	0.063	0.007
56	4.67	0.23	0.070	(0.538)	0.063	0.007
57	4.75	0.23	0.070	(0.535)	0.063	0.007
58	4.83	0.27	0.080	(0.533)	0.072	0.008
59	4.92	0.27	0.080	(0.531)	0.072	0.008
60	5.00	0.27	0.080	(0.528)	0.072	0.008
61	5.08	0.20	0.060	(0.526)	0.054	0.006
62	5.17	0.20	0.060	(0.524)	0.054	0.006
63	5.25	0.20	0.060	(0.521)	0.054	0.006
64	5.33	0.23	0.070	(0.519)	0.063	0.007
65	5.42	0.23	0.070	(0.517)	0.063	0.007
66	5.50	0.23	0.070	(0.515)	0.063	0.007
67	5.58	0.27	0.080	(0.512)	0.072	0.008
68	5.67	0.27	0.080	(0.510)	0.072	0.008
69	5.75	0.27	0.080	(0.508)	0.072	0.008
70	5.83	0.27	0.080	(0.506)	0.072	0.008
71	5.92	0.27	0.080	(0.503)	0.072	0.008
72	6.00	0.27	0.080	(0.501)	0.072	0.008
73	6.08	0.30	0.090	(0.499)	0.081	0.009
74	6.17	0.30	0.090	(0.497)	0.081	0.009
75	6.25	0.30	0.090	(0.495)	0.081	0.009
76	6.33	0.30	0.090	(0.492)	0.081	0.009
77	6.42	0.30	0.090	(0.490)	0.081	0.009
78	6.50	0.30	0.090	(0.488)	0.081	0.009
79	6.58	0.33	0.100	(0.486)	0.090	0.010
80	6.67	0.33	0.100	(0.484)	0.090	0.010
81	6.75	0.33	0.100	(0.481)	0.090	0.010
82	6.83	0.33	0.100	(0.479)	0.090	0.010
83	6.92	0.33	0.100	(0.477)	0.090	0.010
84	7.00	0.33	0.100	(0.475)	0.090	0.010
85	7.08	0.33	0.100	(0.473)	0.090	0.010
86	7.17	0.33	0.100	(0.471)	0.090	0.010
87	7.25	0.33	0.100	(0.468)	0.090	0.010
88	7.33	0.37	0.110	(0.466)	0.099	0.011
89	7.42	0.37	0.110	(0.464)	0.099	0.011
90	7.50	0.37	0.110	(0.462)	0.099	0.011
91	7.58	0.40	0.120	(0.460)	0.108	0.012
92	7.67	0.40	0.120	(0.458)	0.108	0.012
93	7.75	0.40	0.120	(0.456)	0.108	0.012
94	7.83	0.43	0.130	(0.454)	0.117	0.013
95	7.92	0.43	0.130	(0.451)	0.117	0.013
96	8.00	0.43	0.130	(0.449)	0.117	0.013
97	8.08	0.50	0.150	(0.447)	0.135	0.015
98	8.17	0.50	0.150	(0.445)	0.135	0.015
99	8.25	0.50	0.150	(0.443)	0.135	0.015
100	8.33	0.50	0.150	(0.441)	0.135	0.015
101	8.42	0.50	0.150	(0.439)	0.135	0.015
102	8.50	0.50	0.150	(0.437)	0.135	0.015

103	8.58	0.53	0.160	(0.435)	0.144	0.016
104	8.67	0.53	0.160	(0.433)	0.144	0.016
105	8.75	0.53	0.160	(0.431)	0.144	0.016
106	8.83	0.57	0.170	(0.429)	0.153	0.017
107	8.92	0.57	0.170	(0.427)	0.153	0.017
108	9.00	0.57	0.170	(0.425)	0.153	0.017
109	9.08	0.63	0.190	(0.423)	0.171	0.019
110	9.17	0.63	0.190	(0.421)	0.171	0.019
111	9.25	0.63	0.190	(0.419)	0.171	0.019
112	9.33	0.67	0.200	(0.417)	0.180	0.020
113	9.42	0.67	0.200	(0.415)	0.180	0.020
114	9.50	0.67	0.200	(0.413)	0.180	0.020
115	9.58	0.70	0.210	(0.411)	0.189	0.021
116	9.67	0.70	0.210	(0.409)	0.189	0.021
117	9.75	0.70	0.210	(0.407)	0.189	0.021
118	9.83	0.73	0.220	(0.405)	0.198	0.022
119	9.92	0.73	0.220	(0.403)	0.198	0.022
120	10.00	0.73	0.220	(0.401)	0.198	0.022
121	10.08	0.50	0.150	(0.399)	0.135	0.015
122	10.17	0.50	0.150	(0.397)	0.135	0.015
123	10.25	0.50	0.150	(0.395)	0.135	0.015
124	10.33	0.50	0.150	(0.393)	0.135	0.015
125	10.42	0.50	0.150	(0.391)	0.135	0.015
126	10.50	0.50	0.150	(0.389)	0.135	0.015
127	10.58	0.67	0.200	(0.388)	0.180	0.020
128	10.67	0.67	0.200	(0.386)	0.180	0.020
129	10.75	0.67	0.200	(0.384)	0.180	0.020
130	10.83	0.67	0.200	(0.382)	0.180	0.020
131	10.92	0.67	0.200	(0.380)	0.180	0.020
132	11.00	0.67	0.200	(0.378)	0.180	0.020
133	11.08	0.63	0.190	(0.376)	0.171	0.019
134	11.17	0.63	0.190	(0.374)	0.171	0.019
135	11.25	0.63	0.190	(0.373)	0.171	0.019
136	11.33	0.63	0.190	(0.371)	0.171	0.019
137	11.42	0.63	0.190	(0.369)	0.171	0.019
138	11.50	0.63	0.190	(0.367)	0.171	0.019
139	11.58	0.57	0.170	(0.365)	0.153	0.017
140	11.67	0.57	0.170	(0.363)	0.153	0.017
141	11.75	0.57	0.170	(0.362)	0.153	0.017
142	11.83	0.60	0.180	(0.360)	0.162	0.018
143	11.92	0.60	0.180	(0.358)	0.162	0.018
144	12.00	0.60	0.180	(0.356)	0.162	0.018
145	12.08	0.83	0.250	(0.354)	0.225	0.025
146	12.17	0.83	0.250	(0.353)	0.225	0.025
147	12.25	0.83	0.250	(0.351)	0.225	0.025
148	12.33	0.87	0.260	(0.349)	0.234	0.026
149	12.42	0.87	0.260	(0.347)	0.234	0.026
150	12.50	0.87	0.260	(0.346)	0.234	0.026
151	12.58	0.93	0.280	(0.344)	0.252	0.028
152	12.67	0.93	0.280	(0.342)	0.252	0.028
153	12.75	0.93	0.280	(0.340)	0.252	0.028
154	12.83	0.97	0.290	(0.339)	0.261	0.029
155	12.92	0.97	0.290	(0.337)	0.261	0.029
156	13.00	0.97	0.290	(0.335)	0.261	0.029
157	13.08	1.13	0.340	(0.334)	0.306	0.034
158	13.17	1.13	0.340	(0.332)	0.306	0.034
159	13.25	1.13	0.340	(0.330)	0.306	0.034
160	13.33	1.13	0.340	(0.329)	0.306	0.034
161	13.42	1.13	0.340	(0.327)	0.306	0.034
162	13.50	1.13	0.340	(0.325)	0.306	0.034
163	13.58	0.77	0.230	(0.324)	0.207	0.023
164	13.67	0.77	0.230	(0.322)	0.207	0.023
165	13.75	0.77	0.230	(0.320)	0.207	0.023
166	13.83	0.77	0.230	(0.319)	0.207	0.023
167	13.92	0.77	0.230	(0.317)	0.207	0.023
168	14.00	0.77	0.230	(0.315)	0.207	0.023
169	14.08	0.90	0.270	(0.314)	0.243	0.027
170	14.17	0.90	0.270	(0.312)	0.243	0.027
171	14.25	0.90	0.270	(0.311)	0.243	0.027
172	14.33	0.87	0.260	(0.309)	0.234	0.026
173	14.42	0.87	0.260	(0.307)	0.234	0.026

174	14.50	0.87	0.260	(0.306)	0.234	0.026
175	14.58	0.87	0.260	(0.304)	0.234	0.026
176	14.67	0.87	0.260	(0.303)	0.234	0.026
177	14.75	0.87	0.260	(0.301)	0.234	0.026
178	14.83	0.83	0.250	(0.300)	0.225	0.025
179	14.92	0.83	0.250	(0.298)	0.225	0.025
180	15.00	0.83	0.250	(0.297)	0.225	0.025
181	15.08	0.80	0.240	(0.295)	0.216	0.024
182	15.17	0.80	0.240	(0.294)	0.216	0.024
183	15.25	0.80	0.240	(0.292)	0.216	0.024
184	15.33	0.77	0.230	(0.291)	0.207	0.023
185	15.42	0.77	0.230	(0.289)	0.207	0.023
186	15.50	0.77	0.230	(0.288)	0.207	0.023
187	15.58	0.63	0.190	(0.286)	0.171	0.019
188	15.67	0.63	0.190	(0.285)	0.171	0.019
189	15.75	0.63	0.190	(0.283)	0.171	0.019
190	15.83	0.63	0.190	(0.282)	0.171	0.019
191	15.92	0.63	0.190	(0.280)	0.171	0.019
192	16.00	0.63	0.190	(0.279)	0.171	0.019
193	16.08	0.13	0.040	(0.277)	0.036	0.004
194	16.17	0.13	0.040	(0.276)	0.036	0.004
195	16.25	0.13	0.040	(0.275)	0.036	0.004
196	16.33	0.13	0.040	(0.273)	0.036	0.004
197	16.42	0.13	0.040	(0.272)	0.036	0.004
198	16.50	0.13	0.040	(0.270)	0.036	0.004
199	16.58	0.10	0.030	(0.269)	0.027	0.003
200	16.67	0.10	0.030	(0.268)	0.027	0.003
201	16.75	0.10	0.030	(0.266)	0.027	0.003
202	16.83	0.10	0.030	(0.265)	0.027	0.003
203	16.92	0.10	0.030	(0.264)	0.027	0.003
204	17.00	0.10	0.030	(0.262)	0.027	0.003
205	17.08	0.17	0.050	(0.261)	0.045	0.005
206	17.17	0.17	0.050	(0.260)	0.045	0.005
207	17.25	0.17	0.050	(0.258)	0.045	0.005
208	17.33	0.17	0.050	(0.257)	0.045	0.005
209	17.42	0.17	0.050	(0.256)	0.045	0.005
210	17.50	0.17	0.050	(0.254)	0.045	0.005
211	17.58	0.17	0.050	(0.253)	0.045	0.005
212	17.67	0.17	0.050	(0.252)	0.045	0.005
213	17.75	0.17	0.050	(0.251)	0.045	0.005
214	17.83	0.13	0.040	(0.249)	0.036	0.004
215	17.92	0.13	0.040	(0.248)	0.036	0.004
216	18.00	0.13	0.040	(0.247)	0.036	0.004
217	18.08	0.13	0.040	(0.246)	0.036	0.004
218	18.17	0.13	0.040	(0.245)	0.036	0.004
219	18.25	0.13	0.040	(0.243)	0.036	0.004
220	18.33	0.13	0.040	(0.242)	0.036	0.004
221	18.42	0.13	0.040	(0.241)	0.036	0.004
222	18.50	0.13	0.040	(0.240)	0.036	0.004
223	18.58	0.10	0.030	(0.239)	0.027	0.003
224	18.67	0.10	0.030	(0.237)	0.027	0.003
225	18.75	0.10	0.030	(0.236)	0.027	0.003
226	18.83	0.07	0.020	(0.235)	0.018	0.002
227	18.92	0.07	0.020	(0.234)	0.018	0.002
228	19.00	0.07	0.020	(0.233)	0.018	0.002
229	19.08	0.10	0.030	(0.232)	0.027	0.003
230	19.17	0.10	0.030	(0.231)	0.027	0.003
231	19.25	0.10	0.030	(0.230)	0.027	0.003
232	19.33	0.13	0.040	(0.229)	0.036	0.004
233	19.42	0.13	0.040	(0.228)	0.036	0.004
234	19.50	0.13	0.040	(0.227)	0.036	0.004
235	19.58	0.10	0.030	(0.226)	0.027	0.003
236	19.67	0.10	0.030	(0.224)	0.027	0.003
237	19.75	0.10	0.030	(0.223)	0.027	0.003
238	19.83	0.07	0.020	(0.222)	0.018	0.002
239	19.92	0.07	0.020	(0.221)	0.018	0.002
240	20.00	0.07	0.020	(0.220)	0.018	0.002
241	20.08	0.10	0.030	(0.220)	0.027	0.003
242	20.17	0.10	0.030	(0.219)	0.027	0.003
243	20.25	0.10	0.030	(0.218)	0.027	0.003
244	20.33	0.10	0.030	(0.217)	0.027	0.003

245	20.42	0.10	0.030	(0.216)	0.027	0.003
246	20.50	0.10	0.030	(0.215)	0.027	0.003
247	20.58	0.10	0.030	(0.214)	0.027	0.003
248	20.67	0.10	0.030	(0.213)	0.027	0.003
249	20.75	0.10	0.030	(0.212)	0.027	0.003
250	20.83	0.07	0.020	(0.211)	0.018	0.002
251	20.92	0.07	0.020	(0.210)	0.018	0.002
252	21.00	0.07	0.020	(0.210)	0.018	0.002
253	21.08	0.10	0.030	(0.209)	0.027	0.003
254	21.17	0.10	0.030	(0.208)	0.027	0.003
255	21.25	0.10	0.030	(0.207)	0.027	0.003
256	21.33	0.07	0.020	(0.206)	0.018	0.002
257	21.42	0.07	0.020	(0.206)	0.018	0.002
258	21.50	0.07	0.020	(0.205)	0.018	0.002
259	21.58	0.10	0.030	(0.204)	0.027	0.003
260	21.67	0.10	0.030	(0.203)	0.027	0.003
261	21.75	0.10	0.030	(0.203)	0.027	0.003
262	21.83	0.07	0.020	(0.202)	0.018	0.002
263	21.92	0.07	0.020	(0.201)	0.018	0.002
264	22.00	0.07	0.020	(0.200)	0.018	0.002
265	22.08	0.10	0.030	(0.200)	0.027	0.003
266	22.17	0.10	0.030	(0.199)	0.027	0.003
267	22.25	0.10	0.030	(0.199)	0.027	0.003
268	22.33	0.07	0.020	(0.198)	0.018	0.002
269	22.42	0.07	0.020	(0.197)	0.018	0.002
270	22.50	0.07	0.020	(0.197)	0.018	0.002
271	22.58	0.07	0.020	(0.196)	0.018	0.002
272	22.67	0.07	0.020	(0.196)	0.018	0.002
273	22.75	0.07	0.020	(0.195)	0.018	0.002
274	22.83	0.07	0.020	(0.195)	0.018	0.002
275	22.92	0.07	0.020	(0.194)	0.018	0.002
276	23.00	0.07	0.020	(0.194)	0.018	0.002
277	23.08	0.07	0.020	(0.193)	0.018	0.002
278	23.17	0.07	0.020	(0.193)	0.018	0.002
279	23.25	0.07	0.020	(0.192)	0.018	0.002
280	23.33	0.07	0.020	(0.192)	0.018	0.002
281	23.42	0.07	0.020	(0.192)	0.018	0.002
282	23.50	0.07	0.020	(0.191)	0.018	0.002
283	23.58	0.07	0.020	(0.191)	0.018	0.002
284	23.67	0.07	0.020	(0.191)	0.018	0.002
285	23.75	0.07	0.020	(0.190)	0.018	0.002
286	23.83	0.07	0.020	(0.190)	0.018	0.002
287	23.92	0.07	0.020	(0.190)	0.018	0.002
288	24.00	0.07	0.020	(0.190)	0.018	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.0

Flood volume = Effective rainfall 0.25(In)
times area 12.2(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 2.25(In)
Total soil loss = 2.287(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 11071.2 Cubic Feet
Total soil loss = 99641.1 Cubic Feet

Peak flow rate of this hydrograph = 0.414(CFS)

+++++

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0003	0.02	Q				
0+20	0.0004	0.02	Q				
0+25	0.0006	0.03	Q				
0+30	0.0008	0.03	Q				

0+35	0.0011	0.03	Q
0+40	0.0013	0.04	Q
0+45	0.0016	0.04	Q
0+50	0.0018	0.04	Q
0+55	0.0021	0.04	Q
1+ 0	0.0024	0.05	Q
1+ 5	0.0028	0.05	Q
1+10	0.0030	0.04	Q
1+15	0.0033	0.04	Q
1+20	0.0036	0.04	Q
1+25	0.0038	0.04	Q
1+30	0.0041	0.04	Q
1+35	0.0043	0.04	Q
1+40	0.0046	0.04	Q
1+45	0.0049	0.04	Q
1+50	0.0051	0.04	Q
1+55	0.0054	0.04	Q
2+ 0	0.0057	0.05	Q
2+ 5	0.0061	0.05	Q
2+10	0.0064	0.05	QV
2+15	0.0067	0.05	QV
2+20	0.0071	0.05	QV
2+25	0.0074	0.05	QV
2+30	0.0077	0.05	QV
2+35	0.0081	0.05	QV
2+40	0.0085	0.06	QV
2+45	0.0089	0.06	QV
2+50	0.0093	0.06	QV
2+55	0.0097	0.06	QV
3+ 0	0.0101	0.06	QV
3+ 5	0.0106	0.06	QV
3+10	0.0110	0.06	QV
3+15	0.0114	0.06	QV
3+20	0.0118	0.06	QV
3+25	0.0122	0.06	QV
3+30	0.0127	0.06	QV
3+35	0.0131	0.06	Q V
3+40	0.0135	0.06	Q V
3+45	0.0139	0.06	Q V
3+50	0.0144	0.06	Q V
3+55	0.0148	0.07	Q V
4+ 0	0.0153	0.07	Q V
4+ 5	0.0158	0.07	Q V
4+10	0.0163	0.07	Q V
4+15	0.0168	0.07	Q V
4+20	0.0173	0.07	Q V
4+25	0.0179	0.08	Q V
4+30	0.0185	0.08	Q V
4+35	0.0191	0.08	Q V
4+40	0.0196	0.08	Q V
4+45	0.0202	0.09	Q V
4+50	0.0208	0.09	Q V
4+55	0.0215	0.09	Q V
5+ 0	0.0221	0.10	Q V
5+ 5	0.0228	0.09	Q V
5+10	0.0233	0.08	Q V
5+15	0.0239	0.08	Q V
5+20	0.0244	0.08	Q V
5+25	0.0250	0.08	Q V
5+30	0.0256	0.08	Q V
5+35	0.0262	0.09	Q V
5+40	0.0268	0.09	Q V
5+45	0.0275	0.10	Q V
5+50	0.0281	0.10	Q V
5+55	0.0288	0.10	Q V
6+ 0	0.0295	0.10	Q V
6+ 5	0.0302	0.10	Q V
6+10	0.0309	0.11	Q V
6+15	0.0316	0.11	Q V
6+20	0.0324	0.11	Q V
6+25	0.0331	0.11	Q V

6+30	0.0339	0.11	Q	V				
6+35	0.0347	0.11	Q	V				
6+40	0.0355	0.12	Q	V				
6+45	0.0363	0.12	Q	V				
6+50	0.0371	0.12	Q	V				
6+55	0.0380	0.12	Q	V				
7+ 0	0.0388	0.12	Q	V				
7+ 5	0.0397	0.12	Q	V				
7+10	0.0405	0.12	Q	V				
7+15	0.0413	0.12	Q	V				
7+20	0.0422	0.12	Q	V				
7+25	0.0431	0.13	Q	V				
7+30	0.0440	0.13	Q	V				
7+35	0.0449	0.14	Q	V				
7+40	0.0459	0.14	Q	V				
7+45	0.0469	0.14	Q	V				
7+50	0.0479	0.15	Q	V				
7+55	0.0490	0.15	Q	V				
8+ 0	0.0501	0.16	Q	V				
8+ 5	0.0512	0.16	Q	V				
8+10	0.0523	0.17	Q	V				
8+15	0.0536	0.18	Q	V				
8+20	0.0548	0.18	Q	V				
8+25	0.0561	0.18	Q	V				
8+30	0.0573	0.18	Q	V				
8+35	0.0586	0.19	Q	V				
8+40	0.0599	0.19	Q	V				
8+45	0.0613	0.19	Q	V				
8+50	0.0626	0.20	Q	V				
8+55	0.0640	0.20	Q	V				
9+ 0	0.0654	0.21	Q	V				
9+ 5	0.0669	0.21	Q	V				
9+10	0.0684	0.22	Q	V				
9+15	0.0700	0.23	Q	V				
9+20	0.0716	0.23	Q	V				
9+25	0.0732	0.24	Q	V				
9+30	0.0749	0.24	Q	V				
9+35	0.0765	0.24	Q	V				
9+40	0.0783	0.25	Q	V				
9+45	0.0800	0.25	Q	V				
9+50	0.0818	0.26	Q	V				
9+55	0.0836	0.26	Q	V				
10+ 0	0.0855	0.27	Q	V				
10+ 5	0.0872	0.26	Q	V				
10+10	0.0887	0.22	Q	V				
10+15	0.0901	0.20	Q	V				
10+20	0.0915	0.20	Q	V				
10+25	0.0928	0.19	Q	V				
10+30	0.0941	0.19	Q	V				
10+35	0.0955	0.20	Q	V				
10+40	0.0970	0.22	Q	V				
10+45	0.0986	0.23	Q	V				
10+50	0.1002	0.24	Q	V				
10+55	0.1019	0.24	Q	V				
11+ 0	0.1036	0.24	Q	V				
11+ 5	0.1052	0.24	Q	V				
11+10	0.1069	0.24	Q	V				
11+15	0.1085	0.24	Q	V				
11+20	0.1101	0.24	Q	V				
11+25	0.1117	0.23	Q	V				
11+30	0.1133	0.23	Q	V				
11+35	0.1149	0.23	Q	V				
11+40	0.1164	0.22	Q	V				
11+45	0.1179	0.21	Q	V				
11+50	0.1194	0.21	Q	V				
11+55	0.1209	0.22	Q	V				
12+ 0	0.1224	0.22	Q	V				
12+ 5	0.1240	0.23	Q	V				
12+10	0.1259	0.27	Q	V				
12+15	0.1279	0.29	Q	V				
12+20	0.1299	0.30	Q	V				

12+25	0.1320	0.31	Q	V		
12+30	0.1342	0.31	Q	V		
12+35	0.1363	0.32	Q	V		
12+40	0.1386	0.33	Q	V		
12+45	0.1409	0.34	Q	V		
12+50	0.1433	0.34	Q	V		
12+55	0.1457	0.35	Q	V		
13+ 0	0.1481	0.35	Q	V		
13+ 5	0.1506	0.36	Q	V		
13+10	0.1533	0.39	Q	V		
13+15	0.1561	0.40	Q	V		
13+20	0.1589	0.41	Q	V		
13+25	0.1617	0.41	Q	V		
13+30	0.1646	0.41	Q	V		
13+35	0.1673	0.40	Q	V		
13+40	0.1697	0.34	Q	V		
13+45	0.1718	0.31	Q	V		
13+50	0.1739	0.30	Q	V		
13+55	0.1759	0.30	Q	V		
14+ 0	0.1780	0.29	Q	V		
14+ 5	0.1800	0.29	Q	V		
14+10	0.1821	0.31	Q	V		
14+15	0.1844	0.32	Q	V		
14+20	0.1866	0.32	Q	V		
14+25	0.1888	0.32	Q	V		
14+30	0.1910	0.32	Q	V		
14+35	0.1932	0.32	Q	V		
14+40	0.1954	0.32	Q	V		
14+45	0.1976	0.32	Q	V		
14+50	0.1998	0.32	Q	V		
14+55	0.2020	0.31	Q	V		
15+ 0	0.2041	0.31	Q	V		
15+ 5	0.2062	0.31	Q	V		
15+10	0.2083	0.30	Q	V		
15+15	0.2104	0.30	Q	V		
15+20	0.2124	0.30	Q	V		
15+25	0.2144	0.29	Q	V		
15+30	0.2164	0.29	Q	V		
15+35	0.2183	0.28	Q	V		
15+40	0.2200	0.26	Q	V		
15+45	0.2217	0.25	Q	V		
15+50	0.2234	0.24	Q	V		
15+55	0.2250	0.24	Q	V		
16+ 0	0.2267	0.24	Q	V		
16+ 5	0.2281	0.21	Q	V		
16+10	0.2290	0.13	Q	V		
16+15	0.2297	0.09	Q	V		
16+20	0.2302	0.08	Q	V		
16+25	0.2306	0.07	Q	V		
16+30	0.2311	0.06	Q	V		
16+35	0.2314	0.05	Q	V		
16+40	0.2317	0.05	Q	V		
16+45	0.2320	0.04	Q	V		
16+50	0.2323	0.04	Q	V		
16+55	0.2326	0.04	Q	V		
17+ 0	0.2328	0.04	Q	V		
17+ 5	0.2331	0.04	Q	V		
17+10	0.2335	0.05	Q	V		
17+15	0.2338	0.06	Q	V		
17+20	0.2342	0.06	Q	V		
17+25	0.2347	0.06	Q	V		
17+30	0.2351	0.06	Q	V		
17+35	0.2355	0.06	Q	V		
17+40	0.2359	0.06	Q	V		
17+45	0.2363	0.06	Q	V		
17+50	0.2367	0.06	Q	V		
17+55	0.2371	0.05	Q	V		
18+ 0	0.2375	0.05	Q	V		
18+ 5	0.2378	0.05	Q	V		
18+10	0.2382	0.05	Q	V		
18+15	0.2385	0.05	Q	V		

18+20	0.2389	0.05	Q				V
18+25	0.2392	0.05	Q				V
18+30	0.2395	0.05	Q				V
18+35	0.2399	0.05	Q				V
18+40	0.2402	0.04	Q				V
18+45	0.2404	0.04	Q				V
18+50	0.2407	0.04	Q				V
18+55	0.2409	0.03	Q				V
19+ 0	0.2411	0.03	Q				V
19+ 5	0.2413	0.03	Q				V
19+10	0.2415	0.03	Q				V
19+15	0.2418	0.04	Q				V
19+20	0.2420	0.04	Q				V
19+25	0.2423	0.04	Q				V
19+30	0.2426	0.05	Q				V
19+35	0.2429	0.05	Q				V
19+40	0.2432	0.04	Q				V
19+45	0.2435	0.04	Q				V
19+50	0.2437	0.04	Q				V
19+55	0.2439	0.03	Q				V
20+ 0	0.2441	0.03	Q				V
20+ 5	0.2443	0.03	Q				V
20+10	0.2446	0.03	Q				V
20+15	0.2448	0.04	Q				V
20+20	0.2451	0.04	Q				V
20+25	0.2453	0.04	Q				V
20+30	0.2456	0.04	Q				V
20+35	0.2458	0.04	Q				V
20+40	0.2461	0.04	Q				V
20+45	0.2463	0.04	Q				V
20+50	0.2466	0.04	Q				V
20+55	0.2468	0.03	Q				V
21+ 0	0.2469	0.03	Q				V
21+ 5	0.2471	0.03	Q				V
21+10	0.2474	0.03	Q				V
21+15	0.2476	0.03	Q				V
21+20	0.2478	0.03	Q				V
21+25	0.2480	0.03	Q				V
21+30	0.2482	0.03	Q				V
21+35	0.2484	0.03	Q				V
21+40	0.2486	0.03	Q				V
21+45	0.2489	0.03	Q				V
21+50	0.2491	0.03	Q				V
21+55	0.2493	0.03	Q				V
22+ 0	0.2495	0.03	Q				V
22+ 5	0.2497	0.03	Q				V
22+10	0.2499	0.03	Q				V
22+15	0.2501	0.03	Q				V
22+20	0.2504	0.03	Q				V
22+25	0.2506	0.03	Q				V
22+30	0.2508	0.03	Q				V
22+35	0.2509	0.03	Q				V
22+40	0.2511	0.03	Q				V
22+45	0.2513	0.03	Q				V
22+50	0.2515	0.03	Q				V
22+55	0.2516	0.02	Q				V
23+ 0	0.2518	0.02	Q				V
23+ 5	0.2520	0.02	Q				V
23+10	0.2521	0.02	Q				V
23+15	0.2523	0.02	Q				V
23+20	0.2525	0.02	Q				V
23+25	0.2527	0.02	Q				V
23+30	0.2528	0.02	Q				V
23+35	0.2530	0.02	Q				V
23+40	0.2532	0.02	Q				V
23+45	0.2533	0.02	Q				V
23+50	0.2535	0.02	Q				V
23+55	0.2537	0.02	Q				V
24+ 0	0.2538	0.02	Q				V
24+ 5	0.2540	0.02	Q				V
24+10	0.2541	0.01	Q				V

24+15	0.2541	0.01	Q				V
24+20	0.2541	0.00	Q				V
24+25	0.2541	0.00	Q				V
24+30	0.2541	0.00	Q				V
24+35	0.2542	0.00	Q				V
24+40	0.2542	0.00	Q				V
24+45	0.2542	0.00	Q				V
24+50	0.2542	0.00	Q				V

Area A, 10-Year, 24-Hour

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
Study date 03/21/14 File: ARA2410.out

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6269

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

PRIELIPP ROAD PRE-PROJECT CONDITION HYDROLOGY
UNIT HYDROGRAPH ANALYSIS, 10-YEAR, 24-HOUR STORM DURATION
FILENAME: ARA

Drainage Area = 12.20(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 12.20(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 1603.00(Ft.)
Length along longest watercourse measured to centroid = 830.00(Ft.)
Length along longest watercourse = 0.304 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 39.00(Ft.)
Slope along watercourse = 128.4591 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.105 Hr.
Lag time = 6.31 Min.
25% of lag time = 1.58 Min.
40% of lag time = 2.52 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.20	2.50	30.50

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.20	7.00	85.40

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 7.000(In)

Point rain (area averaged) = 4.351(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.351(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %
12.200 83.83 0.000
Total Area Entered = 12.20(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
83.8	83.8	0.200	0.000	0.200	1.000	0.200
						Sum (F) = 0.200

Area averaged mean soil loss (F) (In/Hr) = 0.200

Minimum soil loss rate ((In/Hr)) = 0.100

(for 24 hour storm duration)

Soil loss rate (decimal) = 0.900

 U n i t H y d r o g r a p h
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	79.302	13.106
2	0.167	158.603	44.176
3	0.250	237.905	20.139
4	0.333	317.207	8.292
5	0.417	396.508	4.982
6	0.500	475.810	3.155
7	0.583	555.112	2.262
8	0.667	634.413	1.566
9	0.750	713.715	1.059
10	0.833	793.016	0.799
11	0.917	872.318	0.466
Sum = 100.000			Sum= 12.295

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
			Max	Low	
1	0.08	0.07	(0.355)	0.031	0.003
2	0.17	0.07	(0.354)	0.031	0.003
3	0.25	0.07	(0.352)	0.031	0.003
4	0.33	0.10	(0.351)	0.047	0.005
5	0.42	0.10	(0.350)	0.047	0.005
6	0.50	0.10	(0.348)	0.047	0.005
7	0.58	0.10	(0.347)	0.047	0.005
8	0.67	0.10	(0.346)	0.047	0.005
9	0.75	0.10	(0.344)	0.047	0.005
10	0.83	0.13	(0.343)	0.063	0.007
11	0.92	0.13	(0.342)	0.063	0.007
12	1.00	0.13	(0.340)	0.063	0.007
13	1.08	0.10	(0.339)	0.047	0.005
14	1.17	0.10	(0.337)	0.047	0.005
15	1.25	0.10	(0.336)	0.047	0.005
16	1.33	0.10	(0.335)	0.047	0.005
17	1.42	0.10	(0.333)	0.047	0.005
18	1.50	0.10	(0.332)	0.047	0.005
19	1.58	0.10	(0.331)	0.047	0.005
20	1.67	0.10	(0.330)	0.047	0.005
21	1.75	0.10	(0.328)	0.047	0.005
22	1.83	0.13	(0.327)	0.063	0.007
23	1.92	0.13	(0.326)	0.063	0.007
24	2.00	0.13	(0.324)	0.063	0.007
25	2.08	0.13	(0.323)	0.063	0.007
26	2.17	0.13	(0.322)	0.063	0.007
27	2.25	0.13	(0.320)	0.063	0.007
28	2.33	0.13	(0.319)	0.063	0.007
29	2.42	0.13	(0.318)	0.063	0.007
30	2.50	0.13	(0.316)	0.063	0.007
31	2.58	0.17	(0.315)	0.078	0.009

32	2.67	0.17	0.087	(0.314)	0.078	0.009
33	2.75	0.17	0.087	(0.313)	0.078	0.009
34	2.83	0.17	0.087	(0.311)	0.078	0.009
35	2.92	0.17	0.087	(0.310)	0.078	0.009
36	3.00	0.17	0.087	(0.309)	0.078	0.009
37	3.08	0.17	0.087	(0.307)	0.078	0.009
38	3.17	0.17	0.087	(0.306)	0.078	0.009
39	3.25	0.17	0.087	(0.305)	0.078	0.009
40	3.33	0.17	0.087	(0.304)	0.078	0.009
41	3.42	0.17	0.087	(0.302)	0.078	0.009
42	3.50	0.17	0.087	(0.301)	0.078	0.009
43	3.58	0.17	0.087	(0.300)	0.078	0.009
44	3.67	0.17	0.087	(0.299)	0.078	0.009
45	3.75	0.17	0.087	(0.297)	0.078	0.009
46	3.83	0.20	0.104	(0.296)	0.094	0.010
47	3.92	0.20	0.104	(0.295)	0.094	0.010
48	4.00	0.20	0.104	(0.294)	0.094	0.010
49	4.08	0.20	0.104	(0.292)	0.094	0.010
50	4.17	0.20	0.104	(0.291)	0.094	0.010
51	4.25	0.20	0.104	(0.290)	0.094	0.010
52	4.33	0.23	0.122	(0.289)	0.110	0.012
53	4.42	0.23	0.122	(0.287)	0.110	0.012
54	4.50	0.23	0.122	(0.286)	0.110	0.012
55	4.58	0.23	0.122	(0.285)	0.110	0.012
56	4.67	0.23	0.122	(0.284)	0.110	0.012
57	4.75	0.23	0.122	(0.282)	0.110	0.012
58	4.83	0.27	0.139	(0.281)	0.125	0.014
59	4.92	0.27	0.139	(0.280)	0.125	0.014
60	5.00	0.27	0.139	(0.279)	0.125	0.014
61	5.08	0.20	0.104	(0.278)	0.094	0.010
62	5.17	0.20	0.104	(0.276)	0.094	0.010
63	5.25	0.20	0.104	(0.275)	0.094	0.010
64	5.33	0.23	0.122	(0.274)	0.110	0.012
65	5.42	0.23	0.122	(0.273)	0.110	0.012
66	5.50	0.23	0.122	(0.272)	0.110	0.012
67	5.58	0.27	0.139	(0.270)	0.125	0.014
68	5.67	0.27	0.139	(0.269)	0.125	0.014
69	5.75	0.27	0.139	(0.268)	0.125	0.014
70	5.83	0.27	0.139	(0.267)	0.125	0.014
71	5.92	0.27	0.139	(0.266)	0.125	0.014
72	6.00	0.27	0.139	(0.264)	0.125	0.014
73	6.08	0.30	0.157	(0.263)	0.141	0.016
74	6.17	0.30	0.157	(0.262)	0.141	0.016
75	6.25	0.30	0.157	(0.261)	0.141	0.016
76	6.33	0.30	0.157	(0.260)	0.141	0.016
77	6.42	0.30	0.157	(0.259)	0.141	0.016
78	6.50	0.30	0.157	(0.257)	0.141	0.016
79	6.58	0.33	0.174	(0.256)	0.157	0.017
80	6.67	0.33	0.174	(0.255)	0.157	0.017
81	6.75	0.33	0.174	(0.254)	0.157	0.017
82	6.83	0.33	0.174	(0.253)	0.157	0.017
83	6.92	0.33	0.174	(0.252)	0.157	0.017
84	7.00	0.33	0.174	(0.251)	0.157	0.017
85	7.08	0.33	0.174	(0.249)	0.157	0.017
86	7.17	0.33	0.174	(0.248)	0.157	0.017
87	7.25	0.33	0.174	(0.247)	0.157	0.017
88	7.33	0.37	0.191	(0.246)	0.172	0.019
89	7.42	0.37	0.191	(0.245)	0.172	0.019
90	7.50	0.37	0.191	(0.244)	0.172	0.019
91	7.58	0.40	0.209	(0.243)	0.188	0.021
92	7.67	0.40	0.209	(0.242)	0.188	0.021
93	7.75	0.40	0.209	(0.240)	0.188	0.021
94	7.83	0.43	0.226	(0.239)	0.204	0.023
95	7.92	0.43	0.226	(0.238)	0.204	0.023
96	8.00	0.43	0.226	(0.237)	0.204	0.023
97	8.08	0.50	0.261	(0.236)	0.235	0.026
98	8.17	0.50	0.261	0.235	(0.235)	0.026
99	8.25	0.50	0.261	0.234	(0.235)	0.027
100	8.33	0.50	0.261	0.233	(0.235)	0.028
101	8.42	0.50	0.261	0.232	(0.235)	0.029
102	8.50	0.50	0.261	0.231	(0.235)	0.031

103	8.58	0.53	0.278	0.229	(0.251)	0.049
104	8.67	0.53	0.278	0.228	(0.251)	0.050
105	8.75	0.53	0.278	0.227	(0.251)	0.051
106	8.83	0.57	0.296	0.226	(0.266)	0.070
107	8.92	0.57	0.296	0.225	(0.266)	0.071
108	9.00	0.57	0.296	0.224	(0.266)	0.072
109	9.08	0.63	0.331	0.223	(0.298)	0.108
110	9.17	0.63	0.331	0.222	(0.298)	0.109
111	9.25	0.63	0.331	0.221	(0.298)	0.110
112	9.33	0.67	0.348	0.220	(0.313)	0.128
113	9.42	0.67	0.348	0.219	(0.313)	0.129
114	9.50	0.67	0.348	0.218	(0.313)	0.130
115	9.58	0.70	0.366	0.217	(0.329)	0.149
116	9.67	0.70	0.366	0.216	(0.329)	0.150
117	9.75	0.70	0.366	0.215	(0.329)	0.151
118	9.83	0.73	0.383	0.214	(0.345)	0.169
119	9.92	0.73	0.383	0.213	(0.345)	0.170
120	10.00	0.73	0.383	0.212	(0.345)	0.171
121	10.08	0.50	0.261	0.211	(0.235)	0.051
122	10.17	0.50	0.261	0.210	(0.235)	0.052
123	10.25	0.50	0.261	0.208	(0.235)	0.053
124	10.33	0.50	0.261	0.207	(0.235)	0.054
125	10.42	0.50	0.261	0.206	(0.235)	0.055
126	10.50	0.50	0.261	0.205	(0.235)	0.056
127	10.58	0.67	0.348	0.204	(0.313)	0.144
128	10.67	0.67	0.348	0.203	(0.313)	0.145
129	10.75	0.67	0.348	0.202	(0.313)	0.146
130	10.83	0.67	0.348	0.201	(0.313)	0.147
131	10.92	0.67	0.348	0.200	(0.313)	0.148
132	11.00	0.67	0.348	0.200	(0.313)	0.149
133	11.08	0.63	0.331	0.199	(0.298)	0.132
134	11.17	0.63	0.331	0.198	(0.298)	0.133
135	11.25	0.63	0.331	0.197	(0.298)	0.134
136	11.33	0.63	0.331	0.196	(0.298)	0.135
137	11.42	0.63	0.331	0.195	(0.298)	0.136
138	11.50	0.63	0.331	0.194	(0.298)	0.137
139	11.58	0.57	0.296	0.193	(0.266)	0.103
140	11.67	0.57	0.296	0.192	(0.266)	0.104
141	11.75	0.57	0.296	0.191	(0.266)	0.105
142	11.83	0.60	0.313	0.190	(0.282)	0.123
143	11.92	0.60	0.313	0.189	(0.282)	0.124
144	12.00	0.60	0.313	0.188	(0.282)	0.125
145	12.08	0.83	0.435	0.187	(0.392)	0.248
146	12.17	0.83	0.435	0.186	(0.392)	0.249
147	12.25	0.83	0.435	0.185	(0.392)	0.250
148	12.33	0.87	0.453	0.184	(0.407)	0.268
149	12.42	0.87	0.453	0.183	(0.407)	0.269
150	12.50	0.87	0.453	0.182	(0.407)	0.270
151	12.58	0.93	0.487	0.181	(0.439)	0.306
152	12.67	0.93	0.487	0.181	(0.439)	0.307
153	12.75	0.93	0.487	0.180	(0.439)	0.308
154	12.83	0.97	0.505	0.179	(0.454)	0.326
155	12.92	0.97	0.505	0.178	(0.454)	0.327
156	13.00	0.97	0.505	0.177	(0.454)	0.328
157	13.08	1.13	0.592	0.176	(0.533)	0.416
158	13.17	1.13	0.592	0.175	(0.533)	0.417
159	13.25	1.13	0.592	0.174	(0.533)	0.418
160	13.33	1.13	0.592	0.173	(0.533)	0.418
161	13.42	1.13	0.592	0.172	(0.533)	0.419
162	13.50	1.13	0.592	0.172	(0.533)	0.420
163	13.58	0.77	0.400	0.171	(0.360)	0.230
164	13.67	0.77	0.400	0.170	(0.360)	0.230
165	13.75	0.77	0.400	0.169	(0.360)	0.231
166	13.83	0.77	0.400	0.168	(0.360)	0.232
167	13.92	0.77	0.400	0.167	(0.360)	0.233
168	14.00	0.77	0.400	0.166	(0.360)	0.234
169	14.08	0.90	0.470	0.166	(0.423)	0.304
170	14.17	0.90	0.470	0.165	(0.423)	0.305
171	14.25	0.90	0.470	0.164	(0.423)	0.306
172	14.33	0.87	0.453	0.163	(0.407)	0.289
173	14.42	0.87	0.453	0.162	(0.407)	0.290

174	14.50	0.87	0.453	0.161	(0.407)	0.291
175	14.58	0.87	0.453	0.161	(0.407)	0.292
176	14.67	0.87	0.453	0.160	(0.407)	0.293
177	14.75	0.87	0.453	0.159	(0.407)	0.294
178	14.83	0.83	0.435	0.158	(0.392)	0.277
179	14.92	0.83	0.435	0.157	(0.392)	0.278
180	15.00	0.83	0.435	0.156	(0.392)	0.279
181	15.08	0.80	0.418	0.156	(0.376)	0.262
182	15.17	0.80	0.418	0.155	(0.376)	0.263
183	15.25	0.80	0.418	0.154	(0.376)	0.264
184	15.33	0.77	0.400	0.153	(0.360)	0.247
185	15.42	0.77	0.400	0.153	(0.360)	0.248
186	15.50	0.77	0.400	0.152	(0.360)	0.249
187	15.58	0.63	0.331	0.151	(0.298)	0.180
188	15.67	0.63	0.331	0.150	(0.298)	0.181
189	15.75	0.63	0.331	0.149	(0.298)	0.181
190	15.83	0.63	0.331	0.149	(0.298)	0.182
191	15.92	0.63	0.331	0.148	(0.298)	0.183
192	16.00	0.63	0.331	0.147	(0.298)	0.184
193	16.08	0.13	0.070	(0.146)	0.063	0.007
194	16.17	0.13	0.070	(0.146)	0.063	0.007
195	16.25	0.13	0.070	(0.145)	0.063	0.007
196	16.33	0.13	0.070	(0.144)	0.063	0.007
197	16.42	0.13	0.070	(0.143)	0.063	0.007
198	16.50	0.13	0.070	(0.143)	0.063	0.007
199	16.58	0.10	0.052	(0.142)	0.047	0.005
200	16.67	0.10	0.052	(0.141)	0.047	0.005
201	16.75	0.10	0.052	(0.141)	0.047	0.005
202	16.83	0.10	0.052	(0.140)	0.047	0.005
203	16.92	0.10	0.052	(0.139)	0.047	0.005
204	17.00	0.10	0.052	(0.138)	0.047	0.005
205	17.08	0.17	0.087	(0.138)	0.078	0.009
206	17.17	0.17	0.087	(0.137)	0.078	0.009
207	17.25	0.17	0.087	(0.136)	0.078	0.009
208	17.33	0.17	0.087	(0.136)	0.078	0.009
209	17.42	0.17	0.087	(0.135)	0.078	0.009
210	17.50	0.17	0.087	(0.134)	0.078	0.009
211	17.58	0.17	0.087	(0.134)	0.078	0.009
212	17.67	0.17	0.087	(0.133)	0.078	0.009
213	17.75	0.17	0.087	(0.132)	0.078	0.009
214	17.83	0.13	0.070	(0.132)	0.063	0.007
215	17.92	0.13	0.070	(0.131)	0.063	0.007
216	18.00	0.13	0.070	(0.130)	0.063	0.007
217	18.08	0.13	0.070	(0.130)	0.063	0.007
218	18.17	0.13	0.070	(0.129)	0.063	0.007
219	18.25	0.13	0.070	(0.128)	0.063	0.007
220	18.33	0.13	0.070	(0.128)	0.063	0.007
221	18.42	0.13	0.070	(0.127)	0.063	0.007
222	18.50	0.13	0.070	(0.127)	0.063	0.007
223	18.58	0.10	0.052	(0.126)	0.047	0.005
224	18.67	0.10	0.052	(0.125)	0.047	0.005
225	18.75	0.10	0.052	(0.125)	0.047	0.005
226	18.83	0.07	0.035	(0.124)	0.031	0.003
227	18.92	0.07	0.035	(0.124)	0.031	0.003
228	19.00	0.07	0.035	(0.123)	0.031	0.003
229	19.08	0.10	0.052	(0.122)	0.047	0.005
230	19.17	0.10	0.052	(0.122)	0.047	0.005
231	19.25	0.10	0.052	(0.121)	0.047	0.005
232	19.33	0.13	0.070	(0.121)	0.063	0.007
233	19.42	0.13	0.070	(0.120)	0.063	0.007
234	19.50	0.13	0.070	(0.120)	0.063	0.007
235	19.58	0.10	0.052	(0.119)	0.047	0.005
236	19.67	0.10	0.052	(0.118)	0.047	0.005
237	19.75	0.10	0.052	(0.118)	0.047	0.005
238	19.83	0.07	0.035	(0.117)	0.031	0.003
239	19.92	0.07	0.035	(0.117)	0.031	0.003
240	20.00	0.07	0.035	(0.116)	0.031	0.003
241	20.08	0.10	0.052	(0.116)	0.047	0.005
242	20.17	0.10	0.052	(0.115)	0.047	0.005
243	20.25	0.10	0.052	(0.115)	0.047	0.005
244	20.33	0.10	0.052	(0.114)	0.047	0.005

0+35	0.0019	0.06	Q				
0+40	0.0023	0.06	Q				
0+45	0.0027	0.06	Q				
0+50	0.0032	0.07	Q				
0+55	0.0037	0.08	Q				
1+ 0	0.0042	0.08	Q				
1+ 5	0.0048	0.08	Q				
1+10	0.0053	0.07	Q				
1+15	0.0058	0.07	Q				
1+20	0.0062	0.07	Q				
1+25	0.0067	0.07	Q				
1+30	0.0071	0.07	Q				
1+35	0.0076	0.06	Q				
1+40	0.0080	0.06	Q				
1+45	0.0084	0.06	Q				
1+50	0.0089	0.07	Q				
1+55	0.0094	0.08	Q				
2+ 0	0.0100	0.08	Q				
2+ 5	0.0106	0.08	Q				
2+10	0.0111	0.08	Q				
2+15	0.0117	0.08	Q				
2+20	0.0123	0.08	Q				
2+25	0.0129	0.09	Q				
2+30	0.0135	0.09	Q				
2+35	0.0141	0.09	Q				
2+40	0.0148	0.10	Q				
2+45	0.0155	0.10	Q				
2+50	0.0162	0.10	Q				
2+55	0.0169	0.11	Q				
3+ 0	0.0176	0.11	Q				
3+ 5	0.0184	0.11	Q				
3+10	0.0191	0.11	Q				
3+15	0.0198	0.11	Q				
3+20	0.0206	0.11	Q				
3+25	0.0213	0.11	Q				
3+30	0.0220	0.11	Q				
3+35	0.0228	0.11	Q				
3+40	0.0235	0.11	Q				
3+45	0.0243	0.11	Q				
3+50	0.0250	0.11	Q				
3+55	0.0258	0.12	Q				
4+ 0	0.0267	0.12	Q				
4+ 5	0.0276	0.13	Q				
4+10	0.0284	0.13	Q				
4+15	0.0293	0.13	Q				
4+20	0.0302	0.13	Q				
4+25	0.0312	0.14	Q				
4+30	0.0322	0.14	Q				
4+35	0.0332	0.15	Q				
4+40	0.0342	0.15	Q				
4+45	0.0352	0.15	Q				
4+50	0.0363	0.15	Q				
4+55	0.0374	0.16	Q				
5+ 0	0.0385	0.17	Q				
5+ 5	0.0396	0.16	Q				
5+10	0.0406	0.14	Q				
5+15	0.0416	0.14	Q				
5+20	0.0425	0.14	QV				
5+25	0.0435	0.14	QV				
5+30	0.0445	0.15	QV				
5+35	0.0456	0.15	QV				
5+40	0.0467	0.16	QV				
5+45	0.0478	0.17	QV				
5+50	0.0490	0.17	QV				
5+55	0.0501	0.17	QV				
6+ 0	0.0513	0.17	QV				
6+ 5	0.0525	0.17	QV				
6+10	0.0538	0.18	QV				
6+15	0.0550	0.19	QV				
6+20	0.0564	0.19	QV				
6+25	0.0577	0.19	QV				

6+30	0.0590	0.19	QV				
6+35	0.0603	0.19	QV				
6+40	0.0617	0.20	QV				
6+45	0.0632	0.21	QV				
6+50	0.0646	0.21	QV				
6+55	0.0661	0.21	QV				
7+ 0	0.0675	0.21	QV				
7+ 5	0.0690	0.21	QV				
7+10	0.0705	0.21	QV				
7+15	0.0720	0.21	QV				
7+20	0.0735	0.22	QV				
7+25	0.0750	0.23	QV				
7+30	0.0766	0.23	QV				
7+35	0.0782	0.24	QV				
7+40	0.0799	0.25	QV				
7+45	0.0816	0.25	Q				
7+50	0.0834	0.26	Q				
7+55	0.0852	0.27	QV				
8+ 0	0.0871	0.27	QV				
8+ 5	0.0890	0.28	QV				
8+10	0.0911	0.30	QV				
8+15	0.0933	0.31	QV				
8+20	0.0955	0.32	QV				
8+25	0.0978	0.34	QV				
8+30	0.1002	0.35	QV				
8+35	0.1029	0.39	QV				
8+40	0.1064	0.50	QV				
8+45	0.1102	0.56	Q				
8+50	0.1144	0.62	Q				
8+55	0.1195	0.73	Q				
9+ 0	0.1250	0.80	VQ				
9+ 5	0.1311	0.89	Q				
9+10	0.1387	1.10	VQ				
9+15	0.1471	1.21	VQ				
9+20	0.1560	1.30	V Q				
9+25	0.1658	1.43	V Q				
9+30	0.1762	1.50	V Q				
9+35	0.1870	1.57	V Q				
9+40	0.1987	1.70	V Q				
9+45	0.2108	1.76	V Q				
9+50	0.2235	1.83	V Q				
9+55	0.2369	1.95	V Q				
10+ 0	0.2508	2.02	V Q				
10+ 5	0.2636	1.86	VQ				
10+10	0.2721	1.23	Q V				
10+15	0.2786	0.95	Q V				
10+20	0.2844	0.84	Q V				
10+25	0.2898	0.78	Q V				
10+30	0.2949	0.75	Q V				
10+35	0.3009	0.87	Q V				
10+40	0.3101	1.33	Q V				
10+45	0.3207	1.55	QV				
10+50	0.3320	1.63	QV				
10+55	0.3437	1.69	Q V				
11+ 0	0.3556	1.74	Q V				
11+ 5	0.3677	1.75	Q V				
11+10	0.3793	1.68	Q V				
11+15	0.3907	1.66	Q V				
11+20	0.4022	1.66	Q V				
11+25	0.4137	1.67	Q V				
11+30	0.4252	1.68	Q V				
11+35	0.4364	1.63	Q V				
11+40	0.4464	1.45	Q V				
11+45	0.4558	1.37	Q V				
11+50	0.4653	1.37	Q V				
11+55	0.4753	1.46	Q V				
12+ 0	0.4856	1.50	Q V				
12+ 5	0.4974	1.71	Q V				
12+10	0.5139	2.39	Q V				
12+15	0.5325	2.71	Q V				
12+20	0.5523	2.87	Q V				

12+25	0.5734	3.05			QV			
12+30	0.5951	3.16			Q V			
12+35	0.6177	3.28			QV			
12+40	0.6419	3.52			QV			
12+45	0.6669	3.64			QV			
12+50	0.6926	3.73			Q V			
12+55	0.7192	3.86			Q V			
13+ 0	0.7463	3.93			Q V			
13+ 5	0.7747	4.11			Q V			
13+10	0.8065	4.62			QV			
13+15	0.8399	4.86			Q			
13+20	0.8741	4.96			QV			
13+25	0.9087	5.03			QV			
13+30	0.9437	5.08			Q V			
13+35	0.9768	4.81			Q			
13+40	1.0030	3.80		Q				
13+45	1.0260	3.34		Q				
13+50	1.0478	3.17		Q				
13+55	1.0689	3.07		Q				
14+ 0	1.0896	3.00		Q				
14+ 5	1.1108	3.07		Q				
14+10	1.1343	3.42		Q				
14+15	1.1590	3.58		Q				
14+20	1.1839	3.62		Q				
14+25	1.2085	3.56		Q				
14+30	1.2330	3.56		Q				
14+35	1.2575	3.57		Q				
14+40	1.2822	3.58		Q				
14+45	1.3070	3.60		Q				
14+50	1.3316	3.58		Q				
14+55	1.3557	3.50		Q				
15+ 0	1.3795	3.46		Q				
15+ 5	1.4031	3.42		Q				
15+10	1.4260	3.33		Q				
15+15	1.4486	3.29		Q				
15+20	1.4710	3.25		Q				
15+25	1.4927	3.15		Q				
15+30	1.5140	3.10		Q				
15+35	1.5345	2.98		Q				
15+40	1.5524	2.59		Q				
15+45	1.5691	2.42		Q				
15+50	1.5853	2.35		Q				
15+55	1.6012	2.32		Q				
16+ 0	1.6170	2.30		Q				
16+ 5	1.6308	2.00		Q				
16+10	1.6379	1.03		Q				
16+15	1.6419	0.58		Q				
16+20	1.6446	0.40		Q				
16+25	1.6466	0.29		Q				
16+30	1.6481	0.22		Q				
16+35	1.6493	0.17		Q				
16+40	1.6501	0.12		Q				
16+45	1.6508	0.10		Q				
16+50	1.6513	0.08		Q				
16+55	1.6518	0.07		Q				
17+ 0	1.6522	0.07		Q				
17+ 5	1.6527	0.07		Q				
17+10	1.6533	0.09		Q				
17+15	1.6540	0.10		Q				
17+20	1.6547	0.10		Q				
17+25	1.6554	0.10		Q				
17+30	1.6561	0.10		Q				
17+35	1.6569	0.11		Q				
17+40	1.6576	0.11		Q				
17+45	1.6583	0.11		Q				
17+50	1.6590	0.10		Q				
17+55	1.6597	0.09		Q				
18+ 0	1.6603	0.09		Q				
18+ 5	1.6609	0.09		Q				
18+10	1.6615	0.09		Q				
18+15	1.6621	0.09		Q				

18+20	1.6627	0.09	Q				V
18+25	1.6633	0.09	Q				V
18+30	1.6639	0.09	Q				V
18+35	1.6645	0.08	Q				V
18+40	1.6650	0.07	Q				V
18+45	1.6655	0.07	Q				V
18+50	1.6659	0.06	Q				V
18+55	1.6663	0.05	Q				V
19+ 0	1.6666	0.05	Q				V
19+ 5	1.6669	0.05	Q				V
19+10	1.6673	0.06	Q				V
19+15	1.6678	0.06	Q				V
19+20	1.6682	0.06	Q				V
19+25	1.6687	0.08	Q				V
19+30	1.6693	0.08	Q				V
19+35	1.6698	0.08	Q				V
19+40	1.6703	0.07	Q				V
19+45	1.6708	0.07	Q				V
19+50	1.6712	0.06	Q				V
19+55	1.6716	0.05	Q				V
20+ 0	1.6719	0.05	Q				V
20+ 5	1.6723	0.05	Q				V
20+10	1.6727	0.06	Q				V
20+15	1.6731	0.06	Q				V
20+20	1.6735	0.06	Q				V
20+25	1.6739	0.06	Q				V
20+30	1.6744	0.06	Q				V
20+35	1.6748	0.06	Q				V
20+40	1.6752	0.06	Q				V
20+45	1.6757	0.06	Q				V
20+50	1.6761	0.06	Q				V
20+55	1.6765	0.05	Q				V
21+ 0	1.6768	0.05	Q				V
21+ 5	1.6771	0.05	Q				V
21+10	1.6775	0.06	Q				V
21+15	1.6779	0.06	Q				V
21+20	1.6783	0.06	Q				V
21+25	1.6787	0.05	Q				V
21+30	1.6790	0.05	Q				V
21+35	1.6793	0.05	Q				V
21+40	1.6797	0.06	Q				V
21+45	1.6802	0.06	Q				V
21+50	1.6806	0.06	Q				V
21+55	1.6809	0.05	Q				V
22+ 0	1.6812	0.05	Q				V
22+ 5	1.6816	0.05	Q				V
22+10	1.6819	0.06	Q				V
22+15	1.6824	0.06	Q				V
22+20	1.6828	0.06	Q				V
22+25	1.6831	0.05	Q				V
22+30	1.6834	0.05	Q				V
22+35	1.6838	0.05	Q				V
22+40	1.6841	0.04	Q				V
22+45	1.6844	0.04	Q				V
22+50	1.6847	0.04	Q				V
22+55	1.6850	0.04	Q				V
23+ 0	1.6853	0.04	Q				V
23+ 5	1.6856	0.04	Q				V
23+10	1.6858	0.04	Q				V
23+15	1.6861	0.04	Q				V
23+20	1.6864	0.04	Q				V
23+25	1.6867	0.04	Q				V
23+30	1.6870	0.04	Q				V
23+35	1.6873	0.04	Q				V
23+40	1.6876	0.04	Q				V
23+45	1.6879	0.04	Q				V
23+50	1.6882	0.04	Q				V
23+55	1.6885	0.04	Q				V
24+ 0	1.6888	0.04	Q				V
24+ 5	1.6891	0.04	Q				V
24+10	1.6892	0.02	Q				V

24+15	1.6892	0.01	Q				V
24+20	1.6893	0.01	Q				V
24+25	1.6893	0.00	Q				V
24+30	1.6893	0.00	Q				V
24+35	1.6893	0.00	Q				V
24+40	1.6893	0.00	Q				V
24+45	1.6894	0.00	Q				V
24+50	1.6894	0.00	Q				V

Area B, 2-Year, 24-Hour

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
Study date 03/21/14 File: ARB242.out

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6269

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

PRIELIPP ROAD PRE-PROJECT CONDITION HYDROLOGY
UNIT HYDROGRAPH ANALYSIS, 2-YEAR, 24-HOUR STORM DURATION
FILENAME: ARB

Drainage Area = 4.10(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.10(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 573.00(Ft.)
Length along longest watercourse measured to centroid = 207.00(Ft.)
Length along longest watercourse = 0.109 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 17.00(Ft.)
Slope along watercourse = 156.6492 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.040 Hr.
Lag time = 2.42 Min.
25% of lag time = 0.61 Min.
40% of lag time = 0.97 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.10	2.50	10.25

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.10	7.00	28.70

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 7.000(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %
4.100 84.29 0.000
Total Area Entered = 4.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
84.3	69.0	0.373	0.000	0.373	1.000	0.373
						Sum (F) = 0.373

Area averaged mean soil loss (F) (In/Hr) = 0.373

Minimum soil loss rate ((In/Hr)) = 0.186

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.900

 U n i t H y d r o g r a p h
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period	Time % of lag	Distribution	Unit Hydrograph
(hrs)		Graph %	(CFS)
1	0.083	206.353	44.478
2	0.167	412.705	42.927
3	0.250	619.058	8.541
4	0.333	825.411	4.055
		Sum = 100.000	Sum= 4.132

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time	Pattern	Storm Rain	Loss rate(In./Hr)		Effective	
			(Hr.)	Percent		(In/Hr)
1	0.08	0.07	0.020	(0.661)	0.018	0.002
2	0.17	0.07	0.020	(0.658)	0.018	0.002
3	0.25	0.07	0.020	(0.656)	0.018	0.002
4	0.33	0.10	0.030	(0.653)	0.027	0.003
5	0.42	0.10	0.030	(0.651)	0.027	0.003
6	0.50	0.10	0.030	(0.648)	0.027	0.003
7	0.58	0.10	0.030	(0.645)	0.027	0.003
8	0.67	0.10	0.030	(0.643)	0.027	0.003
9	0.75	0.10	0.030	(0.640)	0.027	0.003
10	0.83	0.13	0.040	(0.638)	0.036	0.004
11	0.92	0.13	0.040	(0.635)	0.036	0.004
12	1.00	0.13	0.040	(0.633)	0.036	0.004
13	1.08	0.10	0.030	(0.630)	0.027	0.003
14	1.17	0.10	0.030	(0.628)	0.027	0.003
15	1.25	0.10	0.030	(0.625)	0.027	0.003
16	1.33	0.10	0.030	(0.623)	0.027	0.003
17	1.42	0.10	0.030	(0.620)	0.027	0.003
18	1.50	0.10	0.030	(0.618)	0.027	0.003
19	1.58	0.10	0.030	(0.616)	0.027	0.003
20	1.67	0.10	0.030	(0.613)	0.027	0.003
21	1.75	0.10	0.030	(0.611)	0.027	0.003
22	1.83	0.13	0.040	(0.608)	0.036	0.004
23	1.92	0.13	0.040	(0.606)	0.036	0.004
24	2.00	0.13	0.040	(0.603)	0.036	0.004
25	2.08	0.13	0.040	(0.601)	0.036	0.004
26	2.17	0.13	0.040	(0.598)	0.036	0.004
27	2.25	0.13	0.040	(0.596)	0.036	0.004
28	2.33	0.13	0.040	(0.594)	0.036	0.004
29	2.42	0.13	0.040	(0.591)	0.036	0.004
30	2.50	0.13	0.040	(0.589)	0.036	0.004
31	2.58	0.17	0.050	(0.586)	0.045	0.005
32	2.67	0.17	0.050	(0.584)	0.045	0.005
33	2.75	0.17	0.050	(0.581)	0.045	0.005
34	2.83	0.17	0.050	(0.579)	0.045	0.005
35	2.92	0.17	0.050	(0.577)	0.045	0.005
36	3.00	0.17	0.050	(0.574)	0.045	0.005
37	3.08	0.17	0.050	(0.572)	0.045	0.005
38	3.17	0.17	0.050	(0.570)	0.045	0.005

39	3.25	0.17	0.050	(0.567)	0.045	0.005
40	3.33	0.17	0.050	(0.565)	0.045	0.005
41	3.42	0.17	0.050	(0.562)	0.045	0.005
42	3.50	0.17	0.050	(0.560)	0.045	0.005
43	3.58	0.17	0.050	(0.558)	0.045	0.005
44	3.67	0.17	0.050	(0.555)	0.045	0.005
45	3.75	0.17	0.050	(0.553)	0.045	0.005
46	3.83	0.20	0.060	(0.551)	0.054	0.006
47	3.92	0.20	0.060	(0.548)	0.054	0.006
48	4.00	0.20	0.060	(0.546)	0.054	0.006
49	4.08	0.20	0.060	(0.544)	0.054	0.006
50	4.17	0.20	0.060	(0.541)	0.054	0.006
51	4.25	0.20	0.060	(0.539)	0.054	0.006
52	4.33	0.23	0.070	(0.537)	0.063	0.007
53	4.42	0.23	0.070	(0.535)	0.063	0.007
54	4.50	0.23	0.070	(0.532)	0.063	0.007
55	4.58	0.23	0.070	(0.530)	0.063	0.007
56	4.67	0.23	0.070	(0.528)	0.063	0.007
57	4.75	0.23	0.070	(0.525)	0.063	0.007
58	4.83	0.27	0.080	(0.523)	0.072	0.008
59	4.92	0.27	0.080	(0.521)	0.072	0.008
60	5.00	0.27	0.080	(0.519)	0.072	0.008
61	5.08	0.20	0.060	(0.516)	0.054	0.006
62	5.17	0.20	0.060	(0.514)	0.054	0.006
63	5.25	0.20	0.060	(0.512)	0.054	0.006
64	5.33	0.23	0.070	(0.510)	0.063	0.007
65	5.42	0.23	0.070	(0.507)	0.063	0.007
66	5.50	0.23	0.070	(0.505)	0.063	0.007
67	5.58	0.27	0.080	(0.503)	0.072	0.008
68	5.67	0.27	0.080	(0.501)	0.072	0.008
69	5.75	0.27	0.080	(0.499)	0.072	0.008
70	5.83	0.27	0.080	(0.496)	0.072	0.008
71	5.92	0.27	0.080	(0.494)	0.072	0.008
72	6.00	0.27	0.080	(0.492)	0.072	0.008
73	6.08	0.30	0.090	(0.490)	0.081	0.009
74	6.17	0.30	0.090	(0.488)	0.081	0.009
75	6.25	0.30	0.090	(0.485)	0.081	0.009
76	6.33	0.30	0.090	(0.483)	0.081	0.009
77	6.42	0.30	0.090	(0.481)	0.081	0.009
78	6.50	0.30	0.090	(0.479)	0.081	0.009
79	6.58	0.33	0.100	(0.477)	0.090	0.010
80	6.67	0.33	0.100	(0.475)	0.090	0.010
81	6.75	0.33	0.100	(0.473)	0.090	0.010
82	6.83	0.33	0.100	(0.470)	0.090	0.010
83	6.92	0.33	0.100	(0.468)	0.090	0.010
84	7.00	0.33	0.100	(0.466)	0.090	0.010
85	7.08	0.33	0.100	(0.464)	0.090	0.010
86	7.17	0.33	0.100	(0.462)	0.090	0.010
87	7.25	0.33	0.100	(0.460)	0.090	0.010
88	7.33	0.37	0.110	(0.458)	0.099	0.011
89	7.42	0.37	0.110	(0.456)	0.099	0.011
90	7.50	0.37	0.110	(0.454)	0.099	0.011
91	7.58	0.40	0.120	(0.451)	0.108	0.012
92	7.67	0.40	0.120	(0.449)	0.108	0.012
93	7.75	0.40	0.120	(0.447)	0.108	0.012
94	7.83	0.43	0.130	(0.445)	0.117	0.013
95	7.92	0.43	0.130	(0.443)	0.117	0.013
96	8.00	0.43	0.130	(0.441)	0.117	0.013
97	8.08	0.50	0.150	(0.439)	0.135	0.015
98	8.17	0.50	0.150	(0.437)	0.135	0.015
99	8.25	0.50	0.150	(0.435)	0.135	0.015
100	8.33	0.50	0.150	(0.433)	0.135	0.015
101	8.42	0.50	0.150	(0.431)	0.135	0.015
102	8.50	0.50	0.150	(0.429)	0.135	0.015
103	8.58	0.53	0.160	(0.427)	0.144	0.016
104	8.67	0.53	0.160	(0.425)	0.144	0.016
105	8.75	0.53	0.160	(0.423)	0.144	0.016
106	8.83	0.57	0.170	(0.421)	0.153	0.017
107	8.92	0.57	0.170	(0.419)	0.153	0.017
108	9.00	0.57	0.170	(0.417)	0.153	0.017
109	9.08	0.63	0.190	(0.415)	0.171	0.019

110	9.17	0.63	0.190	(0.413)	0.171	0.019
111	9.25	0.63	0.190	(0.411)	0.171	0.019
112	9.33	0.67	0.200	(0.409)	0.180	0.020
113	9.42	0.67	0.200	(0.407)	0.180	0.020
114	9.50	0.67	0.200	(0.405)	0.180	0.020
115	9.58	0.70	0.210	(0.403)	0.189	0.021
116	9.67	0.70	0.210	(0.401)	0.189	0.021
117	9.75	0.70	0.210	(0.399)	0.189	0.021
118	9.83	0.73	0.220	(0.397)	0.198	0.022
119	9.92	0.73	0.220	(0.396)	0.198	0.022
120	10.00	0.73	0.220	(0.394)	0.198	0.022
121	10.08	0.50	0.150	(0.392)	0.135	0.015
122	10.17	0.50	0.150	(0.390)	0.135	0.015
123	10.25	0.50	0.150	(0.388)	0.135	0.015
124	10.33	0.50	0.150	(0.386)	0.135	0.015
125	10.42	0.50	0.150	(0.384)	0.135	0.015
126	10.50	0.50	0.150	(0.382)	0.135	0.015
127	10.58	0.67	0.200	(0.380)	0.180	0.020
128	10.67	0.67	0.200	(0.379)	0.180	0.020
129	10.75	0.67	0.200	(0.377)	0.180	0.020
130	10.83	0.67	0.200	(0.375)	0.180	0.020
131	10.92	0.67	0.200	(0.373)	0.180	0.020
132	11.00	0.67	0.200	(0.371)	0.180	0.020
133	11.08	0.63	0.190	(0.369)	0.171	0.019
134	11.17	0.63	0.190	(0.368)	0.171	0.019
135	11.25	0.63	0.190	(0.366)	0.171	0.019
136	11.33	0.63	0.190	(0.364)	0.171	0.019
137	11.42	0.63	0.190	(0.362)	0.171	0.019
138	11.50	0.63	0.190	(0.360)	0.171	0.019
139	11.58	0.57	0.170	(0.359)	0.153	0.017
140	11.67	0.57	0.170	(0.357)	0.153	0.017
141	11.75	0.57	0.170	(0.355)	0.153	0.017
142	11.83	0.60	0.180	(0.353)	0.162	0.018
143	11.92	0.60	0.180	(0.351)	0.162	0.018
144	12.00	0.60	0.180	(0.350)	0.162	0.018
145	12.08	0.83	0.250	(0.348)	0.225	0.025
146	12.17	0.83	0.250	(0.346)	0.225	0.025
147	12.25	0.83	0.250	(0.344)	0.225	0.025
148	12.33	0.87	0.260	(0.343)	0.234	0.026
149	12.42	0.87	0.260	(0.341)	0.234	0.026
150	12.50	0.87	0.260	(0.339)	0.234	0.026
151	12.58	0.93	0.280	(0.338)	0.252	0.028
152	12.67	0.93	0.280	(0.336)	0.252	0.028
153	12.75	0.93	0.280	(0.334)	0.252	0.028
154	12.83	0.97	0.290	(0.333)	0.261	0.029
155	12.92	0.97	0.290	(0.331)	0.261	0.029
156	13.00	0.97	0.290	(0.329)	0.261	0.029
157	13.08	1.13	0.340	(0.327)	0.306	0.034
158	13.17	1.13	0.340	(0.326)	0.306	0.034
159	13.25	1.13	0.340	(0.324)	0.306	0.034
160	13.33	1.13	0.340	(0.323)	0.306	0.034
161	13.42	1.13	0.340	(0.321)	0.306	0.034
162	13.50	1.13	0.340	(0.319)	0.306	0.034
163	13.58	0.77	0.230	(0.318)	0.207	0.023
164	13.67	0.77	0.230	(0.316)	0.207	0.023
165	13.75	0.77	0.230	(0.314)	0.207	0.023
166	13.83	0.77	0.230	(0.313)	0.207	0.023
167	13.92	0.77	0.230	(0.311)	0.207	0.023
168	14.00	0.77	0.230	(0.310)	0.207	0.023
169	14.08	0.90	0.270	(0.308)	0.243	0.027
170	14.17	0.90	0.270	(0.306)	0.243	0.027
171	14.25	0.90	0.270	(0.305)	0.243	0.027
172	14.33	0.87	0.260	(0.303)	0.234	0.026
173	14.42	0.87	0.260	(0.302)	0.234	0.026
174	14.50	0.87	0.260	(0.300)	0.234	0.026
175	14.58	0.87	0.260	(0.299)	0.234	0.026
176	14.67	0.87	0.260	(0.297)	0.234	0.026
177	14.75	0.87	0.260	(0.296)	0.234	0.026
178	14.83	0.83	0.250	(0.294)	0.225	0.025
179	14.92	0.83	0.250	(0.293)	0.225	0.025
180	15.00	0.83	0.250	(0.291)	0.225	0.025

181	15.08	0.80	0.240	(0.290)	0.216	0.024
182	15.17	0.80	0.240	(0.288)	0.216	0.024
183	15.25	0.80	0.240	(0.287)	0.216	0.024
184	15.33	0.77	0.230	(0.285)	0.207	0.023
185	15.42	0.77	0.230	(0.284)	0.207	0.023
186	15.50	0.77	0.230	(0.282)	0.207	0.023
187	15.58	0.63	0.190	(0.281)	0.171	0.019
188	15.67	0.63	0.190	(0.279)	0.171	0.019
189	15.75	0.63	0.190	(0.278)	0.171	0.019
190	15.83	0.63	0.190	(0.277)	0.171	0.019
191	15.92	0.63	0.190	(0.275)	0.171	0.019
192	16.00	0.63	0.190	(0.274)	0.171	0.019
193	16.08	0.13	0.040	(0.272)	0.036	0.004
194	16.17	0.13	0.040	(0.271)	0.036	0.004
195	16.25	0.13	0.040	(0.270)	0.036	0.004
196	16.33	0.13	0.040	(0.268)	0.036	0.004
197	16.42	0.13	0.040	(0.267)	0.036	0.004
198	16.50	0.13	0.040	(0.265)	0.036	0.004
199	16.58	0.10	0.030	(0.264)	0.027	0.003
200	16.67	0.10	0.030	(0.263)	0.027	0.003
201	16.75	0.10	0.030	(0.261)	0.027	0.003
202	16.83	0.10	0.030	(0.260)	0.027	0.003
203	16.92	0.10	0.030	(0.259)	0.027	0.003
204	17.00	0.10	0.030	(0.257)	0.027	0.003
205	17.08	0.17	0.050	(0.256)	0.045	0.005
206	17.17	0.17	0.050	(0.255)	0.045	0.005
207	17.25	0.17	0.050	(0.254)	0.045	0.005
208	17.33	0.17	0.050	(0.252)	0.045	0.005
209	17.42	0.17	0.050	(0.251)	0.045	0.005
210	17.50	0.17	0.050	(0.250)	0.045	0.005
211	17.58	0.17	0.050	(0.249)	0.045	0.005
212	17.67	0.17	0.050	(0.247)	0.045	0.005
213	17.75	0.17	0.050	(0.246)	0.045	0.005
214	17.83	0.13	0.040	(0.245)	0.036	0.004
215	17.92	0.13	0.040	(0.244)	0.036	0.004
216	18.00	0.13	0.040	(0.242)	0.036	0.004
217	18.08	0.13	0.040	(0.241)	0.036	0.004
218	18.17	0.13	0.040	(0.240)	0.036	0.004
219	18.25	0.13	0.040	(0.239)	0.036	0.004
220	18.33	0.13	0.040	(0.238)	0.036	0.004
221	18.42	0.13	0.040	(0.237)	0.036	0.004
222	18.50	0.13	0.040	(0.235)	0.036	0.004
223	18.58	0.10	0.030	(0.234)	0.027	0.003
224	18.67	0.10	0.030	(0.233)	0.027	0.003
225	18.75	0.10	0.030	(0.232)	0.027	0.003
226	18.83	0.07	0.020	(0.231)	0.018	0.002
227	18.92	0.07	0.020	(0.230)	0.018	0.002
228	19.00	0.07	0.020	(0.229)	0.018	0.002
229	19.08	0.10	0.030	(0.228)	0.027	0.003
230	19.17	0.10	0.030	(0.227)	0.027	0.003
231	19.25	0.10	0.030	(0.226)	0.027	0.003
232	19.33	0.13	0.040	(0.224)	0.036	0.004
233	19.42	0.13	0.040	(0.223)	0.036	0.004
234	19.50	0.13	0.040	(0.222)	0.036	0.004
235	19.58	0.10	0.030	(0.221)	0.027	0.003
236	19.67	0.10	0.030	(0.220)	0.027	0.003
237	19.75	0.10	0.030	(0.219)	0.027	0.003
238	19.83	0.07	0.020	(0.218)	0.018	0.002
239	19.92	0.07	0.020	(0.217)	0.018	0.002
240	20.00	0.07	0.020	(0.216)	0.018	0.002
241	20.08	0.10	0.030	(0.215)	0.027	0.003
242	20.17	0.10	0.030	(0.215)	0.027	0.003
243	20.25	0.10	0.030	(0.214)	0.027	0.003
244	20.33	0.10	0.030	(0.213)	0.027	0.003
245	20.42	0.10	0.030	(0.212)	0.027	0.003
246	20.50	0.10	0.030	(0.211)	0.027	0.003
247	20.58	0.10	0.030	(0.210)	0.027	0.003
248	20.67	0.10	0.030	(0.209)	0.027	0.003
249	20.75	0.10	0.030	(0.208)	0.027	0.003
250	20.83	0.07	0.020	(0.207)	0.018	0.002
251	20.92	0.07	0.020	(0.207)	0.018	0.002

252	21.00	0.07	0.020	(0.206)	0.018	0.002
253	21.08	0.10	0.030	(0.205)	0.027	0.003
254	21.17	0.10	0.030	(0.204)	0.027	0.003
255	21.25	0.10	0.030	(0.203)	0.027	0.003
256	21.33	0.07	0.020	(0.203)	0.018	0.002
257	21.42	0.07	0.020	(0.202)	0.018	0.002
258	21.50	0.07	0.020	(0.201)	0.018	0.002
259	21.58	0.10	0.030	(0.200)	0.027	0.003
260	21.67	0.10	0.030	(0.200)	0.027	0.003
261	21.75	0.10	0.030	(0.199)	0.027	0.003
262	21.83	0.07	0.020	(0.198)	0.018	0.002
263	21.92	0.07	0.020	(0.197)	0.018	0.002
264	22.00	0.07	0.020	(0.197)	0.018	0.002
265	22.08	0.10	0.030	(0.196)	0.027	0.003
266	22.17	0.10	0.030	(0.196)	0.027	0.003
267	22.25	0.10	0.030	(0.195)	0.027	0.003
268	22.33	0.07	0.020	(0.194)	0.018	0.002
269	22.42	0.07	0.020	(0.194)	0.018	0.002
270	22.50	0.07	0.020	(0.193)	0.018	0.002
271	22.58	0.07	0.020	(0.193)	0.018	0.002
272	22.67	0.07	0.020	(0.192)	0.018	0.002
273	22.75	0.07	0.020	(0.191)	0.018	0.002
274	22.83	0.07	0.020	(0.191)	0.018	0.002
275	22.92	0.07	0.020	(0.191)	0.018	0.002
276	23.00	0.07	0.020	(0.190)	0.018	0.002
277	23.08	0.07	0.020	(0.190)	0.018	0.002
278	23.17	0.07	0.020	(0.189)	0.018	0.002
279	23.25	0.07	0.020	(0.189)	0.018	0.002
280	23.33	0.07	0.020	(0.188)	0.018	0.002
281	23.42	0.07	0.020	(0.188)	0.018	0.002
282	23.50	0.07	0.020	(0.188)	0.018	0.002
283	23.58	0.07	0.020	(0.187)	0.018	0.002
284	23.67	0.07	0.020	(0.187)	0.018	0.002
285	23.75	0.07	0.020	(0.187)	0.018	0.002
286	23.83	0.07	0.020	(0.187)	0.018	0.002
287	23.92	0.07	0.020	(0.187)	0.018	0.002
288	24.00	0.07	0.020	(0.186)	0.018	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 3.0

Flood volume = Effective rainfall 0.25(In)
times area 4.1(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 2.25(In)
Total soil loss = 0.769(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 3720.7 Cubic Feet
Total soil loss = 33486.5 Cubic Feet

Peak flow rate of this hydrograph = 0.141(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0001	0.01	Q				
0+15	0.0001	0.01	Q				
0+20	0.0002	0.01	Q				
0+25	0.0003	0.01	Q				
0+30	0.0004	0.01	Q				
0+35	0.0005	0.01	Q				
0+40	0.0005	0.01	Q				
0+45	0.0006	0.01	Q				
0+50	0.0007	0.01	Q				
0+55	0.0008	0.02	Q				
1+ 0	0.0009	0.02	Q				
1+ 5	0.0010	0.01	Q				

1+10	0.0011	0.01	Q				
1+15	0.0012	0.01	Q				
1+20	0.0013	0.01	Q				
1+25	0.0014	0.01	Q				
1+30	0.0015	0.01	Q				
1+35	0.0016	0.01	Q				
1+40	0.0016	0.01	Q				
1+45	0.0017	0.01	Q				
1+50	0.0018	0.01	Q				
1+55	0.0019	0.02	Q				
2+ 0	0.0021	0.02	Q				
2+ 5	0.0022	0.02	QV				
2+10	0.0023	0.02	QV				
2+15	0.0024	0.02	QV				
2+20	0.0025	0.02	QV				
2+25	0.0026	0.02	QV				
2+30	0.0027	0.02	QV				
2+35	0.0029	0.02	QV				
2+40	0.0030	0.02	QV				
2+45	0.0031	0.02	QV				
2+50	0.0033	0.02	QV				
2+55	0.0034	0.02	QV				
3+ 0	0.0036	0.02	QV				
3+ 5	0.0037	0.02	QV				
3+10	0.0039	0.02	QV				
3+15	0.0040	0.02	QV				
3+20	0.0041	0.02	QV				
3+25	0.0043	0.02	Q V				
3+30	0.0044	0.02	Q V				
3+35	0.0046	0.02	Q V				
3+40	0.0047	0.02	Q V				
3+45	0.0049	0.02	Q V				
3+50	0.0050	0.02	Q V				
3+55	0.0052	0.02	Q V				
4+ 0	0.0053	0.02	Q V				
4+ 5	0.0055	0.02	Q V				
4+10	0.0057	0.02	Q V				
4+15	0.0059	0.02	Q V				
4+20	0.0060	0.03	Q V				
4+25	0.0062	0.03	Q V				
4+30	0.0064	0.03	Q V				
4+35	0.0066	0.03	Q V				
4+40	0.0068	0.03	Q V				
4+45	0.0070	0.03	Q V				
4+50	0.0072	0.03	Q V				
4+55	0.0075	0.03	Q V				
5+ 0	0.0077	0.03	Q V				
5+ 5	0.0079	0.03	Q V				
5+10	0.0081	0.03	Q V				
5+15	0.0082	0.03	Q V				
5+20	0.0084	0.03	Q V				
5+25	0.0086	0.03	Q V				
5+30	0.0088	0.03	Q V				
5+35	0.0090	0.03	Q V				
5+40	0.0093	0.03	Q V				
5+45	0.0095	0.03	Q V				
5+50	0.0097	0.03	Q V				
5+55	0.0099	0.03	Q V				
6+ 0	0.0102	0.03	Q V				
6+ 5	0.0104	0.03	Q V				
6+10	0.0107	0.04	Q V				
6+15	0.0109	0.04	Q V				
6+20	0.0112	0.04	Q V				
6+25	0.0114	0.04	Q V				
6+30	0.0117	0.04	Q V				
6+35	0.0120	0.04	Q V				
6+40	0.0122	0.04	Q V				
6+45	0.0125	0.04	Q V				
6+50	0.0128	0.04	Q V				
6+55	0.0131	0.04	Q V				
7+ 0	0.0134	0.04	Q V				

7+ 5	0.0137	0.04	Q	V				
7+10	0.0139	0.04	Q	V				
7+15	0.0142	0.04	Q	V				
7+20	0.0145	0.04	Q	V				
7+25	0.0148	0.04	Q	V				
7+30	0.0151	0.05	Q	V				
7+35	0.0155	0.05	Q	V				
7+40	0.0158	0.05	Q	V				
7+45	0.0162	0.05	Q	V				
7+50	0.0165	0.05	Q	V				
7+55	0.0169	0.05	Q	V				
8+ 0	0.0172	0.05	Q	V				
8+ 5	0.0176	0.06	Q	V				
8+10	0.0181	0.06	Q	V				
8+15	0.0185	0.06	Q	V				
8+20	0.0189	0.06	Q	V				
8+25	0.0193	0.06	Q	V				
8+30	0.0198	0.06	Q	V				
8+35	0.0202	0.06	Q	V				
8+40	0.0207	0.07	Q	V				
8+45	0.0211	0.07	Q	V				
8+50	0.0216	0.07	Q	V				
8+55	0.0221	0.07	Q	V				
9+ 0	0.0225	0.07	Q	V				
9+ 5	0.0231	0.07	Q	V				
9+10	0.0236	0.08	Q	V				
9+15	0.0241	0.08	Q	V				
9+20	0.0247	0.08	Q	V				
9+25	0.0252	0.08	Q	V				
9+30	0.0258	0.08	Q	V				
9+35	0.0264	0.08	Q	V				
9+40	0.0270	0.09	Q	V				
9+45	0.0276	0.09	Q	V				
9+50	0.0282	0.09	Q	V				
9+55	0.0288	0.09	Q	V				
10+ 0	0.0294	0.09	Q	V				
10+ 5	0.0300	0.08	Q	V				
10+10	0.0304	0.07	Q	V				
10+15	0.0309	0.06	Q	V				
10+20	0.0313	0.06	Q	V				
10+25	0.0317	0.06	Q	V				
10+30	0.0321	0.06	Q	V				
10+35	0.0326	0.07	Q	V				
10+40	0.0332	0.08	Q	V				
10+45	0.0338	0.08	Q	V				
10+50	0.0343	0.08	Q	V				
10+55	0.0349	0.08	Q	V				
11+ 0	0.0355	0.08	Q	V				
11+ 5	0.0360	0.08	Q	V				
11+10	0.0366	0.08	Q	V				
11+15	0.0371	0.08	Q	V				
11+20	0.0376	0.08	Q	V				
11+25	0.0382	0.08	Q	V				
11+30	0.0387	0.08	Q	V				
11+35	0.0392	0.07	Q	V				
11+40	0.0397	0.07	Q	V				
11+45	0.0402	0.07	Q	V				
11+50	0.0407	0.07	Q	V				
11+55	0.0412	0.07	Q	V				
12+ 0	0.0417	0.07	Q	V				
12+ 5	0.0423	0.09	Q	V				
12+10	0.0430	0.10	Q	V				
12+15	0.0437	0.10	Q	V				
12+20	0.0445	0.11	Q	V				
12+25	0.0452	0.11	Q	V				
12+30	0.0459	0.11	Q	V				
12+35	0.0467	0.11	Q	V				
12+40	0.0475	0.11	Q	V				
12+45	0.0483	0.12	Q	V				
12+50	0.0491	0.12	Q	V				
12+55	0.0499	0.12	Q	V				

13+ 0	0.0507	0.12	Q		V		
13+ 5	0.0516	0.13	Q		V		
13+10	0.0526	0.14	Q		V		
13+15	0.0535	0.14	Q		V		
13+20	0.0545	0.14	Q		V		
13+25	0.0555	0.14	Q		V		
13+30	0.0564	0.14	Q		V		
13+35	0.0573	0.12	Q		V		
13+40	0.0580	0.10	Q		V		
13+45	0.0586	0.10	Q		V		
13+50	0.0593	0.10	Q		V		
13+55	0.0599	0.10	Q		V		
14+ 0	0.0606	0.10	Q		V		
14+ 5	0.0613	0.10	Q		V		
14+10	0.0621	0.11	Q		V		
14+15	0.0628	0.11	Q		V		
14+20	0.0636	0.11	Q		V		
14+25	0.0643	0.11	Q		V		
14+30	0.0651	0.11	Q		V		
14+35	0.0658	0.11	Q		V		
14+40	0.0665	0.11	Q		V		
14+45	0.0673	0.11	Q		V		
14+50	0.0680	0.11	Q		V		
14+55	0.0687	0.10	Q		V		
15+ 0	0.0694	0.10	Q		V		
15+ 5	0.0701	0.10	Q		V		
15+10	0.0708	0.10	Q		V		
15+15	0.0715	0.10	Q		V		
15+20	0.0722	0.10	Q		V		
15+25	0.0728	0.10	Q		V		
15+30	0.0735	0.10	Q		V		
15+35	0.0741	0.09	Q		V		
15+40	0.0747	0.08	Q		V		
15+45	0.0752	0.08	Q		V		
15+50	0.0757	0.08	Q		V		
15+55	0.0763	0.08	Q		V		
16+ 0	0.0768	0.08	Q		V		
16+ 5	0.0772	0.05	Q		V		
16+10	0.0773	0.02	Q		V		
16+15	0.0775	0.02	Q		V		
16+20	0.0776	0.02	Q		V		
16+25	0.0777	0.02	Q		V		
16+30	0.0778	0.02	Q		V		
16+35	0.0779	0.01	Q		V		
16+40	0.0780	0.01	Q		V		
16+45	0.0781	0.01	Q		V		
16+50	0.0782	0.01	Q		V		
16+55	0.0783	0.01	Q		V		
17+ 0	0.0784	0.01	Q		V		
17+ 5	0.0785	0.02	Q		V		
17+10	0.0786	0.02	Q		V		
17+15	0.0787	0.02	Q		V		
17+20	0.0789	0.02	Q		V		
17+25	0.0790	0.02	Q		V		
17+30	0.0792	0.02	Q		V		
17+35	0.0793	0.02	Q		V		
17+40	0.0794	0.02	Q		V		
17+45	0.0796	0.02	Q		V		
17+50	0.0797	0.02	Q		V		
17+55	0.0798	0.02	Q		V		
18+ 0	0.0800	0.02	Q		V		
18+ 5	0.0801	0.02	Q		V		
18+10	0.0802	0.02	Q		V		
18+15	0.0803	0.02	Q		V		
18+20	0.0804	0.02	Q		V		
18+25	0.0805	0.02	Q		V		
18+30	0.0806	0.02	Q		V		
18+35	0.0807	0.01	Q		V		
18+40	0.0808	0.01	Q		V		
18+45	0.0809	0.01	Q		V		
18+50	0.0810	0.01	Q		V		

18+55	0.0810	0.01	Q				V
19+ 0	0.0811	0.01	Q				V
19+ 5	0.0812	0.01	Q				V
19+10	0.0813	0.01	Q				V
19+15	0.0813	0.01	Q				V
19+20	0.0814	0.01	Q				V
19+25	0.0815	0.02	Q				V
19+30	0.0817	0.02	Q				V
19+35	0.0818	0.01	Q				V
19+40	0.0819	0.01	Q				V
19+45	0.0819	0.01	Q				V
19+50	0.0820	0.01	Q				V
19+55	0.0821	0.01	Q				V
20+ 0	0.0821	0.01	Q				V
20+ 5	0.0822	0.01	Q				V
20+10	0.0823	0.01	Q				V
20+15	0.0824	0.01	Q				V
20+20	0.0825	0.01	Q				V
20+25	0.0825	0.01	Q				V
20+30	0.0826	0.01	Q				V
20+35	0.0827	0.01	Q				V
20+40	0.0828	0.01	Q				V
20+45	0.0829	0.01	Q				V
20+50	0.0830	0.01	Q				V
20+55	0.0830	0.01	Q				V
21+ 0	0.0831	0.01	Q				V
21+ 5	0.0831	0.01	Q				V
21+10	0.0832	0.01	Q				V
21+15	0.0833	0.01	Q				V
21+20	0.0834	0.01	Q				V
21+25	0.0834	0.01	Q				V
21+30	0.0835	0.01	Q				V
21+35	0.0836	0.01	Q				V
21+40	0.0836	0.01	Q				V
21+45	0.0837	0.01	Q				V
21+50	0.0838	0.01	Q				V
21+55	0.0839	0.01	Q				V
22+ 0	0.0839	0.01	Q				V
22+ 5	0.0840	0.01	Q				V
22+10	0.0841	0.01	Q				V
22+15	0.0842	0.01	Q				V
22+20	0.0842	0.01	Q				V
22+25	0.0843	0.01	Q				V
22+30	0.0843	0.01	Q				V
22+35	0.0844	0.01	Q				V
22+40	0.0845	0.01	Q				V
22+45	0.0845	0.01	Q				V
22+50	0.0846	0.01	Q				V
22+55	0.0846	0.01	Q				V
23+ 0	0.0847	0.01	Q				V
23+ 5	0.0847	0.01	Q				V
23+10	0.0848	0.01	Q				V
23+15	0.0849	0.01	Q				V
23+20	0.0849	0.01	Q				V
23+25	0.0850	0.01	Q				V
23+30	0.0850	0.01	Q				V
23+35	0.0851	0.01	Q				V
23+40	0.0851	0.01	Q				V
23+45	0.0852	0.01	Q				V
23+50	0.0853	0.01	Q				V
23+55	0.0853	0.01	Q				V
24+ 0	0.0854	0.01	Q				V
24+ 5	0.0854	0.00	Q				V
24+10	0.0854	0.00	Q				V
24+15	0.0854	0.00	Q				V

Area B, 10-Year, 24-Hour

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
Study date 03/21/14 File: ARB2410.out

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6269

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

PRIELIPP ROAD PRE-PROJECT CONDITION HYDROLOGY
UNIT HYDROGRAPH ANALYSIS, 10-YEAR, 24-HOUR STORM DURATION
FILENAME: ARB

Drainage Area = 4.10(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.10(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 573.00(Ft.)
Length along longest watercourse measured to centroid = 207.00(Ft.)
Length along longest watercourse = 0.109 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 17.00(Ft.)
Slope along watercourse = 156.6492 Ft./Mi.
Average Manning's 'N' = 0.035
Lag time = 0.040 Hr.
Lag time = 2.42 Min.
25% of lag time = 0.61 Min.
40% of lag time = 0.97 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.10	2.50	10.25

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.10	7.00	28.70

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 7.000(In)

Point rain (area averaged) = 4.351(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.351(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %
4.100 84.29 0.000
Total Area Entered = 4.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
84.3	84.3	0.195	0.000	0.195	1.000	0.195
						Sum (F) = 0.195

Area averaged mean soil loss (F) (In/Hr) = 0.195
 Minimum soil loss rate ((In/Hr)) = 0.098
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.900

 U n i t H y d r o g r a p h
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	206.353	44.478
2	0.167	412.705	42.927
3	0.250	619.058	8.541
4	0.333	825.411	4.055
		Sum = 100.000	Sum= 4.132

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
			Max	Low	
1	0.08	0.07	(0.346)	0.031	0.003
2	0.17	0.07	(0.345)	0.031	0.003
3	0.25	0.07	(0.343)	0.031	0.003
4	0.33	0.10	(0.342)	0.047	0.005
5	0.42	0.10	(0.341)	0.047	0.005
6	0.50	0.10	(0.339)	0.047	0.005
7	0.58	0.10	(0.338)	0.047	0.005
8	0.67	0.10	(0.337)	0.047	0.005
9	0.75	0.10	(0.335)	0.047	0.005
10	0.83	0.13	(0.334)	0.063	0.007
11	0.92	0.13	(0.333)	0.063	0.007
12	1.00	0.13	(0.331)	0.063	0.007
13	1.08	0.10	(0.330)	0.047	0.005
14	1.17	0.10	(0.329)	0.047	0.005
15	1.25	0.10	(0.327)	0.047	0.005
16	1.33	0.10	(0.326)	0.047	0.005
17	1.42	0.10	(0.325)	0.047	0.005
18	1.50	0.10	(0.323)	0.047	0.005
19	1.58	0.10	(0.322)	0.047	0.005
20	1.67	0.10	(0.321)	0.047	0.005
21	1.75	0.10	(0.320)	0.047	0.005
22	1.83	0.13	(0.318)	0.063	0.007
23	1.92	0.13	(0.317)	0.063	0.007
24	2.00	0.13	(0.316)	0.063	0.007
25	2.08	0.13	(0.314)	0.063	0.007
26	2.17	0.13	(0.313)	0.063	0.007
27	2.25	0.13	(0.312)	0.063	0.007
28	2.33	0.13	(0.311)	0.063	0.007
29	2.42	0.13	(0.309)	0.063	0.007
30	2.50	0.13	(0.308)	0.063	0.007
31	2.58	0.17	(0.307)	0.078	0.009
32	2.67	0.17	(0.306)	0.078	0.009
33	2.75	0.17	(0.304)	0.078	0.009
34	2.83	0.17	(0.303)	0.078	0.009
35	2.92	0.17	(0.302)	0.078	0.009
36	3.00	0.17	(0.301)	0.078	0.009
37	3.08	0.17	(0.299)	0.078	0.009
38	3.17	0.17	(0.298)	0.078	0.009

39	3.25	0.17	0.087	(0.297)	0.078	0.009
40	3.33	0.17	0.087	(0.296)	0.078	0.009
41	3.42	0.17	0.087	(0.294)	0.078	0.009
42	3.50	0.17	0.087	(0.293)	0.078	0.009
43	3.58	0.17	0.087	(0.292)	0.078	0.009
44	3.67	0.17	0.087	(0.291)	0.078	0.009
45	3.75	0.17	0.087	(0.289)	0.078	0.009
46	3.83	0.20	0.104	(0.288)	0.094	0.010
47	3.92	0.20	0.104	(0.287)	0.094	0.010
48	4.00	0.20	0.104	(0.286)	0.094	0.010
49	4.08	0.20	0.104	(0.285)	0.094	0.010
50	4.17	0.20	0.104	(0.283)	0.094	0.010
51	4.25	0.20	0.104	(0.282)	0.094	0.010
52	4.33	0.23	0.122	(0.281)	0.110	0.012
53	4.42	0.23	0.122	(0.280)	0.110	0.012
54	4.50	0.23	0.122	(0.279)	0.110	0.012
55	4.58	0.23	0.122	(0.277)	0.110	0.012
56	4.67	0.23	0.122	(0.276)	0.110	0.012
57	4.75	0.23	0.122	(0.275)	0.110	0.012
58	4.83	0.27	0.139	(0.274)	0.125	0.014
59	4.92	0.27	0.139	(0.273)	0.125	0.014
60	5.00	0.27	0.139	(0.271)	0.125	0.014
61	5.08	0.20	0.104	(0.270)	0.094	0.010
62	5.17	0.20	0.104	(0.269)	0.094	0.010
63	5.25	0.20	0.104	(0.268)	0.094	0.010
64	5.33	0.23	0.122	(0.267)	0.110	0.012
65	5.42	0.23	0.122	(0.266)	0.110	0.012
66	5.50	0.23	0.122	(0.264)	0.110	0.012
67	5.58	0.27	0.139	(0.263)	0.125	0.014
68	5.67	0.27	0.139	(0.262)	0.125	0.014
69	5.75	0.27	0.139	(0.261)	0.125	0.014
70	5.83	0.27	0.139	(0.260)	0.125	0.014
71	5.92	0.27	0.139	(0.259)	0.125	0.014
72	6.00	0.27	0.139	(0.258)	0.125	0.014
73	6.08	0.30	0.157	(0.256)	0.141	0.016
74	6.17	0.30	0.157	(0.255)	0.141	0.016
75	6.25	0.30	0.157	(0.254)	0.141	0.016
76	6.33	0.30	0.157	(0.253)	0.141	0.016
77	6.42	0.30	0.157	(0.252)	0.141	0.016
78	6.50	0.30	0.157	(0.251)	0.141	0.016
79	6.58	0.33	0.174	(0.250)	0.157	0.017
80	6.67	0.33	0.174	(0.248)	0.157	0.017
81	6.75	0.33	0.174	(0.247)	0.157	0.017
82	6.83	0.33	0.174	(0.246)	0.157	0.017
83	6.92	0.33	0.174	(0.245)	0.157	0.017
84	7.00	0.33	0.174	(0.244)	0.157	0.017
85	7.08	0.33	0.174	(0.243)	0.157	0.017
86	7.17	0.33	0.174	(0.242)	0.157	0.017
87	7.25	0.33	0.174	(0.241)	0.157	0.017
88	7.33	0.37	0.191	(0.240)	0.172	0.019
89	7.42	0.37	0.191	(0.238)	0.172	0.019
90	7.50	0.37	0.191	(0.237)	0.172	0.019
91	7.58	0.40	0.209	(0.236)	0.188	0.021
92	7.67	0.40	0.209	(0.235)	0.188	0.021
93	7.75	0.40	0.209	(0.234)	0.188	0.021
94	7.83	0.43	0.226	(0.233)	0.204	0.023
95	7.92	0.43	0.226	(0.232)	0.204	0.023
96	8.00	0.43	0.226	(0.231)	0.204	0.023
97	8.08	0.50	0.261	0.230 (0.235)		0.031
98	8.17	0.50	0.261	0.229 (0.235)		0.032
99	8.25	0.50	0.261	0.228 (0.235)		0.033
100	8.33	0.50	0.261	0.227 (0.235)		0.034
101	8.42	0.50	0.261	0.226 (0.235)		0.036
102	8.50	0.50	0.261	0.224 (0.235)		0.037
103	8.58	0.53	0.278	0.223 (0.251)		0.055
104	8.67	0.53	0.278	0.222 (0.251)		0.056
105	8.75	0.53	0.278	0.221 (0.251)		0.057
106	8.83	0.57	0.296	0.220 (0.266)		0.076
107	8.92	0.57	0.296	0.219 (0.266)		0.077
108	9.00	0.57	0.296	0.218 (0.266)		0.078
109	9.08	0.63	0.331	0.217 (0.298)		0.114

110	9.17	0.63	0.331	0.216	(0.298)	0.115
111	9.25	0.63	0.331	0.215	(0.298)	0.116
112	9.33	0.67	0.348	0.214	(0.313)	0.134
113	9.42	0.67	0.348	0.213	(0.313)	0.135
114	9.50	0.67	0.348	0.212	(0.313)	0.136
115	9.58	0.70	0.366	0.211	(0.329)	0.154
116	9.67	0.70	0.366	0.210	(0.329)	0.155
117	9.75	0.70	0.366	0.209	(0.329)	0.156
118	9.83	0.73	0.383	0.208	(0.345)	0.175
119	9.92	0.73	0.383	0.207	(0.345)	0.176
120	10.00	0.73	0.383	0.206	(0.345)	0.177
121	10.08	0.50	0.261	0.205	(0.235)	0.056
122	10.17	0.50	0.261	0.204	(0.235)	0.057
123	10.25	0.50	0.261	0.203	(0.235)	0.058
124	10.33	0.50	0.261	0.202	(0.235)	0.059
125	10.42	0.50	0.261	0.201	(0.235)	0.060
126	10.50	0.50	0.261	0.200	(0.235)	0.061
127	10.58	0.67	0.348	0.199	(0.313)	0.149
128	10.67	0.67	0.348	0.198	(0.313)	0.150
129	10.75	0.67	0.348	0.197	(0.313)	0.151
130	10.83	0.67	0.348	0.196	(0.313)	0.152
131	10.92	0.67	0.348	0.195	(0.313)	0.153
132	11.00	0.67	0.348	0.194	(0.313)	0.154
133	11.08	0.63	0.331	0.193	(0.298)	0.137
134	11.17	0.63	0.331	0.192	(0.298)	0.138
135	11.25	0.63	0.331	0.191	(0.298)	0.139
136	11.33	0.63	0.331	0.190	(0.298)	0.140
137	11.42	0.63	0.331	0.190	(0.298)	0.141
138	11.50	0.63	0.331	0.189	(0.298)	0.142
139	11.58	0.57	0.296	0.188	(0.266)	0.108
140	11.67	0.57	0.296	0.187	(0.266)	0.109
141	11.75	0.57	0.296	0.186	(0.266)	0.110
142	11.83	0.60	0.313	0.185	(0.282)	0.128
143	11.92	0.60	0.313	0.184	(0.282)	0.129
144	12.00	0.60	0.313	0.183	(0.282)	0.130
145	12.08	0.83	0.435	0.182	(0.392)	0.253
146	12.17	0.83	0.435	0.181	(0.392)	0.254
147	12.25	0.83	0.435	0.180	(0.392)	0.255
148	12.33	0.87	0.453	0.179	(0.407)	0.273
149	12.42	0.87	0.453	0.178	(0.407)	0.274
150	12.50	0.87	0.453	0.178	(0.407)	0.275
151	12.58	0.93	0.487	0.177	(0.439)	0.311
152	12.67	0.93	0.487	0.176	(0.439)	0.312
153	12.75	0.93	0.487	0.175	(0.439)	0.312
154	12.83	0.97	0.505	0.174	(0.454)	0.331
155	12.92	0.97	0.505	0.173	(0.454)	0.332
156	13.00	0.97	0.505	0.172	(0.454)	0.332
157	13.08	1.13	0.592	0.171	(0.533)	0.420
158	13.17	1.13	0.592	0.171	(0.533)	0.421
159	13.25	1.13	0.592	0.170	(0.533)	0.422
160	13.33	1.13	0.592	0.169	(0.533)	0.423
161	13.42	1.13	0.592	0.168	(0.533)	0.424
162	13.50	1.13	0.592	0.167	(0.533)	0.425
163	13.58	0.77	0.400	0.166	(0.360)	0.234
164	13.67	0.77	0.400	0.165	(0.360)	0.235
165	13.75	0.77	0.400	0.165	(0.360)	0.236
166	13.83	0.77	0.400	0.164	(0.360)	0.237
167	13.92	0.77	0.400	0.163	(0.360)	0.237
168	14.00	0.77	0.400	0.162	(0.360)	0.238
169	14.08	0.90	0.470	0.161	(0.423)	0.309
170	14.17	0.90	0.470	0.160	(0.423)	0.310
171	14.25	0.90	0.470	0.160	(0.423)	0.310
172	14.33	0.87	0.453	0.159	(0.407)	0.294
173	14.42	0.87	0.453	0.158	(0.407)	0.295
174	14.50	0.87	0.453	0.157	(0.407)	0.295
175	14.58	0.87	0.453	0.156	(0.407)	0.296
176	14.67	0.87	0.453	0.156	(0.407)	0.297
177	14.75	0.87	0.453	0.155	(0.407)	0.298
178	14.83	0.83	0.435	0.154	(0.392)	0.281
179	14.92	0.83	0.435	0.153	(0.392)	0.282
180	15.00	0.83	0.435	0.152	(0.392)	0.283

181	15.08	0.80	0.418	0.152	(0.376)	0.266
182	15.17	0.80	0.418	0.151	(0.376)	0.267
183	15.25	0.80	0.418	0.150	(0.376)	0.268
184	15.33	0.77	0.400	0.149	(0.360)	0.251
185	15.42	0.77	0.400	0.149	(0.360)	0.252
186	15.50	0.77	0.400	0.148	(0.360)	0.253
187	15.58	0.63	0.331	0.147	(0.298)	0.184
188	15.67	0.63	0.331	0.146	(0.298)	0.184
189	15.75	0.63	0.331	0.145	(0.298)	0.185
190	15.83	0.63	0.331	0.145	(0.298)	0.186
191	15.92	0.63	0.331	0.144	(0.298)	0.187
192	16.00	0.63	0.331	0.143	(0.298)	0.187
193	16.08	0.13	0.070	(0.143)	0.063	0.007
194	16.17	0.13	0.070	(0.142)	0.063	0.007
195	16.25	0.13	0.070	(0.141)	0.063	0.007
196	16.33	0.13	0.070	(0.140)	0.063	0.007
197	16.42	0.13	0.070	(0.140)	0.063	0.007
198	16.50	0.13	0.070	(0.139)	0.063	0.007
199	16.58	0.10	0.052	(0.138)	0.047	0.005
200	16.67	0.10	0.052	(0.138)	0.047	0.005
201	16.75	0.10	0.052	(0.137)	0.047	0.005
202	16.83	0.10	0.052	(0.136)	0.047	0.005
203	16.92	0.10	0.052	(0.135)	0.047	0.005
204	17.00	0.10	0.052	(0.135)	0.047	0.005
205	17.08	0.17	0.087	(0.134)	0.078	0.009
206	17.17	0.17	0.087	(0.133)	0.078	0.009
207	17.25	0.17	0.087	(0.133)	0.078	0.009
208	17.33	0.17	0.087	(0.132)	0.078	0.009
209	17.42	0.17	0.087	(0.131)	0.078	0.009
210	17.50	0.17	0.087	(0.131)	0.078	0.009
211	17.58	0.17	0.087	(0.130)	0.078	0.009
212	17.67	0.17	0.087	(0.129)	0.078	0.009
213	17.75	0.17	0.087	(0.129)	0.078	0.009
214	17.83	0.13	0.070	(0.128)	0.063	0.007
215	17.92	0.13	0.070	(0.128)	0.063	0.007
216	18.00	0.13	0.070	(0.127)	0.063	0.007
217	18.08	0.13	0.070	(0.126)	0.063	0.007
218	18.17	0.13	0.070	(0.126)	0.063	0.007
219	18.25	0.13	0.070	(0.125)	0.063	0.007
220	18.33	0.13	0.070	(0.124)	0.063	0.007
221	18.42	0.13	0.070	(0.124)	0.063	0.007
222	18.50	0.13	0.070	(0.123)	0.063	0.007
223	18.58	0.10	0.052	(0.123)	0.047	0.005
224	18.67	0.10	0.052	(0.122)	0.047	0.005
225	18.75	0.10	0.052	(0.121)	0.047	0.005
226	18.83	0.07	0.035	(0.121)	0.031	0.003
227	18.92	0.07	0.035	(0.120)	0.031	0.003
228	19.00	0.07	0.035	(0.120)	0.031	0.003
229	19.08	0.10	0.052	(0.119)	0.047	0.005
230	19.17	0.10	0.052	(0.119)	0.047	0.005
231	19.25	0.10	0.052	(0.118)	0.047	0.005
232	19.33	0.13	0.070	(0.117)	0.063	0.007
233	19.42	0.13	0.070	(0.117)	0.063	0.007
234	19.50	0.13	0.070	(0.116)	0.063	0.007
235	19.58	0.10	0.052	(0.116)	0.047	0.005
236	19.67	0.10	0.052	(0.115)	0.047	0.005
237	19.75	0.10	0.052	(0.115)	0.047	0.005
238	19.83	0.07	0.035	(0.114)	0.031	0.003
239	19.92	0.07	0.035	(0.114)	0.031	0.003
240	20.00	0.07	0.035	(0.113)	0.031	0.003
241	20.08	0.10	0.052	(0.113)	0.047	0.005
242	20.17	0.10	0.052	(0.112)	0.047	0.005
243	20.25	0.10	0.052	(0.112)	0.047	0.005
244	20.33	0.10	0.052	(0.111)	0.047	0.005
245	20.42	0.10	0.052	(0.111)	0.047	0.005
246	20.50	0.10	0.052	(0.110)	0.047	0.005
247	20.58	0.10	0.052	(0.110)	0.047	0.005
248	20.67	0.10	0.052	(0.109)	0.047	0.005
249	20.75	0.10	0.052	(0.109)	0.047	0.005
250	20.83	0.07	0.035	(0.109)	0.031	0.003
251	20.92	0.07	0.035	(0.108)	0.031	0.003

1+10	0.0020	0.02	Q
1+15	0.0021	0.02	Q
1+20	0.0023	0.02	Q
1+25	0.0024	0.02	Q
1+30	0.0026	0.02	Q
1+35	0.0027	0.02	Q
1+40	0.0029	0.02	Q
1+45	0.0030	0.02	Q
1+50	0.0032	0.02	Q
1+55	0.0034	0.03	Q
2+ 0	0.0036	0.03	Q
2+ 5	0.0038	0.03	Q
2+10	0.0040	0.03	Q
2+15	0.0042	0.03	Q
2+20	0.0044	0.03	Q
2+25	0.0046	0.03	Q
2+30	0.0048	0.03	Q
2+35	0.0050	0.03	Q
2+40	0.0052	0.04	Q
2+45	0.0055	0.04	Q
2+50	0.0057	0.04	Q
2+55	0.0060	0.04	Q
3+ 0	0.0062	0.04	Q
3+ 5	0.0065	0.04	Q
3+10	0.0067	0.04	Q
3+15	0.0070	0.04	Q
3+20	0.0072	0.04	Q
3+25	0.0075	0.04	Q
3+30	0.0077	0.04	Q
3+35	0.0079	0.04	Q
3+40	0.0082	0.04	Q
3+45	0.0084	0.04	Q
3+50	0.0087	0.04	Q
3+55	0.0090	0.04	Q
4+ 0	0.0093	0.04	Q
4+ 5	0.0096	0.04	Q
4+10	0.0099	0.04	Q
4+15	0.0102	0.04	Q
4+20	0.0105	0.05	Q
4+25	0.0109	0.05	Q
4+30	0.0112	0.05	Q
4+35	0.0115	0.05	Q
4+40	0.0119	0.05	Q
4+45	0.0122	0.05	Q
4+50	0.0126	0.05	Q
4+55	0.0130	0.06	Q
5+ 0	0.0134	0.06	Q
5+ 5	0.0137	0.05	Q
5+10	0.0141	0.04	Q
5+15	0.0144	0.04	Q
5+20	0.0147	0.05	QV
5+25	0.0150	0.05	QV
5+30	0.0154	0.05	QV
5+35	0.0157	0.05	QV
5+40	0.0161	0.06	QV
5+45	0.0165	0.06	QV
5+50	0.0169	0.06	QV
5+55	0.0173	0.06	QV
6+ 0	0.0177	0.06	QV
6+ 5	0.0181	0.06	QV
6+10	0.0186	0.06	QV
6+15	0.0190	0.06	QV
6+20	0.0195	0.06	QV
6+25	0.0199	0.06	QV
6+30	0.0203	0.06	QV
6+35	0.0208	0.07	QV
6+40	0.0213	0.07	QV
6+45	0.0218	0.07	QV
6+50	0.0223	0.07	QV
6+55	0.0228	0.07	QV
7+ 0	0.0233	0.07	QV

7+ 5	0.0238	0.07	QV				
7+10	0.0243	0.07	QV				
7+15	0.0248	0.07	QV				
7+20	0.0253	0.08	QV				
7+25	0.0258	0.08	QV				
7+30	0.0264	0.08	QV				
7+35	0.0269	0.08	QV				
7+40	0.0275	0.09	QV				
7+45	0.0281	0.09	QV				
7+50	0.0287	0.09	QV				
7+55	0.0294	0.09	Q V				
8+ 0	0.0300	0.09	Q V				
8+ 5	0.0308	0.11	Q V				
8+10	0.0316	0.13	Q V				
8+15	0.0326	0.13	Q V				
8+20	0.0335	0.14	Q V				
8+25	0.0345	0.14	Q V				
8+30	0.0355	0.15	Q V				
8+35	0.0368	0.18	Q V				
8+40	0.0383	0.22	Q V				
8+45	0.0399	0.23	Q V				
8+50	0.0418	0.27	QV				
8+55	0.0438	0.30	Q V				
9+ 0	0.0460	0.32	Q V				
9+ 5	0.0487	0.39	Q V				
9+10	0.0518	0.45	Q V				
9+15	0.0550	0.47	Q V				
9+20	0.0585	0.51	Q V				
9+25	0.0623	0.55	Q V				
9+30	0.0661	0.56	Q V				
9+35	0.0702	0.60	Q V				
9+40	0.0746	0.63	Q V				
9+45	0.0790	0.64	Q V				
9+50	0.0837	0.68	Q V				
9+55	0.0886	0.72	Q V				
10+ 0	0.0936	0.73	Q V				
10+ 5	0.0971	0.51	Q V				
10+10	0.0991	0.30	Q V				
10+15	0.1009	0.26	Q V				
10+20	0.1026	0.24	Q V				
10+25	0.1043	0.25	Q V				
10+30	0.1060	0.25	Q V				
10+35	0.1088	0.41	Q V				
10+40	0.1128	0.57	Q V				
10+45	0.1169	0.61	Q V				
10+50	0.1212	0.63	Q V				
10+55	0.1256	0.63	Q V				
11+ 0	0.1299	0.63	Q V				
11+ 5	0.1341	0.61	Q V				
11+10	0.1381	0.58	Q V				
11+15	0.1421	0.58	Q V				
11+20	0.1460	0.58	Q V				
11+25	0.1500	0.58	Q V				
11+30	0.1541	0.58	Q V				
11+35	0.1577	0.52	Q V				
11+40	0.1609	0.47	Q V				
11+45	0.1640	0.46	Q V				
11+50	0.1674	0.49	Q V				
11+55	0.1710	0.52	Q V				
12+ 0	0.1747	0.53	Q V				
12+ 5	0.1799	0.76	Q V				
12+10	0.1867	0.98	Q V				
12+15	0.1938	1.03	Q V				
12+20	0.2013	1.09	Q V				
12+25	0.2090	1.12	Q V				
12+30	0.2168	1.13	Q V				
12+35	0.2251	1.20	Q V				
12+40	0.2338	1.27	Q V				
12+45	0.2426	1.28	Q V				
12+50	0.2518	1.32	Q V				
12+55	0.2611	1.36	Q V				

13+ 0	0.2705	1.37	Q	V		
13+ 5	0.2811	1.54	Q	V		
13+10	0.2928	1.69	Q	V		
13+15	0.3047	1.73	Q	V		
13+20	0.3167	1.75	Q	V		
13+25	0.3288	1.75	Q	V		
13+30	0.3408	1.75	Q	V		
13+35	0.3505	1.40	Q	V		
13+40	0.3579	1.07	Q	V		
13+45	0.3648	1.00	Q	V		
13+50	0.3715	0.98	Q	V		
13+55	0.3782	0.98	Q	V		
14+ 0	0.3850	0.98	Q	V		
14+ 5	0.3927	1.11	Q	V		
14+10	0.4012	1.24	Q	V		
14+15	0.4100	1.27	Q	V		
14+20	0.4186	1.25	Q	V		
14+25	0.4270	1.22	Q	V		
14+30	0.4354	1.22	Q	V		
14+35	0.4439	1.22	Q	V		
14+40	0.4523	1.23	Q	V		
14+45	0.4608	1.23	Q	V		
14+50	0.4690	1.20	Q	V		
14+55	0.4771	1.17	Q	V		
15+ 0	0.4851	1.17	Q	V		
15+ 5	0.4930	1.14	Q	V		
15+10	0.5006	1.11	Q	V		
15+15	0.5083	1.11	Q	V		
15+20	0.5157	1.08	Q	V		
15+25	0.5229	1.05	Q	V		
15+30	0.5301	1.04	Q	V		
15+35	0.5364	0.92	Q	V		
15+40	0.5419	0.80	Q	V		
15+45	0.5472	0.78	Q	V		
15+50	0.5525	0.77	Q	V		
15+55	0.5578	0.77	Q	V		
16+ 0	0.5631	0.77	Q	V		
16+ 5	0.5662	0.44	Q	V		
16+10	0.5670	0.12	Q	V		
16+15	0.5674	0.06	Q	V		
16+20	0.5676	0.03	Q	V		
16+25	0.5678	0.03	Q	V		
16+30	0.5680	0.03	Q	V		
16+35	0.5682	0.03	Q	V		
16+40	0.5683	0.02	Q	V		
16+45	0.5685	0.02	Q	V		
16+50	0.5686	0.02	Q	V		
16+55	0.5688	0.02	Q	V		
17+ 0	0.5689	0.02	Q	V		
17+ 5	0.5691	0.03	Q	V		
17+10	0.5694	0.03	Q	V		
17+15	0.5696	0.04	Q	V		
17+20	0.5699	0.04	Q	V		
17+25	0.5701	0.04	Q	V		
17+30	0.5704	0.04	Q	V		
17+35	0.5706	0.04	Q	V		
17+40	0.5708	0.04	Q	V		
17+45	0.5711	0.04	Q	V		
17+50	0.5713	0.03	Q	V		
17+55	0.5715	0.03	Q	V		
18+ 0	0.5717	0.03	Q	V		
18+ 5	0.5719	0.03	Q	V		
18+10	0.5721	0.03	Q	V		
18+15	0.5723	0.03	Q	V		
18+20	0.5725	0.03	Q	V		
18+25	0.5727	0.03	Q	V		
18+30	0.5729	0.03	Q	V		
18+35	0.5731	0.03	Q	V		
18+40	0.5732	0.02	Q	V		
18+45	0.5734	0.02	Q	V		
18+50	0.5735	0.02	Q	V		

18+55	0.5736	0.02	Q				V
19+ 0	0.5737	0.01	Q				V
19+ 5	0.5739	0.02	Q				V
19+10	0.5740	0.02	Q				V
19+15	0.5741	0.02	Q				V
19+20	0.5743	0.02	Q				V
19+25	0.5745	0.03	Q				V
19+30	0.5747	0.03	Q				V
19+35	0.5749	0.03	Q				V
19+40	0.5750	0.02	Q				V
19+45	0.5752	0.02	Q				V
19+50	0.5753	0.02	Q				V
19+55	0.5754	0.02	Q				V
20+ 0	0.5755	0.01	Q				V
20+ 5	0.5756	0.02	Q				V
20+10	0.5758	0.02	Q				V
20+15	0.5759	0.02	Q				V
20+20	0.5761	0.02	Q				V
20+25	0.5762	0.02	Q				V
20+30	0.5764	0.02	Q				V
20+35	0.5765	0.02	Q				V
20+40	0.5767	0.02	Q				V
20+45	0.5768	0.02	Q				V
20+50	0.5769	0.02	Q				V
20+55	0.5770	0.02	Q				V
21+ 0	0.5771	0.01	Q				V
21+ 5	0.5773	0.02	Q				V
21+10	0.5774	0.02	Q				V
21+15	0.5776	0.02	Q				V
21+20	0.5777	0.02	Q				V
21+25	0.5778	0.02	Q				V
21+30	0.5779	0.01	Q				V
21+35	0.5780	0.02	Q				V
21+40	0.5782	0.02	Q				V
21+45	0.5783	0.02	Q				V
21+50	0.5784	0.02	Q				V
21+55	0.5785	0.02	Q				V
22+ 0	0.5786	0.01	Q				V
22+ 5	0.5788	0.02	Q				V
22+10	0.5789	0.02	Q				V
22+15	0.5790	0.02	Q				V
22+20	0.5792	0.02	Q				V
22+25	0.5793	0.02	Q				V
22+30	0.5794	0.01	Q				V
22+35	0.5795	0.01	Q				V
22+40	0.5796	0.01	Q				V
22+45	0.5797	0.01	Q				V
22+50	0.5798	0.01	Q				V
22+55	0.5799	0.01	Q				V
23+ 0	0.5800	0.01	Q				V
23+ 5	0.5801	0.01	Q				V
23+10	0.5802	0.01	Q				V
23+15	0.5803	0.01	Q				V
23+20	0.5804	0.01	Q				V
23+25	0.5805	0.01	Q				V
23+30	0.5806	0.01	Q				V
23+35	0.5807	0.01	Q				V
23+40	0.5808	0.01	Q				V
23+45	0.5809	0.01	Q				V
23+50	0.5810	0.01	Q				V
23+55	0.5811	0.01	Q				V
24+ 0	0.5812	0.01	Q				V
24+ 5	0.5812	0.01	Q				V
24+10	0.5812	0.00	Q				V
24+15	0.5812	0.00	Q				V

Post-Project Onsite Unit Hydrograph Hydrology

March 21, 2014

Area A, 2-Year, 24-Hour

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
Study date 03/21/14 File: ARA242.out

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6269

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

PRIELIPP ROAD POST-PROJECT CONDITION HYDROLOGY
UNIT HYDROGRAPH ANALYSIS, 2-YEAR, 24-HOUR STORM DURATION
FILENAME: ARA

Drainage Area = 12.20(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 12.20(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 1603.00(Ft.)
Length along longest watercourse measured to centroid = 830.00(Ft.)
Length along longest watercourse = 0.304 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 39.00(Ft.)
Slope along watercourse = 128.4591 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.70 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.08 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.20	2.50	30.50

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.20	7.00	85.40

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 7.000(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %
12.200 68.43 0.690
Total Area Entered = 12.20(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
68.4	49.1	0.581	0.690	0.220	1.000	0.220
						Sum (F) = 0.220

Area averaged mean soil loss (F) (In/Hr) = 0.220
 Minimum soil loss rate ((In/Hr)) = 0.110
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.348

 U n i t H y d r o g r a p h
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	185.037	40.693
2	0.167	370.074	44.424
3	0.250	555.112	9.431
4	0.333	740.149	3.809
5	0.417	925.186	1.643
		Sum = 100.000	Sum= 12.295

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max Low	Effective (In/Hr)	
1	0.08	0.07	(0.390)	0.007	0.013
2	0.17	0.07	(0.389)	0.007	0.013
3	0.25	0.07	(0.387)	0.007	0.013
4	0.33	0.10	(0.386)	0.010	0.020
5	0.42	0.10	(0.384)	0.010	0.020
6	0.50	0.10	(0.383)	0.010	0.020
7	0.58	0.10	(0.381)	0.010	0.020
8	0.67	0.10	(0.380)	0.010	0.020
9	0.75	0.10	(0.378)	0.010	0.020
10	0.83	0.13	(0.377)	0.014	0.026
11	0.92	0.13	(0.375)	0.014	0.026
12	1.00	0.13	(0.374)	0.014	0.026
13	1.08	0.10	(0.372)	0.010	0.020
14	1.17	0.10	(0.371)	0.010	0.020
15	1.25	0.10	(0.369)	0.010	0.020
16	1.33	0.10	(0.368)	0.010	0.020
17	1.42	0.10	(0.366)	0.010	0.020
18	1.50	0.10	(0.365)	0.010	0.020
19	1.58	0.10	(0.363)	0.010	0.020
20	1.67	0.10	(0.362)	0.010	0.020
21	1.75	0.10	(0.361)	0.010	0.020
22	1.83	0.13	(0.359)	0.014	0.026
23	1.92	0.13	(0.358)	0.014	0.026
24	2.00	0.13	(0.356)	0.014	0.026
25	2.08	0.13	(0.355)	0.014	0.026
26	2.17	0.13	(0.353)	0.014	0.026
27	2.25	0.13	(0.352)	0.014	0.026
28	2.33	0.13	(0.350)	0.014	0.026
29	2.42	0.13	(0.349)	0.014	0.026
30	2.50	0.13	(0.348)	0.014	0.026
31	2.58	0.17	(0.346)	0.017	0.033
32	2.67	0.17	(0.345)	0.017	0.033
33	2.75	0.17	(0.343)	0.017	0.033
34	2.83	0.17	(0.342)	0.017	0.033
35	2.92	0.17	(0.340)	0.017	0.033
36	3.00	0.17	(0.339)	0.017	0.033
37	3.08	0.17	(0.338)	0.017	0.033

38	3.17	0.17	0.050	(0.336)	0.017	0.033
39	3.25	0.17	0.050	(0.335)	0.017	0.033
40	3.33	0.17	0.050	(0.333)	0.017	0.033
41	3.42	0.17	0.050	(0.332)	0.017	0.033
42	3.50	0.17	0.050	(0.331)	0.017	0.033
43	3.58	0.17	0.050	(0.329)	0.017	0.033
44	3.67	0.17	0.050	(0.328)	0.017	0.033
45	3.75	0.17	0.050	(0.327)	0.017	0.033
46	3.83	0.20	0.060	(0.325)	0.021	0.039
47	3.92	0.20	0.060	(0.324)	0.021	0.039
48	4.00	0.20	0.060	(0.322)	0.021	0.039
49	4.08	0.20	0.060	(0.321)	0.021	0.039
50	4.17	0.20	0.060	(0.320)	0.021	0.039
51	4.25	0.20	0.060	(0.318)	0.021	0.039
52	4.33	0.23	0.070	(0.317)	0.024	0.046
53	4.42	0.23	0.070	(0.316)	0.024	0.046
54	4.50	0.23	0.070	(0.314)	0.024	0.046
55	4.58	0.23	0.070	(0.313)	0.024	0.046
56	4.67	0.23	0.070	(0.312)	0.024	0.046
57	4.75	0.23	0.070	(0.310)	0.024	0.046
58	4.83	0.27	0.080	(0.309)	0.028	0.052
59	4.92	0.27	0.080	(0.308)	0.028	0.052
60	5.00	0.27	0.080	(0.306)	0.028	0.052
61	5.08	0.20	0.060	(0.305)	0.021	0.039
62	5.17	0.20	0.060	(0.304)	0.021	0.039
63	5.25	0.20	0.060	(0.302)	0.021	0.039
64	5.33	0.23	0.070	(0.301)	0.024	0.046
65	5.42	0.23	0.070	(0.300)	0.024	0.046
66	5.50	0.23	0.070	(0.298)	0.024	0.046
67	5.58	0.27	0.080	(0.297)	0.028	0.052
68	5.67	0.27	0.080	(0.296)	0.028	0.052
69	5.75	0.27	0.080	(0.294)	0.028	0.052
70	5.83	0.27	0.080	(0.293)	0.028	0.052
71	5.92	0.27	0.080	(0.292)	0.028	0.052
72	6.00	0.27	0.080	(0.290)	0.028	0.052
73	6.08	0.30	0.090	(0.289)	0.031	0.059
74	6.17	0.30	0.090	(0.288)	0.031	0.059
75	6.25	0.30	0.090	(0.287)	0.031	0.059
76	6.33	0.30	0.090	(0.285)	0.031	0.059
77	6.42	0.30	0.090	(0.284)	0.031	0.059
78	6.50	0.30	0.090	(0.283)	0.031	0.059
79	6.58	0.33	0.100	(0.282)	0.035	0.065
80	6.67	0.33	0.100	(0.280)	0.035	0.065
81	6.75	0.33	0.100	(0.279)	0.035	0.065
82	6.83	0.33	0.100	(0.278)	0.035	0.065
83	6.92	0.33	0.100	(0.276)	0.035	0.065
84	7.00	0.33	0.100	(0.275)	0.035	0.065
85	7.08	0.33	0.100	(0.274)	0.035	0.065
86	7.17	0.33	0.100	(0.273)	0.035	0.065
87	7.25	0.33	0.100	(0.271)	0.035	0.065
88	7.33	0.37	0.110	(0.270)	0.038	0.072
89	7.42	0.37	0.110	(0.269)	0.038	0.072
90	7.50	0.37	0.110	(0.268)	0.038	0.072
91	7.58	0.40	0.120	(0.267)	0.042	0.078
92	7.67	0.40	0.120	(0.265)	0.042	0.078
93	7.75	0.40	0.120	(0.264)	0.042	0.078
94	7.83	0.43	0.130	(0.263)	0.045	0.085
95	7.92	0.43	0.130	(0.262)	0.045	0.085
96	8.00	0.43	0.130	(0.260)	0.045	0.085
97	8.08	0.50	0.150	(0.259)	0.052	0.098
98	8.17	0.50	0.150	(0.258)	0.052	0.098
99	8.25	0.50	0.150	(0.257)	0.052	0.098
100	8.33	0.50	0.150	(0.256)	0.052	0.098
101	8.42	0.50	0.150	(0.254)	0.052	0.098
102	8.50	0.50	0.150	(0.253)	0.052	0.098
103	8.58	0.53	0.160	(0.252)	0.056	0.104
104	8.67	0.53	0.160	(0.251)	0.056	0.104
105	8.75	0.53	0.160	(0.250)	0.056	0.104
106	8.83	0.57	0.170	(0.249)	0.059	0.111
107	8.92	0.57	0.170	(0.247)	0.059	0.111
108	9.00	0.57	0.170	(0.246)	0.059	0.111

109	9.08	0.63	0.190	(0.245)	0.066	0.124
110	9.17	0.63	0.190	(0.244)	0.066	0.124
111	9.25	0.63	0.190	(0.243)	0.066	0.124
112	9.33	0.67	0.200	(0.242)	0.070	0.130
113	9.42	0.67	0.200	(0.240)	0.070	0.130
114	9.50	0.67	0.200	(0.239)	0.070	0.130
115	9.58	0.70	0.210	(0.238)	0.073	0.137
116	9.67	0.70	0.210	(0.237)	0.073	0.137
117	9.75	0.70	0.210	(0.236)	0.073	0.137
118	9.83	0.73	0.220	(0.235)	0.077	0.143
119	9.92	0.73	0.220	(0.234)	0.077	0.143
120	10.00	0.73	0.220	(0.232)	0.077	0.143
121	10.08	0.50	0.150	(0.231)	0.052	0.098
122	10.17	0.50	0.150	(0.230)	0.052	0.098
123	10.25	0.50	0.150	(0.229)	0.052	0.098
124	10.33	0.50	0.150	(0.228)	0.052	0.098
125	10.42	0.50	0.150	(0.227)	0.052	0.098
126	10.50	0.50	0.150	(0.226)	0.052	0.098
127	10.58	0.67	0.200	(0.225)	0.070	0.130
128	10.67	0.67	0.200	(0.224)	0.070	0.130
129	10.75	0.67	0.200	(0.222)	0.070	0.130
130	10.83	0.67	0.200	(0.221)	0.070	0.130
131	10.92	0.67	0.200	(0.220)	0.070	0.130
132	11.00	0.67	0.200	(0.219)	0.070	0.130
133	11.08	0.63	0.190	(0.218)	0.066	0.124
134	11.17	0.63	0.190	(0.217)	0.066	0.124
135	11.25	0.63	0.190	(0.216)	0.066	0.124
136	11.33	0.63	0.190	(0.215)	0.066	0.124
137	11.42	0.63	0.190	(0.214)	0.066	0.124
138	11.50	0.63	0.190	(0.213)	0.066	0.124
139	11.58	0.57	0.170	(0.212)	0.059	0.111
140	11.67	0.57	0.170	(0.211)	0.059	0.111
141	11.75	0.57	0.170	(0.210)	0.059	0.111
142	11.83	0.60	0.180	(0.209)	0.063	0.117
143	11.92	0.60	0.180	(0.208)	0.063	0.117
144	12.00	0.60	0.180	(0.206)	0.063	0.117
145	12.08	0.83	0.250	(0.205)	0.087	0.163
146	12.17	0.83	0.250	(0.204)	0.087	0.163
147	12.25	0.83	0.250	(0.203)	0.087	0.163
148	12.33	0.87	0.260	(0.202)	0.090	0.170
149	12.42	0.87	0.260	(0.201)	0.090	0.170
150	12.50	0.87	0.260	(0.200)	0.090	0.170
151	12.58	0.93	0.280	(0.199)	0.097	0.183
152	12.67	0.93	0.280	(0.198)	0.097	0.183
153	12.75	0.93	0.280	(0.197)	0.097	0.183
154	12.83	0.97	0.290	(0.196)	0.101	0.189
155	12.92	0.97	0.290	(0.195)	0.101	0.189
156	13.00	0.97	0.290	(0.194)	0.101	0.189
157	13.08	1.13	0.340	(0.193)	0.118	0.222
158	13.17	1.13	0.340	(0.192)	0.118	0.222
159	13.25	1.13	0.340	(0.191)	0.118	0.222
160	13.33	1.13	0.340	(0.190)	0.118	0.222
161	13.42	1.13	0.340	(0.189)	0.118	0.222
162	13.50	1.13	0.340	(0.188)	0.118	0.222
163	13.58	0.77	0.230	(0.188)	0.080	0.150
164	13.67	0.77	0.230	(0.187)	0.080	0.150
165	13.75	0.77	0.230	(0.186)	0.080	0.150
166	13.83	0.77	0.230	(0.185)	0.080	0.150
167	13.92	0.77	0.230	(0.184)	0.080	0.150
168	14.00	0.77	0.230	(0.183)	0.080	0.150
169	14.08	0.90	0.270	(0.182)	0.094	0.176
170	14.17	0.90	0.270	(0.181)	0.094	0.176
171	14.25	0.90	0.270	(0.180)	0.094	0.176
172	14.33	0.87	0.260	(0.179)	0.090	0.170
173	14.42	0.87	0.260	(0.178)	0.090	0.170
174	14.50	0.87	0.260	(0.177)	0.090	0.170
175	14.58	0.87	0.260	(0.176)	0.090	0.170
176	14.67	0.87	0.260	(0.175)	0.090	0.170
177	14.75	0.87	0.260	(0.175)	0.090	0.170
178	14.83	0.83	0.250	(0.174)	0.087	0.163
179	14.92	0.83	0.250	(0.173)	0.087	0.163

180	15.00	0.83	0.250	(0.172)	0.087	0.163
181	15.08	0.80	0.240	(0.171)	0.084	0.156
182	15.17	0.80	0.240	(0.170)	0.084	0.156
183	15.25	0.80	0.240	(0.169)	0.084	0.156
184	15.33	0.77	0.230	(0.168)	0.080	0.150
185	15.42	0.77	0.230	(0.168)	0.080	0.150
186	15.50	0.77	0.230	(0.167)	0.080	0.150
187	15.58	0.63	0.190	(0.166)	0.066	0.124
188	15.67	0.63	0.190	(0.165)	0.066	0.124
189	15.75	0.63	0.190	(0.164)	0.066	0.124
190	15.83	0.63	0.190	(0.163)	0.066	0.124
191	15.92	0.63	0.190	(0.162)	0.066	0.124
192	16.00	0.63	0.190	(0.162)	0.066	0.124
193	16.08	0.13	0.040	(0.161)	0.014	0.026
194	16.17	0.13	0.040	(0.160)	0.014	0.026
195	16.25	0.13	0.040	(0.159)	0.014	0.026
196	16.33	0.13	0.040	(0.158)	0.014	0.026
197	16.42	0.13	0.040	(0.158)	0.014	0.026
198	16.50	0.13	0.040	(0.157)	0.014	0.026
199	16.58	0.10	0.030	(0.156)	0.010	0.020
200	16.67	0.10	0.030	(0.155)	0.010	0.020
201	16.75	0.10	0.030	(0.154)	0.010	0.020
202	16.83	0.10	0.030	(0.154)	0.010	0.020
203	16.92	0.10	0.030	(0.153)	0.010	0.020
204	17.00	0.10	0.030	(0.152)	0.010	0.020
205	17.08	0.17	0.050	(0.151)	0.017	0.033
206	17.17	0.17	0.050	(0.150)	0.017	0.033
207	17.25	0.17	0.050	(0.150)	0.017	0.033
208	17.33	0.17	0.050	(0.149)	0.017	0.033
209	17.42	0.17	0.050	(0.148)	0.017	0.033
210	17.50	0.17	0.050	(0.147)	0.017	0.033
211	17.58	0.17	0.050	(0.147)	0.017	0.033
212	17.67	0.17	0.050	(0.146)	0.017	0.033
213	17.75	0.17	0.050	(0.145)	0.017	0.033
214	17.83	0.13	0.040	(0.145)	0.014	0.026
215	17.92	0.13	0.040	(0.144)	0.014	0.026
216	18.00	0.13	0.040	(0.143)	0.014	0.026
217	18.08	0.13	0.040	(0.142)	0.014	0.026
218	18.17	0.13	0.040	(0.142)	0.014	0.026
219	18.25	0.13	0.040	(0.141)	0.014	0.026
220	18.33	0.13	0.040	(0.140)	0.014	0.026
221	18.42	0.13	0.040	(0.140)	0.014	0.026
222	18.50	0.13	0.040	(0.139)	0.014	0.026
223	18.58	0.10	0.030	(0.138)	0.010	0.020
224	18.67	0.10	0.030	(0.138)	0.010	0.020
225	18.75	0.10	0.030	(0.137)	0.010	0.020
226	18.83	0.07	0.020	(0.136)	0.007	0.013
227	18.92	0.07	0.020	(0.136)	0.007	0.013
228	19.00	0.07	0.020	(0.135)	0.007	0.013
229	19.08	0.10	0.030	(0.134)	0.010	0.020
230	19.17	0.10	0.030	(0.134)	0.010	0.020
231	19.25	0.10	0.030	(0.133)	0.010	0.020
232	19.33	0.13	0.040	(0.133)	0.014	0.026
233	19.42	0.13	0.040	(0.132)	0.014	0.026
234	19.50	0.13	0.040	(0.131)	0.014	0.026
235	19.58	0.10	0.030	(0.131)	0.010	0.020
236	19.67	0.10	0.030	(0.130)	0.010	0.020
237	19.75	0.10	0.030	(0.130)	0.010	0.020
238	19.83	0.07	0.020	(0.129)	0.007	0.013
239	19.92	0.07	0.020	(0.128)	0.007	0.013
240	20.00	0.07	0.020	(0.128)	0.007	0.013
241	20.08	0.10	0.030	(0.127)	0.010	0.020
242	20.17	0.10	0.030	(0.127)	0.010	0.020
243	20.25	0.10	0.030	(0.126)	0.010	0.020
244	20.33	0.10	0.030	(0.126)	0.010	0.020
245	20.42	0.10	0.030	(0.125)	0.010	0.020
246	20.50	0.10	0.030	(0.125)	0.010	0.020
247	20.58	0.10	0.030	(0.124)	0.010	0.020
248	20.67	0.10	0.030	(0.123)	0.010	0.020
249	20.75	0.10	0.030	(0.123)	0.010	0.020
250	20.83	0.07	0.020	(0.122)	0.007	0.013

1+ 5	0.0201	0.29	VQ				
1+10	0.0218	0.25	VQ				
1+15	0.0235	0.24	Q				
1+20	0.0252	0.24	Q				
1+25	0.0268	0.24	Q				
1+30	0.0285	0.24	Q				
1+35	0.0301	0.24	Q				
1+40	0.0318	0.24	Q				
1+45	0.0335	0.24	Q				
1+50	0.0353	0.27	VQ				
1+55	0.0375	0.31	VQ				
2+ 0	0.0396	0.32	VQ				
2+ 5	0.0418	0.32	Q				
2+10	0.0441	0.32	Q				
2+15	0.0463	0.32	Q				
2+20	0.0485	0.32	Q				
2+25	0.0507	0.32	Q				
2+30	0.0529	0.32	Q				
2+35	0.0553	0.35	Q				
2+40	0.0580	0.39	Q				
2+45	0.0607	0.40	Q				
2+50	0.0635	0.40	Q				
2+55	0.0662	0.40	Q				
3+ 0	0.0690	0.40	Q				
3+ 5	0.0718	0.40	Q				
3+10	0.0745	0.40	Q				
3+15	0.0773	0.40	Q				
3+20	0.0801	0.40	Q				
3+25	0.0828	0.40	Q				
3+30	0.0856	0.40	QV				
3+35	0.0883	0.40	QV				
3+40	0.0911	0.40	QV				
3+45	0.0939	0.40	QV				
3+50	0.0969	0.43	QV				
3+55	0.1001	0.47	QV				
4+ 0	0.1034	0.48	QV				
4+ 5	0.1067	0.48	QV				
4+10	0.1100	0.48	QV				
4+15	0.1133	0.48	QV				
4+20	0.1168	0.51	Q				
4+25	0.1206	0.55	Q				
4+30	0.1245	0.56	QV				
4+35	0.1283	0.56	QV				
4+40	0.1322	0.56	QV				
4+45	0.1361	0.56	QV				
4+50	0.1401	0.59	QV				
4+55	0.1445	0.63	QV				
5+ 0	0.1489	0.64	QV				
5+ 5	0.1528	0.58	QV				
5+10	0.1563	0.51	QV				
5+15	0.1597	0.49	Q V				
5+20	0.1632	0.52	QV				
5+25	0.1670	0.55	Q V				
5+30	0.1709	0.56	Q V				
5+35	0.1749	0.59	Q V				
5+40	0.1793	0.63	Q V				
5+45	0.1837	0.64	Q V				
5+50	0.1881	0.64	Q V				
5+55	0.1925	0.64	Q V				
6+ 0	0.1969	0.64	Q V				
6+ 5	0.2016	0.67	Q V				
6+10	0.2065	0.71	Q V				
6+15	0.2114	0.72	Q V				
6+20	0.2164	0.72	Q V				
6+25	0.2213	0.72	Q V				
6+30	0.2263	0.72	Q V				
6+35	0.2315	0.75	Q V				
6+40	0.2369	0.79	Q V				
6+45	0.2424	0.80	Q V				
6+50	0.2479	0.80	Q V				
6+55	0.2535	0.80	Q V				

7+ 0	0.2590	0.80	Q	V				
7+ 5	0.2645	0.80	Q	V				
7+10	0.2700	0.80	Q	V				
7+15	0.2756	0.80	Q	V				
7+20	0.2813	0.83	Q	V				
7+25	0.2873	0.87	Q	V				
7+30	0.2934	0.88	Q	V				
7+35	0.2996	0.91	Q	V				
7+40	0.3062	0.95	Q	V				
7+45	0.3128	0.96	Q	V				
7+50	0.3196	0.99	Q	V				
7+55	0.3267	1.03	Q	V				
8+ 0	0.3339	1.04	Q	V				
8+ 5	0.3415	1.11	Q	V				
8+10	0.3496	1.18	Q	V				
8+15	0.3579	1.19	Q	V				
8+20	0.3661	1.20	Q	V				
8+25	0.3744	1.20	Q	V				
8+30	0.3827	1.20	Q	V				
8+35	0.3912	1.24	Q	V				
8+40	0.4000	1.27	Q	V				
8+45	0.4088	1.28	Q	V				
8+50	0.4178	1.31	Q	V				
8+55	0.4271	1.35	Q	V				
9+ 0	0.4365	1.36	Q	V				
9+ 5	0.4463	1.43	Q	V				
9+10	0.4566	1.50	Q	V				
9+15	0.4671	1.52	Q	V				
9+20	0.4778	1.55	Q	V				
9+25	0.4887	1.59	Q	V				
9+30	0.4998	1.60	Q	V				
9+35	0.5110	1.64	Q	V				
9+40	0.5225	1.67	Q	V				
9+45	0.5341	1.68	Q	V				
9+50	0.5459	1.72	Q	V				
9+55	0.5580	1.75	Q	V				
10+ 0	0.5701	1.76	Q	V				
10+ 5	0.5807	1.53	Q	V				
10+10	0.5896	1.29	Q	V				
10+15	0.5981	1.23	Q	V				
10+20	0.6064	1.21	Q	V				
10+25	0.6147	1.20	Q	V				
10+30	0.6230	1.20	Q	V				
10+35	0.6324	1.37	Q	V				
10+40	0.6430	1.54	Q	V				
10+45	0.6539	1.58	Q	V				
10+50	0.6649	1.60	Q	V				
10+55	0.6760	1.60	Q	V				
11+ 0	0.6870	1.60	Q	V				
11+ 5	0.6978	1.57	Q	V				
11+10	0.7084	1.54	Q	V				
11+15	0.7189	1.53	Q	V				
11+20	0.7294	1.53	Q	V				
11+25	0.7399	1.52	Q	V				
11+30	0.7504	1.52	Q	V				
11+35	0.7605	1.46	Q	V				
11+40	0.7700	1.39	Q	V				
11+45	0.7795	1.37	Q	V				
11+50	0.7891	1.40	Q	V				
11+55	0.7990	1.43	Q	V				
12+ 0	0.8089	1.44	Q	V				
12+ 5	0.8204	1.67	Q	V				
12+10	0.8336	1.92	Q	V				
12+15	0.8472	1.97	Q	V				
12+20	0.8612	2.03	Q	V				
12+25	0.8755	2.07	Q	V				
12+30	0.8898	2.08	Q	V				
12+35	0.9046	2.15	Q	V				
12+40	0.9199	2.22	Q	V				
12+45	0.9353	2.24	Q	V				
12+50	0.9510	2.28	Q	V				

12+55	0.9669	2.31		Q		V	
13+ 0	0.9829	2.32		Q		V	
13+ 5	1.0001	2.49		Q		V	
13+10	1.0184	2.67		Q		V	
13+15	1.0371	2.71		Q		V	
13+20	1.0558	2.72		Q		V	
13+25	1.0746	2.73		Q		V	
13+30	1.0934	2.73		Q		V	
13+35	1.1097	2.37		Q		V	
13+40	1.1233	1.98		Q		V	
13+45	1.1363	1.89		Q		V	
13+50	1.1491	1.86		Q		V	
13+55	1.1618	1.84		Q		V	
14+ 0	1.1745	1.84		Q		V	
14+ 5	1.1881	1.98		Q		V	
14+10	1.2027	2.12		Q		V	
14+15	1.2175	2.15		Q		V	
14+20	1.2322	2.13		Q		V	
14+25	1.2466	2.10		Q		V	
14+30	1.2610	2.09		Q		V	
14+35	1.2754	2.09		Q		V	
14+40	1.2897	2.09		Q		V	
14+45	1.3041	2.09		Q		V	
14+50	1.3182	2.05		Q		V	
14+55	1.3321	2.02		Q		V	
15+ 0	1.3460	2.01		Q		V	
15+ 5	1.3595	1.97		Q		V	
15+10	1.3729	1.94		Q		V	
15+15	1.3862	1.93		Q		V	
15+20	1.3992	1.89		Q		V	
15+25	1.4120	1.86		Q		V	
15+30	1.4247	1.85		Q		V	
15+35	1.4366	1.72		Q		V	
15+40	1.4474	1.57		Q		V	
15+45	1.4580	1.54		Q		V	
15+50	1.4685	1.53		Q		V	
15+55	1.4790	1.52		Q		V	
16+ 0	1.4895	1.52		Q		V	
16+ 5	1.4966	1.03	Q			V	
16+10	1.5001	0.50	Q			V	
16+15	1.5027	0.39	Q			V	
16+20	1.5051	0.34	Q			V	
16+25	1.5073	0.32	Q			V	
16+30	1.5095	0.32	Q			V	
16+35	1.5115	0.29	Q			V	
16+40	1.5132	0.25	Q			V	
16+45	1.5149	0.24	Q			V	
16+50	1.5166	0.24	Q			V	
16+55	1.5182	0.24	Q			V	
17+ 0	1.5199	0.24	Q			V	
17+ 5	1.5220	0.31	Q			V	
17+10	1.5246	0.38	Q			V	
17+15	1.5273	0.39	Q			V	
17+20	1.5300	0.40	Q			V	
17+25	1.5328	0.40	Q			V	
17+30	1.5356	0.40	Q			V	
17+35	1.5383	0.40	Q			V	
17+40	1.5411	0.40	Q			V	
17+45	1.5439	0.40	Q			V	
17+50	1.5464	0.37	Q			V	
17+55	1.5487	0.33	Q			V	
18+ 0	1.5509	0.33	Q			V	
18+ 5	1.5531	0.32	Q			V	
18+10	1.5554	0.32	Q			V	
18+15	1.5576	0.32	Q			V	
18+20	1.5598	0.32	Q			V	
18+25	1.5620	0.32	Q			V	
18+30	1.5642	0.32	Q			V	
18+35	1.5662	0.29	Q			V	
18+40	1.5679	0.25	Q			V	
18+45	1.5696	0.24	Q			V	

18+50	1.5710	0.21	Q				V
18+55	1.5722	0.17	Q				V
19+ 0	1.5734	0.16	Q				V
19+ 5	1.5747	0.19	Q				V
19+10	1.5763	0.23	Q				V
19+15	1.5779	0.24	Q				V
19+20	1.5798	0.27	Q				V
19+25	1.5819	0.31	Q				V
19+30	1.5841	0.32	Q				V
19+35	1.5861	0.29	Q				V
19+40	1.5878	0.25	Q				V
19+45	1.5895	0.24	Q				V
19+50	1.5909	0.21	Q				V
19+55	1.5921	0.17	Q				V
20+ 0	1.5932	0.16	Q				V
20+ 5	1.5946	0.19	Q				V
20+10	1.5962	0.23	Q				V
20+15	1.5978	0.24	Q				V
20+20	1.5994	0.24	Q				V
20+25	1.6011	0.24	Q				V
20+30	1.6028	0.24	Q				V
20+35	1.6044	0.24	Q				V
20+40	1.6061	0.24	Q				V
20+45	1.6077	0.24	Q				V
20+50	1.6092	0.21	Q				V
20+55	1.6103	0.17	Q				V
21+ 0	1.6115	0.16	Q				V
21+ 5	1.6128	0.19	Q				V
21+10	1.6144	0.23	Q				V
21+15	1.6160	0.24	Q				V
21+20	1.6174	0.21	Q				V
21+25	1.6186	0.17	Q				V
21+30	1.6198	0.16	Q				V
21+35	1.6211	0.19	Q				V
21+40	1.6227	0.23	Q				V
21+45	1.6243	0.24	Q				V
21+50	1.6257	0.21	Q				V
21+55	1.6269	0.17	Q				V
22+ 0	1.6280	0.16	Q				V
22+ 5	1.6294	0.19	Q				V
22+10	1.6310	0.23	Q				V
22+15	1.6326	0.24	Q				V
22+20	1.6340	0.21	Q				V
22+25	1.6352	0.17	Q				V
22+30	1.6363	0.16	Q				V
22+35	1.6374	0.16	Q				V
22+40	1.6386	0.16	Q				V
22+45	1.6397	0.16	Q				V
22+50	1.6408	0.16	Q				V
22+55	1.6419	0.16	Q				V
23+ 0	1.6430	0.16	Q				V
23+ 5	1.6441	0.16	Q				V
23+10	1.6452	0.16	Q				V
23+15	1.6463	0.16	Q				V
23+20	1.6474	0.16	Q				V
23+25	1.6485	0.16	Q				V
23+30	1.6496	0.16	Q				V
23+35	1.6507	0.16	Q				V
23+40	1.6518	0.16	Q				V
23+45	1.6529	0.16	Q				V
23+50	1.6540	0.16	Q				V
23+55	1.6551	0.16	Q				V
24+ 0	1.6562	0.16	Q				V
24+ 5	1.6569	0.10	Q				V
24+10	1.6570	0.02	Q				V
24+15	1.6571	0.01	Q				V
24+20	1.6571	0.00	Q				V

Area A, 10-Year, 24-Hour

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
Study date 03/21/14 File: ARA2410.out

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6269

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

PRIELIPP ROAD POST-PROJECT CONDITION HYDROLOGY
UNIT HYDROGRAPH ANALYSIS, 10-YEAR, 24-HOUR STORM DURATION
FILENAME: ARA

Drainage Area = 12.20(Ac.) = 0.019 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 12.20(Ac.) = 0.019 Sq. Mi.
Length along longest watercourse = 1603.00(Ft.)
Length along longest watercourse measured to centroid = 830.00(Ft.)
Length along longest watercourse = 0.304 Mi.
Length along longest watercourse measured to centroid = 0.157 Mi.
Difference in elevation = 39.00(Ft.)
Slope along watercourse = 128.4591 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.045 Hr.
Lag time = 2.70 Min.
25% of lag time = 0.68 Min.
40% of lag time = 1.08 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.20	2.50	30.50

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
12.20	7.00	85.40

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 7.000(In)

Point rain (area averaged) = 4.351(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.351(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %
12.200 68.43 0.690
Total Area Entered = 12.20(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
68.4	68.4	0.379	0.690	0.144	1.000	0.144
						Sum (F) = 0.144

Area averaged mean soil loss (F) (In/Hr) = 0.144
 Minimum soil loss rate ((In/Hr)) = 0.072
 (for 24 hour storm duration)
 Soil low loss rate (decimal) = 0.348

 U n i t H y d r o g r a p h
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	185.037	40.693
2	0.167	370.074	44.424
3	0.250	555.112	9.431
4	0.333	740.149	3.809
5	0.417	925.186	1.643
		Sum = 100.000	Sum= 12.295

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
			Max	Low	
1	0.08	0.07	(0.255)	0.012	0.023
2	0.17	0.07	(0.254)	0.012	0.023
3	0.25	0.07	(0.253)	0.012	0.023
4	0.33	0.10	(0.252)	0.018	0.034
5	0.42	0.10	(0.251)	0.018	0.034
6	0.50	0.10	(0.250)	0.018	0.034
7	0.58	0.10	(0.249)	0.018	0.034
8	0.67	0.10	(0.248)	0.018	0.034
9	0.75	0.10	(0.247)	0.018	0.034
10	0.83	0.13	(0.246)	0.024	0.045
11	0.92	0.13	(0.245)	0.024	0.045
12	1.00	0.13	(0.244)	0.024	0.045
13	1.08	0.10	(0.243)	0.018	0.034
14	1.17	0.10	(0.242)	0.018	0.034
15	1.25	0.10	(0.241)	0.018	0.034
16	1.33	0.10	(0.240)	0.018	0.034
17	1.42	0.10	(0.239)	0.018	0.034
18	1.50	0.10	(0.238)	0.018	0.034
19	1.58	0.10	(0.237)	0.018	0.034
20	1.67	0.10	(0.236)	0.018	0.034
21	1.75	0.10	(0.235)	0.018	0.034
22	1.83	0.13	(0.234)	0.024	0.045
23	1.92	0.13	(0.233)	0.024	0.045
24	2.00	0.13	(0.232)	0.024	0.045
25	2.08	0.13	(0.232)	0.024	0.045
26	2.17	0.13	(0.231)	0.024	0.045
27	2.25	0.13	(0.230)	0.024	0.045
28	2.33	0.13	(0.229)	0.024	0.045
29	2.42	0.13	(0.228)	0.024	0.045
30	2.50	0.13	(0.227)	0.024	0.045
31	2.58	0.17	(0.226)	0.030	0.057
32	2.67	0.17	(0.225)	0.030	0.057
33	2.75	0.17	(0.224)	0.030	0.057
34	2.83	0.17	(0.223)	0.030	0.057
35	2.92	0.17	(0.222)	0.030	0.057
36	3.00	0.17	(0.221)	0.030	0.057
37	3.08	0.17	(0.220)	0.030	0.057

38	3.17	0.17	0.087	(0.219)	0.030	0.057
39	3.25	0.17	0.087	(0.219)	0.030	0.057
40	3.33	0.17	0.087	(0.218)	0.030	0.057
41	3.42	0.17	0.087	(0.217)	0.030	0.057
42	3.50	0.17	0.087	(0.216)	0.030	0.057
43	3.58	0.17	0.087	(0.215)	0.030	0.057
44	3.67	0.17	0.087	(0.214)	0.030	0.057
45	3.75	0.17	0.087	(0.213)	0.030	0.057
46	3.83	0.20	0.104	(0.212)	0.036	0.068
47	3.92	0.20	0.104	(0.211)	0.036	0.068
48	4.00	0.20	0.104	(0.210)	0.036	0.068
49	4.08	0.20	0.104	(0.210)	0.036	0.068
50	4.17	0.20	0.104	(0.209)	0.036	0.068
51	4.25	0.20	0.104	(0.208)	0.036	0.068
52	4.33	0.23	0.122	(0.207)	0.042	0.079
53	4.42	0.23	0.122	(0.206)	0.042	0.079
54	4.50	0.23	0.122	(0.205)	0.042	0.079
55	4.58	0.23	0.122	(0.204)	0.042	0.079
56	4.67	0.23	0.122	(0.203)	0.042	0.079
57	4.75	0.23	0.122	(0.202)	0.042	0.079
58	4.83	0.27	0.139	(0.202)	0.048	0.091
59	4.92	0.27	0.139	(0.201)	0.048	0.091
60	5.00	0.27	0.139	(0.200)	0.048	0.091
61	5.08	0.20	0.104	(0.199)	0.036	0.068
62	5.17	0.20	0.104	(0.198)	0.036	0.068
63	5.25	0.20	0.104	(0.197)	0.036	0.068
64	5.33	0.23	0.122	(0.196)	0.042	0.079
65	5.42	0.23	0.122	(0.196)	0.042	0.079
66	5.50	0.23	0.122	(0.195)	0.042	0.079
67	5.58	0.27	0.139	(0.194)	0.048	0.091
68	5.67	0.27	0.139	(0.193)	0.048	0.091
69	5.75	0.27	0.139	(0.192)	0.048	0.091
70	5.83	0.27	0.139	(0.191)	0.048	0.091
71	5.92	0.27	0.139	(0.190)	0.048	0.091
72	6.00	0.27	0.139	(0.190)	0.048	0.091
73	6.08	0.30	0.157	(0.189)	0.055	0.102
74	6.17	0.30	0.157	(0.188)	0.055	0.102
75	6.25	0.30	0.157	(0.187)	0.055	0.102
76	6.33	0.30	0.157	(0.186)	0.055	0.102
77	6.42	0.30	0.157	(0.185)	0.055	0.102
78	6.50	0.30	0.157	(0.185)	0.055	0.102
79	6.58	0.33	0.174	(0.184)	0.061	0.113
80	6.67	0.33	0.174	(0.183)	0.061	0.113
81	6.75	0.33	0.174	(0.182)	0.061	0.113
82	6.83	0.33	0.174	(0.181)	0.061	0.113
83	6.92	0.33	0.174	(0.180)	0.061	0.113
84	7.00	0.33	0.174	(0.180)	0.061	0.113
85	7.08	0.33	0.174	(0.179)	0.061	0.113
86	7.17	0.33	0.174	(0.178)	0.061	0.113
87	7.25	0.33	0.174	(0.177)	0.061	0.113
88	7.33	0.37	0.191	(0.176)	0.067	0.125
89	7.42	0.37	0.191	(0.176)	0.067	0.125
90	7.50	0.37	0.191	(0.175)	0.067	0.125
91	7.58	0.40	0.209	(0.174)	0.073	0.136
92	7.67	0.40	0.209	(0.173)	0.073	0.136
93	7.75	0.40	0.209	(0.172)	0.073	0.136
94	7.83	0.43	0.226	(0.172)	0.079	0.148
95	7.92	0.43	0.226	(0.171)	0.079	0.148
96	8.00	0.43	0.226	(0.170)	0.079	0.148
97	8.08	0.50	0.261	(0.169)	0.091	0.170
98	8.17	0.50	0.261	(0.168)	0.091	0.170
99	8.25	0.50	0.261	(0.168)	0.091	0.170
100	8.33	0.50	0.261	(0.167)	0.091	0.170
101	8.42	0.50	0.261	(0.166)	0.091	0.170
102	8.50	0.50	0.261	(0.165)	0.091	0.170
103	8.58	0.53	0.278	(0.164)	0.097	0.182
104	8.67	0.53	0.278	(0.164)	0.097	0.182
105	8.75	0.53	0.278	(0.163)	0.097	0.182
106	8.83	0.57	0.296	(0.162)	0.103	0.193
107	8.92	0.57	0.296	(0.161)	0.103	0.193
108	9.00	0.57	0.296	(0.161)	0.103	0.193

109	9.08	0.63	0.331	(0.160)	0.115	0.216
110	9.17	0.63	0.331	(0.159)	0.115	0.216
111	9.25	0.63	0.331	(0.158)	0.115	0.216
112	9.33	0.67	0.348	(0.158)	0.121	0.227
113	9.42	0.67	0.348	(0.157)	0.121	0.227
114	9.50	0.67	0.348	(0.156)	0.121	0.227
115	9.58	0.70	0.366	(0.155)	0.127	0.238
116	9.67	0.70	0.366	(0.155)	0.127	0.238
117	9.75	0.70	0.366	(0.154)	0.127	0.238
118	9.83	0.73	0.383	(0.153)	0.133	0.250
119	9.92	0.73	0.383	(0.152)	0.133	0.250
120	10.00	0.73	0.383	(0.152)	0.133	0.250
121	10.08	0.50	0.261	(0.151)	0.091	0.170
122	10.17	0.50	0.261	(0.150)	0.091	0.170
123	10.25	0.50	0.261	(0.149)	0.091	0.170
124	10.33	0.50	0.261	(0.149)	0.091	0.170
125	10.42	0.50	0.261	(0.148)	0.091	0.170
126	10.50	0.50	0.261	(0.147)	0.091	0.170
127	10.58	0.67	0.348	(0.147)	0.121	0.227
128	10.67	0.67	0.348	(0.146)	0.121	0.227
129	10.75	0.67	0.348	(0.145)	0.121	0.227
130	10.83	0.67	0.348	(0.144)	0.121	0.227
131	10.92	0.67	0.348	(0.144)	0.121	0.227
132	11.00	0.67	0.348	(0.143)	0.121	0.227
133	11.08	0.63	0.331	(0.142)	0.115	0.216
134	11.17	0.63	0.331	(0.142)	0.115	0.216
135	11.25	0.63	0.331	(0.141)	0.115	0.216
136	11.33	0.63	0.331	(0.140)	0.115	0.216
137	11.42	0.63	0.331	(0.140)	0.115	0.216
138	11.50	0.63	0.331	(0.139)	0.115	0.216
139	11.58	0.57	0.296	(0.138)	0.103	0.193
140	11.67	0.57	0.296	(0.137)	0.103	0.193
141	11.75	0.57	0.296	(0.137)	0.103	0.193
142	11.83	0.60	0.313	(0.136)	0.109	0.204
143	11.92	0.60	0.313	(0.135)	0.109	0.204
144	12.00	0.60	0.313	(0.135)	0.109	0.204
145	12.08	0.83	0.435	0.134 (0.151)	0.301	0.301
146	12.17	0.83	0.435	0.133 (0.151)	0.302	0.302
147	12.25	0.83	0.435	0.133 (0.151)	0.302	0.302
148	12.33	0.87	0.453	0.132 (0.157)	0.320	0.320
149	12.42	0.87	0.453	0.131 (0.157)	0.321	0.321
150	12.50	0.87	0.453	0.131 (0.157)	0.322	0.322
151	12.58	0.93	0.487	0.130 (0.170)	0.357	0.357
152	12.67	0.93	0.487	0.129 (0.170)	0.358	0.358
153	12.75	0.93	0.487	0.129 (0.170)	0.359	0.359
154	12.83	0.97	0.505	0.128 (0.176)	0.377	0.377
155	12.92	0.97	0.505	0.127 (0.176)	0.377	0.377
156	13.00	0.97	0.505	0.127 (0.176)	0.378	0.378
157	13.08	1.13	0.592	0.126 (0.206)	0.466	0.466
158	13.17	1.13	0.592	0.126 (0.206)	0.466	0.466
159	13.25	1.13	0.592	0.125 (0.206)	0.467	0.467
160	13.33	1.13	0.592	0.124 (0.206)	0.467	0.467
161	13.42	1.13	0.592	0.124 (0.206)	0.468	0.468
162	13.50	1.13	0.592	0.123 (0.206)	0.469	0.469
163	13.58	0.77	0.400	0.122 (0.139)	0.278	0.278
164	13.67	0.77	0.400	0.122 (0.139)	0.279	0.279
165	13.75	0.77	0.400	0.121 (0.139)	0.279	0.279
166	13.83	0.77	0.400	0.121 (0.139)	0.280	0.280
167	13.92	0.77	0.400	0.120 (0.139)	0.280	0.280
168	14.00	0.77	0.400	0.119 (0.139)	0.281	0.281
169	14.08	0.90	0.470	0.119 (0.164)	0.351	0.351
170	14.17	0.90	0.470	0.118 (0.164)	0.352	0.352
171	14.25	0.90	0.470	0.117 (0.164)	0.352	0.352
172	14.33	0.87	0.453	0.117 (0.157)	0.336	0.336
173	14.42	0.87	0.453	0.116 (0.157)	0.336	0.336
174	14.50	0.87	0.453	0.116 (0.157)	0.337	0.337
175	14.58	0.87	0.453	0.115 (0.157)	0.337	0.337
176	14.67	0.87	0.453	0.115 (0.157)	0.338	0.338
177	14.75	0.87	0.453	0.114 (0.157)	0.339	0.339
178	14.83	0.83	0.435	0.113 (0.151)	0.322	0.322
179	14.92	0.83	0.435	0.113 (0.151)	0.322	0.322

180	15.00	0.83	0.435	0.112	(0.151)	0.323
181	15.08	0.80	0.418	0.112	(0.145)	0.306
182	15.17	0.80	0.418	0.111	(0.145)	0.307
183	15.25	0.80	0.418	0.110	(0.145)	0.307
184	15.33	0.77	0.400	0.110	(0.139)	0.290
185	15.42	0.77	0.400	0.109	(0.139)	0.291
186	15.50	0.77	0.400	0.109	(0.139)	0.292
187	15.58	0.63	0.331	0.108	(0.115)	0.222
188	15.67	0.63	0.331	0.108	(0.115)	0.223
189	15.75	0.63	0.331	0.107	(0.115)	0.224
190	15.83	0.63	0.331	0.107	(0.115)	0.224
191	15.92	0.63	0.331	0.106	(0.115)	0.225
192	16.00	0.63	0.331	0.105	(0.115)	0.225
193	16.08	0.13	0.070	(0.105)	0.024	0.045
194	16.17	0.13	0.070	(0.104)	0.024	0.045
195	16.25	0.13	0.070	(0.104)	0.024	0.045
196	16.33	0.13	0.070	(0.103)	0.024	0.045
197	16.42	0.13	0.070	(0.103)	0.024	0.045
198	16.50	0.13	0.070	(0.102)	0.024	0.045
199	16.58	0.10	0.052	(0.102)	0.018	0.034
200	16.67	0.10	0.052	(0.101)	0.018	0.034
201	16.75	0.10	0.052	(0.101)	0.018	0.034
202	16.83	0.10	0.052	(0.100)	0.018	0.034
203	16.92	0.10	0.052	(0.100)	0.018	0.034
204	17.00	0.10	0.052	(0.099)	0.018	0.034
205	17.08	0.17	0.087	(0.099)	0.030	0.057
206	17.17	0.17	0.087	(0.098)	0.030	0.057
207	17.25	0.17	0.087	(0.098)	0.030	0.057
208	17.33	0.17	0.087	(0.097)	0.030	0.057
209	17.42	0.17	0.087	(0.097)	0.030	0.057
210	17.50	0.17	0.087	(0.096)	0.030	0.057
211	17.58	0.17	0.087	(0.096)	0.030	0.057
212	17.67	0.17	0.087	(0.095)	0.030	0.057
213	17.75	0.17	0.087	(0.095)	0.030	0.057
214	17.83	0.13	0.070	(0.094)	0.024	0.045
215	17.92	0.13	0.070	(0.094)	0.024	0.045
216	18.00	0.13	0.070	(0.093)	0.024	0.045
217	18.08	0.13	0.070	(0.093)	0.024	0.045
218	18.17	0.13	0.070	(0.093)	0.024	0.045
219	18.25	0.13	0.070	(0.092)	0.024	0.045
220	18.33	0.13	0.070	(0.092)	0.024	0.045
221	18.42	0.13	0.070	(0.091)	0.024	0.045
222	18.50	0.13	0.070	(0.091)	0.024	0.045
223	18.58	0.10	0.052	(0.090)	0.018	0.034
224	18.67	0.10	0.052	(0.090)	0.018	0.034
225	18.75	0.10	0.052	(0.089)	0.018	0.034
226	18.83	0.07	0.035	(0.089)	0.012	0.023
227	18.92	0.07	0.035	(0.089)	0.012	0.023
228	19.00	0.07	0.035	(0.088)	0.012	0.023
229	19.08	0.10	0.052	(0.088)	0.018	0.034
230	19.17	0.10	0.052	(0.087)	0.018	0.034
231	19.25	0.10	0.052	(0.087)	0.018	0.034
232	19.33	0.13	0.070	(0.086)	0.024	0.045
233	19.42	0.13	0.070	(0.086)	0.024	0.045
234	19.50	0.13	0.070	(0.086)	0.024	0.045
235	19.58	0.10	0.052	(0.085)	0.018	0.034
236	19.67	0.10	0.052	(0.085)	0.018	0.034
237	19.75	0.10	0.052	(0.085)	0.018	0.034
238	19.83	0.07	0.035	(0.084)	0.012	0.023
239	19.92	0.07	0.035	(0.084)	0.012	0.023
240	20.00	0.07	0.035	(0.083)	0.012	0.023
241	20.08	0.10	0.052	(0.083)	0.018	0.034
242	20.17	0.10	0.052	(0.083)	0.018	0.034
243	20.25	0.10	0.052	(0.082)	0.018	0.034
244	20.33	0.10	0.052	(0.082)	0.018	0.034
245	20.42	0.10	0.052	(0.082)	0.018	0.034
246	20.50	0.10	0.052	(0.081)	0.018	0.034
247	20.58	0.10	0.052	(0.081)	0.018	0.034
248	20.67	0.10	0.052	(0.081)	0.018	0.034
249	20.75	0.10	0.052	(0.080)	0.018	0.034
250	20.83	0.07	0.035	(0.080)	0.012	0.023

1+ 5	0.0349	0.50	VQ				
1+10	0.0380	0.44	VQ				
1+15	0.0409	0.43	VQ				
1+20	0.0438	0.42	VQ				
1+25	0.0467	0.42	VQ				
1+30	0.0496	0.42	VQ				
1+35	0.0525	0.42	VQ				
1+40	0.0553	0.42	VQ				
1+45	0.0582	0.42	VQ				
1+50	0.0615	0.48	VQ				
1+55	0.0652	0.54	V Q				
2+ 0	0.0690	0.55	V Q				
2+ 5	0.0728	0.56	V Q				
2+10	0.0767	0.56	VQ				
2+15	0.0805	0.56	VQ				
2+20	0.0844	0.56	VQ				
2+25	0.0882	0.56	VQ				
2+30	0.0921	0.56	VQ				
2+35	0.0963	0.62	VQ				
2+40	0.1010	0.68	VQ				
2+45	0.1057	0.69	VQ				
2+50	0.1105	0.70	VQ				
2+55	0.1153	0.70	VQ				
3+ 0	0.1201	0.70	VQ				
3+ 5	0.1249	0.70	VQ				
3+10	0.1297	0.70	VQ				
3+15	0.1345	0.70	VQ				
3+20	0.1393	0.70	VQ				
3+25	0.1442	0.70	VQ				
3+30	0.1490	0.70	VQ				
3+35	0.1538	0.70	Q				
3+40	0.1586	0.70	Q				
3+45	0.1634	0.70	Q				
3+50	0.1686	0.75	VQ				
3+55	0.1742	0.82	VQ				
4+ 0	0.1799	0.83	VQ				
4+ 5	0.1857	0.84	VQ				
4+10	0.1914	0.84	VQ				
4+15	0.1972	0.84	VQ				
4+20	0.2034	0.89	VQ				
4+25	0.2100	0.96	VQ				
4+30	0.2166	0.97	VQ				
4+35	0.2233	0.97	VQ				
4+40	0.2301	0.98	Q				
4+45	0.2368	0.98	Q				
4+50	0.2439	1.03	VQ				
4+55	0.2515	1.10	VQ				
5+ 0	0.2591	1.11	VQ				
5+ 5	0.2660	1.00	VQ				
5+10	0.2721	0.88	Q				
5+15	0.2779	0.85	Q				
5+20	0.2841	0.90	Q				
5+25	0.2907	0.96	Q				
5+30	0.2974	0.97	Q				
5+35	0.3045	1.03	Q				
5+40	0.3120	1.10	Q				
5+45	0.3197	1.11	Q				
5+50	0.3274	1.11	Q				
5+55	0.3351	1.12	Q				
6+ 0	0.3427	1.12	Q				
6+ 5	0.3508	1.17	Q				
6+10	0.3593	1.24	Q				
6+15	0.3679	1.25	Q				
6+20	0.3766	1.25	VQ				
6+25	0.3852	1.26	Q				
6+30	0.3939	1.26	Q				
6+35	0.4029	1.31	Q				
6+40	0.4124	1.38	Q				
6+45	0.4220	1.39	Q				
6+50	0.4316	1.39	Q				
6+55	0.4412	1.40	Q				

7+ 0	0.4508	1.40	Q			
7+ 5	0.4604	1.40	QV			
7+10	0.4700	1.40	QV			
7+15	0.4796	1.40	QV			
7+20	0.4896	1.45	QV			
7+25	0.5001	1.51	Q			
7+30	0.5106	1.53	Q			
7+35	0.5215	1.59	Q			
7+40	0.5329	1.65	QV			
7+45	0.5444	1.67	QV			
7+50	0.5563	1.73	QV			
7+55	0.5687	1.79	Q			
8+ 0	0.5811	1.81	Q			
8+ 5	0.5944	1.93	Q			
8+10	0.6085	2.05	Q			
8+15	0.6229	2.08	Q			
8+20	0.6372	2.09	Q			
8+25	0.6517	2.09	Q			
8+30	0.6661	2.09	Q			
8+35	0.6809	2.15	Q			
8+40	0.6961	2.21	QV			
8+45	0.7115	2.23	QV			
8+50	0.7272	2.29	Q			
8+55	0.7434	2.35	Q			
9+ 0	0.7597	2.37	QV			
9+ 5	0.7768	2.48	QV			
9+10	0.7948	2.61	Q			
9+15	0.8130	2.64	Q			
9+20	0.8316	2.70	Q			
9+25	0.8507	2.77	Q			
9+30	0.8699	2.78	Q			
9+35	0.8895	2.85	Q			
9+40	0.9095	2.91	Q			
9+45	0.9297	2.92	QV			
9+50	0.9502	2.99	QV			
9+55	0.9712	3.05	Q			
10+ 0	0.9923	3.06	QV			
10+ 5	1.0107	2.67	Q	V		
10+10	1.0261	2.24	Q	V		
10+15	1.0409	2.15	Q	V		
10+20	1.0555	2.11	Q	V		
10+25	1.0699	2.09	Q	V		
10+30	1.0843	2.09	Q	V		
10+35	1.1007	2.38	Q	V		
10+40	1.1192	2.69	Q	V		
10+45	1.1382	2.75	Q	V		
10+50	1.1573	2.78	Q	V		
10+55	1.1765	2.79	Q	V		
11+ 0	1.1958	2.79	Q	V		
11+ 5	1.2146	2.74	Q	V		
11+10	1.2330	2.67	Q	V		
11+15	1.2513	2.66	Q	V		
11+20	1.2696	2.65	Q	V		
11+25	1.2879	2.65	Q	V		
11+30	1.3062	2.65	Q	V		
11+35	1.3236	2.54	Q	V		
11+40	1.3403	2.41	Q	V		
11+45	1.3567	2.39	Q	V		
11+50	1.3735	2.43	Q	V		
11+55	1.3906	2.49	Q	V		
12+ 0	1.4079	2.51	Q	V		
12+ 5	1.4285	3.00	Q	V		
12+10	1.4528	3.53		Q	V	
12+15	1.4780	3.65		Q	V	
12+20	1.5041	3.79		Q	V	
12+25	1.5310	3.91		Q	V	
12+30	1.5581	3.94		Q	V	
12+35	1.5866	4.13		Q	V	
12+40	1.6164	4.33		Q	V	
12+45	1.6466	4.38		Q	V	
12+50	1.6775	4.49		Q	V	

12+55	1.7092	4.60			Q	V	
13+ 0	1.7411	4.63			Q	V	
13+ 5	1.7761	5.08			Q	V	
13+10	1.8145	5.57			Q	QV	
13+15	1.8536	5.68			Q	Q V	
13+20	1.8930	5.73			Q	Q V	
13+25	1.9327	5.75			Q	Q V	
13+30	1.9723	5.76			Q	Q	V
13+35	2.0055	4.81			Q	V	
13+40	2.0314	3.77				V	
13+45	2.0559	3.56		Q		V	
13+50	2.0798	3.47		Q		V	
13+55	2.1036	3.44		Q		V	
14+ 0	2.1273	3.45		Q		V	
14+ 5	2.1535	3.81		Q		V	
14+10	2.1824	4.19		Q		V	
14+15	2.2119	4.28		Q		V	
14+20	2.2411	4.24		Q		V	
14+25	2.2698	4.16		Q		V	
14+30	2.2983	4.15		Q		V	
14+35	2.3269	4.15		Q		V	
14+40	2.3555	4.15		Q		V	
14+45	2.3842	4.16		Q		V	
14+50	2.4123	4.08		Q		V	
14+55	2.4397	3.99		Q		V	
15+ 0	2.4672	3.98		Q		V	
15+ 5	2.4939	3.89		Q		V	
15+10	2.5201	3.80		Q		V	
15+15	2.5462	3.79		Q		V	
15+20	2.5716	3.70		Q		V	
15+25	2.5965	3.61		Q		V	
15+30	2.6212	3.59		Q		V	
15+35	2.6436	3.24		Q		V	
15+40	2.6633	2.87		Q		V	
15+45	2.6825	2.79		Q		V	
15+50	2.7016	2.77		Q		V	
15+55	2.7206	2.76		Q		V	
16+ 0	2.7396	2.77		Q		V	
16+ 5	2.7525	1.87	Q			V	
16+10	2.7586	0.89	Q			V	
16+15	2.7633	0.68	Q			V	
16+20	2.7674	0.59	Q			V	
16+25	2.7712	0.56	Q			V	
16+30	2.7751	0.56	Q			V	
16+35	2.7785	0.50	Q			V	
16+40	2.7815	0.44	Q			V	
16+45	2.7845	0.43	Q			V	
16+50	2.7874	0.42	Q			V	
16+55	2.7903	0.42	Q			V	
17+ 0	2.7931	0.42	Q			V	
17+ 5	2.7968	0.53	Q			V	
17+10	2.8013	0.66	Q			V	
17+15	2.8060	0.68	Q			V	
17+20	2.8108	0.69	Q			V	
17+25	2.8156	0.70	Q			V	
17+30	2.8204	0.70	Q			V	
17+35	2.8252	0.70	Q			V	
17+40	2.8300	0.70	Q			V	
17+45	2.8348	0.70	Q			V	
17+50	2.8393	0.64	Q			V	
17+55	2.8432	0.58	Q			V	
18+ 0	2.8471	0.57	Q			V	
18+ 5	2.8510	0.56	Q			V	
18+10	2.8548	0.56	Q			V	
18+15	2.8587	0.56	Q			V	
18+20	2.8625	0.56	Q			V	
18+25	2.8664	0.56	Q			V	
18+30	2.8702	0.56	Q			V	
18+35	2.8737	0.50	Q			V	
18+40	2.8767	0.44	Q			V	
18+45	2.8797	0.43	Q			V	

18+50	2.8822	0.36	Q				V
18+55	2.8842	0.30	Q				V
19+ 0	2.8862	0.29	Q				V
19+ 5	2.8885	0.34	Q				V
19+10	2.8913	0.40	Q				V
19+15	2.8941	0.41	Q				V
19+20	2.8974	0.47	Q				V
19+25	2.9011	0.54	Q				V
19+30	2.9049	0.55	Q				V
19+35	2.9083	0.50	Q				V
19+40	2.9113	0.44	Q				V
19+45	2.9143	0.43	Q				V
19+50	2.9168	0.36	Q				V
19+55	2.9188	0.30	Q				V
20+ 0	2.9208	0.29	Q				V
20+ 5	2.9231	0.34	Q				V
20+10	2.9259	0.40	Q				V
20+15	2.9287	0.41	Q				V
20+20	2.9316	0.42	Q				V
20+25	2.9345	0.42	Q				V
20+30	2.9374	0.42	Q				V
20+35	2.9402	0.42	Q				V
20+40	2.9431	0.42	Q				V
20+45	2.9460	0.42	Q				V
20+50	2.9485	0.36	Q				V
20+55	2.9506	0.30	Q				V
21+ 0	2.9525	0.29	Q				V
21+ 5	2.9549	0.34	Q				V
21+10	2.9576	0.40	Q				V
21+15	2.9604	0.41	Q				V
21+20	2.9629	0.36	Q				V
21+25	2.9650	0.30	Q				V
21+30	2.9670	0.29	Q				V
21+35	2.9693	0.34	Q				V
21+40	2.9720	0.40	Q				V
21+45	2.9749	0.41	Q				V
21+50	2.9773	0.36	Q				V
21+55	2.9794	0.30	Q				V
22+ 0	2.9814	0.29	Q				V
22+ 5	2.9837	0.34	Q				V
22+10	2.9865	0.40	Q				V
22+15	2.9893	0.41	Q				V
22+20	2.9918	0.36	Q				V
22+25	2.9938	0.30	Q				V
22+30	2.9958	0.29	Q				V
22+35	2.9977	0.28	Q				V
22+40	2.9997	0.28	Q				V
22+45	3.0016	0.28	Q				V
22+50	3.0035	0.28	Q				V
22+55	3.0054	0.28	Q				V
23+ 0	3.0074	0.28	Q				V
23+ 5	3.0093	0.28	Q				V
23+10	3.0112	0.28	Q				V
23+15	3.0131	0.28	Q				V
23+20	3.0150	0.28	Q				V
23+25	3.0170	0.28	Q				V
23+30	3.0189	0.28	Q				V
23+35	3.0208	0.28	Q				V
23+40	3.0227	0.28	Q				V
23+45	3.0247	0.28	Q				V
23+50	3.0266	0.28	Q				V
23+55	3.0285	0.28	Q				V
24+ 0	3.0304	0.28	Q				V
24+ 5	3.0316	0.17	Q				V
24+10	3.0319	0.04	Q				V
24+15	3.0320	0.02	Q				V
24+20	3.0320	0.00	Q				V

Area B, 2-Year, 24-Hour

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
Study date 03/21/14 File: ARB242.out

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6269

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

PRIELIPP ROAD POST-PROJECT CONDITION HYDROLOGY
UNIT HYDROGRAPH ANALYSIS, 2-YEAR, 24-HOUR STORM DURATION
FILENAME: ARB

Drainage Area = 4.10(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.10(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 573.00(Ft.)
Length along longest watercourse measured to centroid = 207.00(Ft.)
Length along longest watercourse = 0.109 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 17.00(Ft.)
Slope along watercourse = 156.6492 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.017 Hr.
Lag time = 1.04 Min.
25% of lag time = 0.26 Min.
40% of lag time = 0.42 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.10	2.50	10.25

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.10	7.00	28.70

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 7.000(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %
4.100 69.44 0.733
Total Area Entered = 4.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-1	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
69.4	50.3	0.569	0.733	0.194	1.000	0.194
						Sum (F) = 0.194

Area averaged mean soil loss (F) (In/Hr) = 0.194

Minimum soil loss rate ((In/Hr)) = 0.097

(for 24 hour storm duration)

Soil loss rate (decimal) = 0.314

 U n i t H y d r o g r a p h
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period	Time % of lag	Distribution	Unit Hydrograph
(hrs)		Graph %	(CFS)
1	0.083	481.490	69.977
2	0.167	962.979	30.023
		Sum = 100.000	Sum= 4.132

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.020	(0.343)	0.006	0.014
2	0.17	0.07	0.020	(0.342)	0.006	0.014
3	0.25	0.07	0.020	(0.340)	0.006	0.014
4	0.33	0.10	0.030	(0.339)	0.009	0.021
5	0.42	0.10	0.030	(0.338)	0.009	0.021
6	0.50	0.10	0.030	(0.336)	0.009	0.021
7	0.58	0.10	0.030	(0.335)	0.009	0.021
8	0.67	0.10	0.030	(0.334)	0.009	0.021
9	0.75	0.10	0.030	(0.333)	0.009	0.021
10	0.83	0.13	0.040	(0.331)	0.013	0.027
11	0.92	0.13	0.040	(0.330)	0.013	0.027
12	1.00	0.13	0.040	(0.329)	0.013	0.027
13	1.08	0.10	0.030	(0.327)	0.009	0.021
14	1.17	0.10	0.030	(0.326)	0.009	0.021
15	1.25	0.10	0.030	(0.325)	0.009	0.021
16	1.33	0.10	0.030	(0.323)	0.009	0.021
17	1.42	0.10	0.030	(0.322)	0.009	0.021
18	1.50	0.10	0.030	(0.321)	0.009	0.021
19	1.58	0.10	0.030	(0.320)	0.009	0.021
20	1.67	0.10	0.030	(0.318)	0.009	0.021
21	1.75	0.10	0.030	(0.317)	0.009	0.021
22	1.83	0.13	0.040	(0.316)	0.013	0.027
23	1.92	0.13	0.040	(0.314)	0.013	0.027
24	2.00	0.13	0.040	(0.313)	0.013	0.027
25	2.08	0.13	0.040	(0.312)	0.013	0.027
26	2.17	0.13	0.040	(0.311)	0.013	0.027
27	2.25	0.13	0.040	(0.309)	0.013	0.027
28	2.33	0.13	0.040	(0.308)	0.013	0.027
29	2.42	0.13	0.040	(0.307)	0.013	0.027
30	2.50	0.13	0.040	(0.306)	0.013	0.027
31	2.58	0.17	0.050	(0.304)	0.016	0.034
32	2.67	0.17	0.050	(0.303)	0.016	0.034
33	2.75	0.17	0.050	(0.302)	0.016	0.034
34	2.83	0.17	0.050	(0.301)	0.016	0.034
35	2.92	0.17	0.050	(0.299)	0.016	0.034
36	3.00	0.17	0.050	(0.298)	0.016	0.034
37	3.08	0.17	0.050	(0.297)	0.016	0.034
38	3.17	0.17	0.050	(0.296)	0.016	0.034
39	3.25	0.17	0.050	(0.294)	0.016	0.034
40	3.33	0.17	0.050	(0.293)	0.016	0.034

41	3.42	0.17	0.050	(0.292)	0.016	0.034
42	3.50	0.17	0.050	(0.291)	0.016	0.034
43	3.58	0.17	0.050	(0.290)	0.016	0.034
44	3.67	0.17	0.050	(0.288)	0.016	0.034
45	3.75	0.17	0.050	(0.287)	0.016	0.034
46	3.83	0.20	0.060	(0.286)	0.019	0.041
47	3.92	0.20	0.060	(0.285)	0.019	0.041
48	4.00	0.20	0.060	(0.284)	0.019	0.041
49	4.08	0.20	0.060	(0.282)	0.019	0.041
50	4.17	0.20	0.060	(0.281)	0.019	0.041
51	4.25	0.20	0.060	(0.280)	0.019	0.041
52	4.33	0.23	0.070	(0.279)	0.022	0.048
53	4.42	0.23	0.070	(0.278)	0.022	0.048
54	4.50	0.23	0.070	(0.276)	0.022	0.048
55	4.58	0.23	0.070	(0.275)	0.022	0.048
56	4.67	0.23	0.070	(0.274)	0.022	0.048
57	4.75	0.23	0.070	(0.273)	0.022	0.048
58	4.83	0.27	0.080	(0.272)	0.025	0.055
59	4.92	0.27	0.080	(0.270)	0.025	0.055
60	5.00	0.27	0.080	(0.269)	0.025	0.055
61	5.08	0.20	0.060	(0.268)	0.019	0.041
62	5.17	0.20	0.060	(0.267)	0.019	0.041
63	5.25	0.20	0.060	(0.266)	0.019	0.041
64	5.33	0.23	0.070	(0.265)	0.022	0.048
65	5.42	0.23	0.070	(0.263)	0.022	0.048
66	5.50	0.23	0.070	(0.262)	0.022	0.048
67	5.58	0.27	0.080	(0.261)	0.025	0.055
68	5.67	0.27	0.080	(0.260)	0.025	0.055
69	5.75	0.27	0.080	(0.259)	0.025	0.055
70	5.83	0.27	0.080	(0.258)	0.025	0.055
71	5.92	0.27	0.080	(0.257)	0.025	0.055
72	6.00	0.27	0.080	(0.255)	0.025	0.055
73	6.08	0.30	0.090	(0.254)	0.028	0.062
74	6.17	0.30	0.090	(0.253)	0.028	0.062
75	6.25	0.30	0.090	(0.252)	0.028	0.062
76	6.33	0.30	0.090	(0.251)	0.028	0.062
77	6.42	0.30	0.090	(0.250)	0.028	0.062
78	6.50	0.30	0.090	(0.249)	0.028	0.062
79	6.58	0.33	0.100	(0.248)	0.031	0.069
80	6.67	0.33	0.100	(0.246)	0.031	0.069
81	6.75	0.33	0.100	(0.245)	0.031	0.069
82	6.83	0.33	0.100	(0.244)	0.031	0.069
83	6.92	0.33	0.100	(0.243)	0.031	0.069
84	7.00	0.33	0.100	(0.242)	0.031	0.069
85	7.08	0.33	0.100	(0.241)	0.031	0.069
86	7.17	0.33	0.100	(0.240)	0.031	0.069
87	7.25	0.33	0.100	(0.239)	0.031	0.069
88	7.33	0.37	0.110	(0.238)	0.034	0.076
89	7.42	0.37	0.110	(0.237)	0.034	0.076
90	7.50	0.37	0.110	(0.235)	0.034	0.076
91	7.58	0.40	0.120	(0.234)	0.038	0.082
92	7.67	0.40	0.120	(0.233)	0.038	0.082
93	7.75	0.40	0.120	(0.232)	0.038	0.082
94	7.83	0.43	0.130	(0.231)	0.041	0.089
95	7.92	0.43	0.130	(0.230)	0.041	0.089
96	8.00	0.43	0.130	(0.229)	0.041	0.089
97	8.08	0.50	0.150	(0.228)	0.047	0.103
98	8.17	0.50	0.150	(0.227)	0.047	0.103
99	8.25	0.50	0.150	(0.226)	0.047	0.103
100	8.33	0.50	0.150	(0.225)	0.047	0.103
101	8.42	0.50	0.150	(0.224)	0.047	0.103
102	8.50	0.50	0.150	(0.223)	0.047	0.103
103	8.58	0.53	0.160	(0.222)	0.050	0.110
104	8.67	0.53	0.160	(0.221)	0.050	0.110
105	8.75	0.53	0.160	(0.220)	0.050	0.110
106	8.83	0.57	0.170	(0.219)	0.053	0.117
107	8.92	0.57	0.170	(0.217)	0.053	0.117
108	9.00	0.57	0.170	(0.216)	0.053	0.117
109	9.08	0.63	0.190	(0.215)	0.060	0.130
110	9.17	0.63	0.190	(0.214)	0.060	0.130
111	9.25	0.63	0.190	(0.213)	0.060	0.130

112	9.33	0.67	0.200	(0.212)	0.063	0.137
113	9.42	0.67	0.200	(0.211)	0.063	0.137
114	9.50	0.67	0.200	(0.210)	0.063	0.137
115	9.58	0.70	0.210	(0.209)	0.066	0.144
116	9.67	0.70	0.210	(0.208)	0.066	0.144
117	9.75	0.70	0.210	(0.207)	0.066	0.144
118	9.83	0.73	0.220	(0.206)	0.069	0.151
119	9.92	0.73	0.220	(0.205)	0.069	0.151
120	10.00	0.73	0.220	(0.204)	0.069	0.151
121	10.08	0.50	0.150	(0.203)	0.047	0.103
122	10.17	0.50	0.150	(0.202)	0.047	0.103
123	10.25	0.50	0.150	(0.201)	0.047	0.103
124	10.33	0.50	0.150	(0.200)	0.047	0.103
125	10.42	0.50	0.150	(0.199)	0.047	0.103
126	10.50	0.50	0.150	(0.198)	0.047	0.103
127	10.58	0.67	0.200	(0.198)	0.063	0.137
128	10.67	0.67	0.200	(0.197)	0.063	0.137
129	10.75	0.67	0.200	(0.196)	0.063	0.137
130	10.83	0.67	0.200	(0.195)	0.063	0.137
131	10.92	0.67	0.200	(0.194)	0.063	0.137
132	11.00	0.67	0.200	(0.193)	0.063	0.137
133	11.08	0.63	0.190	(0.192)	0.060	0.130
134	11.17	0.63	0.190	(0.191)	0.060	0.130
135	11.25	0.63	0.190	(0.190)	0.060	0.130
136	11.33	0.63	0.190	(0.189)	0.060	0.130
137	11.42	0.63	0.190	(0.188)	0.060	0.130
138	11.50	0.63	0.190	(0.187)	0.060	0.130
139	11.58	0.57	0.170	(0.186)	0.053	0.117
140	11.67	0.57	0.170	(0.185)	0.053	0.117
141	11.75	0.57	0.170	(0.184)	0.053	0.117
142	11.83	0.60	0.180	(0.183)	0.056	0.124
143	11.92	0.60	0.180	(0.182)	0.056	0.124
144	12.00	0.60	0.180	(0.182)	0.056	0.124
145	12.08	0.83	0.250	(0.181)	0.078	0.172
146	12.17	0.83	0.250	(0.180)	0.078	0.172
147	12.25	0.83	0.250	(0.179)	0.078	0.172
148	12.33	0.87	0.260	(0.178)	0.082	0.178
149	12.42	0.87	0.260	(0.177)	0.082	0.178
150	12.50	0.87	0.260	(0.176)	0.082	0.178
151	12.58	0.93	0.280	(0.175)	0.088	0.192
152	12.67	0.93	0.280	(0.174)	0.088	0.192
153	12.75	0.93	0.280	(0.174)	0.088	0.192
154	12.83	0.97	0.290	(0.173)	0.091	0.199
155	12.92	0.97	0.290	(0.172)	0.091	0.199
156	13.00	0.97	0.290	(0.171)	0.091	0.199
157	13.08	1.13	0.340	(0.170)	0.107	0.233
158	13.17	1.13	0.340	(0.169)	0.107	0.233
159	13.25	1.13	0.340	(0.168)	0.107	0.233
160	13.33	1.13	0.340	(0.167)	0.107	0.233
161	13.42	1.13	0.340	(0.167)	0.107	0.233
162	13.50	1.13	0.340	(0.166)	0.107	0.233
163	13.58	0.77	0.230	(0.165)	0.072	0.158
164	13.67	0.77	0.230	(0.164)	0.072	0.158
165	13.75	0.77	0.230	(0.163)	0.072	0.158
166	13.83	0.77	0.230	(0.162)	0.072	0.158
167	13.92	0.77	0.230	(0.162)	0.072	0.158
168	14.00	0.77	0.230	(0.161)	0.072	0.158
169	14.08	0.90	0.270	(0.160)	0.085	0.185
170	14.17	0.90	0.270	(0.159)	0.085	0.185
171	14.25	0.90	0.270	(0.158)	0.085	0.185
172	14.33	0.87	0.260	(0.157)	0.082	0.178
173	14.42	0.87	0.260	(0.157)	0.082	0.178
174	14.50	0.87	0.260	(0.156)	0.082	0.178
175	14.58	0.87	0.260	(0.155)	0.082	0.178
176	14.67	0.87	0.260	(0.154)	0.082	0.178
177	14.75	0.87	0.260	(0.153)	0.082	0.178
178	14.83	0.83	0.250	(0.153)	0.078	0.172
179	14.92	0.83	0.250	(0.152)	0.078	0.172
180	15.00	0.83	0.250	(0.151)	0.078	0.172
181	15.08	0.80	0.240	(0.150)	0.075	0.165
182	15.17	0.80	0.240	(0.150)	0.075	0.165

183	15.25	0.80	0.240	(0.149)	0.075	0.165
184	15.33	0.77	0.230	(0.148)	0.072	0.158
185	15.42	0.77	0.230	(0.147)	0.072	0.158
186	15.50	0.77	0.230	(0.147)	0.072	0.158
187	15.58	0.63	0.190	(0.146)	0.060	0.130
188	15.67	0.63	0.190	(0.145)	0.060	0.130
189	15.75	0.63	0.190	(0.144)	0.060	0.130
190	15.83	0.63	0.190	(0.144)	0.060	0.130
191	15.92	0.63	0.190	(0.143)	0.060	0.130
192	16.00	0.63	0.190	(0.142)	0.060	0.130
193	16.08	0.13	0.040	(0.141)	0.013	0.027
194	16.17	0.13	0.040	(0.141)	0.013	0.027
195	16.25	0.13	0.040	(0.140)	0.013	0.027
196	16.33	0.13	0.040	(0.139)	0.013	0.027
197	16.42	0.13	0.040	(0.139)	0.013	0.027
198	16.50	0.13	0.040	(0.138)	0.013	0.027
199	16.58	0.10	0.030	(0.137)	0.009	0.021
200	16.67	0.10	0.030	(0.136)	0.009	0.021
201	16.75	0.10	0.030	(0.136)	0.009	0.021
202	16.83	0.10	0.030	(0.135)	0.009	0.021
203	16.92	0.10	0.030	(0.134)	0.009	0.021
204	17.00	0.10	0.030	(0.134)	0.009	0.021
205	17.08	0.17	0.050	(0.133)	0.016	0.034
206	17.17	0.17	0.050	(0.132)	0.016	0.034
207	17.25	0.17	0.050	(0.132)	0.016	0.034
208	17.33	0.17	0.050	(0.131)	0.016	0.034
209	17.42	0.17	0.050	(0.130)	0.016	0.034
210	17.50	0.17	0.050	(0.130)	0.016	0.034
211	17.58	0.17	0.050	(0.129)	0.016	0.034
212	17.67	0.17	0.050	(0.128)	0.016	0.034
213	17.75	0.17	0.050	(0.128)	0.016	0.034
214	17.83	0.13	0.040	(0.127)	0.013	0.027
215	17.92	0.13	0.040	(0.126)	0.013	0.027
216	18.00	0.13	0.040	(0.126)	0.013	0.027
217	18.08	0.13	0.040	(0.125)	0.013	0.027
218	18.17	0.13	0.040	(0.125)	0.013	0.027
219	18.25	0.13	0.040	(0.124)	0.013	0.027
220	18.33	0.13	0.040	(0.123)	0.013	0.027
221	18.42	0.13	0.040	(0.123)	0.013	0.027
222	18.50	0.13	0.040	(0.122)	0.013	0.027
223	18.58	0.10	0.030	(0.122)	0.009	0.021
224	18.67	0.10	0.030	(0.121)	0.009	0.021
225	18.75	0.10	0.030	(0.120)	0.009	0.021
226	18.83	0.07	0.020	(0.120)	0.006	0.014
227	18.92	0.07	0.020	(0.119)	0.006	0.014
228	19.00	0.07	0.020	(0.119)	0.006	0.014
229	19.08	0.10	0.030	(0.118)	0.009	0.021
230	19.17	0.10	0.030	(0.118)	0.009	0.021
231	19.25	0.10	0.030	(0.117)	0.009	0.021
232	19.33	0.13	0.040	(0.117)	0.013	0.027
233	19.42	0.13	0.040	(0.116)	0.013	0.027
234	19.50	0.13	0.040	(0.115)	0.013	0.027
235	19.58	0.10	0.030	(0.115)	0.009	0.021
236	19.67	0.10	0.030	(0.114)	0.009	0.021
237	19.75	0.10	0.030	(0.114)	0.009	0.021
238	19.83	0.07	0.020	(0.113)	0.006	0.014
239	19.92	0.07	0.020	(0.113)	0.006	0.014
240	20.00	0.07	0.020	(0.112)	0.006	0.014
241	20.08	0.10	0.030	(0.112)	0.009	0.021
242	20.17	0.10	0.030	(0.111)	0.009	0.021
243	20.25	0.10	0.030	(0.111)	0.009	0.021
244	20.33	0.10	0.030	(0.110)	0.009	0.021
245	20.42	0.10	0.030	(0.110)	0.009	0.021
246	20.50	0.10	0.030	(0.109)	0.009	0.021
247	20.58	0.10	0.030	(0.109)	0.009	0.021
248	20.67	0.10	0.030	(0.109)	0.009	0.021
249	20.75	0.10	0.030	(0.108)	0.009	0.021
250	20.83	0.07	0.020	(0.108)	0.006	0.014
251	20.92	0.07	0.020	(0.107)	0.006	0.014
252	21.00	0.07	0.020	(0.107)	0.006	0.014
253	21.08	0.10	0.030	(0.106)	0.009	0.021

1+20	0.0092	0.09	Q				
1+25	0.0098	0.09	Q				
1+30	0.0104	0.09	Q				
1+35	0.0110	0.09	Q				
1+40	0.0115	0.09	Q				
1+45	0.0121	0.09	Q				
1+50	0.0129	0.10	Q				
1+55	0.0136	0.11	Q				
2+ 0	0.0144	0.11	Q				
2+ 5	0.0152	0.11	QV				
2+10	0.0160	0.11	QV				
2+15	0.0168	0.11	QV				
2+20	0.0175	0.11	QV				
2+25	0.0183	0.11	QV				
2+30	0.0191	0.11	QV				
2+35	0.0200	0.13	QV				
2+40	0.0210	0.14	QV				
2+45	0.0220	0.14	QV				
2+50	0.0230	0.14	QV				
2+55	0.0239	0.14	QV				
3+ 0	0.0249	0.14	QV				
3+ 5	0.0259	0.14	QV				
3+10	0.0269	0.14	QV				
3+15	0.0278	0.14	QV				
3+20	0.0288	0.14	QV				
3+25	0.0298	0.14	Q V				
3+30	0.0308	0.14	Q V				
3+35	0.0318	0.14	Q V				
3+40	0.0327	0.14	Q V				
3+45	0.0337	0.14	Q V				
3+50	0.0348	0.16	Q V				
3+55	0.0360	0.17	Q V				
4+ 0	0.0372	0.17	Q V				
4+ 5	0.0383	0.17	Q V				
4+10	0.0395	0.17	Q V				
4+15	0.0407	0.17	Q V				
4+20	0.0420	0.19	Q V				
4+25	0.0434	0.20	Q V				
4+30	0.0447	0.20	Q V				
4+35	0.0461	0.20	Q V				
4+40	0.0475	0.20	Q V				
4+45	0.0488	0.20	Q V				
4+50	0.0503	0.22	Q V				
4+55	0.0519	0.23	Q V				
5+ 0	0.0535	0.23	Q V				
5+ 5	0.0548	0.19	Q V				
5+10	0.0559	0.17	Q V				
5+15	0.0571	0.17	Q V				
5+20	0.0584	0.19	Q V				
5+25	0.0598	0.20	Q V				
5+30	0.0612	0.20	Q V				
5+35	0.0627	0.22	Q V				
5+40	0.0642	0.23	Q V				
5+45	0.0658	0.23	Q V				
5+50	0.0673	0.23	Q V				
5+55	0.0689	0.23	Q V				
6+ 0	0.0705	0.23	Q V				
6+ 5	0.0722	0.25	Q V				
6+10	0.0739	0.26	Q V				
6+15	0.0757	0.26	Q V				
6+20	0.0774	0.26	Q V				
6+25	0.0792	0.26	Q V				
6+30	0.0810	0.26	Q V				
6+35	0.0829	0.28	Q V				
6+40	0.0848	0.28	Q V				
6+45	0.0868	0.28	Q V				
6+50	0.0887	0.28	Q V				
6+55	0.0907	0.28	Q V				
7+ 0	0.0926	0.28	Q V				
7+ 5	0.0946	0.28	Q V				
7+10	0.0965	0.28	Q V				

7+15	0.0985	0.28	Q	V					
7+20	0.1006	0.30	Q	V					
7+25	0.1027	0.31	Q	V					
7+30	0.1049	0.31	Q	V					
7+35	0.1072	0.33	Q	V					
7+40	0.1095	0.34	Q	V					
7+45	0.1119	0.34	Q	V					
7+50	0.1143	0.36	Q	V					
7+55	0.1169	0.37	Q	V					
8+ 0	0.1194	0.37	Q	V					
8+ 5	0.1222	0.41	Q	V					
8+10	0.1252	0.43	Q	V					
8+15	0.1281	0.43	Q	V					
8+20	0.1310	0.43	Q	V					
8+25	0.1340	0.43	Q	V					
8+30	0.1369	0.43	Q	V					
8+35	0.1400	0.45	Q	V					
8+40	0.1431	0.45	Q	V					
8+45	0.1462	0.45	Q	V					
8+50	0.1495	0.47	Q	V					
8+55	0.1528	0.48	Q	V					
9+ 0	0.1561	0.48	Q	V					
9+ 5	0.1597	0.52	Q	V					
9+10	0.1634	0.54	Q	V					
9+15	0.1672	0.54	Q	V					
9+20	0.1710	0.56	Q	V					
9+25	0.1749	0.57	Q	V					
9+30	0.1788	0.57	Q	V					
9+35	0.1829	0.59	Q	V					
9+40	0.1870	0.60	Q	V					
9+45	0.1911	0.60	Q	V					
9+50	0.1953	0.62	Q	V					
9+55	0.1996	0.62	Q	V					
10+ 0	0.2039	0.62	Q	V					
10+ 5	0.2073	0.49	Q	V					
10+10	0.2102	0.43	Q	V					
10+15	0.2131	0.43	Q	V					
10+20	0.2160	0.43	Q	V					
10+25	0.2190	0.43	Q	V					
10+30	0.2219	0.43	Q	V					
10+35	0.2255	0.52	Q	V					
10+40	0.2294	0.57	Q	V					
10+45	0.2333	0.57	Q	V					
10+50	0.2373	0.57	Q	V					
10+55	0.2412	0.57	Q	V					
11+ 0	0.2451	0.57	Q	V					
11+ 5	0.2488	0.55	Q	V					
11+10	0.2526	0.54	Q	V					
11+15	0.2563	0.54	Q	V					
11+20	0.2600	0.54	Q	V					
11+25	0.2637	0.54	Q	V					
11+30	0.2674	0.54	Q	V					
11+35	0.2708	0.50	Q	V					
11+40	0.2742	0.48	Q	V					
11+45	0.2775	0.48	Q	V					
11+50	0.2810	0.50	Q	V					
11+55	0.2845	0.51	Q	V					
12+ 0	0.2880	0.51	Q	V					
12+ 5	0.2925	0.65	Q	V					
12+10	0.2973	0.71	Q	V					
12+15	0.3022	0.71	Q	V					
12+20	0.3073	0.73	Q	V					
12+25	0.3123	0.74	Q	V					
12+30	0.3174	0.74	Q	V					
12+35	0.3228	0.78	Q	V					
12+40	0.3282	0.79	Q	V					
12+45	0.3337	0.79	Q	V					
12+50	0.3393	0.81	Q	V					
12+55	0.3450	0.82	Q	V					
13+ 0	0.3507	0.82	Q	V					
13+ 5	0.3570	0.92	Q	V					

13+10	0.3637	0.96	Q	V
13+15	0.3703	0.96	Q	V
13+20	0.3769	0.96	Q	V
13+25	0.3836	0.96	Q	V
13+30	0.3902	0.96	Q	V
13+35	0.3954	0.75	Q	V
13+40	0.3999	0.65	Q	V
13+45	0.4044	0.65	Q	V
13+50	0.4089	0.65	Q	V
13+55	0.4134	0.65	Q	V
14+ 0	0.4179	0.65	Q	V
14+ 5	0.4229	0.73	Q	V
14+10	0.4282	0.77	Q	V
14+15	0.4334	0.77	Q	V
14+20	0.4386	0.75	Q	V
14+25	0.4437	0.74	Q	V
14+30	0.4487	0.74	Q	V
14+35	0.4538	0.74	Q	V
14+40	0.4589	0.74	Q	V
14+45	0.4640	0.74	Q	V
14+50	0.4689	0.72	Q	V
14+55	0.4738	0.71	Q	V
15+ 0	0.4787	0.71	Q	V
15+ 5	0.4835	0.69	Q	V
15+10	0.4881	0.68	Q	V
15+15	0.4928	0.68	Q	V
15+20	0.4974	0.66	Q	V
15+25	0.5019	0.65	Q	V
15+30	0.5064	0.65	Q	V
15+35	0.5103	0.57	Q	V
15+40	0.5140	0.54	Q	V
15+45	0.5178	0.54	Q	V
15+50	0.5215	0.54	Q	V
15+55	0.5252	0.54	Q	V
16+ 0	0.5289	0.54	Q	V
16+ 5	0.5306	0.24	Q	V
16+10	0.5313	0.11	Q	V
16+15	0.5321	0.11	Q	V
16+20	0.5329	0.11	Q	V
16+25	0.5337	0.11	Q	V
16+30	0.5345	0.11	Q	V
16+35	0.5351	0.09	Q	V
16+40	0.5357	0.09	Q	V
16+45	0.5363	0.09	Q	V
16+50	0.5369	0.09	Q	V
16+55	0.5375	0.09	Q	V
17+ 0	0.5380	0.09	Q	V
17+ 5	0.5389	0.12	Q	V
17+10	0.5399	0.14	Q	V
17+15	0.5409	0.14	Q	V
17+20	0.5418	0.14	Q	V
17+25	0.5428	0.14	Q	V
17+30	0.5438	0.14	Q	V
17+35	0.5448	0.14	Q	V
17+40	0.5457	0.14	Q	V
17+45	0.5467	0.14	Q	V
17+50	0.5476	0.12	Q	V
17+55	0.5483	0.11	Q	V
18+ 0	0.5491	0.11	Q	V
18+ 5	0.5499	0.11	Q	V
18+10	0.5507	0.11	Q	V
18+15	0.5515	0.11	Q	V
18+20	0.5523	0.11	Q	V
18+25	0.5530	0.11	Q	V
18+30	0.5538	0.11	Q	V
18+35	0.5545	0.09	Q	V
18+40	0.5550	0.09	Q	V
18+45	0.5556	0.09	Q	V
18+50	0.5561	0.07	Q	V
18+55	0.5565	0.06	Q	V
19+ 0	0.5569	0.06	Q	V

19+ 5	0.5574	0.08	Q				V
19+10	0.5580	0.09	Q				V
19+15	0.5586	0.09	Q				V
19+20	0.5593	0.10	Q				V
19+25	0.5601	0.11	Q				V
19+30	0.5608	0.11	Q				V
19+35	0.5615	0.09	Q				V
19+40	0.5621	0.09	Q				V
19+45	0.5627	0.09	Q				V
19+50	0.5631	0.07	Q				V
19+55	0.5635	0.06	Q				V
20+ 0	0.5639	0.06	Q				V
20+ 5	0.5644	0.08	Q				V
20+10	0.5650	0.09	Q				V
20+15	0.5656	0.09	Q				V
20+20	0.5662	0.09	Q				V
20+25	0.5668	0.09	Q				V
20+30	0.5674	0.09	Q				V
20+35	0.5679	0.09	Q				V
20+40	0.5685	0.09	Q				V
20+45	0.5691	0.09	Q				V
20+50	0.5696	0.07	Q				V
20+55	0.5700	0.06	Q				V
21+ 0	0.5703	0.06	Q				V
21+ 5	0.5709	0.08	Q				V
21+10	0.5715	0.09	Q				V
21+15	0.5720	0.09	Q				V
21+20	0.5725	0.07	Q				V
21+25	0.5729	0.06	Q				V
21+30	0.5733	0.06	Q				V
21+35	0.5738	0.08	Q				V
21+40	0.5744	0.09	Q				V
21+45	0.5750	0.09	Q				V
21+50	0.5754	0.07	Q				V
21+55	0.5758	0.06	Q				V
22+ 0	0.5762	0.06	Q				V
22+ 5	0.5767	0.08	Q				V
22+10	0.5773	0.09	Q				V
22+15	0.5779	0.09	Q				V
22+20	0.5784	0.07	Q				V
22+25	0.5788	0.06	Q				V
22+30	0.5791	0.06	Q				V
22+35	0.5795	0.06	Q				V
22+40	0.5799	0.06	Q				V
22+45	0.5803	0.06	Q				V
22+50	0.5807	0.06	Q				V
22+55	0.5811	0.06	Q				V
23+ 0	0.5815	0.06	Q				V
23+ 5	0.5819	0.06	Q				V
23+10	0.5823	0.06	Q				V
23+15	0.5827	0.06	Q				V
23+20	0.5831	0.06	Q				V
23+25	0.5834	0.06	Q				V
23+30	0.5838	0.06	Q				V
23+35	0.5842	0.06	Q				V
23+40	0.5846	0.06	Q				V
23+45	0.5850	0.06	Q				V
23+50	0.5854	0.06	Q				V
23+55	0.5858	0.06	Q				V
24+ 0	0.5862	0.06	Q				V
24+ 5	0.5863	0.02	Q				V

Area B, 10-Year, 24-Hour

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
Study date 03/21/14 File: ARB2410.out

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6269

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

PRIELIPP ROAD POST-PROJECT CONDITION HYDROLOGY
UNIT HYDROGRAPH ANALYSIS, 2-YEAR, 24-HOUR STORM DURATION
FILENAME: ARB

Drainage Area = 4.10(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.10(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 573.00(Ft.)
Length along longest watercourse measured to centroid = 207.00(Ft.)
Length along longest watercourse = 0.109 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 17.00(Ft.)
Slope along watercourse = 156.6492 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.017 Hr.
Lag time = 1.04 Min.
25% of lag time = 0.26 Min.
40% of lag time = 0.42 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.10	2.50	10.25

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.10	7.00	28.70

STORM EVENT (YEAR) = 10.00
Area Averaged 2-Year Rainfall = 2.500(In)
Area Averaged 100-Year Rainfall = 7.000(In)

Point rain (area averaged) = 4.351(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.351(In)

Sub-Area Data:
Area(Ac.) Runoff Index Impervious %
4.100 69.44 0.733
Total Area Entered = 4.10(Ac.)

RI	RI	Infil. Rate	Impervious	Adj. Infil. Rate	Area%	F
AMC2	AMC-2	(In/Hr)	(Dec.%)	(In/Hr)	(Dec.)	(In/Hr)
69.4	69.4	0.368	0.733	0.125	1.000	0.125
						Sum (F) = 0.125

Area averaged mean soil loss (F) (In/Hr) = 0.125

Minimum soil loss rate ((In/Hr)) = 0.063

(for 24 hour storm duration)

Soil loss rate (decimal) = 0.314

 U n i t H y d r o g r a p h
 VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	481.490	69.977
2	0.167	962.979	30.023
		Sum = 100.000	Sum= 4.132

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr)		Effective (In/Hr)
				Max	Low	
1	0.08	0.07	0.035	(0.222)	0.011	0.024
2	0.17	0.07	0.035	(0.221)	0.011	0.024
3	0.25	0.07	0.035	(0.220)	0.011	0.024
4	0.33	0.10	0.052	(0.219)	0.016	0.036
5	0.42	0.10	0.052	(0.219)	0.016	0.036
6	0.50	0.10	0.052	(0.218)	0.016	0.036
7	0.58	0.10	0.052	(0.217)	0.016	0.036
8	0.67	0.10	0.052	(0.216)	0.016	0.036
9	0.75	0.10	0.052	(0.215)	0.016	0.036
10	0.83	0.13	0.070	(0.214)	0.022	0.048
11	0.92	0.13	0.070	(0.214)	0.022	0.048
12	1.00	0.13	0.070	(0.213)	0.022	0.048
13	1.08	0.10	0.052	(0.212)	0.016	0.036
14	1.17	0.10	0.052	(0.211)	0.016	0.036
15	1.25	0.10	0.052	(0.210)	0.016	0.036
16	1.33	0.10	0.052	(0.209)	0.016	0.036
17	1.42	0.10	0.052	(0.208)	0.016	0.036
18	1.50	0.10	0.052	(0.208)	0.016	0.036
19	1.58	0.10	0.052	(0.207)	0.016	0.036
20	1.67	0.10	0.052	(0.206)	0.016	0.036
21	1.75	0.10	0.052	(0.205)	0.016	0.036
22	1.83	0.13	0.070	(0.204)	0.022	0.048
23	1.92	0.13	0.070	(0.204)	0.022	0.048
24	2.00	0.13	0.070	(0.203)	0.022	0.048
25	2.08	0.13	0.070	(0.202)	0.022	0.048
26	2.17	0.13	0.070	(0.201)	0.022	0.048
27	2.25	0.13	0.070	(0.200)	0.022	0.048
28	2.33	0.13	0.070	(0.199)	0.022	0.048
29	2.42	0.13	0.070	(0.199)	0.022	0.048
30	2.50	0.13	0.070	(0.198)	0.022	0.048
31	2.58	0.17	0.087	(0.197)	0.027	0.060
32	2.67	0.17	0.087	(0.196)	0.027	0.060
33	2.75	0.17	0.087	(0.195)	0.027	0.060
34	2.83	0.17	0.087	(0.195)	0.027	0.060
35	2.92	0.17	0.087	(0.194)	0.027	0.060
36	3.00	0.17	0.087	(0.193)	0.027	0.060
37	3.08	0.17	0.087	(0.192)	0.027	0.060
38	3.17	0.17	0.087	(0.191)	0.027	0.060
39	3.25	0.17	0.087	(0.191)	0.027	0.060
40	3.33	0.17	0.087	(0.190)	0.027	0.060

41	3.42	0.17	0.087	(0.189)	0.027	0.060
42	3.50	0.17	0.087	(0.188)	0.027	0.060
43	3.58	0.17	0.087	(0.187)	0.027	0.060
44	3.67	0.17	0.087	(0.187)	0.027	0.060
45	3.75	0.17	0.087	(0.186)	0.027	0.060
46	3.83	0.20	0.104	(0.185)	0.033	0.072
47	3.92	0.20	0.104	(0.184)	0.033	0.072
48	4.00	0.20	0.104	(0.183)	0.033	0.072
49	4.08	0.20	0.104	(0.183)	0.033	0.072
50	4.17	0.20	0.104	(0.182)	0.033	0.072
51	4.25	0.20	0.104	(0.181)	0.033	0.072
52	4.33	0.23	0.122	(0.180)	0.038	0.084
53	4.42	0.23	0.122	(0.180)	0.038	0.084
54	4.50	0.23	0.122	(0.179)	0.038	0.084
55	4.58	0.23	0.122	(0.178)	0.038	0.084
56	4.67	0.23	0.122	(0.177)	0.038	0.084
57	4.75	0.23	0.122	(0.177)	0.038	0.084
58	4.83	0.27	0.139	(0.176)	0.044	0.096
59	4.92	0.27	0.139	(0.175)	0.044	0.096
60	5.00	0.27	0.139	(0.174)	0.044	0.096
61	5.08	0.20	0.104	(0.174)	0.033	0.072
62	5.17	0.20	0.104	(0.173)	0.033	0.072
63	5.25	0.20	0.104	(0.172)	0.033	0.072
64	5.33	0.23	0.122	(0.171)	0.038	0.084
65	5.42	0.23	0.122	(0.171)	0.038	0.084
66	5.50	0.23	0.122	(0.170)	0.038	0.084
67	5.58	0.27	0.139	(0.169)	0.044	0.096
68	5.67	0.27	0.139	(0.168)	0.044	0.096
69	5.75	0.27	0.139	(0.168)	0.044	0.096
70	5.83	0.27	0.139	(0.167)	0.044	0.096
71	5.92	0.27	0.139	(0.166)	0.044	0.096
72	6.00	0.27	0.139	(0.165)	0.044	0.096
73	6.08	0.30	0.157	(0.165)	0.049	0.108
74	6.17	0.30	0.157	(0.164)	0.049	0.108
75	6.25	0.30	0.157	(0.163)	0.049	0.108
76	6.33	0.30	0.157	(0.162)	0.049	0.108
77	6.42	0.30	0.157	(0.162)	0.049	0.108
78	6.50	0.30	0.157	(0.161)	0.049	0.108
79	6.58	0.33	0.174	(0.160)	0.055	0.119
80	6.67	0.33	0.174	(0.160)	0.055	0.119
81	6.75	0.33	0.174	(0.159)	0.055	0.119
82	6.83	0.33	0.174	(0.158)	0.055	0.119
83	6.92	0.33	0.174	(0.157)	0.055	0.119
84	7.00	0.33	0.174	(0.157)	0.055	0.119
85	7.08	0.33	0.174	(0.156)	0.055	0.119
86	7.17	0.33	0.174	(0.155)	0.055	0.119
87	7.25	0.33	0.174	(0.155)	0.055	0.119
88	7.33	0.37	0.191	(0.154)	0.060	0.131
89	7.42	0.37	0.191	(0.153)	0.060	0.131
90	7.50	0.37	0.191	(0.152)	0.060	0.131
91	7.58	0.40	0.209	(0.152)	0.065	0.143
92	7.67	0.40	0.209	(0.151)	0.065	0.143
93	7.75	0.40	0.209	(0.150)	0.065	0.143
94	7.83	0.43	0.226	(0.150)	0.071	0.155
95	7.92	0.43	0.226	(0.149)	0.071	0.155
96	8.00	0.43	0.226	(0.148)	0.071	0.155
97	8.08	0.50	0.261	(0.148)	0.082	0.179
98	8.17	0.50	0.261	(0.147)	0.082	0.179
99	8.25	0.50	0.261	(0.146)	0.082	0.179
100	8.33	0.50	0.261	(0.145)	0.082	0.179
101	8.42	0.50	0.261	(0.145)	0.082	0.179
102	8.50	0.50	0.261	(0.144)	0.082	0.179
103	8.58	0.53	0.278	(0.143)	0.087	0.191
104	8.67	0.53	0.278	(0.143)	0.087	0.191
105	8.75	0.53	0.278	(0.142)	0.087	0.191
106	8.83	0.57	0.296	(0.141)	0.093	0.203
107	8.92	0.57	0.296	(0.141)	0.093	0.203
108	9.00	0.57	0.296	(0.140)	0.093	0.203
109	9.08	0.63	0.331	(0.139)	0.104	0.227
110	9.17	0.63	0.331	(0.139)	0.104	0.227
111	9.25	0.63	0.331	(0.138)	0.104	0.227

112	9.33	0.67	0.348	(0.137)	0.109	0.239
113	9.42	0.67	0.348	(0.137)	0.109	0.239
114	9.50	0.67	0.348	(0.136)	0.109	0.239
115	9.58	0.70	0.366	(0.135)	0.115	0.251
116	9.67	0.70	0.366	(0.135)	0.115	0.251
117	9.75	0.70	0.366	(0.134)	0.115	0.251
118	9.83	0.73	0.383	(0.134)	0.120	0.263
119	9.92	0.73	0.383	(0.133)	0.120	0.263
120	10.00	0.73	0.383	(0.132)	0.120	0.263
121	10.08	0.50	0.261	(0.132)	0.082	0.179
122	10.17	0.50	0.261	(0.131)	0.082	0.179
123	10.25	0.50	0.261	(0.130)	0.082	0.179
124	10.33	0.50	0.261	(0.130)	0.082	0.179
125	10.42	0.50	0.261	(0.129)	0.082	0.179
126	10.50	0.50	0.261	(0.128)	0.082	0.179
127	10.58	0.67	0.348	(0.128)	0.109	0.239
128	10.67	0.67	0.348	(0.127)	0.109	0.239
129	10.75	0.67	0.348	(0.127)	0.109	0.239
130	10.83	0.67	0.348	(0.126)	0.109	0.239
131	10.92	0.67	0.348	(0.125)	0.109	0.239
132	11.00	0.67	0.348	(0.125)	0.109	0.239
133	11.08	0.63	0.331	(0.124)	0.104	0.227
134	11.17	0.63	0.331	(0.124)	0.104	0.227
135	11.25	0.63	0.331	(0.123)	0.104	0.227
136	11.33	0.63	0.331	(0.122)	0.104	0.227
137	11.42	0.63	0.331	(0.122)	0.104	0.227
138	11.50	0.63	0.331	(0.121)	0.104	0.227
139	11.58	0.57	0.296	(0.120)	0.093	0.203
140	11.67	0.57	0.296	(0.120)	0.093	0.203
141	11.75	0.57	0.296	(0.119)	0.093	0.203
142	11.83	0.60	0.313	(0.119)	0.098	0.215
143	11.92	0.60	0.313	(0.118)	0.098	0.215
144	12.00	0.60	0.313	(0.118)	0.098	0.215
145	12.08	0.83	0.435	0.117 (0.136)		0.318
146	12.17	0.83	0.435	0.116 (0.136)		0.319
147	12.25	0.83	0.435	0.116 (0.136)		0.319
148	12.33	0.87	0.453	0.115 (0.142)		0.337
149	12.42	0.87	0.453	0.115 (0.142)		0.338
150	12.50	0.87	0.453	0.114 (0.142)		0.339
151	12.58	0.93	0.487	0.113 (0.153)		0.374
152	12.67	0.93	0.487	0.113 (0.153)		0.374
153	12.75	0.93	0.487	0.112 (0.153)		0.375
154	12.83	0.97	0.505	0.112 (0.158)		0.393
155	12.92	0.97	0.505	0.111 (0.158)		0.394
156	13.00	0.97	0.505	0.111 (0.158)		0.394
157	13.08	1.13	0.592	0.110 (0.186)		0.482
158	13.17	1.13	0.592	0.109 (0.186)		0.482
159	13.25	1.13	0.592	0.109 (0.186)		0.483
160	13.33	1.13	0.592	0.108 (0.186)		0.483
161	13.42	1.13	0.592	0.108 (0.186)		0.484
162	13.50	1.13	0.592	0.107 (0.186)		0.485
163	13.58	0.77	0.400	0.107 (0.126)		0.294
164	13.67	0.77	0.400	0.106 (0.126)		0.294
165	13.75	0.77	0.400	0.106 (0.126)		0.295
166	13.83	0.77	0.400	0.105 (0.126)		0.295
167	13.92	0.77	0.400	0.105 (0.126)		0.296
168	14.00	0.77	0.400	0.104 (0.126)		0.296
169	14.08	0.90	0.470	0.104 (0.147)		0.366
170	14.17	0.90	0.470	0.103 (0.147)		0.367
171	14.25	0.90	0.470	0.102 (0.147)		0.367
172	14.33	0.87	0.453	0.102 (0.142)		0.351
173	14.42	0.87	0.453	0.101 (0.142)		0.351
174	14.50	0.87	0.453	0.101 (0.142)		0.352
175	14.58	0.87	0.453	0.100 (0.142)		0.352
176	14.67	0.87	0.453	0.100 (0.142)		0.353
177	14.75	0.87	0.453	0.099 (0.142)		0.353
178	14.83	0.83	0.435	0.099 (0.136)		0.336
179	14.92	0.83	0.435	0.098 (0.136)		0.337
180	15.00	0.83	0.435	0.098 (0.136)		0.337
181	15.08	0.80	0.418	0.097 (0.131)		0.320
182	15.17	0.80	0.418	0.097 (0.131)		0.321

183	15.25	0.80	0.418	0.096	(0.131)	0.321
184	15.33	0.77	0.400	0.096	(0.126)	0.304
185	15.42	0.77	0.400	0.095	(0.126)	0.305
186	15.50	0.77	0.400	0.095	(0.126)	0.305
187	15.58	0.63	0.331	0.094	(0.104)	0.236
188	15.67	0.63	0.331	0.094	(0.104)	0.237
189	15.75	0.63	0.331	0.093	(0.104)	0.237
190	15.83	0.63	0.331	0.093	(0.104)	0.238
191	15.92	0.63	0.331	0.092	(0.104)	0.238
192	16.00	0.63	0.331	0.092	(0.104)	0.239
193	16.08	0.13	0.070	(0.092)	0.022	0.048
194	16.17	0.13	0.070	(0.091)	0.022	0.048
195	16.25	0.13	0.070	(0.091)	0.022	0.048
196	16.33	0.13	0.070	(0.090)	0.022	0.048
197	16.42	0.13	0.070	(0.090)	0.022	0.048
198	16.50	0.13	0.070	(0.089)	0.022	0.048
199	16.58	0.10	0.052	(0.089)	0.016	0.036
200	16.67	0.10	0.052	(0.088)	0.016	0.036
201	16.75	0.10	0.052	(0.088)	0.016	0.036
202	16.83	0.10	0.052	(0.087)	0.016	0.036
203	16.92	0.10	0.052	(0.087)	0.016	0.036
204	17.00	0.10	0.052	(0.087)	0.016	0.036
205	17.08	0.17	0.087	(0.086)	0.027	0.060
206	17.17	0.17	0.087	(0.086)	0.027	0.060
207	17.25	0.17	0.087	(0.085)	0.027	0.060
208	17.33	0.17	0.087	(0.085)	0.027	0.060
209	17.42	0.17	0.087	(0.084)	0.027	0.060
210	17.50	0.17	0.087	(0.084)	0.027	0.060
211	17.58	0.17	0.087	(0.084)	0.027	0.060
212	17.67	0.17	0.087	(0.083)	0.027	0.060
213	17.75	0.17	0.087	(0.083)	0.027	0.060
214	17.83	0.13	0.070	(0.082)	0.022	0.048
215	17.92	0.13	0.070	(0.082)	0.022	0.048
216	18.00	0.13	0.070	(0.081)	0.022	0.048
217	18.08	0.13	0.070	(0.081)	0.022	0.048
218	18.17	0.13	0.070	(0.081)	0.022	0.048
219	18.25	0.13	0.070	(0.080)	0.022	0.048
220	18.33	0.13	0.070	(0.080)	0.022	0.048
221	18.42	0.13	0.070	(0.079)	0.022	0.048
222	18.50	0.13	0.070	(0.079)	0.022	0.048
223	18.58	0.10	0.052	(0.079)	0.016	0.036
224	18.67	0.10	0.052	(0.078)	0.016	0.036
225	18.75	0.10	0.052	(0.078)	0.016	0.036
226	18.83	0.07	0.035	(0.078)	0.011	0.024
227	18.92	0.07	0.035	(0.077)	0.011	0.024
228	19.00	0.07	0.035	(0.077)	0.011	0.024
229	19.08	0.10	0.052	(0.076)	0.016	0.036
230	19.17	0.10	0.052	(0.076)	0.016	0.036
231	19.25	0.10	0.052	(0.076)	0.016	0.036
232	19.33	0.13	0.070	(0.075)	0.022	0.048
233	19.42	0.13	0.070	(0.075)	0.022	0.048
234	19.50	0.13	0.070	(0.075)	0.022	0.048
235	19.58	0.10	0.052	(0.074)	0.016	0.036
236	19.67	0.10	0.052	(0.074)	0.016	0.036
237	19.75	0.10	0.052	(0.074)	0.016	0.036
238	19.83	0.07	0.035	(0.073)	0.011	0.024
239	19.92	0.07	0.035	(0.073)	0.011	0.024
240	20.00	0.07	0.035	(0.073)	0.011	0.024
241	20.08	0.10	0.052	(0.072)	0.016	0.036
242	20.17	0.10	0.052	(0.072)	0.016	0.036
243	20.25	0.10	0.052	(0.072)	0.016	0.036
244	20.33	0.10	0.052	(0.071)	0.016	0.036
245	20.42	0.10	0.052	(0.071)	0.016	0.036
246	20.50	0.10	0.052	(0.071)	0.016	0.036
247	20.58	0.10	0.052	(0.071)	0.016	0.036
248	20.67	0.10	0.052	(0.070)	0.016	0.036
249	20.75	0.10	0.052	(0.070)	0.016	0.036
250	20.83	0.07	0.035	(0.070)	0.011	0.024
251	20.92	0.07	0.035	(0.069)	0.011	0.024
252	21.00	0.07	0.035	(0.069)	0.011	0.024
253	21.08	0.10	0.052	(0.069)	0.016	0.036

254	21.17	0.10	0.052	(0.069)	0.016	0.036
255	21.25	0.10	0.052	(0.068)	0.016	0.036
256	21.33	0.07	0.035	(0.068)	0.011	0.024
257	21.42	0.07	0.035	(0.068)	0.011	0.024
258	21.50	0.07	0.035	(0.068)	0.011	0.024
259	21.58	0.10	0.052	(0.067)	0.016	0.036
260	21.67	0.10	0.052	(0.067)	0.016	0.036
261	21.75	0.10	0.052	(0.067)	0.016	0.036
262	21.83	0.07	0.035	(0.067)	0.011	0.024
263	21.92	0.07	0.035	(0.066)	0.011	0.024
264	22.00	0.07	0.035	(0.066)	0.011	0.024
265	22.08	0.10	0.052	(0.066)	0.016	0.036
266	22.17	0.10	0.052	(0.066)	0.016	0.036
267	22.25	0.10	0.052	(0.065)	0.016	0.036
268	22.33	0.07	0.035	(0.065)	0.011	0.024
269	22.42	0.07	0.035	(0.065)	0.011	0.024
270	22.50	0.07	0.035	(0.065)	0.011	0.024
271	22.58	0.07	0.035	(0.065)	0.011	0.024
272	22.67	0.07	0.035	(0.065)	0.011	0.024
273	22.75	0.07	0.035	(0.064)	0.011	0.024
274	22.83	0.07	0.035	(0.064)	0.011	0.024
275	22.92	0.07	0.035	(0.064)	0.011	0.024
276	23.00	0.07	0.035	(0.064)	0.011	0.024
277	23.08	0.07	0.035	(0.064)	0.011	0.024
278	23.17	0.07	0.035	(0.064)	0.011	0.024
279	23.25	0.07	0.035	(0.063)	0.011	0.024
280	23.33	0.07	0.035	(0.063)	0.011	0.024
281	23.42	0.07	0.035	(0.063)	0.011	0.024
282	23.50	0.07	0.035	(0.063)	0.011	0.024
283	23.58	0.07	0.035	(0.063)	0.011	0.024
284	23.67	0.07	0.035	(0.063)	0.011	0.024
285	23.75	0.07	0.035	(0.063)	0.011	0.024
286	23.83	0.07	0.035	(0.063)	0.011	0.024
287	23.92	0.07	0.035	(0.063)	0.011	0.024
288	24.00	0.07	0.035	(0.063)	0.011	0.024

(Loss Rate Not Used)

Sum = 100.0 Sum = 37.6

Flood volume = Effective rainfall 3.13(In)
times area 4.1(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 1.22(In)
Total soil loss = 0.417(Ac.Ft)
Total rainfall = 4.35(In)
Flood volume = 46606.9 Cubic Feet
Total soil loss = 18153.5 Cubic Feet

Peak flow rate of this hydrograph = 2.002(CFS)

+++++

24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0005	0.07	Q				
0+10	0.0012	0.10	Q				
0+15	0.0018	0.10	Q				
0+20	0.0028	0.13	Q				
0+25	0.0038	0.15	Q				
0+30	0.0048	0.15	Q				
0+35	0.0058	0.15	Q				
0+40	0.0068	0.15	Q				
0+45	0.0079	0.15	Q				
0+50	0.0091	0.18	Q				
0+55	0.0105	0.20	Q				
1+ 0	0.0118	0.20	Q				
1+ 5	0.0130	0.16	Q				
1+10	0.0140	0.15	Q				
1+15	0.0150	0.15	Q				

1+20	0.0160	0.15	Q				
1+25	0.0170	0.15	Q				
1+30	0.0181	0.15	Q				
1+35	0.0191	0.15	Q				
1+40	0.0201	0.15	Q				
1+45	0.0211	0.15	Q				
1+50	0.0224	0.18	Q				
1+55	0.0237	0.20	Q				
2+ 0	0.0251	0.20	Q				
2+ 5	0.0265	0.20	Q				
2+10	0.0278	0.20	QV				
2+15	0.0292	0.20	QV				
2+20	0.0305	0.20	QV				
2+25	0.0319	0.20	QV				
2+30	0.0333	0.20	QV				
2+35	0.0349	0.23	QV				
2+40	0.0366	0.25	QV				
2+45	0.0383	0.25	QV				
2+50	0.0400	0.25	QV				
2+55	0.0417	0.25	QV				
3+ 0	0.0434	0.25	QV				
3+ 5	0.0451	0.25	QV				
3+10	0.0468	0.25	QV				
3+15	0.0485	0.25	QV				
3+20	0.0502	0.25	QV				
3+25	0.0519	0.25	QV				
3+30	0.0536	0.25	Q V				
3+35	0.0553	0.25	Q V				
3+40	0.0570	0.25	Q V				
3+45	0.0587	0.25	Q V				
3+50	0.0606	0.28	QV				
3+55	0.0627	0.30	QV				
4+ 0	0.0647	0.30	QV				
4+ 5	0.0667	0.30	QV				
4+10	0.0688	0.30	QV				
4+15	0.0708	0.30	QV				
4+20	0.0731	0.33	QV				
4+25	0.0755	0.35	QV				
4+30	0.0779	0.35	QV				
4+35	0.0802	0.35	QV				
4+40	0.0826	0.35	Q V				
4+45	0.0850	0.35	Q V				
4+50	0.0876	0.38	Q V				
4+55	0.0903	0.40	Q V				
5+ 0	0.0931	0.40	Q V				
5+ 5	0.0953	0.33	Q V				
5+10	0.0974	0.30	Q V				
5+15	0.0994	0.30	Q V				
5+20	0.1017	0.33	Q V				
5+25	0.1041	0.35	Q V				
5+30	0.1064	0.35	Q V				
5+35	0.1091	0.38	Q V				
5+40	0.1118	0.40	Q V				
5+45	0.1145	0.40	Q V				
5+50	0.1172	0.40	Q V				
5+55	0.1199	0.40	Q V				
6+ 0	0.1227	0.40	Q V				
6+ 5	0.1256	0.43	Q V				
6+10	0.1287	0.44	Q V				
6+15	0.1317	0.44	Q V				
6+20	0.1348	0.44	Q V				
6+25	0.1379	0.44	Q V				
6+30	0.1409	0.44	Q V				
6+35	0.1442	0.48	Q V				
6+40	0.1476	0.49	Q V				
6+45	0.1510	0.49	Q V				
6+50	0.1544	0.49	Q V				
6+55	0.1578	0.49	Q V				
7+ 0	0.1612	0.49	Q V				
7+ 5	0.1646	0.49	Q V				
7+10	0.1680	0.49	Q V				

7+15	0.1714	0.49	Q	V				
7+20	0.1751	0.53	Q	V				
7+25	0.1788	0.54	Q	V				
7+30	0.1826	0.54	Q	V				
7+35	0.1865	0.58	Q	V				
7+40	0.1906	0.59	Q	V				
7+45	0.1947	0.59	Q	V				
7+50	0.1990	0.63	Q	V				
7+55	0.2034	0.64	Q	V				
8+ 0	0.2079	0.64	Q	V				
8+ 5	0.2128	0.71	Q	V				
8+10	0.2179	0.74	Q	V				
8+15	0.2230	0.74	Q	V				
8+20	0.2281	0.74	Q	V				
8+25	0.2332	0.74	Q	V				
8+30	0.2383	0.74	Q	V				
8+35	0.2436	0.78	Q	V				
8+40	0.2491	0.79	Q	V				
8+45	0.2545	0.79	Q	V				
8+50	0.2602	0.82	Q	V				
8+55	0.2660	0.84	Q	V				
9+ 0	0.2717	0.84	Q	V				
9+ 5	0.2780	0.91	Q	V				
9+10	0.2845	0.94	Q	V				
9+15	0.2909	0.94	Q	V				
9+20	0.2976	0.97	Q	V				
9+25	0.3044	0.99	Q	V				
9+30	0.3112	0.99	Q	V				
9+35	0.3183	1.02	Q	V				
9+40	0.3254	1.04	Q	V				
9+45	0.3326	1.04	Q	V				
9+50	0.3399	1.07	Q	V				
9+55	0.3474	1.09	Q	V				
10+ 0	0.3549	1.09	Q	V				
10+ 5	0.3607	0.84	Q	V				
10+10	0.3658	0.74	Q	V				
10+15	0.3709	0.74	Q	V				
10+20	0.3760	0.74	Q	V				
10+25	0.3811	0.74	Q	V				
10+30	0.3862	0.74	Q	V				
10+35	0.3925	0.91	Q	V				
10+40	0.3993	0.99	Q	V				
10+45	0.4061	0.99	Q	V				
10+50	0.4129	0.99	Q	V				
10+55	0.4198	0.99	Q	V				
11+ 0	0.4266	0.99	Q	V				
11+ 5	0.4331	0.95	Q	V				
11+10	0.4396	0.94	Q	V				
11+15	0.4460	0.94	Q	V				
11+20	0.4525	0.94	Q	V				
11+25	0.4590	0.94	Q	V				
11+30	0.4654	0.94	Q	V				
11+35	0.4714	0.87	Q	V				
11+40	0.4772	0.84	Q	V				
11+45	0.4830	0.84	Q	V				
11+50	0.4890	0.87	Q	V				
11+55	0.4951	0.89	Q	V				
12+ 0	0.5013	0.89	Q	V				
12+ 5	0.5094	1.19	Q	V				
12+10	0.5185	1.32	Q	V				
12+15	0.5276	1.32	Q	V				
12+20	0.5370	1.37	Q	V				
12+25	0.5467	1.40	Q	V				
12+30	0.5563	1.40	Q	V				
12+35	0.5666	1.50	Q	V				
12+40	0.5773	1.55	Q	V				
12+45	0.5880	1.55	Q	V				
12+50	0.5990	1.60	Q	V				
12+55	0.6102	1.63	Q	V				
13+ 0	0.6214	1.63	Q	V				
13+ 5	0.6344	1.88	Q	V				

13+10	0.6481	1.99		Q		V	
13+15	0.6619	2.00		Q		V	
13+20	0.6756	2.00		Q		V	
13+25	0.6894	2.00		Q		V	
13+30	0.7032	2.00		Q		V	
13+35	0.7132	1.45		Q		V	
13+40	0.7215	1.22		Q		V	
13+45	0.7299	1.22		Q		V	
13+50	0.7383	1.22		Q		V	
13+55	0.7467	1.22		Q		V	
14+ 0	0.7552	1.22		Q		V	
14+ 5	0.7650	1.43		Q		V	
14+10	0.7755	1.52		Q		V	
14+15	0.7859	1.52		Q		V	
14+20	0.7960	1.47		Q		V	
14+25	0.8060	1.45		Q		V	
14+30	0.8160	1.45		Q		V	
14+35	0.8261	1.46		Q		V	
14+40	0.8361	1.46		Q		V	
14+45	0.8462	1.46		Q		V	
14+50	0.8559	1.41		Q		V	
14+55	0.8655	1.39		Q		V	
15+ 0	0.8751	1.39		Q		V	
15+ 5	0.8843	1.35		Q		V	
15+10	0.8935	1.33		Q		V	
15+15	0.9026	1.33		Q		V	
15+20	0.9114	1.28		Q		V	
15+25	0.9201	1.26		Q		V	
15+30	0.9288	1.26		Q		V	
15+35	0.9361	1.06		Q		V	
15+40	0.9429	0.98		Q		V	
15+45	0.9496	0.98		Q		V	
15+50	0.9564	0.98		Q		V	
15+55	0.9631	0.98		Q		V	
16+ 0	0.9699	0.99		Q		V	
16+ 5	0.9729	0.43	Q			V	
16+10	0.9743	0.20	Q			V	
16+15	0.9757	0.20	Q			V	
16+20	0.9770	0.20	Q			V	
16+25	0.9784	0.20	Q			V	
16+30	0.9797	0.20	Q			V	
16+35	0.9809	0.16	Q			V	
16+40	0.9819	0.15	Q			V	
16+45	0.9829	0.15	Q			V	
16+50	0.9839	0.15	Q			V	
16+55	0.9849	0.15	Q			V	
17+ 0	0.9860	0.15	Q			V	
17+ 5	0.9875	0.22	Q			V	
17+10	0.9892	0.25	Q			V	
17+15	0.9909	0.25	Q			V	
17+20	0.9926	0.25	Q			V	
17+25	0.9943	0.25	Q			V	
17+30	0.9960	0.25	Q			V	
17+35	0.9977	0.25	Q			V	
17+40	0.9994	0.25	Q			V	
17+45	1.0011	0.25	Q			V	
17+50	1.0025	0.21	Q			V	
17+55	1.0039	0.20	Q			V	
18+ 0	1.0052	0.20	Q			V	
18+ 5	1.0066	0.20	Q			V	
18+10	1.0080	0.20	Q			V	
18+15	1.0093	0.20	Q			V	
18+20	1.0107	0.20	Q			V	
18+25	1.0121	0.20	Q			V	
18+30	1.0134	0.20	Q			V	
18+35	1.0145	0.16	Q			V	
18+40	1.0156	0.15	Q			V	
18+45	1.0166	0.15	Q			V	
18+50	1.0174	0.11	Q			V	
18+55	1.0180	0.10	Q			V	
19+ 0	1.0187	0.10	Q			V	

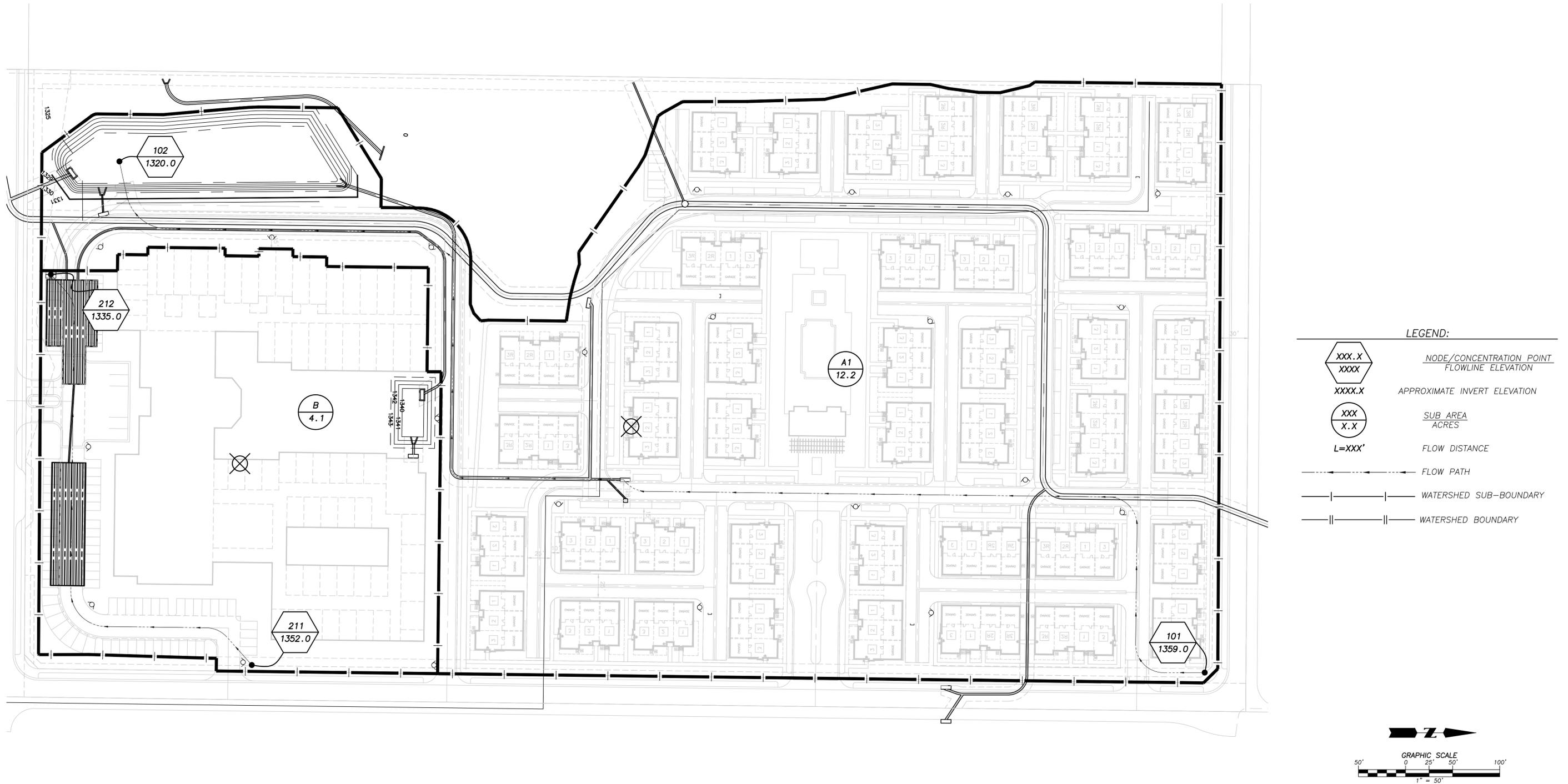
19+ 5	1.0196	0.13	Q				V
19+10	1.0207	0.15	Q				V
19+15	1.0217	0.15	Q				V
19+20	1.0229	0.18	Q				V
19+25	1.0243	0.20	Q				V
19+30	1.0257	0.20	Q				V
19+35	1.0268	0.16	Q				V
19+40	1.0278	0.15	Q				V
19+45	1.0288	0.15	Q				V
19+50	1.0296	0.11	Q				V
19+55	1.0303	0.10	Q				V
20+ 0	1.0310	0.10	Q				V
20+ 5	1.0319	0.13	Q				V
20+10	1.0329	0.15	Q				V
20+15	1.0339	0.15	Q				V
20+20	1.0349	0.15	Q				V
20+25	1.0360	0.15	Q				V
20+30	1.0370	0.15	Q				V
20+35	1.0380	0.15	Q				V
20+40	1.0390	0.15	Q				V
20+45	1.0400	0.15	Q				V
20+50	1.0408	0.11	Q				V
20+55	1.0415	0.10	Q				V
21+ 0	1.0422	0.10	Q				V
21+ 5	1.0431	0.13	Q				V
21+10	1.0441	0.15	Q				V
21+15	1.0451	0.15	Q				V
21+20	1.0459	0.11	Q				V
21+25	1.0466	0.10	Q				V
21+30	1.0473	0.10	Q				V
21+35	1.0482	0.13	Q				V
21+40	1.0492	0.15	Q				V
21+45	1.0503	0.15	Q				V
21+50	1.0510	0.11	Q				V
21+55	1.0517	0.10	Q				V
22+ 0	1.0524	0.10	Q				V
22+ 5	1.0533	0.13	Q				V
22+10	1.0543	0.15	Q				V
22+15	1.0554	0.15	Q				V
22+20	1.0561	0.11	Q				V
22+25	1.0568	0.10	Q				V
22+30	1.0575	0.10	Q				V
22+35	1.0582	0.10	Q				V
22+40	1.0589	0.10	Q				V
22+45	1.0595	0.10	Q				V
22+50	1.0602	0.10	Q				V
22+55	1.0609	0.10	Q				V
23+ 0	1.0616	0.10	Q				V
23+ 5	1.0623	0.10	Q				V
23+10	1.0629	0.10	Q				V
23+15	1.0636	0.10	Q				V
23+20	1.0643	0.10	Q				V
23+25	1.0650	0.10	Q				V
23+30	1.0657	0.10	Q				V
23+35	1.0663	0.10	Q				V
23+40	1.0670	0.10	Q				V
23+45	1.0677	0.10	Q				V
23+50	1.0684	0.10	Q				V
23+55	1.0691	0.10	Q				V
24+ 0	1.0697	0.10	Q				V
24+ 5	1.0699	0.03	Q				V

Onsite Unit Hydrograph Hydrology Map

PRIELIPP ROAD PROJECT

IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

UNIT HYDROGRAPH HYDROLOGY MAP



- LEGEND:**
- NODE/CONCENTRATION POINT
FLOWLINE ELEVATION
 - APPROXIMATE INVERT ELEVATION
 - SUB AREA
ACRES
 - FLOW DISTANCE
 - FLOW PATH
 - WATERSHED SUB-BOUNDARY
 - WATERSHED BOUNDARY

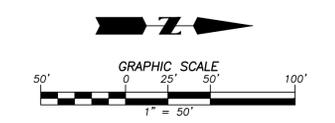


FIGURE 5
PRIELIPP ROAD
UNIT HYDROGRAPH
HYDROLOGY MAP

JLC Engineering & Consulting, Inc.
36263 CALLE DE LOBO
MURRIETA, CA 92562
PH. 951.304.9552 FAX 951.304.3568

Drawing Name: O:\108-25\13\N\Outsource\032114\032114\032114\Onsite Hydro Map-UNIT-111913.dwg
Last Opened: Mar 21, 2014 - 3:56pm by Jorner

Appendix D

Educational Materials

Will be included in the Final WQMP

Appendix E

Soils Report

**PRELIMINARY
GEOTECHNICAL
AND FAULT RUPTURE HAZARD
INVESTIGATION**

**APNs 380-250-003 AND 380-250-023
WILDOMAR, CALIFORNIA**



GEOCON
WEST, INC.

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

**STRATAEQUITY GROUP, INC.
SAN DIEGO, CALIFORNIA**

**DECEMBER 11, 2012
PROJECT NO. T2539-22-02**



Project No. T2539-22-02

December 11, 2012

Strata Equity Group, Inc.
4370 La Jolla Village Drive, Suite 960
San Diego, California 92122

Attention: Mr. Eric Flodine

Subject: PRELIMINARY GEOTECHNICAL AND
FAULT RUPTURE HAZARD INVESTIGATION
APNs 380-250-003 AND 380-250-023
WILDOMAR, CALIFORNIA

Dear Mr. Flodine:

In accordance with your authorization of our proposal dated October 12, 2012 we have performed a preliminary geotechnical investigation and fault rupture hazard investigation of two 20-acre parcels located south of Clinton Keith Road in Wildomar, California. The accompanying report presents the findings of our study, and our preliminary conclusions and recommendations pertaining to the geotechnical aspects of future design and construction.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned.

Very truly yours,

GEOCON WEST, INC.


Lisa A. Battiato
CEG 2316




Kenneth E. Cox
GE 2793



LAB:KEC:GK:JT:lb
(1 pdf) Addressee

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LIMITATIONS AND UNIFORMITY OF CONDITIONS

LIST OF REFERENCES

MAPS, TABLES, AND ILLUSTRATIONS

- Figure 1, Vicinity Map
- Figure 2, Geologic Map and Site Plan
- Figure 3, Regional Fault Map
- Figure 4, Regional Seismicity Map
- Figure 5, Probability of Exceedance
- Figure 6, Retaining Wall Drainage Details
- Figure 7, Retaining Wall Footing Details
- Table 1, Faults within 60 Miles of the Site – Deterministic Site Parameters

APPENDIX A

FIELD INVESTIGATION

- Figures A-1 through A-7, Boring Logs
- Figures A-8 through A-17, Test Pit Logs

APPENDIX B

LABORATORY TESTING

- Figure B1, Direct Shear Test Results
- Figure B2, Laboratory Test Results
- Figure B3, Grain Size Distribution
- Figure B4, Corrosivity Test Results

APPENDIX C

FAULT RUPTURE HAZARD INVESTIGATION

- Plate C-1, Fault Trench Logs

PRELIMINARY GEOTECHNICAL AND FAULT RUPTURE HAZARD INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of a preliminary geotechnical and fault rupture hazard investigation for two 20-acre parcels in the City of Wildomar. The “north” site is APN 380-250-003 and is located immediately southwest of Clinton Keith Road and Yamas Drive (proposed). The “south” site is APN 380-250-023 and is located immediately northwest of Prielipp Road and Elizabeth Lane. Both sites are depicted on the Vicinity Map, Figure 1. The purpose of the investigation was to evaluate subsurface soil and geologic conditions underlying the parcels, and based on conditions encountered to provide preliminary conclusions and recommendations pertaining to the geotechnical and geologic aspects of future design and construction.

The scope of our investigation included a site reconnaissance, review of available geologic literature, geotechnical field exploration, laboratory testing, engineering analysis, fault trench excavations, geologic logging, and the preparation of this report. Geotechnical drilling was performed on November 7th and 13th, 2012 by excavating seven 8-inch diameter borings with a CME 75 drill rig. The borings were excavated to depths between 10.5 and 50.5 feet below the existing ground surface. Ten test pits were excavated in areas which were inaccessible to the drill rig. The test pits were excavated utilizing a four-wheel drive backhoe equipped with a 30-inch bucket to depths between 2.5 and 8 feet. The approximate locations of the exploratory borings and test pits are depicted on the Geologic Map and Site Plan, Figure 2. A detailed discussion of the geotechnical field investigation, including boring and test pit logs, are presented in Appendix A. Laboratory tests were performed on selected soil samples obtained during the investigation to determine pertinent physical and chemical soil properties. Appendix B presents a summary of the laboratory test results.

Fault trenching was performed to determine if active faulting was present on the sites. The trenching was performed on October 25 through November 13, 2012 and entailed the excavation of 194 lineal feet of fault trench (FT-1 and FT-2) on the northern parcel and 225 lineal feet of fault trench (FT-3) on the southern parcel. Riverside County has depicted an unclassified fault crossing both of the sites based on the Land Information System data base. The County has not established a fault hazard zone around this fault. It appears that this fault was taken from regional geologic mapping performed by Kennedy and Morton from their *Preliminary Geologic Map of the Murrieta 7.5' Quadrangle* (Version 1.0). Kennedy did not include the site faults in his previous 1977 study. A detailed discussion of the fault hazard investigation, including logs of the trench excavations are provided in Appendix C of this report.

The recommendations presented herein are based on analysis of the data obtained during the investigation and our experience with similar soil and geologic conditions. References reviewed to prepare this report are provided in the *List of References* section. If project details vary significantly from those described above, Geocon should be contacted to determine the necessity for review and possible revision of this report.

2. SITE AND PROJECT DESCRIPTION

The northern parcel is bounded on the north by Clinton Keith Road, the west by a vacant 20 acre parcel and Inland Valley Drive, the south by multi-family residential units and the east by a 10 acre residential parcel and undeveloped land. The site is currently vacant. Topographically the site consists of an alluvial plain which descends gently to the southwest from Clinton Keith Road. The plain is incised by two drainage areas which flow south to southwest across the property. Vegetation consists of dry grasses, occasional shrubs along the hillsides, and large oak trees and weeds within the drainage areas. A storm drain culvert under Clinton Keith Road discharges into the western drainage from the parcel to the north. A corrugated metal pipe discharges surface storm water drainage from Clinton Keith Road onto the site above the culvert. Dense vegetation was present within this channel however, no surface water flow was observed at the time of our reconnaissance or site work in August through November, 2012. A larger channel crosses southwesterly from the east central portion of the site to the southwestern area. A large borrow site with estimated removals on the order of 8 to 10 feet has been graded along the channel in the southwestern quadrant of the property. The grading was evident in the 1962 aerial photographs reviewed for this site. Several earthen dams were observed across channels in the vicinity of the property. Dirt berms are present along the project boundaries with heights on the order of 3 feet and appeared to be derived from local soil with minor amounts of construction debris (asphalt and concrete). Overhead utilities supported by wood poles were observed along the eastern property line extending into the site approximately 100 feet from Clinton Keith Road. It is our understanding that proposed site development will include commercial, office, assisted living, and multifamily living. All structures are assumed to be typically wood or steel frame construction on slab-on-grade foundations and are anticipated to be three stories or less in height.

The southern parcel is bounded on the north by Bunny Trail (proposed) and existing storm water improvements, the east by Elizabeth Lane (proposed), the south by Jackson Avenue and Prielipp Road, and the west by an undeveloped 20 acre parcel. The site is currently vacant. The topography consists of an alluvial plain which gently descends to the west-southwest. The plain is cut by a drainage which meanders through the site from the northern boundary to the southwestern corner. Vegetation consists of dry grasses along the upper portions of the site and shrubs along the drainage slopes. The site was plowed for weed control at the time of our investigation. The only on-site development since 1962 appears to be a residential structure located along Elizabeth Lane in the southern area of the site. The residence was only observed in the 2005 aerial photograph reviewed for this study. There was no evidence of this residence

observed during our site reconnaissance. On-site waste treatment structures such as leach lines, septic tanks, or seepage pits may be present on the site in association with this former residence.

The locations and descriptions herein are based on a site reconnaissance, review of the referenced Parcel Maps, aerial photographs, previous geotechnical reports, and project information provided by the client, as well as our knowledge and experience of the surrounding areas. The proposed development will consist of single-family residences with associated utility and hardscape improvements. The structures are anticipated to consist of typically wood frame on slab-on-grade construction and be three stories or less in height.

Based on topography of both sites, cuts and fills on the order of 10 feet (exclusive of remedial grading) will likely be accomplished during development. Structural loads estimated for the proposed structures may be up to 10 kips. Wall loads for the proposed structures may be up to 1.5 kips per linear foot.

Once the design phase and foundation loading configuration are developed, the recommendations within this report should be reviewed and revised, if necessary. Any changes in the design, location or elevation of any structure, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

3. GEOLOGIC SETTING

The parcels are located southeast of the Elsinore trough within the Peninsular Ranges Geomorphic Province. The Peninsular Ranges are bounded on the north by the Transverse Ranges and the Cucamonga/Sierra Madre faults, the east by the San Jacinto fault, the west by the Elsinore fault and the Santa Ana Mountains. The Peninsular Ranges extend southward into Mexico. The Peninsular Ranges are characterized by granitic highlands of low to moderate relief surrounded by alluvial plains and valleys. Locally, the Elsinore trough is the dominant geomorphic feature of the area and was created by a graben that formed as a result of a left step over from the Wildomar to the Willard faults which are mapped on the eastern and western sides of the lake, respectively. Geologic mapping by Kennedy (1977) identifies the geologic units at the northern parcel as Unnamed Sandstone and Pauba Sandstone with granitic rock mapped northeast of the site. Geologic units within the southern parcel are mapped as Pauba Sandstone (Kennedy, 1977).

4. SOIL AND GEOLOGIC CONDITIONS

Based on our field investigation and published geologic maps of the area, the soils underlying the northern site consist of topsoil and colluvium overlying Pauba and Unnamed Sandstone. Unnamed sandstone is present directly beneath the topsoil and colluvium within the central portion of the site (FT-1). The western portion of the site is capped with Pauba Sandstone overlying unnamed sandstone (FT-2). Alluvium is present within the drainages and artificial fill forms the berms and earthen dams on and adjacent to the site.

Geologic Units within the southern site consist of topsoil, colluvium and alluvium over lying Pauba Sandstone. Based on exposures within FT-2, the alluvium was deposited over the Pauba Sandstone near the existing drainage and since that time the drainage has cut into the alluvium resulting in thicker alluvial deposits along the margins of the drainage and relatively shallow alluvium within the drainage. Detailed stratigraphic profiles are provided in the boring logs in Appendix A and fault trench logs in Appendix C.

4.1 Younger Alluvium/Topsoil (Qal)

Topsoil overlies the hillsides of both sites to depths of 6 to 18 inches. It consists of dry, loose (recently plowed), slightly blocky silty sand. Younger alluvium is present within the drainage areas of the northern site to depths of 3 to 10 feet. Younger alluvium was also encountered within the southern site along the drainage margins to depths of 12 feet and within drainage areas to depths of 3 to 5 feet. The alluvium generally consists of moist, loose to medium dense, inter-layered silty sand, sand, and cobbles.

4.2 Colluvium (Qcol)

Colluvium overlies the Unnamed and Pauba Sandstones on both sites. It is generally 12 to 18 inches in the northern site and 6 to 30 inches in the southern site. The colluvium consists of red-brown clayey sand. The unit is dense, dry to moist, and blocky with clay development on ped facies and weathering rinds on gravel and cobbles.

4.3 Pauba Sandstone (Qps)

Early Pleistocene-age Pauba Sandstone was encountered within the western ridge of the northern site and entirely underlying soils in the southern site. Within the northern site, the Pauba Sandstone consists of locally massive yellow-red silty sandstone which was poorly bedded, moderately to highly weathered, moderately fractured, hard and dry to moist. Pauba encountered within the southern site consists of generally red brown silty to poorly graded sandstone which is dense, moist, and friable. Conglomerate layers were common as were siltstone layers. Fault Trench FT-3 exposure revealed Pauba Sandstone which resembles a terrace deposit with interlayered coarse friable sandstone beds and conglomerate.

4.4 Unnamed Sandstone (Qus)

Earliest Pleistocene-age Unnamed Sandstone was present within the central portion of the northern site and consists of light yellow brown, coarse, poorly bedded, highly weathered silty sandstone which is dry to moist and hard. Occasional cobbles and siltstone beds were observed within fault trench FT-1 excavation. Localized areas of completely weathered rock were observed in the upper approximately one foot within Fault Trench FT-1.

5. GROUNDWATER

Groundwater was encountered within the main drainage of the northern site at a depth of 15 feet below existing grade (B-3). Groundwater was not encountered during exploration of the southern site where exploration was conducted to maximum depths of 25 feet outside of the drainage areas and to maximum depths of 8 feet where conducted within the drayage areas. The California Water Library data indicates groundwater wells in the vicinity of the site (07S03W06A001S elevation 1380 ft MSL and 07S03W06B001S elevation 1355 ft MSL) reported groundwater depths ranging of 10 and 18 feet below ground surface in 1968. Although groundwater was not encountered on the south site during the time of our investigation, it likely exists within the drainage during and following times of significant precipitation.

Groundwater may be encountered during grading and drainage measures such as sub-drains and back-drains may be recommended to mitigate subsurface water. In addition, recent requirements for stormwater infiltration could result in shallower seepage conditions in the region. Proper surface drainage of irrigation and precipitation will be critical to future performance of the project. Recommendations for drainage are provided in the *Surface Drainage* section of this report (see Section 8.16).

6. GEOLOGIC HAZARDS

6.1 Surface Fault Rupture

The numerous faults in southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Geological Survey, formerly known as California Division of Mines and Geology (CDMG), for the Alquist-Priolo Earthquake Fault Zone Program (Byrant and Hart, 2007). By definition, an active fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years), but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive.

The site is not within a currently established Alquist-Priolo Earthquake Fault Zone for surface fault rupture hazards. However, Riverside County depicts a mapped fault trending northwest across both sites. The mapped fault is based on Kennedy and Morton's mapping. The fault is mapped trending approximately N32W near the center of each site, see Figure 2. A fault rupture hazard investigation was performed by LGC on an adjacent property located between the two subject parcels; however, the report was inconclusive with respect to the location and activity of the faulting. As a result, Geocon performed a fault hazard investigation by excavating trenches approximately perpendicular to the mapped fault trace within the northern (FT-1 and FT-2) and southern (FT-3) sites. We did encounter faulting within the Unnamed sandstone (FT-1) however, we did not observe evidence of faulting within the Pauba Sandstone (FT-2 and FT-3). Therefore, the potential for surface rupture due to faulting occurring beneath the site

during the design life of the proposed development is considered low. A detailed discussion of the subsurface fault hazard investigation is provided in Appendix C.

The site is located in the seismically active southern California region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active southern California faults. The faults in the vicinity of the site are shown in Figure 3, Regional Fault Map.

The closest surface trace of an active fault to the site is the Temecula branch of the Elsinore fault located approximately 2 miles west of the site. Other nearby active faults are the Glen Ivy branch of the Elsinore fault, the Julian branch of the Elsinore fault, San Jacinto fault, the Anza branch of the Elsinore fault, and the Chino-Central Avenue fault located approximately 7.5 miles northwest, 20 miles southeast, 20 miles northeast, 21 miles east, and 25 miles north of the site, respectively (EZ-FRISK V 7.62).

6.2 Seismicity

As with all of southern California, the site has experienced historic earthquakes from various regional faults. The seismicity of the region surrounding the site was formulated based on research of an electronic database of earthquake data. The epicenters of recorded earthquakes with magnitudes equal to or greater than 4.0 within a radius of 60 miles of the site are depicted on Figure 4, Regional Seismicity Map. A number of earthquakes of moderate to major magnitude have occurred in the southern California area within the last 100 years. A partial list of these earthquakes is included in the following table.

LIST OF HISTORIC EARTHQUAKES

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Miles)	Direction to Epicenter
San Jacinto-Hemet area	April 21, 1918	6.8	17	NE
Near Redlands	July 23, 1923	6.3	28	NE
Long Beach	March 10, 1933	6.4	42	NW
North San Diego County	March 25, 1937	6.0	57	S
Desert Hot Springs	December 4, 1948	6.0	54	SE
Pinto Mountain	May 2, 1949	5.8	93	E
Arroyo Salada	March 19, 1954	6.4	64	SE
Borrego Mountain	April 9, 1968	6.5	69	SE
Borrego Springs	April 28, 1969	5.8	54	SE
Palm Springs	April 23, 1992	6.1	58	E
Landers	June 28, 1992	7.3	62	NE
Big Bear	June 28, 1992	6.4	48	NE
Hector Mine	October 16, 1999	7.1	88	E

The site could be subjected to strong ground shaking in the event of an earthquake. However, this hazard is common in southern California and the effects of ground shaking can be mitigated if the proposed structures are designed and constructed in conformance with current building codes and engineering practices.

6.3 Estimation of Peak Ground Accelerations

The seismic exposure of the site may be investigated in two ways. The deterministic approach recognizes the Maximum Earthquake, which is the theoretical maximum event that could occur along a fault. The deterministic method assigns a maximum earthquake to a fault derived from formulas that correlate the length and other characteristics of the fault trace to the theoretical maximum magnitude earthquake. The probabilistic method considers the probability of exceedance of various levels of ground motion and is calculated by consideration of risk contributions from regional faults.

6.3.1 Deterministic Analysis

Table 1 shows known faults within a 60 mile radius of the site. The maximum earthquake magnitude is indicated for each fault. In order to measure the distance of known faults to the site, the computer program *EQFAULT*, (Blake, 2000), was utilized. Principal references used within *EQFAULT* in selecting faults to be included are Jennings (1994), Anderson (1984) and Wesnousky (1986). For this investigation, the ground motion generated by maximum earthquakes on each of the faults is assumed to attenuate to the site per the attenuation relation by Campbell and Bozorgnia (1997 Revised). The resulting calculated peak horizontal accelerations at the site are shown on Table 1. These values are one standard deviation above the mean.

Using this methodology, the maximum earthquake resulting in the highest peak horizontal accelerations at the site would be a magnitude 6.8 event on the Elsinore fault. Such an event would be expected to generate peak horizontal accelerations at the site of 0.82g.

While listing of peak accelerations is useful for comparison of potential effects of fault activity in a region, other considerations are important in seismic design, including the frequency and duration of motion and the soil conditions underlying the site.

The site could be subjected to moderate to severe ground shaking in the event of a major earthquake on any of the faults referenced above or other faults in southern California. With respect to seismic shaking, the site is considered comparable to the surrounding developed area.

6.3.2 Probabilistic Analysis

The computer program *FRISKSP* (Blake, 2000) was used to perform a site-specific probabilistic seismic hazard analysis. The program is a modified version of *FRISK* (McGuire, 1978) that models faults as lines to evaluate site-specific probabilities of exceedance for given horizontal accelerations for each line source. Geologic parameters not included in the deterministic analysis are included in this analysis. The program operates under the assumption that the occurrence rate of earthquakes on each mapped Quaternary fault is proportional to the faults' slip rate. The program accounts for fault rupture length as a function of earthquake magnitude, and site acceleration estimates are made using the earthquake magnitude and closest distance from the site to the rupture zone.

Uncertainty in each of following are accounted for: (1) earthquake magnitude, (2) rupture length for a given magnitude, (3) location of the rupture zone, (4) maximum magnitude of a given earthquake, and (5) acceleration at the site from a given earthquake along each fault.

After calculating the expected accelerations from all earthquake sources, the program then calculates the total average annual expected number of occurrences of the site acceleration greater than a specified value. Attenuation relationships suggested by Campbell and Bozorgnia (1997 Revised) were utilized in the analysis.

The Maximum Considered Earthquake Ground Motion (MCE) is the level of ground motion that has a 2 percent chance of exceedance in 50 years, with a statistical return period of 2,500 years. According to 2010 California Building Code and ASCE 7-05, the MCE is to be utilized for the design of critical structures such as schools and hospitals. The Design-Basis Earthquake Ground Motion (DBE) is the level of ground motion that has a 10 percent chance of exceedance in 50 years, with a statistical return period of 475 years. The DBE is typically used for the design of non-critical structures.

Based on the computer program *FRISKSP* (Blake, 2000), the MCE and DBE is expected to generate ground motions at the site of approximately 1.00g and 0.73g, respectively. Graphical representation of the analysis is presented on Figure 5.

6.4 Seismic Design Criteria

The following table summarizes site-specific design criteria obtained from the 2010 California Building Code (CBC; Based on the 2009 International Building Code [IBC]), Chapter 16 Structural Design, Section 1613 Earthquake Loads. The values were derived using the computer program Seismic Hazard Curves and Uniform Hazard Response Spectra, provided by the USGS. The short spectral response uses a period of 0.2 second.

CBC SEISMIC DESIGN PARAMETERS

Parameter	Value	2010 CBC Reference
Site Class	C	Table 1613.5.2
Spectral Response – Class B (short), S_S	1.696g	Figure 1613.5(3)
Spectral Response – Class B (1 sec), S_1	0.607g	Figure 1613.5(4)
Site Coefficient, F_a	1.0	Table 1613.5.3(1)
Site Coefficient, F_v	1.3	Table 1613.5.3(2)
Maximum Considered Earthquake Spectral Response Acceleration (short), S_{MS}	1.696g	Section 1613.5.3 (Eqn 16-36)
Maximum Considered Earthquake Spectral Response Acceleration (1 sec), S_{M1}	0.789g	Section 1613.5.3 (Eqn 16-37)
5% Damped Design Spectral Response Acceleration (short), S_{DS}	1.131g	Section 1613.5.4 (Eqn 16-38)
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.526g	Section 1613.5.4 (Eqn 16-39)

Conformance to the criteria in the previous table for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur if a large earthquake occurs. The intent of the code is “Life Safety,” not to completely prevent damage to the structure, since such design may be economically prohibitive.

6.5 Liquefaction Potential

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations.

The current standard of practice, as outlined in the “Recommended Procedures for Implementation of DMG Special Publication 117A, Guidelines for Analyzing and Mitigating Liquefaction in California” requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soil below the water table is composed primarily of poorly consolidated, fine to medium-grained sand. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction.

According to the Riverside County Land Information System, 2003, the sites are located within an area of moderate liquefaction potential based on the underlying soil deposits. However, as stated previously, the Pauba bedrock underlying the site is composed of dense, cemented sandstone and siltstone. Provided the recommendations for remedial grading operations presented herein are followed, and based on the shallow depth to the dense, competent Pauba bedrock, it is our opinion that the potential for liquefaction

of the site soils is very low. Further, no surface manifestations of liquefaction are expected at the subject sites.

6.6 Seismically-Induced Settlement

Dynamic compaction of dry and loose sands may occur during a major earthquake. Typically, settlements occur in thick beds of such soils. Based on the shallow depth to bedrock at the sites, appreciable seismically-induced settlements are not anticipated.

6.7 Landslides

Both sites have relatively low-lying hills with intervening drainages. We did not observe any evidence of large scale slope stability issues on either site. We did observe localized surficial failures along the existing streams due to undercutting of minor stream channels. We did not observe evidence of slope failures on the aerial photographs reviewed for this study. Therefore, it is our opinion that the potential for slope instability at the site is considered low. Localized surficial slope failures along the drainages are likely to occur until the site is graded and developed.

6.8 Earthquake-Induced Flooding

Earthquake-induced flooding is inundation caused by failure of dams or other water-retaining structures due to earthquakes. There are no water-retaining structures up gradient from the site. Therefore, the probability of earthquake-induced flooding is considered very low.

6.9 Tsunamis and Seiches

The site is not located within a coastal area. Therefore, tsunamis, seismic sea waves, are not considered a significant hazard at the site.

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. No major water-retaining structures are located immediately up gradient from the project site. And the site is located nearly 5 miles away from and at a higher elevation than Lake Elsinore. The potential for flooding from a seismically induced seiche is considered is low.

The potential for flood hazards at the site is considered low. The site is in FEMA Zone X per Flood Insurance Rate Map Panel 06065C2705G dated August 28, 2008.

6.10 Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high

silt or clay content. The site is located within an area that is considered susceptible to subsidence per Riverside County TLMA. The site is near The Colony which experienced significant subsidence in the late 1980's and early 1990's where alluvium over granitic bedrock became saturated and settled after residential and golf course irrigation began post-development. The subject site conditions and recommended remedial grading measures (removal of alluvium) will not result in the same conditions at The Colony. Therefore, the potential for ground subsidence at the site is considered low once the recommendations in this report have been implemented.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 General

- 7.1.1 It is our opinion that neither soil nor geologic conditions were encountered during the investigation that would preclude development of the site provided the recommendations presented herein are followed and implemented during design and construction. This report should be considered “preliminary” and a more detailed, design level geotechnical study will be required in order to verify the suitability of the preliminary geotechnical design parameters presented herein once development plans become available.
- 7.1.2 The faulting encountered within the northern site does not appear to be active based on the subsurface investigation. We did not encounter evidence of faulting within the southern site during our subsurface geotechnical investigation. Therefore, no building setback zones due to surface fault rupture are recommended for the either site at this time.
- 7.1.3 We encountered younger alluvium and colluvium overlying Pauba Sandstone and Unnamed sandstone within the sites. Isolated areas of undocumented fill were also observed comprising the earthen dams on and adjacent to the northern site. In addition, the fault trenches excavated for this report were loosely backfilled without testing and observation and are classified as undocumented fill. It is our opinion that the undocumented fill, younger alluvium, and colluvium are not suitable for direct support of proposed foundations or slabs. The alluvium and colluvium are suitable for re-use as engineered fill provided the recommendations in the *Grading* section of this report are followed (see Section 7.4).
- 7.1.4 Remedial excavations on the order of 2 to 12 feet in depth are anticipated to be required. Deeper excavations should be conducted as necessary to completely remove all existing undocumented fill, alluvium, and colluvium, and other unsuitable soil encountered during grading operations at the direction of the Geocon representative. Geocon should review site development plans once they become available to determine if the recommendations in this report are applicable and to provide any additional recommendation which may be necessary. General recommendations for earthwork are provided in the *Grading* section of this report (see Section 7.4).
- 7.1.5 Subsequent to the recommended grading, the structures may be supported on conventional foundation systems deriving support in the newly placed engineered fill or bedrock units (Pauba and/or Unnamed Sandstones).

- 7.1.6 It is anticipated that stable excavations for the recommended grading associated with the proposed structures can be achieved with sloping measures. Excavation recommendations are provided in the *Temporary Excavations* section of this report (Section 7.15).
- 7.1.7 Foundations for small outlying structures, such as block walls less than 6 feet in height, planter walls or trash enclosures, which will not be tied-in to the proposed structures, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and compaction cannot be performed, foundations may derive support directly in the undisturbed bedrock units found at or below a depth of 2 feet below the existing grade, and should be deepened as necessary to maintain a minimum 12 inch embedment into the undisturbed bedrock units. If the soil exposed in the excavation bottom is soft or loose, compaction of the soil will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.
- 7.1.8 Once the design and foundation loading configuration for the proposed development proceeds, the recommendations within this report should be reviewed and revised, if necessary. Based on the final foundation loading configurations, the potential for settlement should be re-evaluated by this office.
- 7.1.9 Any changes in the design, location or elevation, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

7.2 Soil and Excavation Characteristics

- 7.2.1 The in-situ soils and formational sandstones can be excavated with moderate to heavy effort using conventional excavation equipment. Some caving or sloughing should be anticipated if loose fill or granular soil is encountered. In addition, some cobbles should be anticipated to be encountered during grading. These cobbles are suitable for use in the mass fill at depths of three feet or more below finish grade elevations. All rock 6-inches or larger should be removed from utility trench excavations and trench backfill.
- 7.2.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly shored and maintained in accordance with applicable OSHA rules and regulations to maintain safety and maintain the stability of adjacent existing improvements.

7.2.3 All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below this 1:1 projection will require special excavation measures such as sloping and possibly shoring. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 7.15).

7.2.4 The upper few feet of soil encountered during this investigation are considered to have a “low” expansive potential (EI = 21 on north site, 32 on south site) and the soils are classified as “expansive” based on the 2010 California Building Code (CBC) Section 1803.5.3. The recommendations in this report assume that foundations and slabs will derive support in these materials.

7.3 Minimum Resistivity, pH, and Water-Soluble Sulfate

7.3.1 Potential of Hydrogen (pH) and resistivity testing were performed on representative samples of the surficial soil to generally evaluate the corrosion potential to buried utilities. The tests were performed in accordance with California Test Method Nos. 643 and 422 and indicate that a potential for corrosion of buried ferrous metals exists on site (highly corrosive on the northern site; corrosive on the southern site). The results are presented in Appendix B (Figure B4) and should be considered for design of underground structures.

7.3.2 Laboratory tests were performed on representative samples of the surficial soil to measure the content of water-soluble sulfate. Results from the laboratory water-soluble sulfate tests are presented in Appendix B (Figure B4) and indicate that the on-site soil possesses “negligible” sulfate exposure to concrete structures on both sites as defined by 2010 CBC Section 1904.3 and ACI 318-08 Sections 4.2 and 4.3.

7.3.3 Geocon West, Inc. does not practice in the field of corrosion engineering and mitigation. If corrosion sensitive improvements are planned, it is recommended that a corrosion engineer be retained to evaluate the corrosion test results and recommend the necessary precautions to avoid premature corrosion of buried metal pipes and concrete structures in direct contact with the soil.

7.4 Grading

7.4.1 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer, geotechnical engineer, and, if applicable, building official in attendance. Special soil handling requirements can be discussed at that time.

- 7.4.2 Earthwork should be observed, and compacted fill tested by representatives of Geocon West, Inc. The existing fill, alluvium, and colluvium encountered during exploration is suitable for re-use as engineered fill, provided oversized material (rocks greater than 6 inches in diameter) are placed in accordance with Section 7.2.1 and all deleterious debris is removed.
- 7.4.3 Grading should commence with the removal of all existing vegetation and existing improvements from the area to be graded. Once a clean excavation bottom has been established it must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.). Deleterious debris such as wood and root structures should be exported from the site and should not be mixed with the fill soil. Asphalt and concrete should not be mixed with the fill soil unless approved by the Geotechnical Engineer. Any existing underground improvements planned for removal should be completely excavated and the resulting depressions properly backfilled in accordance with the procedures described herein.
- 7.4.4 Due to the preliminary nature of the project at this time, the grading recommendations should also be considered preliminary. Once information regarding existing and proposed site elevations becomes available, the recommendations presented herein should be reviewed and revised if necessary.
- 7.4.5 As a minimum, all existing artificial fill, alluvium, and colluvium should be excavated and properly compacted for foundation and slab support. Where Pauba and Unnamed Sandstones are present at the ground surface, excavation on the order of two feet is anticipated. Where undocumented fill, alluvium, and colluvium are present, removals of up to approximately 12 feet should be anticipated. We anticipate that the deeper excavation of up to 12 feet will be required along the sides of the drainage channels. In addition, the fault trenches excavated as a part of the site investigation were loosely backfilled without testing and observation and will require re-excavation and compaction. See the Geologic Map and Site Plan for locations of the fault trenches and the trench logs in Appendix C for trench depths. Deeper excavations should be conducted as necessary to completely remove all existing artificial fill and unsuitable alluvium and colluvium at the direction of the Geocon representative. The anticipated depths of remedial grading are indicated adjacent to our trenches, borings and test pits on the Geologic Map and Site Plan, Figure 2.
- 7.4.6 Where excavation and compaction is to be conducted, the excavation should extend laterally a minimum distance of five feet beyond building footprint areas or for a distance equal to the depth of fill below the foundation, whichever is greater. Appurtenances, such as patio or canopy footings and other improvements that are adjacent to or structurally connected to the buildings should also be included in the required lateral over-excavation.

- 7.4.7 Building pads graded with a cut/fill transition will require undercutting to reduce the potential for differential settlement. The cut portion of the cut/fill transition should be undercut to a depth of at least 3 feet and replaced with properly compacted low expansive fill. In areas where a steep transition exists, additional removal will be required such that the maximum fill differential across any one building pad will be less than $H/4$, where H is the maximum fill thickness.
- 7.4.8 All fill and backfill soil should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to near optimum moisture content, and properly compacted. Fill shall be compacted to a minimum 90 percent of the maximum dry density per ASTM D 1557 (latest edition).
- 7.4.9 Where new paving is to be placed, it is recommended that all existing unsuitable soil be excavated and properly compacted for paving support. As a minimum, the upper twelve inches of soil should be scarified and compacted to at least 95 percent relative compaction for paving support. Paving recommendations are provided in *Preliminary Pavement Recommendations* section of this report (see Section 7.10).
- 7.4.10 Foundations for small outlying structures, such as block walls less than 6 feet high, planter walls or trash enclosures, which will not be structurally tied into the proposed building, may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. If the soil exposed in the excavation bottom is soft or loose, compaction of the soil will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.
- 7.4.11 Utility trenches should be properly backfilled in accordance with the requirements of the Greenbook (latest edition). The pipe should be bedded with clean sands (Sand Equivalent greater than 30) to a depth of at least one foot over the pipe, and the bedding material must be inspected and approved in writing by the Geotechnical Engineer (a representative of Geocon). The use of gravel is not acceptable unless used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil, compacted as necessary, until the required compaction is obtained. The use of minimum 2-sack slurry is also acceptable. Prior to placing any bedding materials or pipes, the excavation bottom must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon).

- 7.4.12 Jetting of backfill should only be performed where trench sidewalls have an SE of 15 or greater to allow the water to dissipate and prevent future settlement. Geotechnical laboratory testing of the sidewall soil should be performed in areas where jetting is considered to verify acceptable sand equivalent values are present within the trench excavation.
- 7.4.13 All imported fill shall be observed, tested, and approved by Geocon West, Inc. prior to bringing soil to the site. Rocks larger than six inches in diameter shall not be used in the fill. If necessary, import soil used as structural fill should have an expansion index less than 20 and corrosivity properties that are equally or less detrimental to that of the existing onsite soil (see Figure B4), and shear strength properties equal or greater than site soils. Import soil placed in the building area should be placed uniformly or in a manner that is approved by the Geotechnical Engineer (a representative of Geocon).
- 7.4.14 All excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon), prior to placing bedding materials, fill, steel, gravel or concrete.

7.5 Shrinkage

- 7.5.1 Shrinkage results when a volume of material removed at one density is compacted to a higher density. A shrinkage factor of between 5 and 12 percent should be anticipated when excavating and compacting the existing alluvium; 0 to 5 percent shrinkages for the existing colluvium, and 0 percent shrinkage for the sandstones when considering an onsite to an average relative compaction of 92 percent.

7.6 Foundation Design

- 7.6.1 Subsequent to the recommended grading, the proposed structures may be supported on a conventional foundation system deriving support in newly placed engineered fill or the competent Pauba or Unnamed sandstone at or below a depth of 2 feet.
- 7.6.2 Continuous footings may be designed for an allowable bearing capacity of 2,500 pounds per square foot, and should be a minimum of 18 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.
- 7.6.3 Isolated spread foundations may be designed for an allowable bearing capacity of 2,500 pounds per square foot, and should be a minimum of 24 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.
- 7.6.4 The soil bearing pressure above may be increased by 250 psf and 500 psf for each additional foot of foundation width and depth, respectively. In order to minimize static settlement of the

proposed foundations, a maximum allowable soil bearing value of 4,000 pounds per square foot should be utilized.

- 7.6.5 The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces.
- 7.6.6 Continuous footings should be reinforced with a minimum of four No. 4 steel reinforcing bars, two placed near the top of the footing and two near the bottom. Reinforcement for spread footings should be designed by the project structural engineer.
- 7.6.7 If depth increases are utilized for the exterior wall footings, this office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.
- 7.6.8 The above foundation dimensions and minimum reinforcement recommendations are based on soil conditions and building code requirements only, and are not intended to be used in lieu of those required for structural purposes.
- 7.6.9 No special subgrade presaturation is required prior to placement of concrete. However, the slab and foundation subgrade should be sprinkled as necessary; to maintain a moist condition as would be expected in any concrete placement.
- 7.6.10 Excavations within the cobble layers may result in irregular surfaces. Where rocks are removed from foundation excavations, such as for swimming pools, if present, and voids are generated, the void space should be filled with concrete during the foundation pour. Backfilling of void spaces with soil is not permitted.
- 7.6.11 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated. If unanticipated soil conditions are encountered, foundation modifications may be required.
- 7.6.12 The maximum expected static settlement for structures supported on a conventional foundation system deriving support in engineered fill is estimated to be less than ½ inch and occur below the heaviest loaded structural element. Settlement of the foundation system is expected to occur on initial application of loading. Differential settlement is not expected to exceed ½ inch over a distance of twenty feet.

- 7.6.13 This office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

7.7 Miscellaneous Foundations

- 7.7.1 Foundations for small outlying structures, such as block walls less than 6 feet in height, planter walls or trash enclosures, which will not be structurally supported by the proposed building, may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and compaction cannot be performed, such as adjacent to property lines, foundations may bear in the undisturbed alluvial soils found at or below a depth of 2 feet.

- 7.7.2 If the soil exposed in the excavation bottom is soft, compaction of the soft soil will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative. Miscellaneous foundations may be designed for a bearing value of 1,500 pounds per square foot, and should be a minimum of 12 inches in width, 24 inches in depth below the lowest adjacent grade and 12 inches into the recommended bearing material. The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces.

- 7.7.3 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated.

7.8 Lateral Design

- 7.8.1 Resistance to lateral loading may be provided by friction acting at the base of foundations, slabs and by passive earth pressure. An allowable coefficient of friction of 0.4 may be used with the dead load forces in properly compacted engineered fill, undisturbed alluvial soil, or Pauba sandstone.

- 7.8.2 Passive earth pressure for the sides of foundations and slabs poured against properly compacted fill, undisturbed alluvial soil, or Pauba sandstone may be computed as an equivalent fluid having a density of 300 pcf with a maximum earth pressure of 3,000 pcf. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third.

7.9 Concrete Slabs-on-Grade

- 7.9.1 Concrete slabs-on-grade subject to vehicle loading should be designed in accordance with the recommendations in the *Preliminary Pavement Recommendations* section of this report (Section 7.10).
- 7.9.2 Subsequent to the recommended grading, concrete slabs-on-grade for structures, not subject to vehicle loading, should be a minimum of 4-inches thick and minimum slab reinforcement should consist of No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions. Steel reinforcing should be positioned vertically near the slab midpoint.
- 7.9.3 Slabs that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder placed directly beneath the slab. The vapor retarder used should be specified by the project architect or developer based on the type of floor covering that will be installed. The vapor retarder design should be consistent with the guidelines presented in Section 9.3 of the American Concrete Institute's (ACI) *Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials* (ACI 302.2R-06) and should be installed in general conformance with ASTM E 1643-98 and the manufacturer's recommendations. If California Green Code requirements apply to this project, the vapor retarder should be underlain by 4 inches of ½-inch clean aggregate and the vapor retarder should be in direct contact with the concrete slab. It is important that the vapor retarder be puncture resistant since it will be in direct contact with angular gravel.
- 7.9.4 For seismic design purposes, a coefficient of friction of 0.4 may be utilized between concrete slabs and subgrade soil without a moisture barrier, and 0.15 for slabs underlain by a moisture barrier.
- 7.9.5 Exterior slabs, not subject to traffic loads, should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. Prior to construction of slabs, the upper 12 inches of subgrade should be moisture conditioned to near optimum moisture content and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Crack control joints should be spaced at intervals not greater than 10 feet and should be constructed using saw-cuts or other methods as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. The project structural engineer should design construction joints as necessary.
- 7.9.6 The recommendations of this report are intended to reduce the potential for cracking of slabs due to settlement. However, even with the incorporation of the recommendations presented

herein, foundations, stucco walls, and slabs-on-grade may exhibit some cracking due to minor soil movement or concrete shrinkage. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

7.10 Preliminary Pavement Recommendations

7.10.1 Where new paving is to be placed, it is recommended that all existing artificial fill and soft or disturbed alluvium and colluvium be excavated and properly compacted for paving support. The client should be aware that excavation and compaction of all soft or unsuitable soil in the area of new paving is not required, however, paving constructed over existing unsuitable soil may experience increased settlement or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper twelve inches of soil should be scarified and compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).

7.10.2 The following pavement sections are based on an assumed R-Value of 30. Once site grading activities are complete, it is recommended that laboratory testing confirm the properties of the soils serving as paving subgrade prior to placing pavement. The Traffic Indices listed below are estimates. Geocon does not practice in the field of traffic engineering. If pavement sections for Traffic Indices other than those listed below are required, Geocon should be contacted to provide additional recommendations. Pavement thicknesses were determined following procedures outlined in the *California Highway Design Manual* (Caltrans). It is anticipated that the majority of traffic will consist of automobile and large truck traffic.

PRELIMINARY PAVEMENT DESIGN SECTIONS

Location	Estimated Traffic Index (TI)	Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)
Automobile Parking & Driveways	Up to 5	3.0	5.5
Trash Truck & Fire Lanes	7	4.0	9.5

7.10.3 Asphalt concrete should conform to Section 203-6 of the “*Standard Specifications for Public Works Construction*” (Greenbook). Class 2 aggregate base should conform to Section 26-1.02A of the “*Standard Specifications of the State of California, Department of Transportation*”

(Caltrans). Crushed Miscellaneous Base should conform to Section 200-2.4 of the “*Standard Specifications for Public Works Construction*” (Greenbook).

- 7.10.4 Unless specifically designed and evaluated by the project structural engineer, where concrete paving will be utilized for support of vehicles at the ground surface, it is recommended that the concrete be a minimum of 5 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions. Concrete paving supporting vehicular traffic should be underlain by a minimum of 4 inches of aggregate base and a properly compacted subgrade. The subgrade and base material should be compacted to at least 95 percent relative compaction as determined by ASTM Test Method D 1557 (latest edition).
- 7.10.5 The performance of pavements is highly dependent upon providing positive surface drainage away from the edge of pavements. Ponding of water on or adjacent to the pavement will likely result in saturation of the subgrade materials and subsequent cracking, subsidence and pavement distress. If planters are planned adjacent to paving, it is recommended that the perimeter curb be extended at least 12 inches below the bottom of the aggregate base to minimize the introduction of water beneath the paving.

7.11 Swimming Pool/Spa

- 7.11.1 If swimming pools or spas are planned, the proposed swimming pool shell bottom should be designed as a free-standing structure and may derive support in newly placed engineered fill or the competent native sandstone found at or below a depths of between 2 and 10 feet. It is recommended that uniformity be maintained beneath the proposed swimming pools where possible. However, swimming pool foundations may derive support in both engineered fill and undisturbed native sandstone. It is the intent of the Geotechnical Engineer to allow swimming pool foundation systems to derive support in both the competent undisturbed sandstone and newly placed engineered fill as necessary.
- 7.11.2 Swimming pool foundations and walls may be designed in accordance with the *Conventional Foundation Design* and *Retaining Wall Design* sections of this report (See Sections 8.6 and 8.13). A hydrostatic relief valve should be considered as part of the swimming pool design unless a gravity drain system can be placed beneath the pool shell.
- 7.11.3 If a spa is proposed it should be constructed independent of the swimming pool and must not be cantilevered from the swimming pool shell.
- 7.11.4 If the proposed pool is in proximity to the proposed structure, consideration should be given to construction sequence. If the proposed pool is constructed after building foundation construction, the excavation required for pool construction could remove a component of lateral

support from the foundations and would therefore require shoring. Once information regarding the pool location and depth becomes available, this information should be provided to Geocon for review and possible revision of these recommendations.

7.12 Retaining Wall Design

- 7.12.1 The recommendations presented below are generally applicable to the design of rigid concrete or masonry retaining walls having a maximum height of 7 feet. In the event that walls significantly higher than 7 feet are planned, Geocon should be contacted for additional recommendations.
- 7.12.2 Retaining wall foundations may be designed in accordance with the recommendations provided in the *Foundation Design* sections of this report (see Section 7.6).
- 7.12.3 Retaining walls with a level backfill surface that are not restrained at the top should be designed utilizing a triangular distribution of pressure (active pressure) of 40 pcf.
- 7.12.4 Restrained walls are those that are not allowed to rotate more than $0.001H$ (where H equals the height of the retaining portion of the wall in feet) at the top of the wall. Where walls are restrained from movement at the top, walls may be designed utilizing a triangular distribution of pressure (at-rest pressure) of 66 pcf.
- 7.12.5 These pressures assume non expansive granular soil is placed as the wall backfill. If expansive, or fine grained soils are used, Geocon should be contacted to provide additional recommendations.
- 7.12.6 The wall pressures provided above assume that the retaining wall will be properly drained preventing the buildup of hydrostatic pressure. If retaining wall drainage is not implemented, the equivalent fluid pressure to be used in design of undrained walls is 83 pcf. The value includes hydrostatic pressures plus buoyant lateral earth pressures.
- 7.12.7 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures and should be designed for each condition as the project progresses. In addition, seismic lateral forces presented below should be incorporated into the design as necessary.

7.13 Dynamic (Seismic) Lateral Forces

- 7.13.1 In accordance with the 2010 California Building Code, if the project possesses a seismic design category of D, E, or F, the proposed retaining walls should be designed with seismic lateral earth pressure. The structural engineer should determine the seismic design category for the project. The maximum dynamic (seismic) lateral pressure is equal to the sum of the initial static active pressure and the dynamic (seismic) pressure increment.
- 7.13.2 The seismic lateral earth pressure on unbraced retaining walls is applied to check the overall sliding resistance of the structure. Braced retaining walls should be designed for the greater of either the at-rest earth pressure or the seismic lateral earth pressure.
- 7.13.3 The application of seismic loading should be performed at the discretion of the project Structural Engineer and in accordance with the requirements of the Building Official. If seismic loading is to be applied, we recommend a seismic load of 24 pounds per cubic foot be used for design applied as a triangular distribution of pressure along the wall height. This dynamic (seismic) pressure increment is for horizontal backfill behind the wall and does not account for an inclined backfill surface. The seismic pressure is based on a peak ground acceleration of 0.45g ($S_{DS}/2.5$) and by applying a pseudo-static coefficient of 0.5.

7.14 Retaining Wall Drainage

- 7.14.1 Retaining walls should be provided with a drainage system extending at least two-thirds the height of the wall. At the base of the drain system, a subdrain covered with a minimum of 12 inches of gravel should be installed, and a compacted fill blanket or other seal placed at the surface (see Figure 6). The clean bottom and subdrain pipe, behind a retaining wall, should be observed by the Geotechnical Engineer (a representative of Geocon), prior to placement of gravel or compacting backfill.
- 7.14.2 As an alternative, a plastic drainage composite such as Miradrain or equivalent may be installed in continuous, 4-foot wide columns along the entire back face of the wall, at 8 feet on center. The top of these drainage composite columns should terminate approximately 18 inches below the ground surface, where either hardscape or a minimum of 18 inches of relatively cohesive material should be placed as a cap (see Figure 6). These vertical columns of drainage material would then be connected at the bottom of the wall to a collection panel or a one-cubic-foot rock pocket drained by a 4-inch subdrain pipe.
- 7.14.3 Moisture affecting below grade walls is one of the most common post-construction complaints. Poorly applied or omitted waterproofing can lead to efflorescence or standing water. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems,

or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.15 Elevator Pit Design

7.15.1 The elevator pit slab and retaining wall should be designed by the project structural engineer. As a minimum the slab-on-grade should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. Elevator pit walls may be designed in accordance with the recommendations in the *Retaining Wall Design* section of this report (see Section 7.12).

7.15.2 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent foundations and should be designed for each condition as the project progresses. Once the design becomes more finalized, an addendum letter can be prepared addressing specific surcharge conditions throughout the project, if necessary.

7.15.3 If retaining wall drainage is to be provided, the drainage system should be designed in accordance with the *Retaining Wall Drainage* section of this report (see Section 7.13).

7.15.4 It is suggested that the elevator pit walls and slab be waterproofed to prevent excessive moisture inside of the elevator pit. Waterproofing design and installation is not the responsibility of the geotechnical engineer.

7.16 Elevator Piston

7.16.1 If a plunger-type elevator piston is installed for this project, a deep drilled excavation will be required. It is important to verify that the drilled excavation is not situated immediately adjacent to a foundation, or the drilled excavation could compromise the existing foundation support, especially if the drilling is performed subsequent to the foundation construction.

7.16.2 Casing may be required if caving is experienced in the drilled excavation. The contractor should be prepared to use casing and should have it readily available at the commencement of drilling activities. Continuous observation of the drilling and installation of the elevator piston by the Geotechnical Engineer (a representative of Geocon West, Inc.) is required.

7.16.3 The annular space between the piston casing and drilled excavation wall should be filled with a minimum of 1½-sack slurry pumped from the bottom up. As an alternative, pea gravel may be utilized. The use of soil to backfill the annular space is not acceptable.

7.17 Temporary Excavations

7.17.1 The excavations are expected to expose fill, alluvium, colluvium and dense native soil which are suitable for vertical excavations up to five feet where loose soil or caving sand is not present, or where not surcharged by adjacent traffic or structures.

7.17.2 Vertical excavations greater than five feet or where surcharged by existing structures will require sloping or shoring measures in order to provide a stable excavation.

7.17.3 It is anticipated that sufficient space is available to complete the required earthwork for this project using sloping measures. Where sufficient space is available, temporary unsurcharged embankments up to 10 feet in height may be sloped back at a uniform 1:1 slope gradient or flatter. A uniform slope does not have a vertical portion.

7.17.4 Where sloped embankments are utilized, the top of the slope should be barricaded to prevent vehicles and storage loads at the top of the slope within a horizontal distance equal to the height of the slope. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. Geocon personnel should inspect the soil exposed in the cut slopes during excavation so that modifications of the slopes can be made if variations in the soil conditions occur. All excavations should be stabilized within 30 days of initial excavation.

7.18 Surface Drainage

7.18.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soil can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.

7.18.2 All site drainage should be collected and controlled in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2010 CBC 1804.3 or other applicable standards. In addition, drainage should not be allowed to flow uncontrolled over any descending slope. The

proposed structure should be provided with roof gutters. Discharge from downspouts, roof drains and scuppers is not recommended onto unprotected soil within five feet of the building perimeter. Planters which are located adjacent to foundations should be sealed to prevent moisture intrusion into the engineered fill providing foundation support. Landscape irrigation is not recommended within five feet of the building perimeter footings except when enclosed in protected planters.

7.18.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. Building pad and pavement areas should be fine graded such that water is not allowed to pond.

7.18.4 Landscaping planters immediately adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Either a subdrain, which collects excess irrigation water and transmits it to drainage structures, or an impervious above-grade planter boxes should be used. In addition, where landscaping is planned adjacent to the pavement, it is recommended that consideration be given to providing a cutoff wall along the edge of the pavement that extends at least 12 inches below the base material.

7.19 Plan Review

7.19.1 Grading and foundation should be reviewed by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to finalization to verify that the plans have been prepared in substantial conformance with the recommendations of this report and to provide additional analyses or recommendations.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon West, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon West, Inc.
2. This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.
3. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

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Date	Photograph Number	Scale
1/28/62	1-68/1-69	1" = 2000'
5/4/80	829 not in stereo	1" = 2000'
12/15/83	557/558	1" = 2000'
11/25/90	15-17/15-18	1" = 1600'
1/29/95	15-13/15-14/15-15	1" = 1600'
3/18/00	15-16/15-17	1" = 1600'
4/14/05	15-15/15-16	1" = 1600'
4/2/10	15-16/15-17	1" = 1600'

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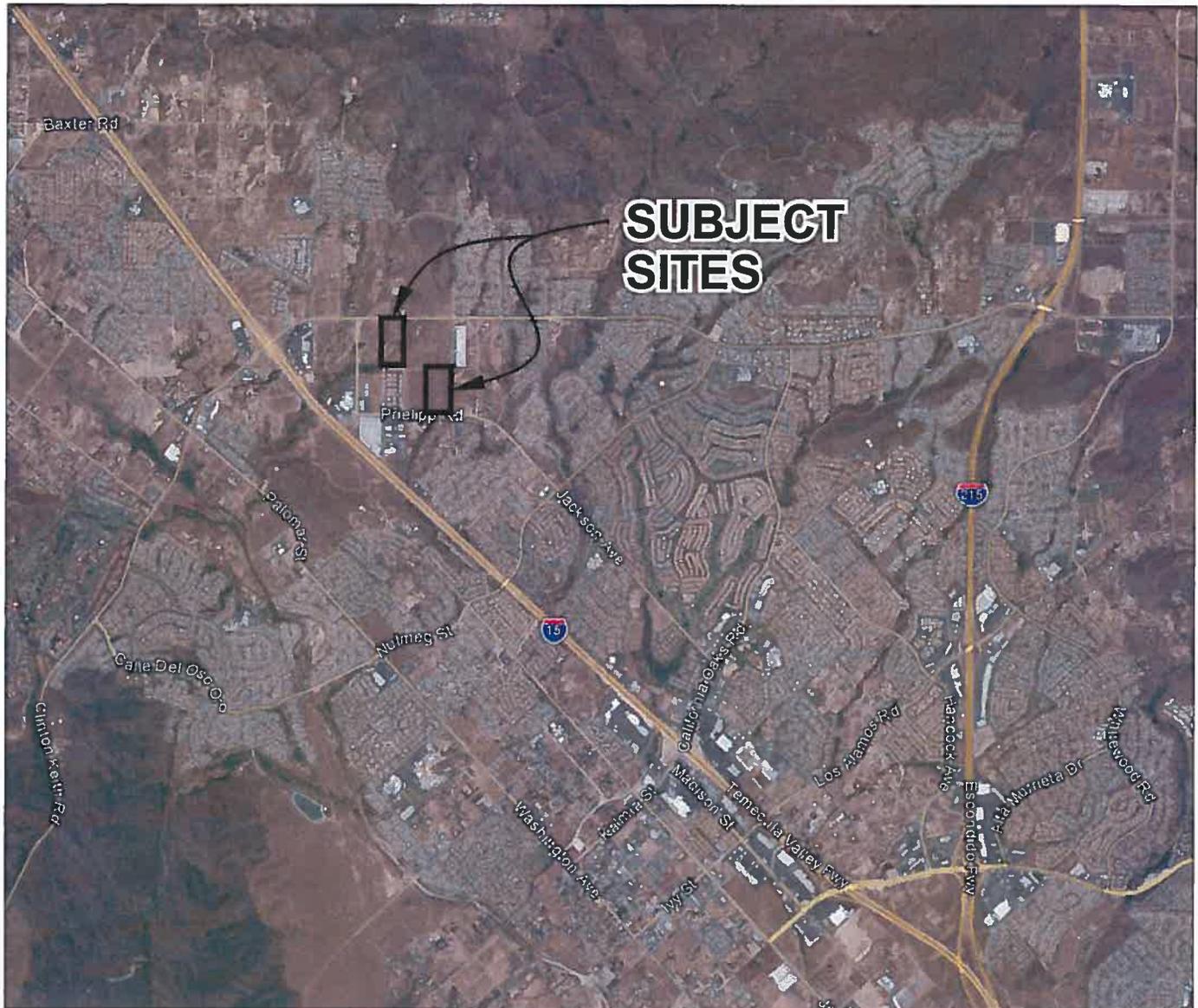
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REFERENCE: GOOGLE EARTH. 2012



GEOCON WEST, INC.



ENVIRONMENTAL GEOTECHNICAL MATERIALS
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PHONE 951.304.2300 FAX 951.304.2392

VICINITY MAP

STRATA EQUITY GROUP, INC.
TWO 20-ACRE PARCELS SW OF CLINTON KEITH
& YAMAS DR. / SE OF ELIZABETH LN. & BUNNY TR.
WILDOMAR, CALIFORNIA

JL

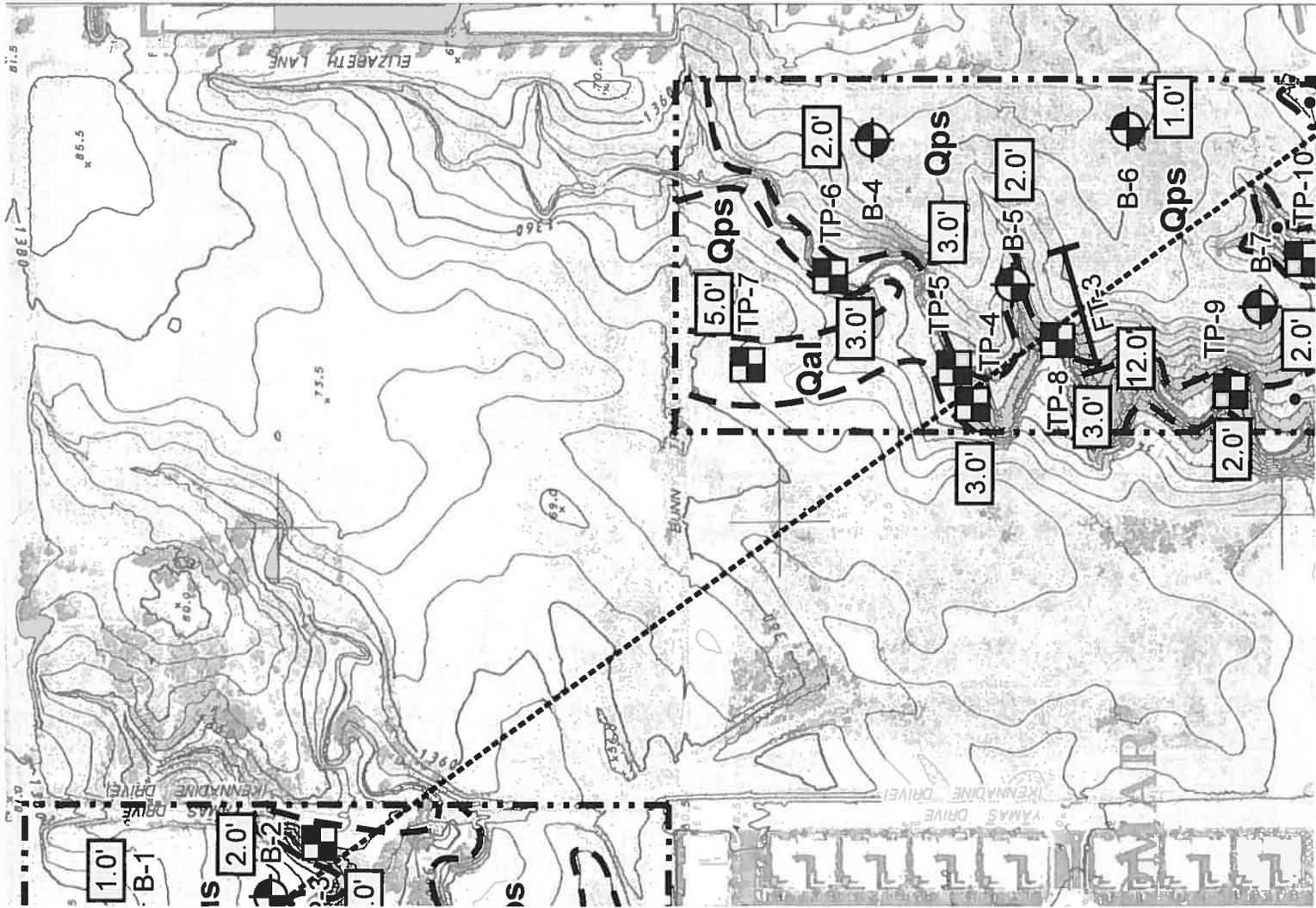
2000

12 / 2012

PROJECT NO. T2539-22-02

FIG. 1

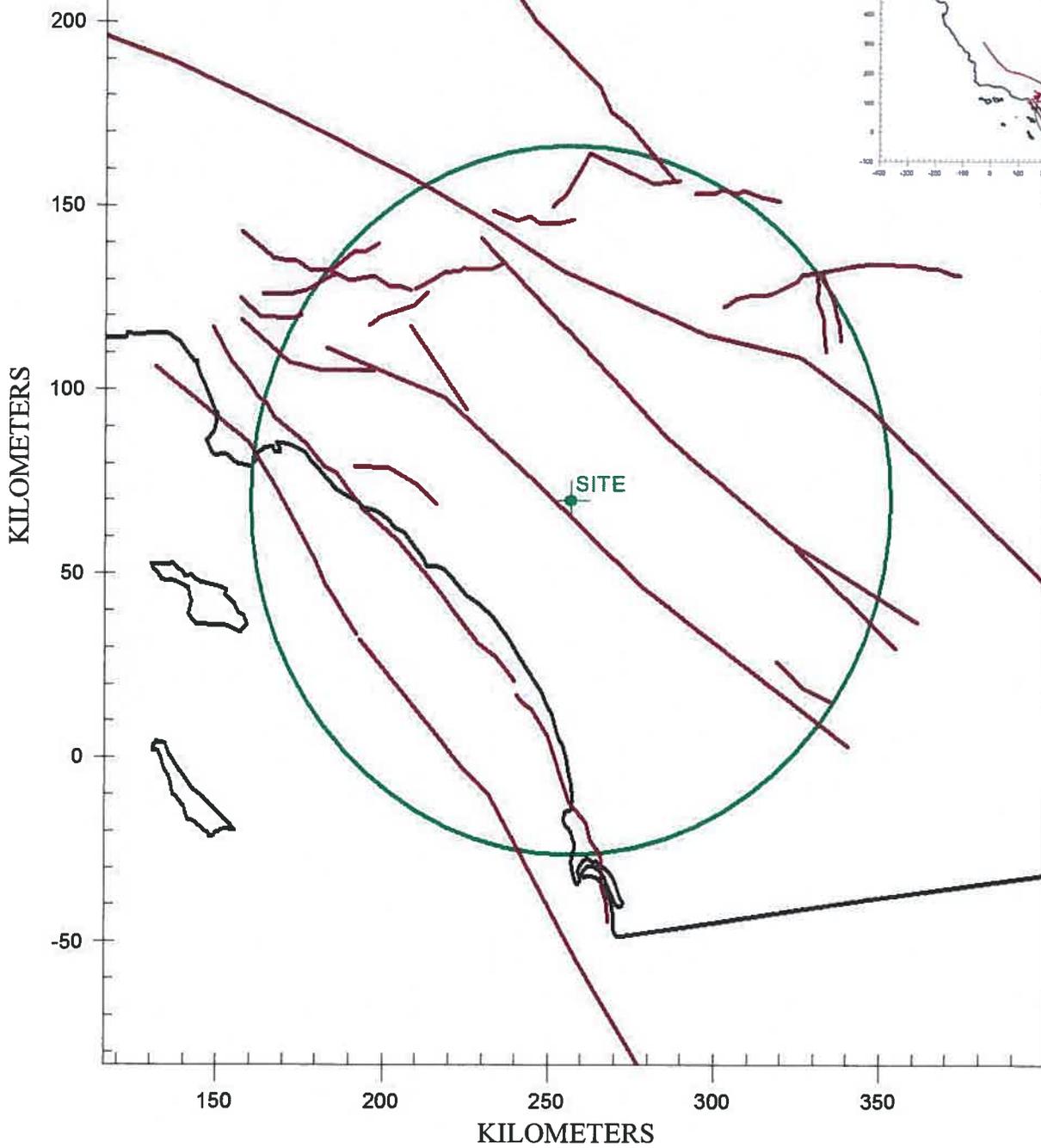
-  B-7 Approximate Location of Geotechnical
-  TP-10 Approximate Location of Geotechnical
-  FT-3 Approximate Location of Geologic Feature
-  Mapped Trace of Unnamed Riverside
-  15.5' Depth to Groundwater (this investigation)
-  15.0' Depth of Recommended Removals
-  Af Artificial Fill
-  Qal Alluvium
-  Qps Pauba Sandstone
-  Qus Unnamed Sandstone
-  Geologic Contact
-  Site Boundary



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GEO

SITE LATITUDE: 33.5940
SITE LONGITUDE: 117.2320



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REGIONAL FAULT MAP

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WILDOMAR, CALIFORNIA

CHL / JL

2000

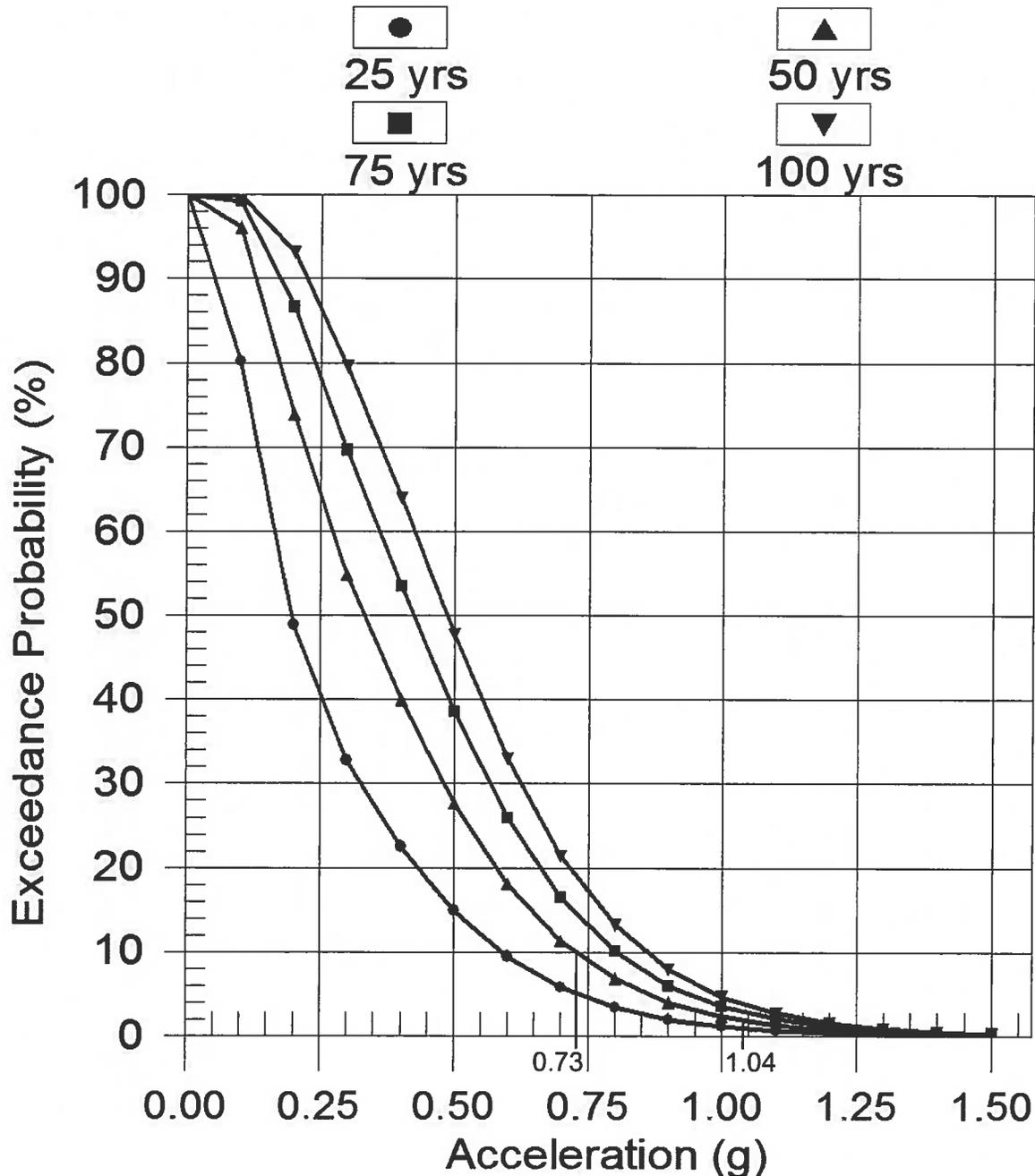
12 / 2012

PROJECT NO. T2539-22-02

FIG. 3

PROBABILITY OF EXCEEDANCE

CAMP. & BOZ. (1997 Rev.) SR 1



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PROBABILITY OF EXCEEDANCE

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TWO 20-ACRE PARCELS SW OF CLINTON KEITH
& YAMAS DR. / SE OF ELIZABETH LN. & BUNNY TR.
WILDOMAR, CALIFORNIA

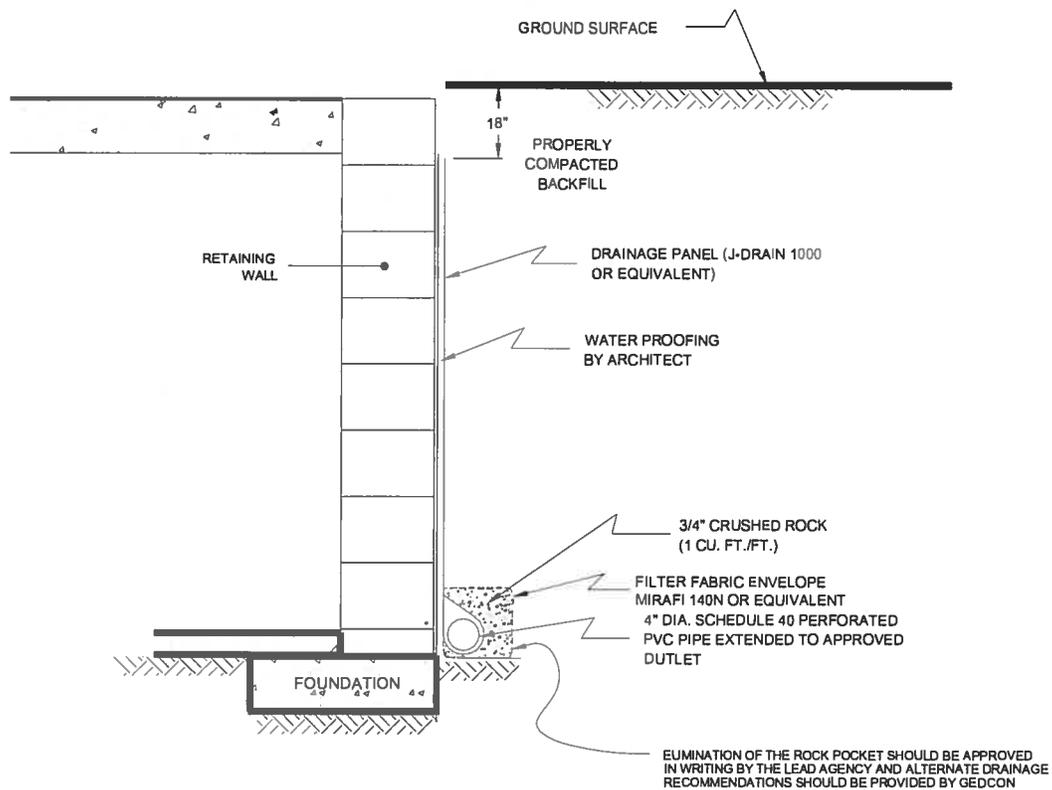
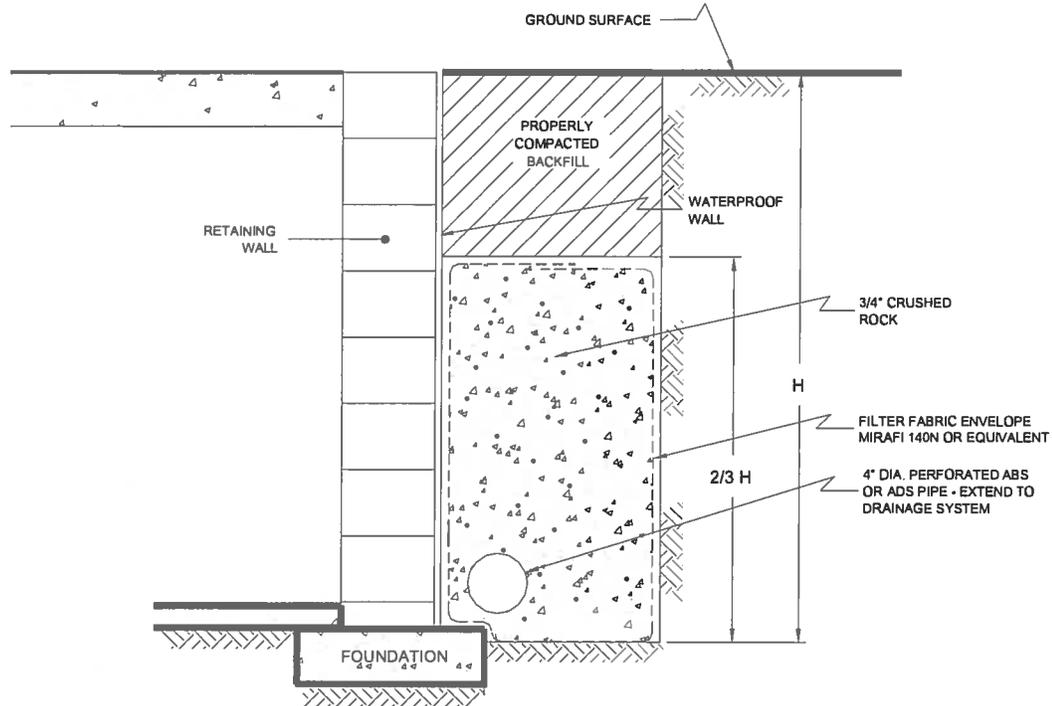
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12 / 2012

PROJECT NO. T2539-22-02

FIG. 5



ELIMINATION OF THE ROCK POCKET SHOULD BE APPROVED IN WRITING BY THE LEAD AGENCY AND ALTERNATE DRAINAGE RECOMMENDATIONS SHOULD BE PROVIDED BY GEDCON

NO SCALE

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RETAINING WALL DRAIN DETAIL

STRATA EQUITY GROUP, INC.
TWO 20-ACRE PARCELS SW OF CLINTON KEITH
& YAMAS DR. / SE OF ELIZABETH LN. & BUNNY TR.
WILDOMAR, CALIFORNIA

JL

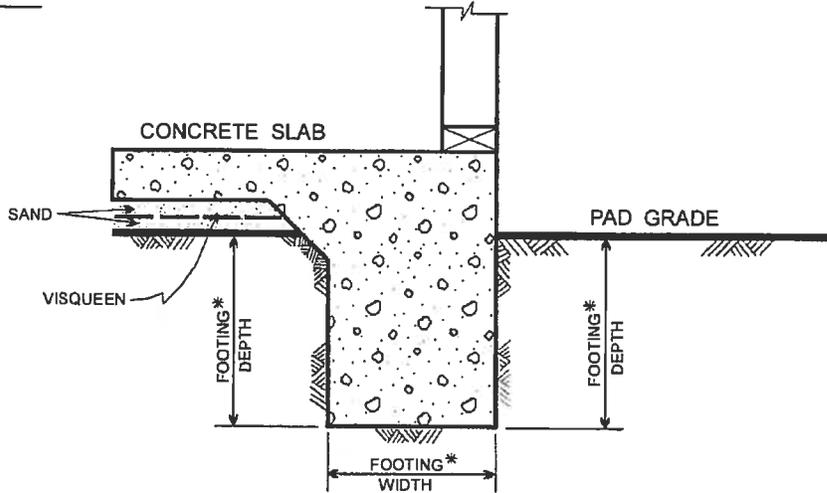
2000

12 / 2012

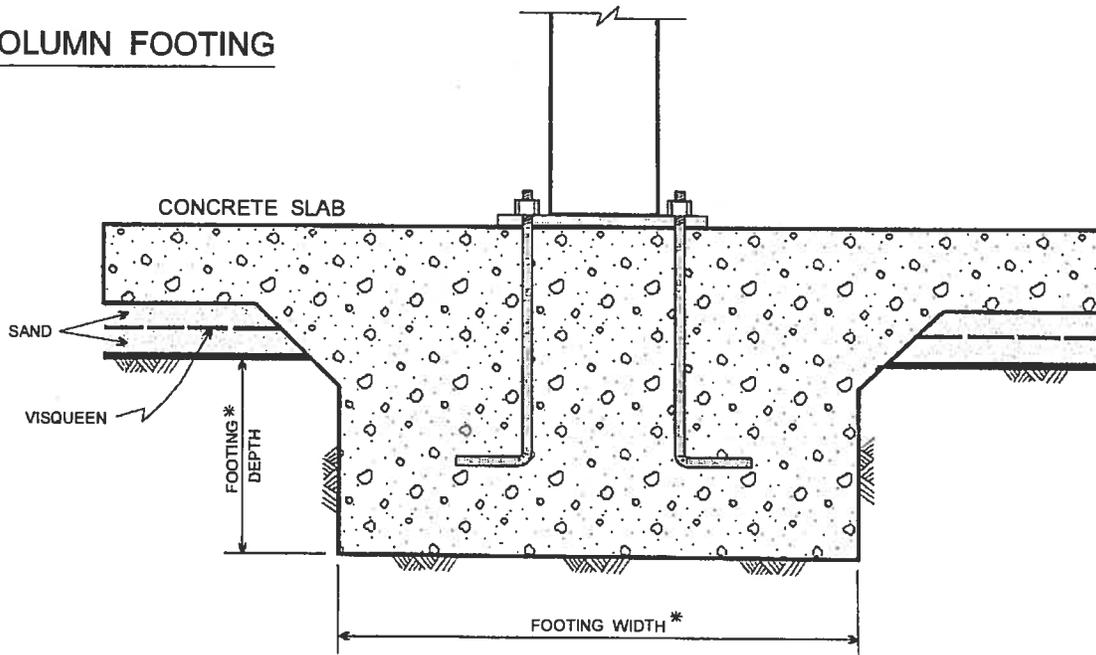
PROJECT NO. T2539-22-02

FIG. 6

WALL FOOTING



COLUMN FOOTING



*.....SEE REPORT FOR FOUNDATION WIDTH AND DEPTH RECOMMENDATION

NO SCALE

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PHONE 951.304.2300 FAX 951.304.2392

JL

2000

WALL / COLUMN FOOTING DETAIL

STRATA EQUITY GROUP, INC.
TWO 20-ACRE PARCELS SW OF CLINTON KEITH
& YAMAS DR. / SE OF ELIZABETH LN. & BUNNY TR.
WILDOMAR, CALIFORNIA

12 / 2012

PROJECT NO. T2539-22-02

FIG. 7



GEOCON

**TABLE 1
FAULTS WITHIN 60 MILES OF THE SITE
DETERMINISTIC SITE PARAMETERS**

ABBREVIATED FAULT NAME	APPROXIMATE		ESTIMATED MAX. EARTHQUAKE EVENT		
	DISTANCE		MAXIMUM	PEAK	EST. SITE
	mi	(km)	EARTHQUAKE	SITE	INTENSITY
			MAG. (Mw)	ACCEL. g	MOD.MERC.
ELSINORE (TEMECULA)	2.9	(4.6)	6.8	0.819	XI
ELSINORE (GLEN IVY)	7.7	(12.4)	6.8	0.470	X
ELSINORE (JULIAN)	19.7	(31.7)	7.1	0.220	IX
SAN JACINTO-SAN JACINTO VALLEY	20.2	(32.5)	6.9	0.187	VIII
SAN JACINTO-ANZA	20.8	(33.5)	7.2	0.221	IX
CHINO-CENTRAL AVE. (Elsinore)	25.5	(41.0)	6.7	0.131	VIII
SAN JOAQUIN HILLS	26.5	(42.7)	6.6	0.116	VII
NEWPORT-INGLEWOOD (Offshore)	28.9	(46.5)	7.1	0.142	VIII
SAN JACINTO-SAN BERNARDINO	29.3	(47.1)	6.7	0.103	VII
WHITTIER	29.6	(47.7)	6.8	0.110	VII
ROSE CANYON	34.4	(55.4)	7.2	0.124	VII
SAN ANDREAS - SB-Coach. M-1b-2	35.5	(57.1)	7.7	0.170	VIII
SAN ANDREAS - SB-Coach. M-2b	35.5	(57.1)	7.7	0.170	VIII
SAN ANDREAS - San Bernardino M-1	35.5	(57.1)	7.5	0.148	VIII
SAN ANDREAS - Whole M-1a	35.5	(57.1)	8.0	0.207	VIII
NEWPORT-INGLEWOOD (L.A.Basin)	39.9	(64.2)	7.1	0.093	VII
SAN JACINTO-COYOTE CREEK	42.8	(68.8)	6.6	0.054	VI
PUNTE HILLS BLIND THRUST	43.3	(69.7)	7.1	0.080	VII
PINTO MOUNTAIN	43.4	(69.9)	7.2	0.090	VII
CUCAMONGA	44.0	(70.8)	6.9	0.067	VI
NORTH FRONTAL FAULT ZONE (West)	44.5	(71.6)	7.2	0.083	VII
SAN JOSE	44.9	(72.3)	6.4	0.044	VI
CORONADO BANK	45.2	(72.7)	7.6	0.119	VII
PALOS VERDES	46.1	(74.2)	7.3	0.090	VII
EARTHQUAKE VALLEY	47.1	(75.8)	6.5	0.043	VI
CLEGHORN	47.1	(75.8)	6.5	0.043	VI
SIERRA MADRE	47.8	(77.0)	7.2	0.074	VII
SAN ANDREAS - Coachella M-1c-5	49.4	(79.5)	7.2	0.074	VII
NORTH FRONTAL FAULT ZONE (East)	50.3	(80.9)	6.7	0.046	VI
SAN ANDREAS - Mojave M-1c-3	50.5	(81.2)	7.4	0.086	VII
SAN ANDREAS - Cho-Moj M-1b-1	50.5	(81.2)	7.8	0.120	VII
SAN ANDREAS - 1857 Rupture M-2a	50.5	(81.2)	7.8	0.120	VII
BURNT MTN.	53.9	(86.7)	6.5	0.035	V
EUREKA PEAK	57.2	(92.0)	6.4	0.030	V
HELENDALE - S. LOCKHARDT	57.6	(92.7)	7.3	0.065	VI
CLAMSHELL-SAWPIT	58.8	(94.6)	6.5	0.031	V
RAYMOND	59.2	(95.2)	6.5	0.031	V
UPPER ELYSIAN PARK BLIND THRUST	59.8	(96.2)	6.4	0.028	V

38 FAULTS FOUND WITHIN THE SPECIFIED SEARCH RADIUS.
 THE ELSINORE (TEMECULA) FAULT IS CLOSEST TO THE SITE.
 IT IS ABOUT 2.9 MILES (4.6 km) AWAY.
 LARGEST MAXIMUM-EARTHQUAKE SITE ACCELERATION: 0.8192 g

APPENDIX

A

APPENDIX A

FIELD INVESTIGATION

The site was explored on October 25 through November 16, 2012 (fault trenching and test pits) and November 7, and November 13, 2012 (geotechnical borings).

We excavated 184 lineal feet of fault trench within the northern site (FT-1 & FT-2) and 225 lineal feet of fault trench within the southern site (FT-3). FT-1 was 4 to 6.5 feet deep, FT-2 was generally 5 feet deep, and FT-3 was 4 to 15 feet deep. The trenches were excavated utilizing a rubber-tire backhoe. Where the depth exceeded 5 feet they were benched to provide a general slope of 1:1 (horizontal:vertical) in accordance with Cal OSHA requirements. The trenches were geologically logged by a Certified Engineering Geologist from our firm and were loosely backfilled with soil cuttings. Trench Logs are presented in Appendix C and trench locations are depicted on the Site Plan, Figure 2. We contacted the City of Wildomar to give them the opportunity to review the excavations prior to backfill. They indicated it was not necessary and would rely on our report.

The borings were excavated with a CME 75 truck mounted drill rig. Borings B-1 through B-3 were excavated within the northern site to depths between 10.5 and 50.5 feet; and borings B-4 through B-7 were excavated within the southern site to depths between 20.5 and 25.25 feet. Representative and relatively undisturbed samples were obtained by driving a 3 inch O. D., California Modified Sampler into the “undisturbed” soil mass with blows from an above-ground auto-hammer. The sampler was equipped with 1-inch by 2³/₈-inch brass sampler rings to facilitate removal and testing. Bulk samples were also obtained. Standard Penetrometer (SPT) samples were alternated with California ring samplers in areas where ground water was encountered (B-3). SPT soil samples were bagged, sealed, and transported to our laboratory for testing. The soil conditions encountered in the excavations were visually examined, classified and logged in general accordance with the Unified Soil Classification System (USCS). Logs of the borings are presented on Figures A-1 through A-7. The logs depict the soil and geologic conditions encountered and the depth at which samples were obtained. The approximate locations of the borings are indicated on the Geologic Map and Site Plan (see Figure 2).

Geotechnical test pits were excavated in areas that were inaccessible with the drill rig, typically within the drainage areas. Test pits TP-1 through TP-3 were excavated in the northern site and Test pits TP-4 through TP-10 were excavated in the southern site. The test pits were 2.5 to 8 feet deep and the encountered soil conditions were logged by a Geologist or Engineer from our firm. The excavations were loosely backfilled immediately after logging. The Test pit locations are indicated on the Geologic Map and Site Plan, Figure 2 and the logs are presented in Appendix A, Figures A-8 through A-17.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B-1		PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>1376</u>	DATE COMPLETED <u>11/7/12</u>			
					EQUIPMENT <u>CME 75 HSA</u>	BY: <u>PDT</u>			
MATERIAL DESCRIPTION									
0	B1@0-5				UNNAMED SANDSTONE (Ous): Clayey SANDSTONE, well graded, very dense, slightly moist, reddish yellow with white (sand grains), fine to coarse grained, well cemented				
2	B1@2.5				Silty SANDSTONE, poorly graded, very dense, slightly moist, reddish brown, fine to medium grained, some coarse grained sand, trace gravel, well cemented	53/6"	134	6.4	
4	B1@5				-slow advance -refusal, moved hole 2'	50/5"	91.5	17.55	
6	B1@7.5				Sandy SILTSTONE, hard, slightly moist, olive, trace black stains, fine grained sand, well cemented	50/6"	114.7	18.1	
8	B1@10				Silty SANDSTONE, poorly graded, very dense, slightly moist, olive, fine grained, well cemented	50/5"	101.9	12.7	
10	B1@12.5				-gravel layer approximately 1' thick				
12	B1@15				-becomes well graded, fine to coarse grained, trace gravel	50/4"			
14	B1@15				-gravel layer approximately 1' thick				
16	B1@15				-slow advance	50/3"			
18									
20	B1@20				-no recovery	50/1"			
					Total depth: 20.25' No groundwater encountered No caving Backfilled with cuttings and tamped Penetration resistance for 140-lb hammer falling 30 inches by auto-hammer				

**Figure A-1,
Log of Boring B-1, Page 1 of 1**

T2539-22-02 BORING LOGS GPJ

SAMPLE SYMBOLS	... SAMPLING UNSUCCESSFUL	... STANDARD PENETRATION TEST	... DRIVE SAMPLE (UNDISTURBED)
	... DISTURBED OR BAG SAMPLE	... CHUNK SAMPLE	... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	BORING B-2		PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
				SOIL CLASS (USCS)	ELEV. (MSL.) <u>1360</u> DATE COMPLETED <u>11/13/12</u> EQUIPMENT <u>CME 75 HSA</u> BY: <u>JL</u>			
MATERIAL DESCRIPTION								
0	B2@0-5			SM	ALLUVIUM (Oal): Silty SAND, poorly graded, medium dense, dry, light reddish brown, medium to coarse grained, debris at upper 1'			
2	B2@2.5				UNNAMED SANDSTONE (Ous): SANDSTONE, very dense, slightly moist, yellowish light brown and white with orange staining, coarse grained, weakly cemented, some gravel, some fine to medium grained sand	50/5"	122	5
4	B2@5				-becomes moist, increase in fine grained sand, micaceous	50/3"	123.7	4.7
6	B2@7.5				-becomes fine to medium grained, increase in mica	50/3"	109.2	6.9
8	B2@10				-becomes medium to coarse grained	50/4"		
10					Total depth: 10.5' No groundwater encountered No caving Backfilled with cuttings and tamped Penetration resistance for 140-lb hammer falling 30 inches by auto-hammer			

Figure A-2,
Log of Boring B-2, Page 1 of 1

T2539-22-02 BORING LOGS.GPJ

SAMPLE SYMBOLS		... SAMPLING UNSUCCESSFUL		... STANDARD PENETRATION TEST		... DRIVE SAMPLE (UNDISTURBED)
		... DISTURBED OR BAG SAMPLE		... CHUNK SAMPLE		... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B-3			PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>1332</u>	DATE COMPLETED <u>11/13/12</u>	EQUIPMENT <u>CME 75 HSA</u> BY: <u>JL</u>			
MATERIAL DESCRIPTION										
0	B3@0-5			SP	ALLUVIUM (Oal): SAND with Gravel, poorly graded, loose, dry, yellowish light brown, coarse graind sand, fine gravel					
2	B3@2.5			ML	-becomes light brown, medium to coarse grained sand, some fine grained sand			26	112	5.8
4	B3@5			SM	Sandy SILT, firm, slightly moist, reddish brown, fine grained sand, micaceous					
6	B3@5			SM	-becomes wet, dark brown			11	112.3	13.1
8	B3@7.5				Silty SAND, poorly graded, loose, moist, grayish dark brown, fine grained, trace coarse grained sand					
8	B3@7.5				-becomes medium dense, mixed reddish brown, black and white, trace gravel			35	119.7	6.6
10	B3@10				PAUBA SANDSTONE (Ops): Sandy SILTSTONE, stiff, moist, yellowish light brown, some black veinlets, fine grained, trace medium grained sand, micaceous, weakly cemented			67	111.3	18.4
12	B3@10				SANDSTONE with some Silt, well graded, dense, moist, yellowish light brown, fine to coarse grained, micaceous, trace fine gravel, weakly cemented					
14	B3@10									
16	B3@15				-becomes very dense, wet, decrease in silt			50/6"	116.5	10.7
18	B3@15									
20	B3@20				-becomes poorly graded, medium to coarse grained, some fine grained sand, trace gravel			50/3"	121.6	15.6
22	B3@20									
24	B3@20									
26	B3@25				-becomes mixed yellowish light brown, white and medium brown, some orange staining, water added to extract sampler			50/5"		
28	B3@25				Silty SANDSTONE, poorly graded, very dense, wet, mixed yellowish light brown, white and light reddish brown, fine to medium grained, some					

Figure A-3,
Log of Boring B-3, Page 1 of 2

T2539-22-02 BORING LOGS.GPJ

SAMPLE SYMBOLS		... SAMPLING UNSUCCESSFUL		... STANDARD PENETRATION TEST		... DRIVE SAMPLE (UNDISTURBED)
		... DISTURBED OR BAG SAMPLE		... CHUNK SAMPLE		... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B-3		PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) 1332	DATE COMPLETED 11/13/12			
					EQUIPMENT CME 75 HSA		BY: JL		
MATERIAL DESCRIPTION									
30	B3@30				coarse grained sand, trace gravel, micaceous, weakly cemented		86/9"		
32									
34									
36	B3@35				Sandy SILTSTONE, hard, wet, yellowish brown with black blebs, fine grained, micaceous, visible structure, weakly cemented		61		
38					Silty SANDSTONE, poorly graded, very dense, wet, mixed yellowish brown, black and white, fine to medium grained, some coarse grained sand, micaceous, weakly cemented				
40	B3@40				SANDSTONE, poorly graded, very dense, wet, yellowish light brown, fine to medium grained, trace coarse grained, micaceous, weakly cemented		96/10"		
42					Silty SANDSTONE, poorly graded, very dense, wet, mixed yellowish light brown and light brown, fine to medium grained, trace fine gravel, micaceous, weakly cemented				
44									
46	B3@45				-becomes light grayish brown, white and black		50/3"		
48									
50	B3@50				-becomes light gray, black and white with some orange staining, fine grained, 1" lense of yellowish brown silt		50/4"		
					Total depth: 50.5' Groundwater encountered at 15.5' No caving Backfilled with cuttings and tamped Penetration resistance for 140-lb hammer falling 30 inches by auto-hammer				

Figure A-3,
Log of Boring B-3, Page 2 of 2

T2539-22-02 BORING LOGS.GPJ

SAMPLE SYMBOLS	<input type="checkbox"/>	... SAMPLING UNSUCCESSFUL	<input type="checkbox"/>	... STANDARD PENETRATION TEST	<input type="checkbox"/>	... DRIVE SAMPLE (UNDISTURBED)
	<input checked="" type="checkbox"/>	... DISTURBED OR BAG SAMPLE	<input checked="" type="checkbox"/>	... CHUNK SAMPLE	<input checked="" type="checkbox"/>	... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B-4		PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>1362</u>	DATE COMPLETED <u>11/13/12</u>			
					EQUIPMENT <u>CME 75 HSA</u>	BY: <u>JL</u>			
MATERIAL DESCRIPTION									
0	B4@0-5			SM	ALLUVIUM (Oal): Silty SAND, poorly graded, loose, dry, reddish brown, fine to medium grained, some coarse grained sand, some gravel, occasional cobble at surface, weathered				
2	B4@2.5				PAUBA SANDSTONE (Ops): Silty SANDSTONE, poorly graded, dense, slightly moist, light reddish brown, black and white, fine to medium grained, some coarse grained sand, micaceous, weakly cemented		50/3"	135.2	9
4	B4@5				-becomes very dense, moist, trace rootlets, trace gravel, abundant carbonates, micaceous		56	122.7	11.8
6	B4@7.5				-becomes dense, mixed light reddish brown, black and white, some orange staining, decrease in silt content		50/5"	127.7	7.4
8	B4@10				-becomes very dense				
10	B4@10				-becomes black, white and yellowish brown with orange staining, decrease in silt		90		
12									
14									
16	B4@15				SANDSTONE, poorly graded, very dense, moist, light yellowish brown, fine grained, some medium to coarse grained sand, trace silt, weakly cemented		50/5"		
18									
20	B4@20				-becomes mixed yellowish brown, black and white, medium to coarse grained, no silt		50/4"		
22									
24	B4@25						50/3"		
					Total depth: 25.25' No groundwater encountered No caving Backfilled with cuttings and tamped Penetration resistance for 140-lb hammer falling 30 inches by auto-hammer				

**Figure A-4,
Log of Boring B-4, Page 1 of 1**

T2539-22-02 BORING LOGS.GPJ

SAMPLE SYMBOLS		
	... SAMPLING UNSUCCESSFUL	
	... DISTURBED OR BAG SAMPLE	
	... STANDARD PENETRATION TEST	
	... CHUNK SAMPLE	
	... WATER TABLE OR SEEPAGE	

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B-5		PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>1344</u>	DATE COMPLETED <u>11/13/12</u>			
					EQUIPMENT <u>CME 75 HSA</u>		BY: <u>JL</u>		
MATERIAL DESCRIPTION									
0	B5@0-5			SM	ALLUVIUM (Oa1): Silty SAND, poorly graded, medium dense, dry, light reddish brown, fine to medium grained, some coarse grained sand, some gravel, shrubs and trace cobble at surface				
2	B5@2.5				PAUBA SANDSTONE (Ops): Silty SANDSTONE, poorly graded, dense, slightly moist, light reddish brown, black and white, fine to medium grained, some coarse grained sand, micaceous, weakly cemented		50/5"	128.9	5.3
4	B5@5				-becomes very dense, moist, light grayish brown, black and white with orange staining, micaceous, no gravel		78	137.8	6.1
6	B5@5				-gravelly drilling approximately 1' thick				
8	B5@7.5				-becomes dense, reddish brown, black and white, decrease in silt		88/10"	133.8	3.7
8	B5@7.5				-becomes light grayish brown, black and white				
10	B5@10				SANDSTONE, poorly graded, very dense, moist, light yellowish brown, black and white, fine to medium grained, some coarse grained sand with orange staining, trace silt, weakly cemented		92/11"		
12	B5@10								
14	B5@15				-some gravel, medium to coarse grained, some fine grained sand, subrounded gravel				
16	B5@15						50/5"		
18	B5@15				-trace gravel				
20	B5@20						50/4"		
					Total depth: 20.5' No groundwater encountered No caving Backfilled with cuttings and tamped Penetration resistance for 140-lb hammer falling 30 inches by auto-hammer				

Figure A-5,
Log of Boring B-5, Page 1 of 1

T2539-22-02 BORING LOGS.GPJ

SAMPLE SYMBOLS		... SAMPLING UNSUCCESSFUL		... STANDARD PENETRATION TEST		... DRIVE SAMPLE (UNDISTURBED)
		... DISTURBED OR BAG SAMPLE		... CHUNK SAMPLE		... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B-6		PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>1360</u>	DATE COMPLETED <u>11/13/12</u>			
					EQUIPMENT <u>CME 75 HSA</u>	BY: <u>JL</u>			
MATERIAL DESCRIPTION									
0	B6@0-5			SM-ML	ALLUVIUM (Oal): Silty SAND to Sandy SILT, medium dense to firm, dry, light reddish brown, fine to medium grained, rootlets and brush debris at surface				
2	B6@2.5				PAUBA SANDSTONE (Ops): Silty SANDSTONE, poorly graded, dense, slightly moist, light reddish brown, black and white, fine to medium grained, some coarse grained sand, micaceous, weakly cemented		87/9"	135.5	5.9
4	B6@5				-becomes light grayish brown, black and white with some orange staining, fine grained with some medium grained sand		50/4"	121.2	4.3
6	B6@7.5				Sandy SILTSTONE, hard, moist, reddish brown, fine grained sand, micaceous, abundant carbonates, trace mafic staining, weakly cemented		77	128.2	8.6
8	B6@10						64		
10	B6@15				-becomes reddish brown and white, fine to medium grained, some fine gravel, decrease in silt		39		
12	B6@20				SANDSTONE with some Silt, poorly graded, very dense, moist, yellowish brown, black and white, fine to medium grained, some coarse grained sand, micaceous, weakly cemented		50/3"		
14	B6@25						50/3"		
16					Total depth: 25.25' No groundwater encountered No caving Backfilled with cuttings and tamped Penetration resistance for 140-lb hammer falling 30 inches by auto-hammer				

Figure A-6,
Log of Boring B-6, Page 1 of 1

T2539-22-02 BORING LOGS.GPJ

SAMPLE SYMBOLS		... SAMPLING UNSUCCESSFUL		... STANDARD PENETRATION TEST		... DRIVE SAMPLE (UNDISTURBED)
		... DISTURBED OR BAG SAMPLE		... CHUNK SAMPLE		... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	BORING B-7		PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>1354</u>	DATE COMPLETED <u>11/13/12</u>			
					EQUIPMENT <u>CME 75 HSA</u>	BY: <u>JL</u>			
MATERIAL DESCRIPTION									
0	B7@0-5			SM	ALLUVIUM (Oal): Silty SAND, poorly graded, medium dense, dry, light reddish brown, fine to medium grained, some fine gravel, brush and rootlets at upper 6" -gravelly drilling approximately 1' thick				
2	B7@2.5				PAUBA SANDSTONE (Ops): Sandy SILTSTONE, hard, slightly moist, reddish brown, fine grained sand, some rootlets, weakly cemented		50/6"		
4	B7@5				SANDSTONE, poorly graded, very dense, slightly moist, reddish brown, black and white, fine to medium grained, some coarse grained sand, micaceous, weakly cemented		50/5"	119.4	11.8
6	B7@7.5				Sandy SILTSTONE, hard, moist, light yellowish brown, fine grained, micaceous, weakly cemented				
8	B7@7.5				Silty SANDSTONE, poorly graded, very dense, moist, yellowish light brown and olive brown, fine to medium grained, some coarse grained sand, micaceous, trace fine gravel, weakly cemented -becomes yellowish brown, black and white		50/3"	112.2	12.7
10	B7@10						79/11"	127.9	9.4
12									
14					SANDSTONE, poorly graded, very dense, moist, yellowish brown, black and white with some orange staining, medium to coarse grained, micaceous, trace fine gravel, weakly cemented				
16	B7@15				-becomes fine to medium grained		50/5"		
18									
20	B7@20				-trace orange staining		50/5"		
					Total depth: 20.5' No groundwater encountered No caving Backfilled with cuttings and tamped Penetration resistance for 140-lb hammer falling 30 inches by auto-hammer				

Figure A-7,
Log of Boring B-7, Page 1 of 1

T2539-22-02 BORING LOGS GP.J

SAMPLE SYMBOLS		... SAMPLING UNSUCCESSFUL		... STANDARD PENETRATION TEST		... DRIVE SAMPLE (UNDISTURBED)
		... DISTURBED OR BAG SAMPLE		... CHUNK SAMPLE		... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TEST PIT TP-1		PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>1345</u>	DATE COMPLETED <u>11/7/12</u>			
					EQUIPMENT <u>Backhoe</u> BY: <u>PDT</u>				
MATERIAL DESCRIPTION									
0				SM	<u>ALLUVIUM (Oal):</u> Silty SAND, poorly graded, loose, dry to moist, brown, porous				
2					<u>UNNAMED SANDSTONE (Ous):</u> Silty SANDSTONE, dense, moist, yellow brown, coarse grained, locally massive, well cemented				
4									
					Total depth: 5' No groundwater encountered Backfilled with cuttings and tamped				

Figure A-8,
Log of Test Pit TP-1, Page 1 of 1

T2539-22-02 BORING LOGS.GPJ

SAMPLE SYMBOLS	<input type="checkbox"/> ... SAMPLING UNSUCCESSFUL	<input type="checkbox"/> ... STANDARD PENETRATION TEST	<input type="checkbox"/> ... DRIVE SAMPLE (UNDISTURBED)
	<input checked="" type="checkbox"/> ... DISTURBED OR BAG SAMPLE	<input checked="" type="checkbox"/> ... CHUNK SAMPLE	<input checked="" type="checkbox"/> ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED.
IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

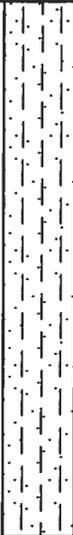
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	TEST PIT TP-2		PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
				SOIL CLASS (USCS)	ELEV. (MSL.) <u>1344</u> DATE COMPLETED <u>11/7/12</u> EQUIPMENT <u>Backhoe</u> BY: <u>PDT</u>			
MATERIAL DESCRIPTION								
0				SM	<u>ALLUVIUM (Oa1):</u> Silty SAND, poorly graded, loose, dry to moist, brown, porous			
2								
4					<u>UNNAMED SANDSTONE (Ous):</u> Silty SANDSTONE, dense, moist, yellow brown, coarse grained, locally massive, well cemented			
6								
8								
					Total depth: 8' No groundwater encountered Backfilled with cuttings and tamped			

Figure A-9,
Log of Test Pit TP-2, Page 1 of 1

T2539-22-02 BORING LOGS.GPJ

SAMPLE SYMBOLS	 ... SAMPLING UNSUCCESSFUL	 ... STANDARD PENETRATION TEST	 ... DRIVE SAMPLE (UNDISTURBED)
	 ... DISTURBED OR BAG SAMPLE	 ... CHUNK SAMPLE	 ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED.
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DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	TEST PIT TP-4		PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
				SOIL CLASS (USCS)	ELEV. (MSL.) <u>1336</u> DATE COMPLETED <u>11/13/12</u> EQUIPMENT <u>Backhoe</u> BY: <u>JL</u>			
MATERIAL DESCRIPTION								
0				SM	<u>ALLUVIUM (Oa1):</u> Silty SAND, poorly graded, medium dense, slightly moist, reddish brown to brown, fine grained, rootlets and brush debris at the surface			
2						<u>PAUBA SANDSTONE (Ops):</u> SANDSTONE, poorly graded, dense, moist, reddish brown with orange staining, medium to coarse grained, weakly cemented		
4								
					Total depth: 5' No groundwater encountered Backfilled with cuttings and tamped Creek bottom located approximately 2' below top of excavation			

Figure A-11,
Log of Test Pit TP-4, Page 1 of 1

T2539-22-02 BORING LOGS.GPJ

SAMPLE SYMBOLS	 ... SAMPLING UNSUCCESSFUL	 ... STANDARD PENETRATION TEST	 ... DRIVE SAMPLE (UNDISTURBED)
	 ... DISTURBED OR BAG SAMPLE	 ... CHUNK SAMPLE	 ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

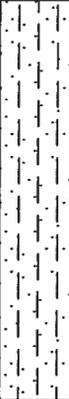
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	TEST PIT TP-5		PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
				SOIL CLASS (USCS)	ELEV. (MSL.) <u>1332</u> DATE COMPLETED <u>11/13/12</u> EQUIPMENT <u>Backhoe</u> BY: <u>JL</u>			
MATERIAL DESCRIPTION								
0				SM	<u>ALLUVIUM (Oal):</u> Silty SAND, poorly graded, medium dense, damp, reddish brown to brown, fine grained, rootlets			
2						-cobble layer approximately 1' thick		
4					<u>PAUBA SANDSTONE (Ops):</u> SANDSTONE, poorly graded, dense, moist, reddish brown with orange staining, medium to coarse grained, weakly cemented			
6						-lense of olive brown silt approximately 6" thick		
					Total depth: 7' No groundwater encountered Backfilled with cuttings and tamped Creek bottom located approximately 2' below top of excavation			

Figure A-12,
Log of Test Pit TP-5, Page 1 of 1

T2539-22-02 BORING LOGS.GPJ

SAMPLE SYMBOLS	 ... SAMPLING UNSUCCESSFUL	 ... STANDARD PENETRATION TEST	 ... DRIVE SAMPLE (UNDISTURBED)
	 ... DISTURBED OR BAG SAMPLE	 ... CHUNK SAMPLE	 ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED.
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DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	TEST PIT TP-6		PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
				SOIL CLASS (USCS)	ELEV. (MSL.) <u>1336</u> DATE COMPLETED <u>11/13/12</u> EQUIPMENT <u>Backhoe</u> BY: <u>JL</u>			
0					MATERIAL DESCRIPTION			
		[Vertical line with dots]		SM	<p><u>ALLUVIUM (Oal):</u> Silty SAND, poorly graded, medium dense, slightly moist, reddish brown to brown, fine grained, rootlets</p>			
2								
		[Vertical line with dots]			<p><u>PAUBA SANDSTONE (Ops):</u> SANDSTONE, poorly graded, dense, moist, reddish brown with orange staining, medium to coarse grained, lenses of black and white silt, weakly cemented</p>			
4								
					<p>Total depth: 4' No groundwater encountered Backfilled with cuttings and tamped Creek bottom located approximately 2' below top of excavation</p>			

Figure A-13,
Log of Test Pit TP-6, Page 1 of 1

T2539-22-02 BORING LOGS.GPJ

SAMPLE SYMBOLS	<input type="checkbox"/> ... SAMPLING UNSUCCESSFUL	<input type="checkbox"/> ... STANDARD PENETRATION TEST	<input type="checkbox"/> ... DRIVE SAMPLE (UNDISTURBED)
	<input checked="" type="checkbox"/> ... DISTURBED OR BAG SAMPLE	<input checked="" type="checkbox"/> ... CHUNK SAMPLE	<input checked="" type="checkbox"/> ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	TEST PIT TP-7		PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
				SOIL CLASS (USCS)	ELEV. (MSL.) <u>1364</u> DATE COMPLETED <u>11/13/12</u> EQUIPMENT <u>Backhoe</u> BY: <u>JL</u>			
MATERIAL DESCRIPTION								
0				SM	<u>ALLUVIUM (Oal):</u> Silty SAND, poorly graded, medium dense, slightly moist, reddish brown to brown, fine grained, rootlets			
2								
4								
6					<u>PAUBA SANDSTONE (Ops):</u> SANDSTONE, poorly graded, dense, moist, reddish brown with orange staining, coarse grained, weakly cemented -layered lenses of black, white and reddish brown			
8								
					Total depth: 8' No groundwater encountered Backfilled with cuttings and tamped			

Figure A-14,
Log of Test Pit TP-7, Page 1 of 1

T2539-22-02 BORING LOGS GPJ

SAMPLE SYMBOLS		
	... SAMPLING UNSUCCESSFUL	
	... DISTURBED OR BAG SAMPLE	
		
		
		... STANDARD PENETRATION TEST
		... DRIVE SAMPLE (UNDISTURBED)
		... CHUNK SAMPLE
		... WATER TABLE OR SEEPAGE

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DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TEST PIT TP-8			PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>1323</u>	DATE COMPLETED <u>11/13/12</u>	EQUIPMENT <u>Backhoe</u> BY: <u>JL</u>			
MATERIAL DESCRIPTION										
0				SM	ALLUVIUM (Oal): Silty SAND, poorly graded, medium dense, slightly moist, reddish brown to brown, fine grained, rootlets					
2	TP8@1-3									
4					PAUBA SANDSTONE (Ops): SANDSTONE, poorly graded, dense, moist, reddish brown with orange staining, medium to coarse grained, weakly cemented -conglomerate layer approximately 2' thick					
6										
					Total depth: 6' No groundwater encountered Backfilled with cuttings and tamped Creek bottom located approximately 2.5' below top of excavation					

Figure A-15,
Log of Test Pit TP-8, Page 1 of 1

T2539-22-02 BORING LOGS GPJ

SAMPLE SYMBOLS		
	... SAMPLING UNSUCCESSFUL	
	... DISTURBED OR BAG SAMPLE	
	... STANDARD PENETRATION TEST	
	... CHUNK SAMPLE	
	... WATER TABLE OR SEEPAGE	

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TEST PIT TP-9			PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>1324</u>	DATE COMPLETED <u>11/16/12</u>	EQUIPMENT <u>Backhoe</u> BY: <u>JL</u>			
0				SM	MATERIAL DESCRIPTION					
					ALLUVIUM (Qal): Silty SAND, poorly graded, medium dense, slightly moist, reddish brown, fine grained, rootlets					
2					PAUBA SANDSTONE (Ops): SANDSTONE, poorly graded, dense, moist, reddish brown, medium to coarse grained, weakly cemented -becomes light yellowish brown with orange staining					
					Total depth: 2.5' No groundwater encountered Backfilled with cuttings and tamped Drainage bottom located at ground level of excavation					

Figure A-16,
Log of Test Pit TP-9, Page 1 of 1

T2539-22-02 BORING LOGS.GPJ

SAMPLE SYMBOLS	 ... SAMPLING UNSUCCESSFUL	 ... STANDARD PENETRATION TEST	 ... DRIVE SAMPLE (UNDISTURBED)
	 ... DISTURBED OR BAG SAMPLE	 ... CHUNK SAMPLE	 ... WATER TABLE OR SEEPAGE

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DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	TEST PIT TP-10			PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					ELEV. (MSL.) <u>1344</u>	DATE COMPLETED <u>11/16/12</u>	EQUIPMENT <u>Backhoe</u> BY: <u>JL</u>			
MATERIAL DESCRIPTION										
0				SM	<u>ALLUVIUM (Qal):</u> Silty SAND with cobble, poorly graded, medium dense, slightly moist, reddish brown to brown, fine grained, rootlets and brush debris at the surface					
2					<u>PAUBA SANDSTONE (Ops):</u> SANDSTONE, poorly graded, dense, moist, reddish brown, medium to coarse grained, some gravel, trace silt, weakly cemented -becomes light yellowish brown					
4					Total depth: 4.5' No groundwater encountered Backfilled with cuttings and tamped Creek bottom located approximately 3' below top of excavation					

Figure A-17,
Log of Test Pit TP-10, Page 1 of 1

T2539-22-02 BORING LOGS.GPJ

SAMPLE SYMBOLS	 ... SAMPLING UNSUCCESSFUL	 ... STANDARD PENETRATION TEST	 ... DRIVE SAMPLE (UNDISTURBED)
	 ... DISTURBED OR BAG SAMPLE	 ... CHUNK SAMPLE	 ... WATER TABLE OR SEEPAGE

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APPENDIX

B

APPENDIX B

LABORATORY TESTING

Laboratory tests were performed in accordance with generally accepted test methods of the “American Society for Testing and Materials (ASTM)”, or other suggested procedures. Selected samples were tested for direct shear strength, compaction characteristics, expansion characteristics, corrosivity, in-place dry density and moisture content. The results of the laboratory tests are summarized in Figures B1 through B4. The in-place dry density and moisture content of the samples tested are presented on the boring logs, Appendix A.

**SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D 4829-08A**

Sample No.	Moisture Content (%)		Dry Density (pcf)	Expansion Index	*UBC Classification	**CBC Classification
	Before	After				
B1 @ 0'-5' (North Site)	6.0	20.4	113.0	21	Low	Expansive
B5 @ 0'-5' (South Site)	6.3	19.9	116.8	32	Low	Expansive

* Reference: 1997 Uniform Building Code, Table 18-I-B.

** Reference: 2010 California Building Code, Section 1803.5.3

**SUMMARY OF LABORATORY MAXIMUM DENSITY AND
AND OPTIMUM MOISTURE CONTENT TEST RESULTS
ASTM D 1557-12**

Sample No.	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture (%)
B2 @ 0-5' (North Site)	Yellowish Brown Silty Sand	123.5	10.5
B3 @ 0-5' (North Site)	Dark Brown Sand with Silt	133.0	8.0
B4 @ 0-5' (South Site)	Reddish Brown Silty Sand	128.5	11.5

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41571 CORNING PLACE, SUITE 101, MURRIETA, CA 92562
PHONE 951.304.2300 FAX 951.304.2392

LABORATORY TEST RESULTS

STRATA EQUITY GROUP, INC.
TWO 20-ACRE PARCELS SW OF CLINTON KEITH
& YAMAS DR. / SE OF ELIZABETH LN. & BUNNY TR.
WILDOMAR, CALIFORNIA

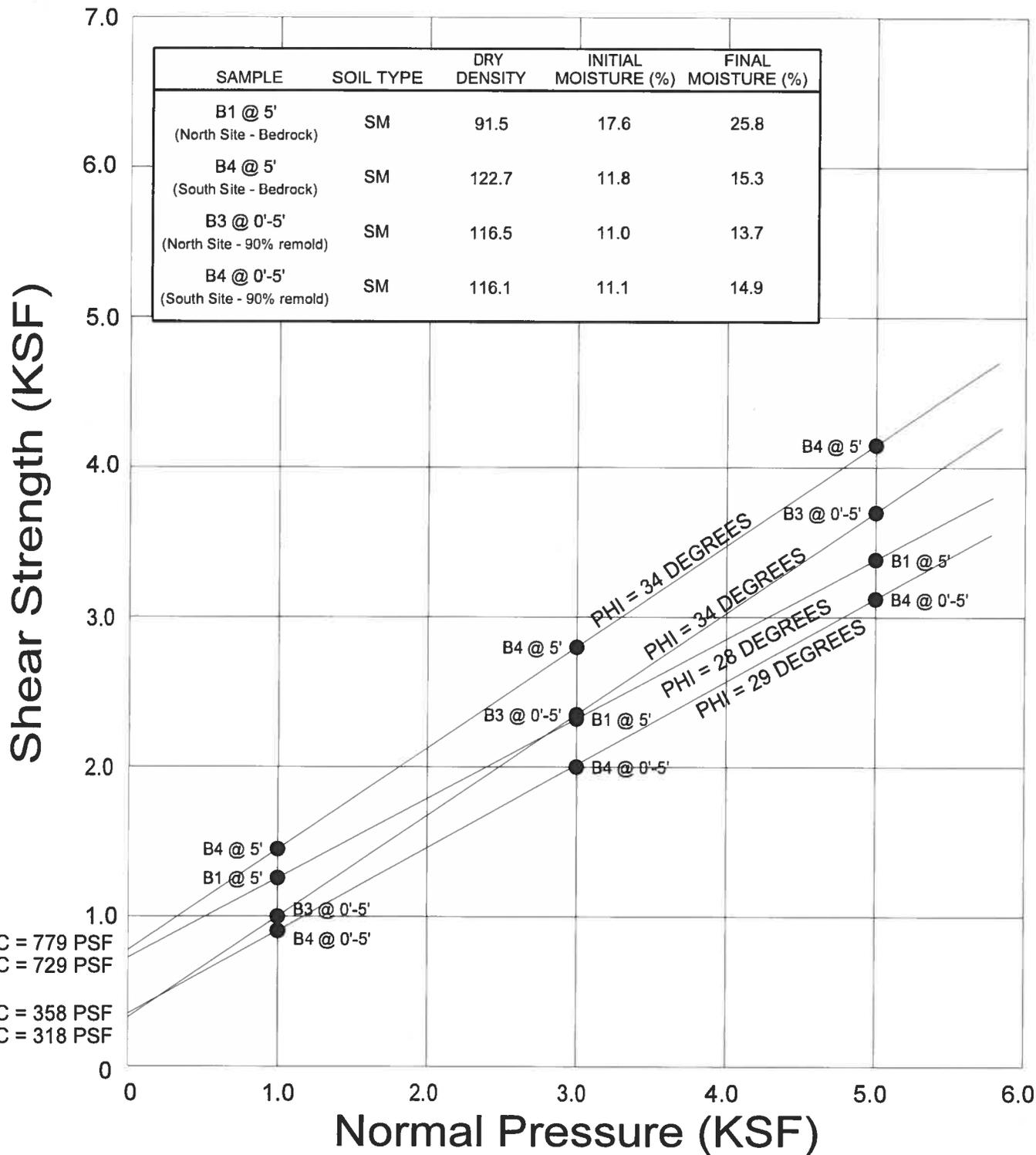
JL

2000

12 / 2012

PROJECT NO. T2539-22-02

FIG. B2



● Direct Shear, Saturated

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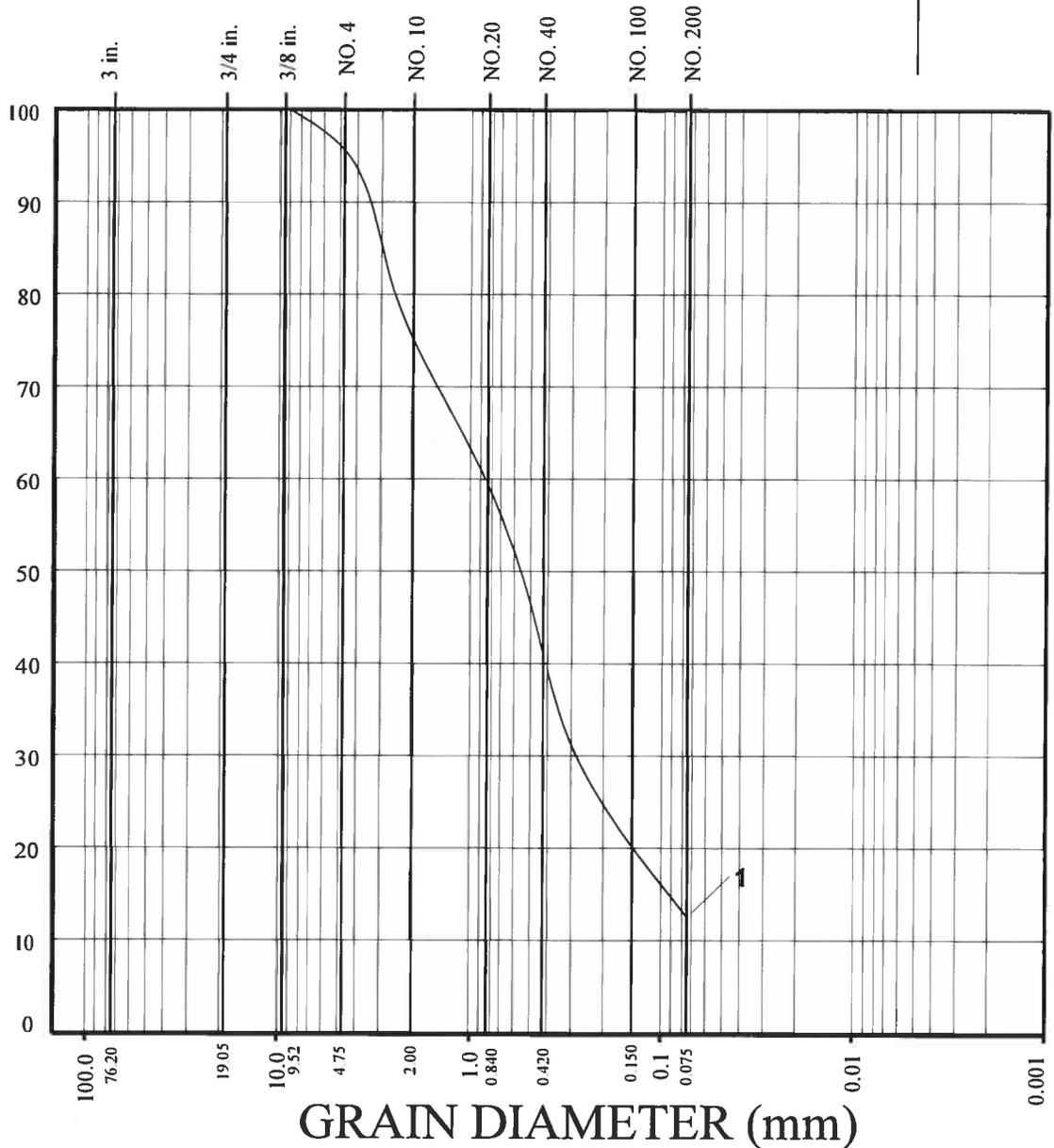
DIRECT SHEAR TEST RESULTS

STRATA EQUITY GROUP, INC.
 TWO 20-ACRE PARCELS SW OF CLINTON KEITH
 & YAMAS DR. / SE OF ELIZABETH LN. & BUNNY TR.
 WILDOMAR, CALIFORNIA

JL	2000	12 / 2012	PROJECT NO. T2539-22-02	FIG. B1
----	------	-----------	-------------------------	---------

GRAVEL	SAND		SILT	CLAY
	MEDIUM TO COARSE	FINE		
	U.S. Standard Sieve Sizes			

PERCENT PASSING BY WEIGHT



SAMPLE	UNIFIED SOIL CLASSIFICATION
1 - B3 @ 25' (North Site)	SP

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GRAIN SIZE DISTRIBUTION

STRATA EQUITY GROUP, INC.
TWO 20-ACRE PARCELS SW OF CLINTON KEITH
& YAMAS DR. / SE OF ELIZABETH LN. & BUNNY TR.
WILDOMAR, CALIFORNIA

**SUMMARY OF LABORATORY POTENTIAL OF
HYDROGEN (pH) AND RESISTIVITY TEST RESULTS
CALIFORNIA TEST NO. 643**

Sample No.	pH	Resistivity (ohm centimeters)
B1 @ 0'-5' (North Site)	8.04	1900 (Highly Corrosive)
B5 @ 0'-5' (South Site)	7.26	3400 (Corrosive)

**SUMMARY OF LABORATORY CHLORIDE CONTENT TEST RESULTS
AASHTO T291-94**

Sample No.	Chloride Ion Content (%)
B1 @ 0'-5' (North Site)	0.009
B5 @ 0'-5' (South Site)	0.011

**SUMMARY OF LABORATORY WATER SOLUBLE SULFATE TEST RESULTS
CALIFORNIA TEST NO. 417**

Sample No.	Water Soluble Sulfate (% SO ₄)	Sulfate Exposure*
B1 @ 0'-5' (North Site)	0.042	Negligible
B5 @ 0'-5' (South Site)	0.025	Negligible

* Reference: 2010 California Building Code, Section 1904.3 and ACI 381 Section 4.3.

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JL		2000

CORROSIVITY TEST RESULTS		
STRATA EQUITY GROUP, INC. TWO 20-ACRE PARCELS SW OF CLINTON KEITH & YAMAS DR. / SE OF ELIZABETH LN. & BUNNY TR. WILDOMAR, CALIFORNIA		
12 / 2012	PROJECT NO. T2539-22-02	FIG. B4

APPENDIX



C

APPENDIX C

FAULT RUPTURE HAZARD INVESTIGATION

Geologic Review

Riverside County has depicted an unclassified fault crossing both of the sites based on the Land Information System data base. The County has not established a fault hazard zone around this fault. It appears that this fault was taken from regional geologic mapping performed by Kennedy and Morton from their *Preliminary Geologic Map of the Murrieta 7.5' Quadrangle* (Version 1.0), see Figure 2, *Riverside County Fault Hazard Zones*. Kennedy did not include the site faults in his previous 1977 study.

In 2005, LGC performed a fault rupture hazard investigation as part of a preliminary geotechnical investigation on a neighboring site which is located, between the subject parcels (Riverside County GEO Report 001986). They reported the excavation of two fault trenches. Ten open caliche filled fractures with sandstone were observed in one of their trenches at the location of the mapped fault. However, the soil overlying the fractures was described as alluvium and no age-dating was provided to determine if the fractures were older than 11,000 years (thereby making the fault inactive). The second fault trench was excavated northeast of the mapped fault and did not intercept the trace. The County Geologist issued a review letter to LGC on April 23, 2008 with several geologic and geotechnical questions regarding both their 2005 and 2006 reports. However, a response was never provided and GEO001986 remains an open file at the County.

The fault mapped on both parcels is in alignment with more prominent faulting projecting from the southeast within the City of Murrieta. We reviewed geologic reports prepared for the residential tracts located along Jackson Avenue to determine the age of faulting encountered to the southeast. Geologic studies to the southeast of the sites indicated mapped faults by Kennedy (1977) were present within the Unnamed Sandstone unit and were capped by unbroken Pauba Sandstone, therefore, they were deemed inactive (RMA, 1991). The fault located to the southeast of the site, mapped by Kennedy (1977), investigated by Pacific Soils (1987), and discussed in the RMA report (1991) was noticeable in aerial photographs as well as in ground surface expression, however, it was found to be inactive.

Furthermore, similar faulting mapped west of the site on the Oak Springs Ranch property, located approximately ½ mile west of parcel 003, was determined to be older and inactive (Hunt, 2005).

Lineament Analysis

In order to identify possible unmapped faults and to evaluate topographic expressions of published fault traces, Geocon performed a lineament analysis of the site. Aerial photographs obtained from Riverside County Flood Control and Water Conservation District and Continental Aerial Photo were reviewed. The photographs covered the years 1962 through 2010 and were at scales ranging from 1 inch equals 1,600 feet to 1 inch equals 2,000 feet.

Lineaments were classified according to their development as strong, moderate or weak. A strong lineament is a well-defined feature, which can be continuously traced several hundred feet to a few thousand feet. A moderate lineament is less well defined, somewhat discontinuous and can be traced for only a few hundred feet. A weak lineament is discontinuous, poorly defined, and can be traced for a few hundred feet or less. We did observe a moderate lineament crossing both sites and extending to the northwest and southeast. The lineament associated with the mapped fault by Kennedy and Morton was the only lineament noted on or projecting toward the site. The mapped fault trends N32W and is mapped as solid line within the Pauba on the northern site and dashed within the Pauba on the southern site. The fault is not mapped within the Unnamed sandstone on the northern site.

Field Investigation

The Geocon fault investigation was performed October 25 through November 16, 2012 and consisted of excavation of two fault trenches totaling 184 feet (FT-1 and FT-2) within the northern site to depths of 4 to 6.5 feet. The fault trench within the southern site (FT-3) was 225 lineal feet and 4 to 15 feet deep. We were looking for evidence of fault rupture which extended through the bedrock units and the overlying younger soils. Features such as through going fractures/ground cracks, faults, soft or disturbed zones, or abrupt changes in geologic units were examined and traced out to determine if they extended into overlying soils or extended into the bottom of the trench and were also present on the opposite trench wall. Where features were not present on the opposite trench wall, were underlain by continuous bedding below the feature, or which were overlaid by unbroken colluvial soils the features were classified as fractures or older faulting (older than the 11,000+ year old colluvium encountered). Trenches deeper than 5 feet were benched at an effective slope ratio of 1:1 (horizontal:vertical) to provide safe working conditions. The trench walls were scraped clean of smeared soils and a level line was strung to accurately depict the trench geometry. Soil conditions encountered in the trench excavations were visually observed, classified and logged in general accordance with American Society for Testing and Materials (ASTM) practice for Description and Identification of Soils (Visual-Manual Procedure D2488). The fault trenches were geologically logged at a scale of 1 inch equals 5 feet by a Certified Engineering Geologist from our firm. The soil color was classified in accordance with the 2000 Munsell Soil Color Chart. Logs of the trenches are presented on Figure C-1. Locations of the trenches are shown on the Geologic Map and Site Plan, Figure 2. During logging we invited City of Wildomar Building Official, Van Wilfinger to review the trenches or send a representative to view the trenches. The invitation was declined and it was stated that the City of Wildomar would rely on our report for the project. Trenches were loosely backfilled with little compactive effort and should be re-excavated during grading and replaced with compacted fill.

Summary of Findings

Fault Trench 1 (FT-1) – FT-1 was excavated within the northern site roughly perpendicular to the trace of the mapped fault. The trench was 150 feet long and was 4 to 6.5 feet deep. It trended N37E and the southwest wall was geologically logged and depicted. The trench excavation exposed Unnamed Sandstone overlain by colluvium and topped with alluvium/topsoil. The colluvium was red (10R 4/8) dense, had columnar blocky structure and clay development on the ped facies indicating significant age

(much older than 11,000 years before present which governs fault activity classification). The bedrock was moderately weathered in the upper few feet and stained red-brown from infiltration from the overlying colluvium. This unit also closely resembles the massive Pauba Sandstone observed in FT-2 and could be a gradation transition from the Unnamed sandstone to the overlying Pauba Sandstone. The Unnamed sandstone was locally massive to locally bedded with occasional siltstone and sand beds. Several fractures were observed within the unnamed Sandstone at the northeastern end of the trench between Station 0+10 and 0+30. These fractures extended downward from the top of the unit or from a silt bed within the unit and did not extend to the bottom of the trench. A fault was encountered from Stations 46+00 to 52+00 trending an average of N63W dipping 33 degrees to the southwest. The fault offset beds within the Unnamed Sandstone. There appeared to be detritus of Unnamed Sandstone incorporated into the base of the colluvial unit. However, this fault could not be traced into the colluvial unit and did not offset the contact of the Unnamed Sandstone and colluvium. Older faults were observed within the trench to the southwest where the colluvium was present in association with the faults. The faults south of Station 52+00 appear to be healed (cemented) and colluvium was observed overlying the faults on one or both of the trench walls. The faults that were observed within the Unnamed Sandstone do not appear to be active due to the presence of undisturbed older colluvial soils overlying the faults..

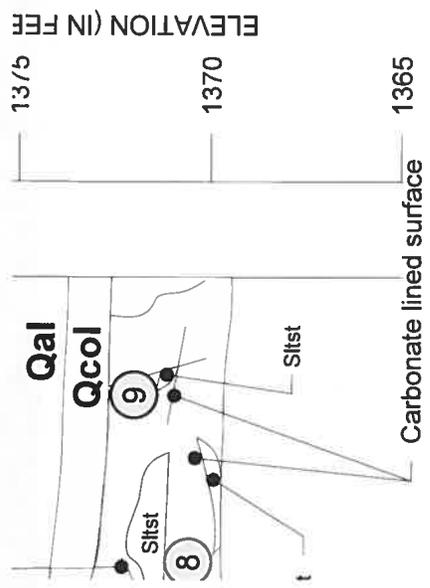
Fault Trench 2 (FT-2) – FT-2 was excavated on the northern site across the drainage from FT-1 to intercept the projection of the faults observed in FT-1 between Stations 46+00 to 52+00 which trended an average of N63W and were in line with the active Glen Ivy fault to the northwest. The trench was 35 feet long and generally 5 feet deep. The trench trended N20E and the northwest trench wall was logged and is depicted herein. The excavation exposed locally massive Pauba Sandstone overlain by approximately 18 inches of topsoil. The Pauba was intact with no evidence of ground cracking/fractures or faults. Therefore, the faulting encountered within FT-1 at Stations 46+00 to 52+00 was ruled out as an extension of the Glen Ivy fault.

Fault Trench 3 (FT-3) – FT-3 was excavated on the southern site across the mapped lineament. The trench was 225 feet long and 4 to 15 feet deep. It trended N72E and the southeast wall was logged and is depicted herein. The trench excavation exposed Pauba Sandstone overlaid by colluvium, alluvium and topsoil. The colluvium was red brown (5YR 4/4), had very blocky prismatic structure with clay development on ped facies and weathering rinds on cobbles and gravel clasts indicating substantial age to the unit in excess of 11,000 years before present. The northeastern portion of the trench exposed locally massive to subtly bedded coarse Pauba Sandstone. Bedding definition increased to the southwest where thin sand and silt beds within the Pauba were traced above or below suspected fault features. Several large krotovina (animal burrows) were observed within the trench excavation. These features can be indicative of faulting, therefore, excavations were deepened in areas of krotovina revealing bedded, unbroken Pauba Sandstone beds beneath the krotovina. Some ground cracks (Station 0+05 to 0+35) were also observed within the excavation. The cracks were generally linear with slightly irregular surfaces and were simply slightly weaker zones within the rock with no carbonate or clay deposits. These ground cracks either projected down from the ground surface and did not extend to the bottom of the trench or projected up from the bottom and did not project into the overlying colluvium. We deepened the trench in this area

which revealed unbroken Pauba Sandstone beds beneath the ground cracks/fractures. The Pauba Sandstone deepened in the southwestern portion of the trench where alluvium thickened along an erosional/depositional contact. This area of the trench was deepened to 15 feet to provide a continuous exposure of Pauba Sandstone throughout the trench excavation where bedding could be traced to verify no faulting was present. There were no features within this trench which were classified as faults.

Conclusions

Based on our exploration as described above we did not observe active faulting within in either site. Older faulting was observed within the Unnamed Sandstone (very early Pleistocene approximately 1.6 million years old) on the northern site. However, no faulting was observed within the Pauba Sandstone (early Pleistocene approximately 1 million years old) on either site. Therefore, we are not recommending building setback zones on either site based on this evidence.



4 fracture: N20W, 80S carbonate filled

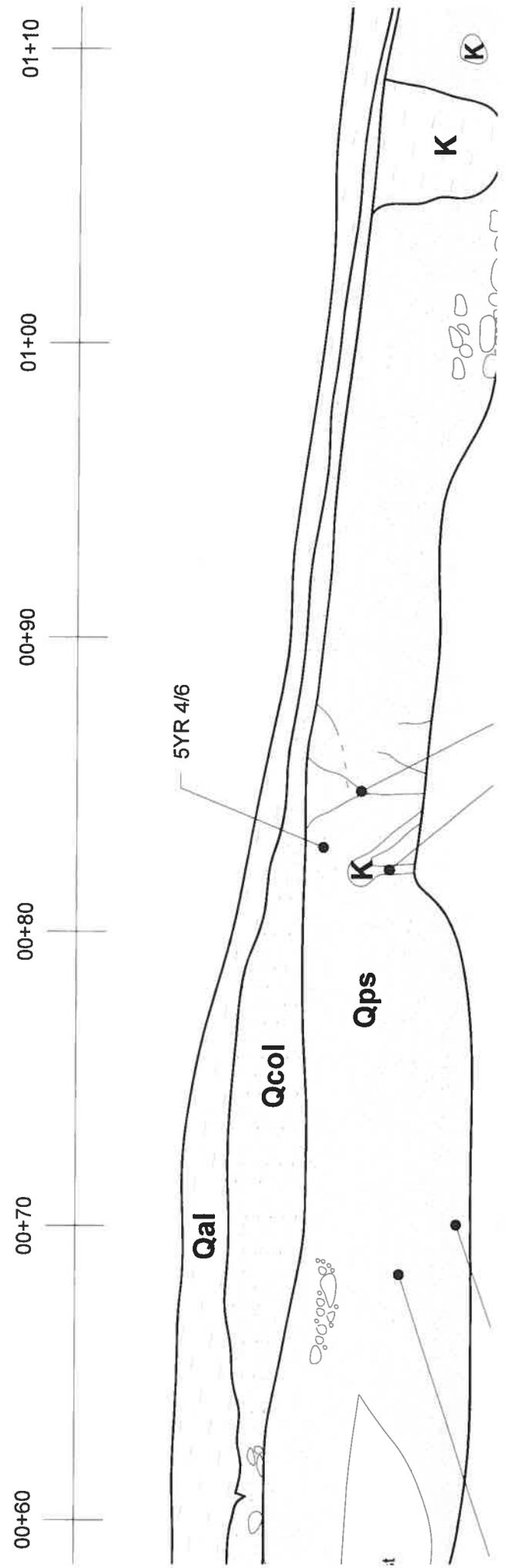
5 through 8 Fault Zone: Average N63W, 33SW

9 fracture: N68E, 80S, fracture/ground crack

10 fracture: N20E, 26W ground crack

11 Fault: EW, S continues across trench does not disrupt underlying bedding

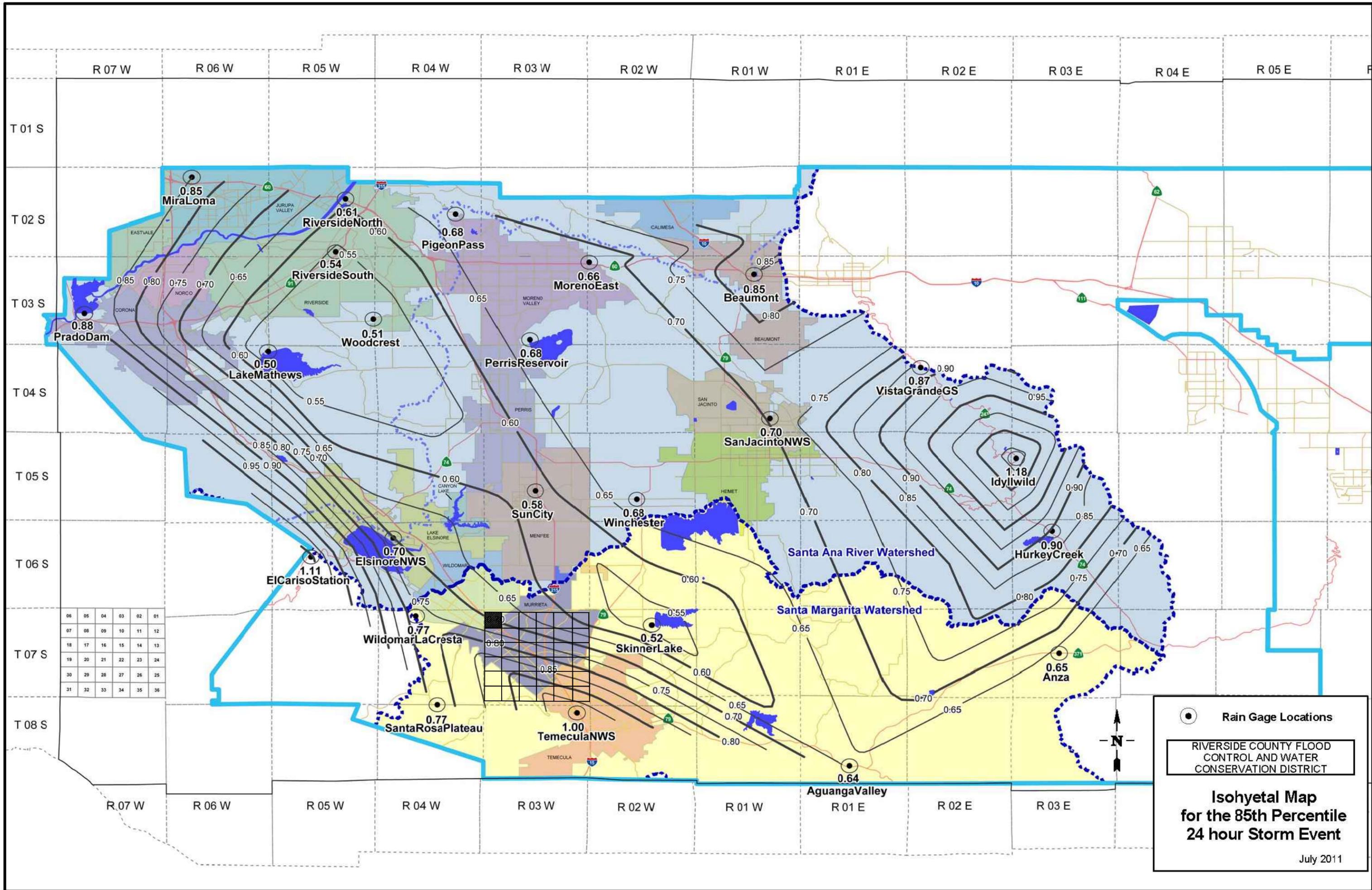
FT-3
N27°E
SOUTH WALL



Appendix F

Treatment Control BMP Sizing Calculations and Design Details

Isohyetal Map for the 85th Percentile 24-hour Storm Event



06	05	04	03	02	01
07	08	09	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

 **Rain Gage Locations**
 RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
Isohyetal Map for the 85th Percentile 24 hour Storm Event
 July 2011

Santa Margarita Watershed Design Volume Spreadsheets

Santa Margarita Watershed		Legend:	Required Entries
BMP Design Volume, V_{BMP}			Calculated Cells
(Note this worksheet shall only be used in conjunction with BMP designs from the LID BMP Design Handbook)			
Company Name	JLC Engineering & Consulting	Date	11/15/2013
Designed by	Jilleen Ferris	County/City Case No	Prielipp
Company Project Number/Name	108.25.13		
Drainage Area Number/Name	A		
Enter the Area Tributary to this Feature	$A_T = 12.2$ acres		
85 th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E			
Site Location	Township	7S	
	Range	4W	
	Section	6	
Enter the 85 th Percentile, 24-hour Rainfall Depth	$D_{85} =$	0.70	
Determine the Effective Impervious Fraction			
Type of post-development surface cover (use pull down menu)			
Effective Impervious Fraction	$I_f =$	0.72	
Select the 'Post-Development Surface Cover' from the pull down above			
Calculate the composite Runoff Coefficient, C for the BMP Tributary Area			
Use the following equation based on the WEF/ASCE Method			
$C = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$	$C =$	0.51	
Determine Design Storage Volume, V_{BMP}			
Calculate V_U , the 85% Unit Storage Volume $V_U = D_{85} \times C$	$V_U =$	0.36	(in*ac)/ac
Calculate the design storage volume of the BMP, V_{BMP} .			
$V_{BMP} (ft^3) = \frac{V_U (in\text{-}ac/ac) \times A_T (ac) \times 43,560 (ft^2/ac)}{12 (in/ft)}$	$V_{BMP} =$	15,943	ft ³
Notes:			

Santa Margarita Watershed		Legend:	Required Entries
BMP Design Volume, V_{BMP}			Calculated Cells
(Note this worksheet shall only be used in conjunction with BMP designs from the LID BMP Design Handbook)			
Company Name	JLC Engineering & Consulting	Date	11/15/2013
Designed by	Jilleen Ferris	County/City Case No	Prielipp
Company Project Number/Name	108.25.13		
Drainage Area Number/Name	B-Sand Filter Basin		
Enter the Area Tributary to this Feature	$A_T = 2.25$ acres		
85 th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E			
Site Location	Township	7S	
	Range	4W	
	Section	6	
Enter the 85 th Percentile, 24-hour Rainfall Depth	$D_{85} =$	0.90	
Determine the Effective Impervious Fraction			
Type of post-development surface cover (use pull down menu)			
Effective Impervious Fraction	$I_f =$	0.68	
Select the 'Post-Development Surface Cover' from the pull down above			
Calculate the composite Runoff Coefficient, C for the BMP Tributary Area			
Use the following equation based on the WEF/ASCE Method			
$C = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$		$C =$	0.48
Determine Design Storage Volume, V_{BMP}			
Calculate V_U , the 85% Unit Storage Volume $V_U = D_{85} \times C$		$V_U =$	0.43 (in*ac)/ac
Calculate the design storage volume of the BMP, V_{BMP} .			
$V_{BMP} (ft^3) = \frac{V_U (in\text{-}ac/ac) \times A_T (ac) \times 43,560 (ft^2/ac)}{12 (in/ft)}$		$V_{BMP} =$	3,512 ft ³
Notes:			

Santa Margarita Watershed		Legend:	Required Entries
BMP Design Volume, V_{BMP}			Calculated Cells
(Note this worksheet shall only be used in conjunction with BMP designs from the LID BMP Design Handbook)			
Company Name	JLC Engineering & Consulting	Date	11/15/2013
Designed by	Jilleen Ferris	County/City Case No	Prielipp
Company Project Number/Name	108.25.13		
Drainage Area Number/Name	B1-Subsurface Basin		
Enter the Area Tributary to this Feature	$A_T =$		1.9 acres
85 th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E			
Site Location	Township	7S	
	Range	4W	
	Section	6	
Enter the 85 th Percentile, 24-hour Rainfall Depth	$D_{85} =$	0.90	
Determine the Effective Impervious Fraction			
Type of post-development surface cover (use pull down menu)			
Effective Impervious Fraction	$I_f =$	0.86	
Select the 'Post-Development Surface Cover' from the pull down above			
Calculate the composite Runoff Coefficient, C for the BMP Tributary Area			
Use the following equation based on the WEF/ASCE Method			
$C = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$		$C =$	0.67
Determine Design Storage Volume, V_{BMP}			
Calculate V_U , the 85% Unit Storage Volume $V_U = D_{85} \times C$		$V_U =$	0.61 (in*ac)/ac
Calculate the design storage volume of the BMP, V_{BMP} .			
$V_{BMP} (ft^3) = \frac{V_U (in\text{-}ac/ac) \times A_T (ac) \times 43,560 (ft^2/ac)}{12 (in/ft)}$		$V_{BMP} =$	4,207 ft ³
Notes:			

Basin Volume Summary Table and Required Basin Volumes for Mitigation

UNIT HYDROGRAPH SUMMARY TABLE

FLOW RATE SUMMARY

AREA	Pre-Project		Post-Project		Post-Pre	
	2-yr, 24-hr	10-yr, 24-hr	2-yr, 24-hr	10-yr, 24-hr	2-yr, 24-hr	10-yr, 24-hr
Area A	0.41	5.08	2.73	5.76	2.31	0.68
Area B	0.14	0.97	1.75	2.00	1.61	1.03

VOLUME RATE SUMMARY

AREA	Pre-Project		Post-Project		Post-Pre	
	2-yr, 24-hr	10-yr, 24-hr	2-yr, 24-hr	10-yr, 24-hr	2-yr, 24-hr	10-yr, 24-hr
Area A	11,073	73,591	72,184	132,074	61,111	58,483
Area B	3,721	25,318	25,540	46,605	21,819	21,287

VOLUME SUMMARIES (VOLUMES SHOWN ARE IN CU. FT.)

SAND FILTER BASIN "A" - WATER QUALITY AND MITIGATION

REQ'D WQ VOLU	REQ'D MIT VOL	TOTAL REQ'D VOL	VOLUME PROVIDED
15,943	61,111	77,054	79,400

SAND FILTER BASIN "B" - WATER QUALITY ONLY

REQ'D WQ VOLU	REQ'D MIT VOL	TOTAL REQ'D VOL	VOLUME PROVIDED
3,512	0	3,512	3,695

SUBSURFACE SYSTEM "C" - WATER QUALITY AND MITIGATION

REQ'D WQ VOLU	REQ'D MIT VOL	TOTAL REQ'D VOL	VOLUME PROVIDED
4,207	21,819	26,026	34,430

Basin Storage Volumes

SAND FILTER BASIN "A"

Contour Elevation	Contour Area (sf)	Contour Area (ac)	Contour Interval Volume (ac-ft)	Total Basin Volume (ac-ft)	Total Basin Volume (ft ³)
1320.00	15706.79	0.361		0.0000	0.0000
			0.383		
1321.00	17721.8	0.407		0.3835	16704.15
			0.431		
1322.00	19807.9	0.455		0.8140	35459.31
			0.479		
1323.00	21962.7	0.504		1.2933	56335.34
			0.530		
1324.00	24186.4	0.555		1.8228	79400.98
			0.581		
1325.00	26488.2	0.608		2.4043	104729.55

Sand Filter Basin Design Spreadsheets

Sand Filter Basin (SFB) - Design Procedure	BMP ID	Legend:	Required Entries
	Basin A		Calculated Cells
Company Name:	JLC Engineering & Consulting, Inc.	Date:	10/31/2013
Designed by:	Jilleen Ferris	County/City Case No.:	Prielipp
Design Volume			
Total Tributary area		$A_{\text{TRIB}} =$	12.2 ac
Enter V_{BMP} determined from Section 2.1 of this Handbook		$V_{\text{BMP}} =$	15,943 ft ³
Basin Geometry			
Basin side slopes (no steeper than 4:1)		$z =$	4 :1
Proposed basin depth (see Figure 1)		$d_{\text{B}} =$	4 ft
Depth of freeboard (if used)		$d_{\text{fb}} =$	1 ft
Minimum bottom surface area of basin ($A_{\text{s}} = V_{\text{BMP}}/d_{\text{B}}$)		$A_{\text{s}} =$	3985.75 ft ²
Minimum total depth required (includes freeboard, filter media and subdrains)		$d_{\text{req}} =$	7.17 ft
Proposed Surface Area			15,706 ft ²
Forebay			
Forebay volume (minimum 0.5% V_{BMP})		Volume =	79.715 ft ³
Forebay depth (height of berm/splashwall. 1 foot min.)		Depth =	ft
Forebay surface area (minimum)		Area =	ft ²
Full height notch-type weir		Width (W) =	in
Filter Media			
Description of filter media			
<input type="text"/> Sand (ASTM C-33)			
<input type="text"/> Other (Clarify in "Notes" below)			
Media depth, $d_{\text{f}} =$	<input type="text"/> inches		
Underdrains			
Diameter of perforated underdrain			<input type="text"/> in
Spacing of underdrains (maximum 20 feet on center)		OK	<input type="text"/> ft
Notes: Detailed design of the sand filter basins will be provided during final engineering.			

Sand Filter Basin (SFB) - Design Procedure	BMP ID	Legend:	Required Entries
	Basin B		Calculated Cells
Company Name:	JLC Engineering & Consulting, Inc.	Date: 10/31/2013	
Designed by:	Jilleen Ferris	County/City Case No.: Prielipp	
Design Volume			
Total Tributary area		$A_{TRIB} =$	2.2 ac
Enter V_{BMP} determined from Section 2.1 of this Handbook		$V_{BMP} =$	3,512 ft ³
Basin Geometry			
Basin side slopes (no steeper than 4:1)		$z =$	4 :1
Proposed basin depth (see Figure 1)		$d_B =$	3 ft
Depth of freeboard (if used)		$d_{fb} =$	1 ft
Minimum bottom surface area of basin ($A_s = V_{BMP}/d_B$)		$A_s =$	1170.67 ft ²
Minimum total depth required (includes freeboard, filter media and subdrains)		$d_{req} =$	6.17 ft
Proposed Surface Area			1,173 ft ²
Forebay			
Forebay volume (minimum 0.5% V_{BMP})		Volume =	17.56 ft ³
Forebay depth (height of berm/splashwall. 1 foot min.)		Depth =	ft
Forebay surface area (minimum)		Area =	ft ²
Full height notch-type weir		Width (W) =	in
Filter Media			
Description of filter media			
	Sand (ASTM C-33)		
	Other (Clarify in "Notes" below)		
Media depth,	$df =$		inches
Underdrains			
Diameter of perforated underdrain			in
Spacing of underdrains (maximum 20 feet on center)	OK		ft
Notes: Detailed design of the sand filter basins will be provided during final engineering.			

Appendix G

AGREEMENTS – CC&Rs, COVENANT AND AGREEMENTS AND/OR OTHER
MECHANISMS FOR ENSURING ONGOING OPERATION,
MAINTENANCE, FUNDING AND TRANSFER OF REQUIREMENTS FOR
THIS PROJECT-SPECIFIC WQMP

Appendix H

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT – SUMMARY OF SITE REMEDIATION CONDUCTED AND USE RESTRICTIONS



PHASE I ENVIRONMENTAL SITE ASSESSMENT



APNs 380-250-003 and 380-250-023
Wildomar, CA

Prepared For:

Strata Equity
4370 La Jolla Village Drive
San Diego, CA 92122

Hillmann Project Number C3-5330

August 31, 2012

Your Property. Our Priority.

1745 W. Orangewood Avenue, Suite 110, Orange, CA 92868
Telephone (714) 634-9500 Fax: (714) 634-9507 Toll free: (800) 232-4326
www.HillmannConsulting.com



August 31, 2012

Mr. Eric Flodine
Strata Equity
4370 La Jolla Village Drive
San Diego, CA 92122

RE: Phase I Environmental Site Assessment
APNs 380-250-003 and 380-250-023
Wildomar, CA
Hillmann Project Number: C3-5330

Hillmann Consulting, LLC, is pleased to provide the results of our Phase I Environmental Site Assessment of the above referenced property. This assessment was performed in accordance with the scope and limitations of ASTM Practice E 1527-05.

This report is for the exclusive use of the entities named on the front cover, its affiliates, designates and assignees, rating agencies, prospective bond holders and bond holders, and no other party shall have any right to rely on any service provided by Hillmann Consulting, LLC, without prior written consent.

We appreciate the opportunity to provide environmental due diligence services. If you have any questions concerning this report, or if we can assist you in any other matter, please contact the Project Manager at 714-634-9500.

Very Truly Yours,
Hillmann Consulting, LLC

Charlotte Reese
Project Manager

Kenneth A. Thornburgh, Ph.D.
Assistant Regional Manager

Your Property. Our Priority.

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1.0 EXECUTIVE SUMMARY

At the request of Strata Equity, Hillmann Consulting, LLC (Hillmann) performed a Phase I Environmental Site Assessment (ESA) of two parcels of land located in Wildomar, California (the Property). This assessment has been conducted utilizing generally accepted Phase I ESA industry standards in accordance with the ASTM Standard Practice E 1527-05 for Phase I Environmental Site Assessments.

1.1 Property Summary Table

A summary of the pertinent details of the project is provided below:

PROJECT SUMMARY TABLE					
Name of Client		Strata Equity			
Client Project No.:		C3-5330			
Client Contact:		Mr. Eric Flodine			
Description of Project		Phase I Environmental Site Assessment			
Property Name:		Wildomar			
Property Address:		24501 Clinton Keith Rd and NW Corner of Elizabeth Lane and Prielipp Road			
City:	Wildomar	County:	Riverside	State:	CA
Tax Map designation:		APN:	380-250-003 & 380-250-023		
Property Area:		39.53 acres			
Building Area:		N/A			
Assessor Designated Site Use:		Vacant Land/Residential Acreage			
Year Built:		N/A			
Property Owner:		Financial Research Inc.			
Assessment Personnel:		Ms. Charlotte Reese and Dr. Kenneth A. Thornburgh			
Accompanied/Escorted By:		N/A			
Property Contact:		Mr. Eric Flodine			
Inspection Date:		August 16, 2012			
Weather Conditions:		Partly cloudy, 77 degrees F			

1.2 Summary of Findings

The following table summarizes the individual sections of this assessment. This table, alone, does not constitute the complete assessment. The report must be reviewed in its entirety.

FINDINGS SUMMARY					
ASSESSMENT SECTION	ACCEPTABLE	O&M RECOM'D	REC	FURTHER ACTION/ PHASE II RECOM'D	REF. SECTION
Historical Review	X				5.0
Regulatory Review	X				8.0
Site Use				Obtain and review completed questionnaire from Property owner	3.3/6.2
Hazardous Materials	X				6.3
USTs	X				6.6
ASTs	X				6.6
PCBs	X				6.7
Waste / Discharges	X				6.4/6.5
ACM	X				7.1
Lead Paint	X				7.2
Drinking Water	X				6.11
Radon	X				7.3
Mold	X				7.4
Adjoining/Surrounding Area	X				3.6/3.7/8.2

1.3 Conclusions

Hillmann has performed a Phase I Environmental Site Assessment in accordance with the scope and limitations of ASTM Practice E 1527-05 of the Property as described in Section 2 of this report. Any additions to, exceptions to, or deletions from this practice are also described in Section 2 of this report. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the Property:

Although not considered to be RECs, the following additional potential environmental conditions were identified:

2.0 PURPOSE AND LIMITATIONS

2.1 Purpose and Scope

This assessment was conducted utilizing generally accepted Phase I ESA industry standards in accordance with the ASTM Standard Practice E 1527-05. The ASTM describes these methodologies as representing good commercial and customary practice for conducting an Environmental Site Assessment of a property for the purpose of identifying recognized environmental conditions.

The term *recognized environmental conditions (RECs)* is defined by the ASTM as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not RECs.

The chief components of this assessment are described as follows:

- Review and discussion of current Property conditions regarding the presence or absence of hazardous chemicals/petroleum products; generation, treatment, storage or disposal of hazardous, regulated or medical wastes; electrical equipment that utilizes oils which potentially contain PCBs; and bulk storage tanks (above or below ground).
- Review and discussion of the usage of adjacent and nearby properties to identify the potential for contamination (if present and/or suspected) to migrate onto the Property.
- Summary of physical characteristics of the Property through a review of available topographic, geologic and groundwater data.
- Research of the historic uses of the Property through a review of reasonably ascertainable standard sources, such as fire insurance maps, city directories, aerial photographs, prior reports and interviews.
- A regulatory review of federal and state environmental databases, and other local environmental records, within specific search distances defined by the ASTM.

These methodologies are described as representing good commercial and customary practice for conducting an Environmental Site Assessment of a property for the purpose of identifying recognized environmental conditions.

A cursory evaluation for the following “Non-ASTM” concerns, such as the following:

- ◆ Suspect Asbestos-containing Materials

- ◆ Lead-based Paint
- ◆ USEPA Designated Radon Potential
- ◆ Mold

2.2 Inaccessible Locations

Visual inspection was limited to areas around the perimeter of the Property due to lack of roads providing access to the interior of the site.

2.3 Limitations and Exceptions

Historic research data gaps are detailed in Section 5, if applicable.

Hillmann has not yet received an environmental questionnaire completed by the owner.

No other exceptions or deletions from the ASTM Standard E 1527-05 are reported.

2.4 Abbreviations/Acronyms

Hillmann may use the following abbreviations and acronyms for common terminology described in our report. Not all abbreviations or acronyms may be applicable to this report:

ACM	– Asbestos-containing Material
AST	– Aboveground Storage Tank
ASTM	– American Standard for Testing Materials
FOIA	– Freedom of Information Act
HVAC	– Heating Ventilation & Air Conditioning
HREC	– Historic Recognized Environmental Condition
IAQ	– Indoor Air Quality
LBP	– Lead-based Paint
LUST	– Leaking Underground Storage Tank
MSDS	– Material Safety Data Sheet
REC	– Recognized Environmental Condition
UST	– Underground Storage Tank

2.5 Special Terms and Conditions

Hillmann has prepared this Phase I Environmental Site Assessment using reasonable efforts in each phase of its work to identify recognized environmental conditions associated with hazardous substances, wastes and petroleum products at the Property. The methodology of this Phase I Environmental Site Assessment was consistent with the ASTM Standard Practice for E 1527-05. Findings within this report are based on information collected from observations made on the day of the site investigation and from reasonably ascertainable information obtained from governing public agencies and private sources.

This report is not definitive and should not be assumed to be a complete or specific definition of the conditions above or below grade. Information in this report is not intended to be used as

a construction document and should not be used for demolition, renovation or other construction purposes. Hillmann makes no representation or warranty that the past or current operations at the Property are, or have been, in compliance with all applicable federal, state and local laws, regulations and codes.

Findings, conclusions and recommendations presented in this report are based on our visual observations of the Property, the municipal research findings reasonably obtained, information provided by the Client, and/or a review of readily available and supplied drawings and documents. Hillmann relies completely on the information, whether written, graphic or verbal, provided by the subject Property contact(s) or as shown on any documents reviewed or received from the subject Property contact, owner or agent, or municipal source, and assumes that information to be true and correct. Although there may have been some degree of overlap in the information provided by these various sources, Hillmann did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this assessment.

Regardless of the findings stated in this report, Hillmann is not responsible for consequences or conditions arising from facts that were concealed, withheld or not fully disclosed at the time the assessment was conducted.

This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.

The regulatory database report provided is based on an evaluation of the data collected and compiled by a contracted data research company. The report focuses on the Property and neighboring properties that could impact the Property. Neighboring properties listed in governmental environmental records are identified within specific search distances. The search distance varies depending upon the particular government record being checked. The regulatory research is designed to meet the requirements of ASTM Standard E 1527-05. The information provided in the regulatory database report is assumed to be correct and complete.

Subsurface conditions may differ from the conditions implied by the surface observations and can only be reliably evaluated through intrusive techniques.

Reasonable efforts have been made during this assessment to identify aboveground and underground storage tanks and ancillary equipment. "Reasonable efforts" are limited to information gained from visual observation of largely unobstructed areas, recorded database information held in public record and available information gathered from interviews. Such methods may not identify subsurface equipment that may have been hidden from view due to parked automobiles and other vehicles, snow cover, vegetative growth, pavement, construction or debris pile storage or incorrect information from sources.

Hillmann is not a professional title insurance firm and makes no guarantee, explicit or implied, that the records which were reviewed represent a comprehensive or precise delineation of past Property ownership or tenancy for legal purposes.

3.0 PROPERTY DESCRIPTION

3.1 Property Location

The Property is located at 24501 Clinton Keith Rd and the NW Corner of Elizabeth Lane and Prielipp Road in Wildomar, California. The legal designation of the Property is APN #380-250-003 & 380-250-023. The latitude and longitude of the Property is approximately north 33.5943 degrees, and west 117.2304 degrees.

3.2 Site and Vicinity Characteristics

The Property consists of two rectangular shaped parcels totaling 39.53 acres located in Wildomar, California. APN 380-250-003 is 19.35 acres of undeveloped vacant land on the south side of Clinton Keith Road west of Yamas Drive. APN 380-250-023 is 20.18 acres of undeveloped vacant land on the north side of Prielipp Road west of Elizabeth Lane. The Property is located in an area characterized by retail, commercial and residential uses and undeveloped land.

3.3 Current Use of the Property

The Property is currently vacant and undeveloped.

3.4 Description of Property Improvements

The subject Property consists of unimproved land.

3.5 Utilities/Source of Heating

Hillmann was not provided with information indicating the availability of utility service at the subject Property. Hillmann did not identify any evidence of utilities at the subject Property.

3.6 Current Uses of the Adjoining Properties

The following describes adjacent and abutting properties:

DIRECTION	DESCRIPTION
North	Vacant Land and a Residence
East	Vacant Land and Residences
South	Vacant Land, Residences, Santa Rosa Apartments
West	Vacant Land

No visual evidence of any impacts from the adjoining properties was observed.

3.7 Surrounding Area

The vicinity of the Property in Wildomar, California is characterized by a mix of retail, commercial and residential uses and undeveloped land.

3.8 Physical Setting

3.8.1 Topography

According to the United States Geological Survey (USGS) 7.5-Minute Series Topographic Map, Murrieta, CA Quadrangle (1979), the Property is located at approximately 1,363 feet above mean sea level. The topographic gradient at the Property is relatively flat with the topography sloping slightly to the southwest. Copies of the topographic maps are included in Appendix C.

3.8.2 Soils

Based on the United States Department of Agriculture - Soil Conservation Service data, soils at the Property are classified as “Ramona”. This soil has a texture of loam and is well drained with moderate infiltration rates.

3.8.3 Geology

According to the EDR Geo-Check report, the bedrock geologic formation in the area within the vicinity of the Property is identified to be Stratified Sequence of the Cenozoic Era.

3.8.4 Hydrology

Based on the drainage/topography, groundwater is estimated to flow to the southwest. Groundwater levels and/or flow direction(s) may vary due to seasonal fluctuations in precipitation, local usage demands, geology, underground structures or dewatering operations.

According to the U.S. Fish & Wildlife Service’s National Wetlands Inventory, wetlands are not suspected to be present on the Property.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) covering the area of the Property, the Property is located outside of the 100 and 500 year flood zones.

4.0 USER PROVIDED INFORMATION

4.1 Title Records/Environmental Liens/Activity and Use Limitations

Review of title records is not included in the scope of work for this assessment project. No information regarding environmental liens or activity and use limitations was provided to Hillmann by the Client.

4.2 Specialized Knowledge or Experience

No indication of any specialized knowledge or experience regarding the Property was reported to Hillmann by the Client.

4.3 Commonly Known or Reasonably Ascertainable Information

No commonly known or specialized knowledge of the Property was reported to Hillmann by the Client.

4.4 Property Value Reduction due to Environmental Conditions

No information was provided by the Client to Hillmann regarding a reduction of the Property value due to environmental problems or conditions.

4.5 Reason for Performing Phase I ESA

It is Hillmann's understanding that the Phase I ESA was being performed in conjunction with a pending real estate or bank financing transaction involving the Property.

5.0 HISTORICAL USE RESEARCH

5.1 Sanborn Fire Insurance Maps

Fire insurance maps were created for insurance underwriters and often contain information regarding the uses of individual structures, and the locations of fuel and/or chemical storage tanks that may have been on a particular property. These maps were generally prepared for urban areas beginning in the middle to late 1880s and continuing generally into the 2000s.

A search of Sanborn Fire Insurance Maps for the Property and surrounding area was conducted by Environmental Data Resources, Inc. (EDR) of Milford, Connecticut. EDR provided a Sanborn report that stated fire insurance maps covering the Property were not found.

5.2 Historic City Directories

A search of City Directories for the Property and surrounding area was conducted by EDR. The City Directory Abstract report provided data from directories dated 1975 through 2011 in approximately five to six year intervals. No pertinent details were obtained from review of the city directories listings.

5.3 Historical Topographic Map Review

A search of historical topographic maps for the Property was conducted by EDR. Topographic maps of the Property and vicinity for the years 1901, 1947, 1953, 1973 and 1979 were provided for review. The following pertinent details were obtained from review of the topographic maps:

YEAR(S)	DESCRIPTION	
1901	Property	The scale of the map is too large to discern specific details about the Property.
	Adjacent Properties	The scale of the map is too large to discern specific details about the adjacent properties.
1947	Property	The Property appears undeveloped.
	Adjacent Properties	The adjacent properties appear undeveloped.
1953	Property	The Property appears undeveloped.
	Adjacent Properties	The adjacent properties to the north and east of APN 380-250-003 are depicted with structures. The adjacent properties to the south and west of APN 380-250-003 and surrounding APN 380-250-003 appear vacant.
1973	Property	The Property appears undeveloped.
	Adjacent Properties	The adjacent properties to the north and east of both parcels and to the south of APN 380-250-023 are depicted with structures. The adjacent properties to the west of both parcels and to the south of APN 380-250-003 appear vacant with some unimproved roads present.
1979	Property	There appears to be a structure depicted on the northern portion of APN 380-250-023. The remainder of the Property appears undeveloped.
	Adjacent Properties	The adjacent properties to the north and east of both parcels and to the south of APN 380-250-023 are depicted with structures. The adjacent properties to the west of both parcels and to the south of APN 380-250-003 appear vacant.

5.4 Aerial Photograph Review

A search of Aerial Photographs for the Property and surrounding area was conducted by EDR. EDR provided an Aerial Photography report of several historic photographs of the Property area from the years 1938, 1953, 1967, 1980, 1989, 2002, 2005 and 2006. The following pertinent details were obtained from review of the report:

YEAR(S)	DESCRIPTION	
1938	Property	APN 380-250-023 appears undeveloped, vacant land. APN 380-250-003 has been developed with some unidentifiable structures that appear consistent with beehives.
	Adjacent Properties	Adjacent properties to the north and south of both parcels, east of APN 380-250-003, and west of APN 380-250-023 appear to be undeveloped, vacant land. The adjacent property to the west of APN 380-250-003 contains more of the unidentified structures that are consistent with beehives. The adjacent property to the east of APN 380-250-023 is not visible on this image. Clinton Keith Road is visible to the north of APN 380-250-003.
1953	Property	The Property appears to be undeveloped, vacant land.
	Adjacent Properties	Adjacent properties surrounding APN 380-250-023 and to the east and west of APN 380-250-003 appear to be vacant land. The adjacent property to the north of APN 380-250-003 appears to be developed with two structures. The adjacent property to the south of APN 380-250-003 appears to be agricultural land.
1967	Property	The Property appears to be undeveloped, vacant land.
	Adjacent Properties	Adjacent properties to the east and west of APN 380-250-003, and to the north, east and south of APN 380-250-023 appear vacant. The adjacent property to the north of APN 380-250-003 appears to be developed with two structures. The adjacent properties to the south of APN 380-250-003 and west of APN 380-250-023 have roads visible that are consistent with a racetrack.
1980, 1989, 2002	Property	The Property appears to be undeveloped, vacant land.
	Adjacent Properties	Adjacent properties to the north and east of APN 380-250-003, and to the east and south of APN 380-250-023 appear to be developed with structures. Adjacent properties to the south and west of APN 380-250-003, and to the north and west of APN 380-250-003 appear vacant.
2005	Property	APN 380-250-003 appears undeveloped, vacant land. APN 380-250-023 appears to have a small area of development on the southeast portion. The development appears to be man-made, possibly temporary structures such as trailers.
	Adjacent Properties	Adjacent properties to the north of APN 380-250-003, and the east and south of APN 380-250-023 appear to be developed with structures. Adjacent properties to the south, east and west of APN 380-250-003, and to the north and west of APN 380-250-023 appear vacant.
2006	Property	The Property appears to be vacant land.
	Adjacent Properties	Adjacent properties to the north of APN 380-250-003, and the east and south of APN 380-250-023 appear to be developed with structures. Adjacent properties to the south, east and west of APN 380-250-003, and to the north and west of APN 380-250-023 appear vacant.

5.5 Prior Investigation Reports

No prior investigation reports for the Property were provided to Hillmann for review.

5.6 Interviews

Hillmann interviewed Mr. Eric Flodine, of Strata Equity with regards to the property. He has be familiar with the Property for approximately five months. He stated that the Property has been owned by the same family since the mid 1980's. He was not aware of any past proposals for the land or was aware of any prior investigations for the site. He passed along a request for the owners to complete an Environmental Questionnaire for the Property. As of the date of this report, Hillmann has not received the completed Environmental Questionnaire.

5.7 Summary and Conclusion of Historic Use Research

Based on available data, the Property appears to have been vacant land going back prior to 1938, with a few exceptions. These exceptions include the presence of possible beehives on APN 380-250-003 starting prior to 1938 and ending before 1953, and the presence of a small area of development on APN 380-250-003 in 2005.

5.8 Data Gaps

Historic land use data prior to 1901 was not readily available at the time of the assessment which is considered a data failure. It is Hillmann's opinion that further investigation of this data failure would not result in any significant changes to the findings of this assessment.

6.0 SITE RECONNAISSANCE/INTERVIEWS

6.1 Interviews

Hillmann was unaccompanied during the site reconnaissance. No adjoining properties owners/occupants were available to interview at the time of the assessment. See Section 5.6 regarding a telephone interview with Eric Flodine.

6.2 Property Use

The Property is currently vacant and undeveloped.

6.3 Hazardous Substance/Petroleum Products Storage/Handling

No storage of hazardous substances or petroleum products was identified on the Property. No evidence of any spills or releases was observed during the site reconnaissance.

6.4 Waste Generation, Storage and Disposal

Small amounts of debris, including tires and a hot tub, were noted during site reconnaissance. No evidence of hazardous waste generation or disposal was identified at the Property.

6.5 Waste Discharges

No residential, industrial or process waste discharges were identified at the Property.

6.6 Underground/Above Ground Storage Tanks

No evidence of any active or inactive underground ground storage tanks (USTs) was noted at the Property. The Property was not listed on the UST or LUST regulatory databases.

6.7 Polychlorinated Biphenyls (PCBs)

No potential PCB-containing equipment (i.e. transformers, capacitors, lifts, trash compactors, cardboard bailers, etc.) was identified on the Property during the site assessment.

6.8 Drains/Sumps

No interior floor drains or sumps were noted at the Property.

6.9 Exterior Pits/Ponds/Lagoons

No evidence of exterior pits, ponds or lagoons was identified on the Property in connection with waste treatment or disposal.

6.10 Stained Soil, Pavement/Stressed Vegetation

No evidence of stained soils or stressed vegetation was identified on the Property.

6.11 Drinking Water/Wells/Septic Systems

No evidence of a domestic water supply system, wells or septic systems were identified at the Property.

7.0 NON-ASTM SCOPE CONCERNS

7.1 Asbestos-Containing Material (ACM)

The Property consists of undeveloped land, so asbestos-containing materials are not likely to be prevalent at the Property. Therefore, ACM does not appear to be a significant environmental concern.

7.2 Lead-Based Paint

The Property consists of undeveloped land, so lead based paint is not likely to be present at the Property. Therefore, lead-based paint does not appear to be a significant environmental concern.

7.3 Radon

Radon is a naturally occurring, colorless, odorless gas that is a byproduct of the decay of radioactive materials potentially present in bedrock and soil. Radon gas may enter the lowest level of a building through floor cracks, structural joints or plumbing conduits. The United States Environmental Protection Agency (USEPA) guidance level for annual residential exposure to radon is 4.0 picocuries per liter of air (pCi/L). The guidance level is not a regulatory requirement for private owners of commercial real estate, but is commonly used for comparison purposes to suggest whether further action at a building may be prudent.

Based on information obtained from data obtained by the USEPA, the Property is located in an area with a moderate potential for radon concentrations that exceed current USEPA action guidelines. The County of Imperial is classified as Zone 2, or 'moderate risk' area for radon. Considering the moderate risk, radon is not considered a significant concern.

7.4 Mold

While a comprehensive inspection for the presence of mold and/or microbial growth is beyond the scope of this assessment, Hillmann conducted a cursory screening for evidence of excessive or amplified mold growth, or for conditions favorable for mold growth. No evidence of significant mold growth was identified at the Property in the accessed areas during the cursory screening.

8.0 REGULATORY RECORD REVIEWS

A search of environmental regulatory databases, by service from Environmental Data Resources of Milford, CT, was conducted in accordance with the requirements of the ASTM. Hillmann also reviewed the “unmappable” listings within the database report, cross-referencing available address information and facility names. Unmappable sites are listings that cannot be plotted with confidence, but are identified as being located within the general area of the Property based on the partial street address, city name or zip code. In general, a listing cannot be mapped due to inaccurate or incomplete address information in the database that was supplied by the corresponding regulatory agency. Any listings from the unmappable summary that were identified by Hillmann as a result of the area reconnaissance and/or cross-referencing to mapped listings are included in the corresponding database discussion within this section.

REGULATORY DATABASE	SEARCH DISTANCE	ON-SITE LISTINGS	ADJ. PROPERTY LISTINGS	TOTAL WITHIN SEARCH DISTANCE
Fed. NPL	1-mile	0	0	0
Fed. Delisted NPL	½-mile	0	0	0
Fed. CERCLIS	½-mile	0	0	0
Fed. CERCLIS-NFRAP	½-mile	0	0	0
Fed. RCRA CORRACTS	1-mile	0	0	0
Fed. RCRA TSD	½-mile	0	0	0
Fed. RCRA LQG & SQG (Generators)	Site & Adj.	0	0	
Fed. ERNS	Site	0		
State & Tribal SHWS equiv. NPL & CERCLIS	1-mile	0	0	0
State & Tribal SWF/LF	½-mile	0	0	0
State & Tribal LUST	½-mile	0	0	2
State & Tribal Registered Stor. Tank	Site & Adj.	0	0	
State & Tribal ENG. Control List	½-mile	0	0	0
State & Tribal INST. Control List (AUL)	½-mile	0	0	0
State & Tribal VCP	½-mile	0	0	0
State & Tribal Eng. Brownfields (BF)	½-mile	0	0	0
Spills	Site	0		

- *The results of the review for each database are discussed below. The locations for the facilities discussed in this section are shown on the figures in the EDR report, included as Appendix E.*
- *According to the EPA Policy Toward Owners of Property Containing Contaminated Aquifers, dated July 3, 1995, the EPA will not take enforcement action against a property owner who owns property under which is an aquifer contaminated by subsurface migration from an off-site source or sources. Therefore, the Subject Property owner would not be liable for any contamination of the underlying aquifer that was attributed to an off-site source.*

8.1 On-Site Database Listings

The Property was not identified on the databases searched.

8.2 Adjoining Property Database Listings

No adjoining properties were identified on any of the databases searched.

8.3 Federal Agency Record Review

EPA - The National Priorities List (NPL), also known as the Superfund list, is the United States Environmental Protection Agency (EPA) listing of uncontrolled or abandoned hazardous waste sites. These sites are targeted for possible long-term remedial action under the Superfund Act of 1980. The list is primarily based on the EPA's Hazardous Ranking System.

- ◆ No NPL listings were identified within a 1 mile radius of the subject property.

EPA – Delisted NPL Site List (DNPL) provides a list of sites formerly listed on the NPL that have since been “de-listed” after the EPA has determined that no further response is appropriate.

- ◆ No DNPL listings were identified within a ½-mile radius of the Property.

EPA - The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) is the EPA database of known or suspected uncontrolled or abandoned hazardous waste sites. These sites have either been investigated, or are currently under investigation by the EPA for the release or threatened release of hazardous substances.

- ◆ No CERCLIS listings were identified within a ½-mile radius of the Property.

EPA – CERCLIS-NFRAP (No Further Remedial Action Planned) is the EPA database of archived 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 the 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.

- ◆ No CERCLIS-NFRAP listings were identified within a ½-mile radius of the Property.

EPA - The Resource Conservation and Recovery Information System (RCRIS) is a database of facilities, which generate or treat, store or dispose of EPA regulated hazardous waste, or meet other applicable requirements of the Resource Conservation and Recovery Act (RCRA). Inclusion on this database does not imply that mishandling or a release of hazardous waste has occurred at the facility. RCRIS categories are as follows:

Corrective Action (CORRACTS) list is a list of hazardous waste treatment, storage or disposal facilities and other RCRIS facilities (due to past interim status or storage of hazardous waste

beyond 90 days) that have been notified by the US EPA to undertake corrective action under RCRA.

- ◆ No CORRACTS listings were identified within a 1 mile radius of the subject Property.

Treatment, Storage, and Disposal Facilities (TSD). Facilities listed under TSD are sites that treat, store, and/or dispose of EPA regulated hazardous waste.

- ◆ No TSD listings were identified within a ½-mile radius of the Property.

Large Quantity Generators (LQG). Facilities listed under LQG either generate more than 1000 Kilograms (kg) of EPA regulated hazardous waste per month, or meet other applicable requirements of RCRA.

- ◆ No adjoining properties were identified on the LQG database.

Small Quantity Generators (SQG). Facilities listed under SQG either generate from 100 kilograms (kg) to 1000 kg of EPA regulated hazardous waste per month, or meet other applicable requirements of RCRA.

- ◆ No adjoining properties were identified on the SQG database.

EPA - The Emergency Response Notification System (ERNS) is a national database used to store information concerning the sudden and/or accidental release of hazardous substances, including petroleum in quantities greater than the reportable quantity, as maintained at the National Response Center. The database contains preliminary information from spill reports made to various federal departments including the EPA.

- ◆ No listings were identified for the Property.

8.4 State Agency Record Review

State Hazardous Waste Sites (SHWS) database contains potential or confirmed hazardous substance release properties.

- ◆ No SHWS listings were identified within a one-mile radius of the Property.

Solid Waste Facility/Landfill (SWF/LF) list provides information on the location of registered state landfills and associated transfer facilities.

- ◆ No SWF/LF listings were identified within a ½ mile radius of the subject Property.

Leaking Underground Storage Tank's (LUST) is a comprehensive listing of all reported active and inactive leaking storage tank sites.

- ◆ Two LUST listings were identified within a ½-mile radius of the Property. Both listings were identified as Inland Valley Regional Medical Center located at 36485 Inland Valley Drive. This site is more than 1,000 feet to the southwest and down-gradient of the subject Property. This listing states that the site received a “Completed – Case Closed” status in 2006. Considering the distance, status and the topographical relation to the Property, this site is not considered to be a recognized environmental condition in connection with the Property.

Registered Storage Tank Database is the listing of registered storage tank sites. This includes the UST database.

- ◆ The Property or adjacent properties were not identified on the UST databases.

Engineering Controls Site Listing (ENG Controls) list provides information on the location of remediation sites using engineering controls as part of the response action. 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.

- ◆ No ENG Controls listings were identified within a 1 mile radius of the subject Property.

Institutional Controls Site Listing (INST Controls) list provides information on the location of remediation sites using institutional controls as part of the response action. 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.

- ◆ No INST Controls listings were identified within a ½-mile radius of the Property.

Voluntary Cleanup Program (VCP) and Independent Cleanup Report (ICR) lists provide information on the location of sites involved in a Voluntary Cleanup or similar program. Under a Voluntary Cleanup Program, a property owner will voluntarily enter into an agreement with a state or local environmental regulatory agency to conduct an investigation and remediation for specific area(s) of concern.

- ◆ No VCP or ICR sites were identified within a ½-mile radius of the Property.

Brownfields (BF) list provides information on the location of sites involved in a state or local Brownfields program.

- ◆ No Brownfield listings were identified within a ½-mile radius of the Property.

Review of the remaining sites identified within the ASTM search parameters did not identify any site that is considered to be a REC in connection with the Property.

8.5 Local Government Agencies

Riverside County

Tax Assessor's Office

Property information was researched at the Riverside County Tax Assessor's website. Copies of the parcel maps obtained are located in Appendix D

Transportation & Land Management Agency

Building permits were researched at the Riverside County Transportation & Land Management Agency's website. No building permits were found on record for the Property.

Riverside County Fire Department

Hillmann contacted the Riverside County Fire Department in order to determine if any records of underground storage tanks (USTs) or hazardous wastes/materials were on file for the Property. As of the date of this report, Hillmann has not received a response from the Riverside County Fire Department.

State of California

South Coast Air Quality Management District

Hillmann contacted the South Coast Air Quality Management District (SCAQMD) via telephone in order to determine if there are any records on file for the Property. As of the date of this report, Hillmann has not received a response from the SCAQMD.

Department of Toxic Substances Control – Cypress Regional Office

Hillmann contacted the State of California Department of Toxic Substances Control (DTSC) in order to determine if any records were on file for the Property. As of the date of this report, Hillmann has not received a response from the DTSC.

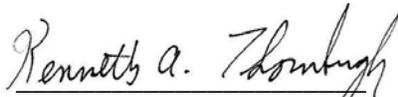
Regional Water Quality Control Board – Santa Ana Regions

Hillmann contacted the State of California Regional Water Quality Control Board (RWQCB) in order to determine if any records of underground storage tanks (USTs) or groundwater

contamination were on file for the Property. As of the date of this report, Hillmann has not received a response from the RWQCB.

9.0 ENVIRONMENTAL PROFESSIONAL STATEMENT

I declare that, to the best of my professional knowledge and belief, I meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training and experience to assess a *property* of the nature, history and setting of the subject Property. Hillmann has developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.


Kenneth A. Thornburgh, Ph.D.
Assistant Regional Manager



10.0 REFERENCES

EDR City Directory Abstract Report, Environmental Data Resources, 2012

EDR Radius Map Report with GeoCheck, Environmental Data Resources, 2012

EDR Sanborn Map Report, Environmental Data Resources, 2012

EDR Historical Topographic Map Report, Environmental Data Resources, 2012

EDR Aerial Photography Print Service, Environmental Data Resources, 2012

11.0 APPENDICES

Appendix A	Site Photographs
Appendix B	Maps/Diagrams
Appendix C	Historical Land Use Documentation/Maps
Appendix D	Reference Documents / Laboratory Results (if applicable)
Appendix E	Regulatory Database Report

APPENDIX A
SITE PHOTOGRAPHS

PHOTO LOG

APNs 380-250-003 and 380-250-023

Wildomar, CA

C3-5330



View of APN 380-250-003 facing southwest from Clinton Keith Road



View of APN 380-250-003 facing south from Clinton Keith Road



View of APN 380-250-003 facing west from Yamas Drive



View of the adjacent property to the east of APN 380-250-003



View of the adjacent property to the north of APN 380-250-003



View of APN 380-250-023 facing southwest from Elizabeth Lane

PHOTO LOG

APNs 380-250-003 and 380-250-023

Wildomar, CA

C3-5330



View of APN 380-250-023 facing west from Elizabeth Lane



View of APN 380-250-023 facing north from Prielipp Road



Abandoned hot tub on Property



Adjacent property to the east of APN 380-250-023



Adjacent property to the north of APN 380-250-023



Adjacent property to the south of APN 380-250-023

APPENDIX B
MAPS/DIAGRAMS

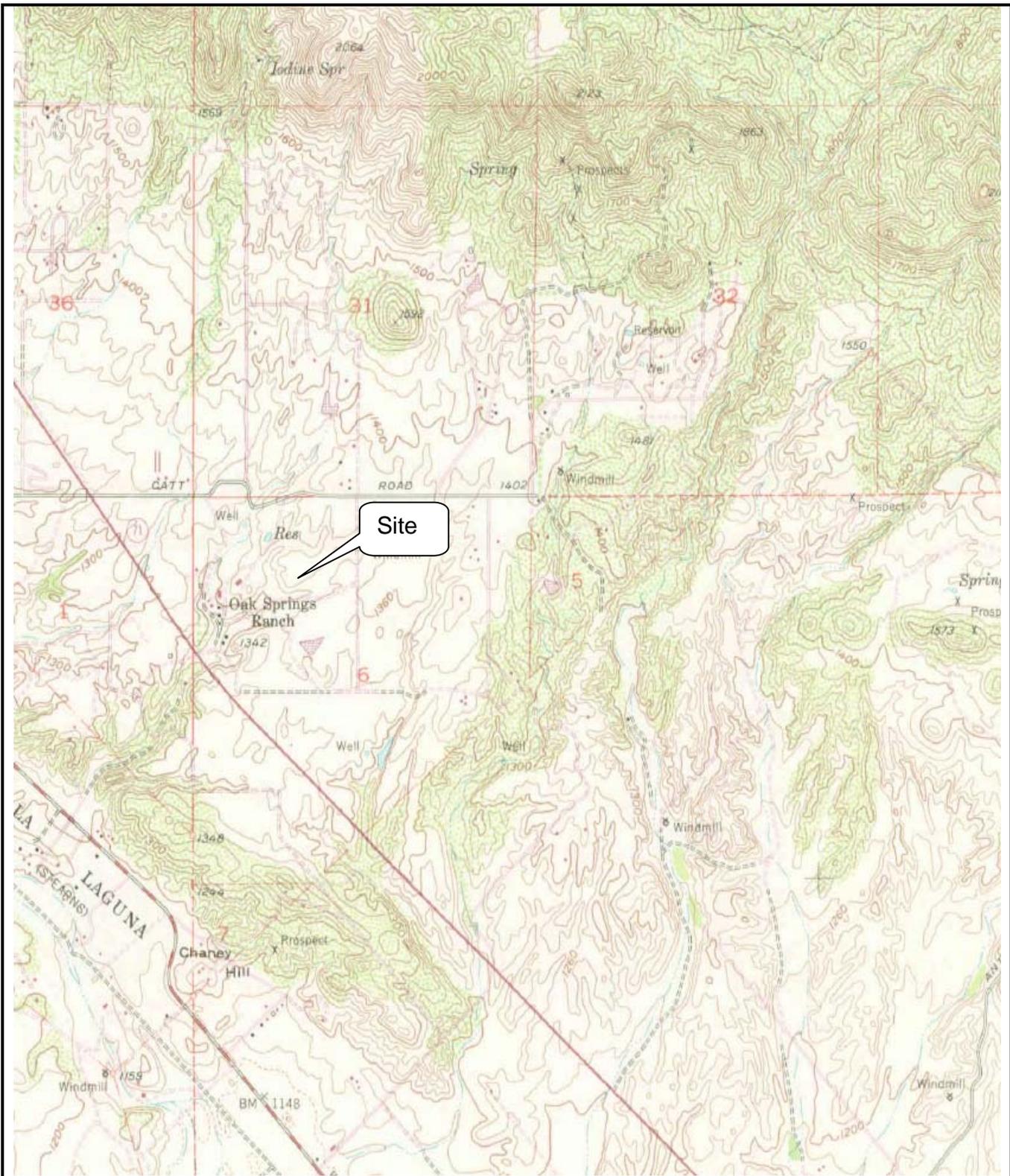


Figure 1: SITE VICINITY MAP

SCALE: (Not to Scale)



Project Location: Two Parcels
Wildomar, CA

Project No.: C3-5330



Figure 2: SITE DIAGRAM

SCALE: (Not to Scale)



Project Location: Two Parcels
Wildomar, CA

Project No.: C3-5330

APPENDIX C
HISTORICAL LAND USE DOCUMENTATION/MAPS



24501 Clinton Keith Road

24501 Clinton Keith Road

Wildomar, CA 92595

Inquiry Number: 3386164.5

August 16, 2012

The EDR Aerial Photo Decade Package



440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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Date EDR Searched Historical Sources:

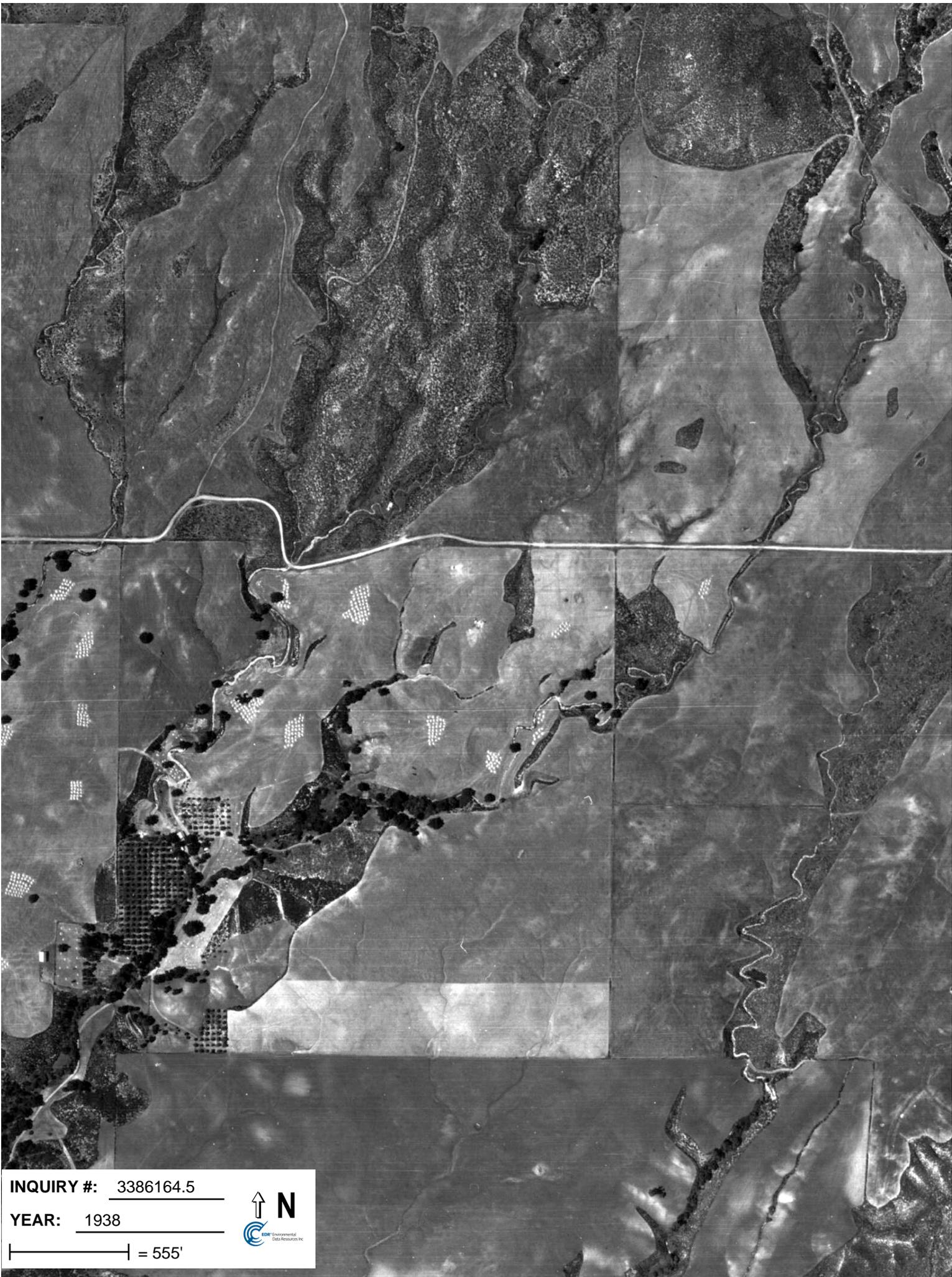
Aerial Photography August 16, 2012

Target Property:

24501 Clinton Keith Road

Wildomar, CA 92595

<u><i>Year</i></u>	<u><i>Scale</i></u>	<u><i>Details</i></u>	<u><i>Source</i></u>
1938	Aerial Photograph. Scale: 1"=555'	Flight Year: 1938	Laval
1953	Aerial Photograph. Scale: 1"=555'	Flight Year: 1953	Pacific Air
1967	Aerial Photograph. Scale: 1"=555'	Flight Year: 1967	Western
1980	Aerial Photograph. Scale: 1"=600'	Flight Year: 1980	AMI
1989	Aerial Photograph. Scale: 1"=666'	Flight Year: 1989	USGS
2002	Aerial Photograph. Scale: 1"=500'	/Composite DOQQ - acquisition dates: 2002	EDR
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	EDR
2006	Aerial Photograph. Scale: 1"=500'	Flight Year: 2006	EDR



INQUIRY #: 3386164.5

YEAR: 1938

 = 555'





INQUIRY #: 3386164.5

YEAR: 1953

|—————| = 555'





INQUIRY #: 3386164.5

YEAR: 1967

| = 555'





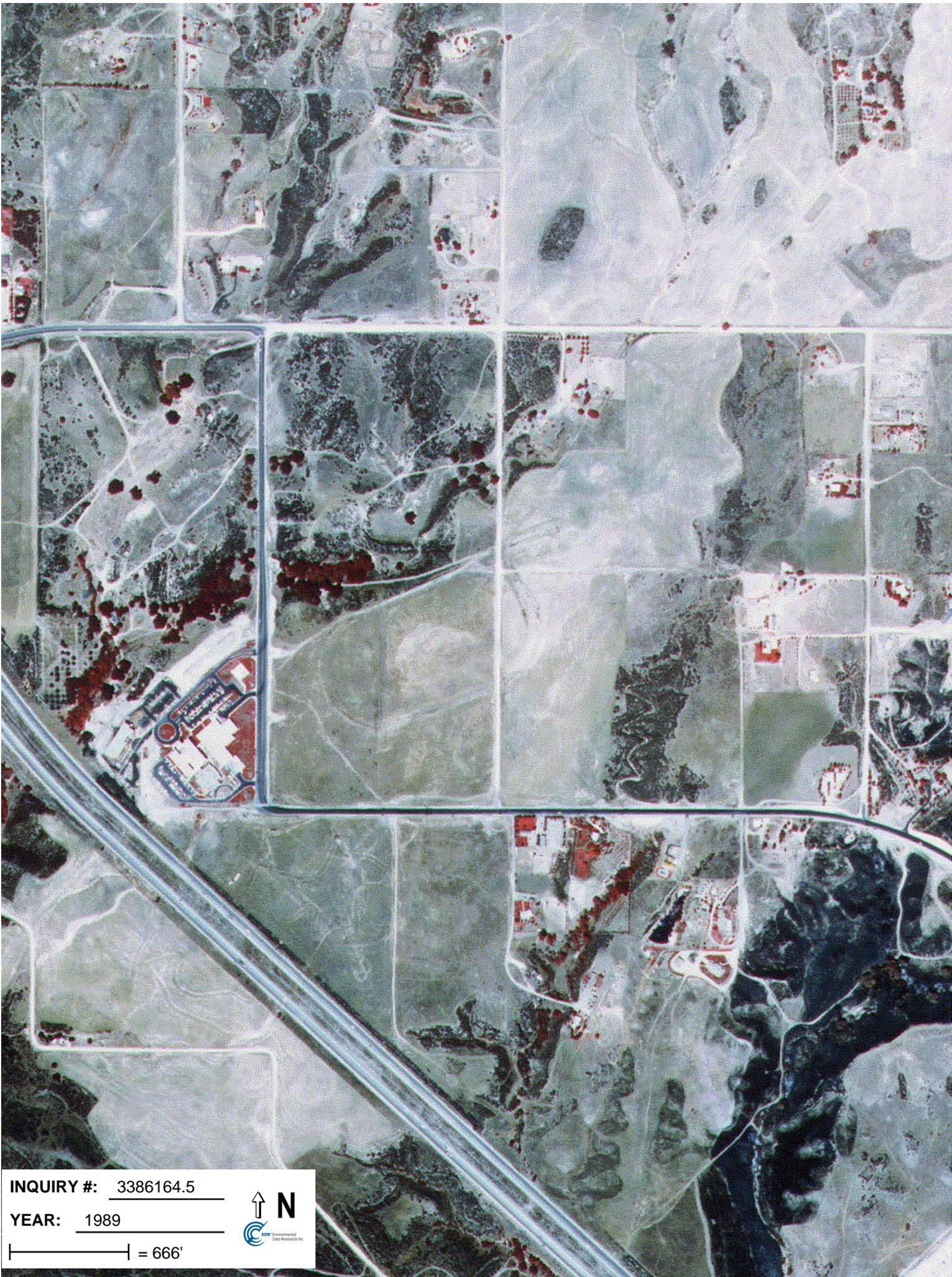
INQUIRY #: 3386164.5

YEAR: 1980

 = 600'



EDR Environmental Data Resources Inc.



INQUIRY #: 3386164.5

YEAR: 1989

| = 666'





INQUIRY #: 3386164.5

YEAR: 2002

| = 500'





INQUIRY #: 3386164.5

YEAR: 2005

 = 500'



 Environmental Data Resources Inc.



INQUIRY #: 3386164.5

YEAR: 2006

 = 500'





24501 Clinton Keith Road

24501 Clinton Keith Road

Wildomar, CA 92595

Inquiry Number: 3386164.4

August 14, 2012

EDR Historical Topographic Map Report

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

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Historical Topographic Map



	TARGET QUAD	SITE NAME: 24501 Clinton Keith Road	CLIENT: Hillmann Environmental Co.
	NAME: ELSINORE	ADDRESS: 24501 Clinton Keith Road	CONTACT: Kristi Hill
	MAP YEAR: 1901	Wildomar, CA 92595	INQUIRY#: 3386164.4
	SERIES: 30	LAT/LONG: 33.5943 / -117.2304	RESEARCH DATE: 08/14/2012
	SCALE: 1:125000		

Historical Topographic Map



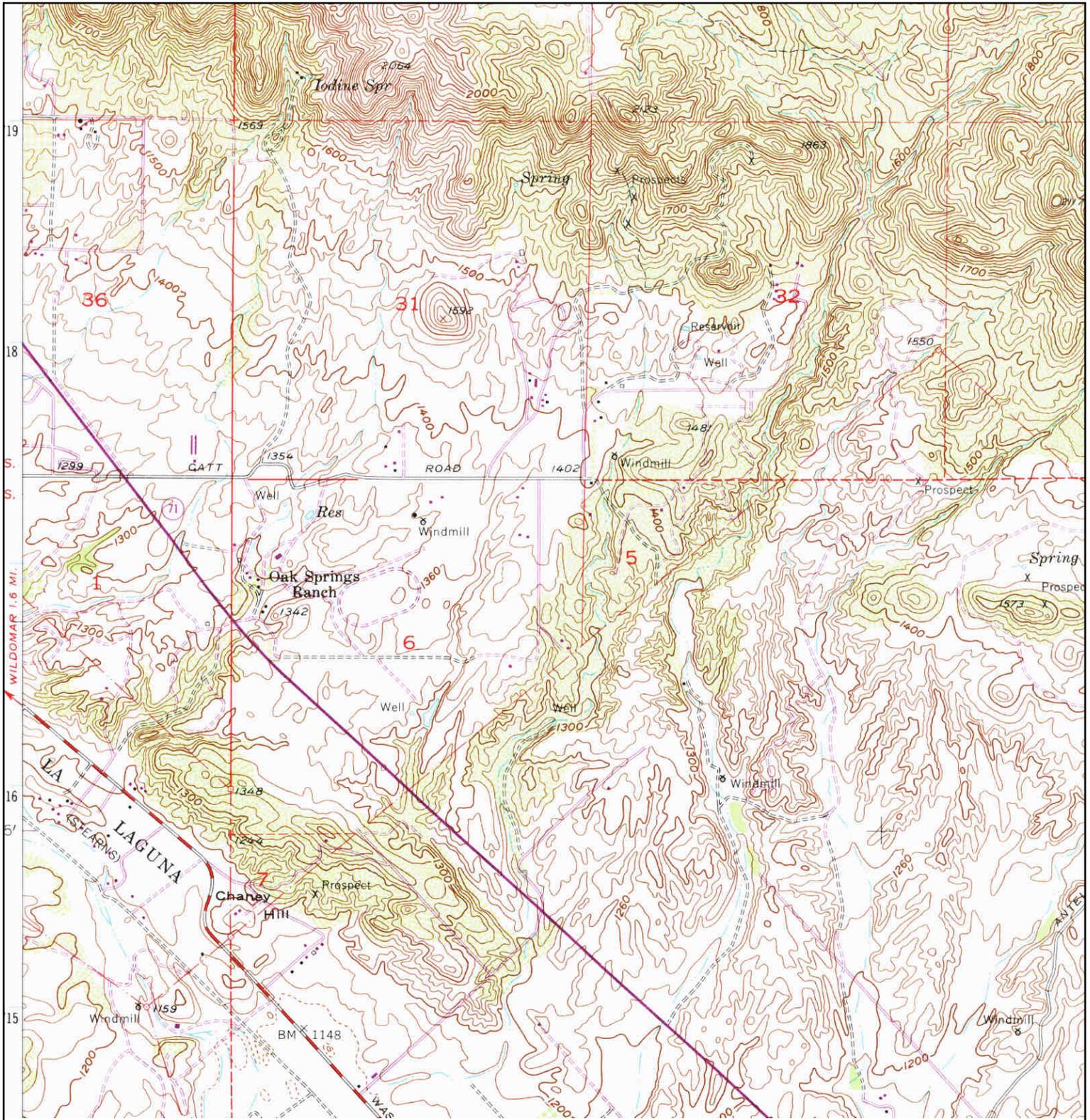
	TARGET QUAD	SITE NAME: 24501 Clinton Keith Road	CLIENT: Hillmann Environmental Co.
	NAME: MURRIETA	ADDRESS: 24501 Clinton Keith Road	CONTACT: Kristi Hill
	MAP YEAR: 1947	Wildomar, CA 92595	INQUIRY#: 3386164.4
		LAT/LONG: 33.5943 / -117.2304	RESEARCH DATE: 08/14/2012
	SERIES: 15		
	SCALE: 1:50000		

Historical Topographic Map



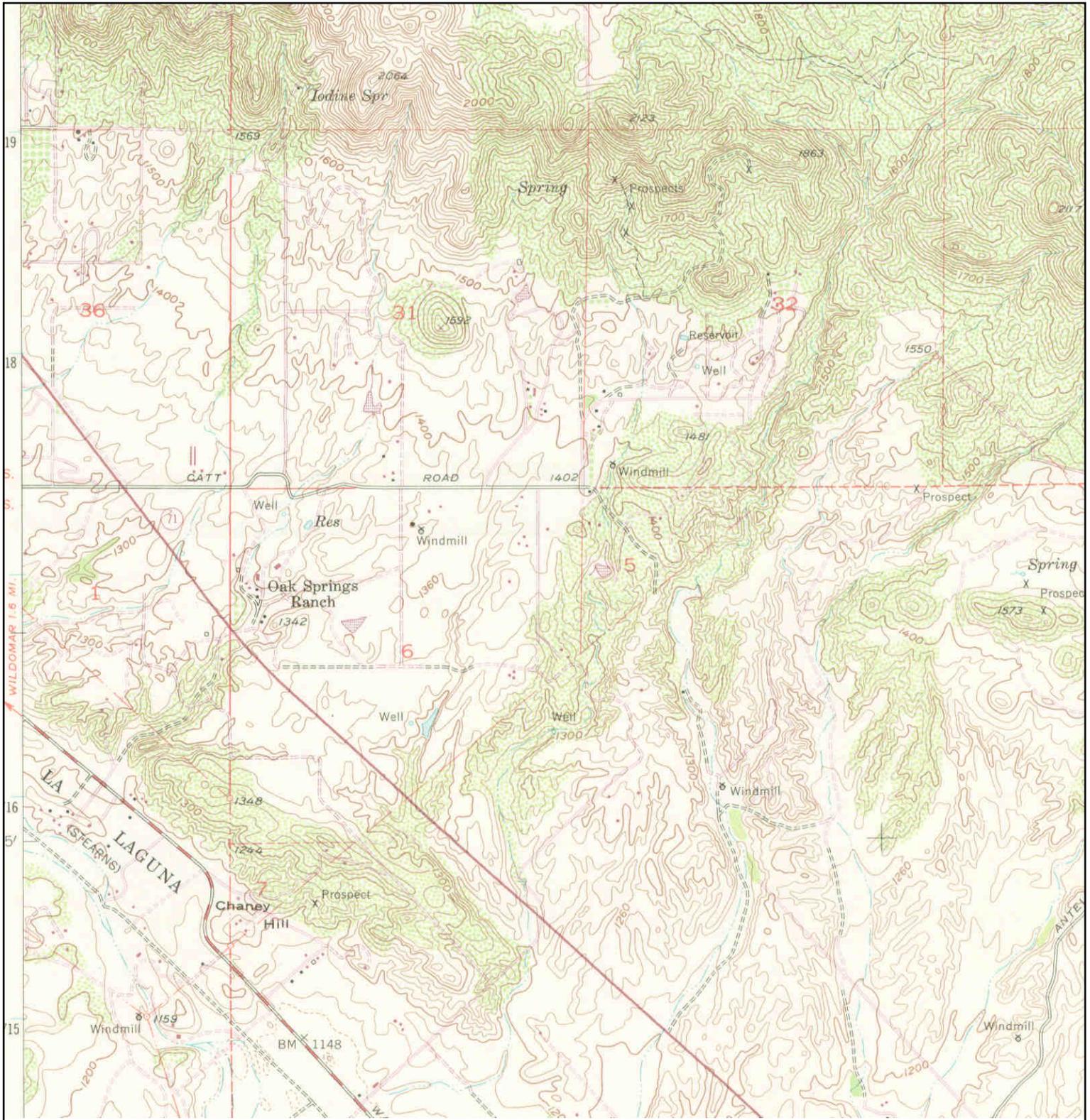
	TARGET QUAD	SITE NAME: 24501 Clinton Keith Road	CLIENT: Hillmann Environmental Co.
	NAME: MURRIETA	ADDRESS: 24501 Clinton Keith Road	CONTACT: Kristi Hill
	MAP YEAR: 1953	Wildomar, CA 92595	INQUIRY#: 3386164.4
	SERIES: 7.5	LAT/LONG: 33.5943 / -117.2304	RESEARCH DATE: 08/14/2012
	SCALE: 1:24000		

Historical Topographic Map



<p>N ↑</p>	TARGET QUAD	SITE NAME: 24501 Clinton Keith Road	CLIENT: Hillmann Environmental Co.
	NAME: MURRIETA	ADDRESS: 24501 Clinton Keith Road	CONTACT: Kristi Hill
	MAP YEAR: 1973	Wildomar, CA 92595	INQUIRY#: 3386164.4
	PHOTOREVISED FROM :1953	LAT/LONG: 33.5943 / -117.2304	RESEARCH DATE: 08/14/2012
	SERIES: 7.5		
	SCALE: 1:24000		

Historical Topographic Map



	TARGET QUAD	SITE NAME: 24501 Clinton Keith Road	CLIENT: Hillmann Environmental Co.
	NAME: MURRIETA	ADDRESS: 24501 Clinton Keith Road	CONTACT: Kristi Hill
	MAP YEAR: 1979	Wildomar, CA 92595	INQUIRY#: 3386164.4
	PHOTOREVISED FROM : 1953	LAT/LONG: 33.5943 / -117.2304	RESEARCH DATE: 08/14/2012
	SERIES: 7.5		
	SCALE: 1:24000		



24501 Clinton Keith Road

24501 Clinton Keith Road

Wildomar, CA 92595

Inquiry Number: 3386164.3

August 13, 2012

Certified Sanborn® Map Report

Certified Sanborn® Map Report

8/13/12

Site Name:

24501 Clinton Keith Road
24501 Clinton Keith Road
Wildomar, CA 92595

Client Name:

Hillmann Environmental Co.
4510 E. Pacific Coast Hwy
Long Beach, CA 90804



EDR Inquiry # 3386164.3

Contact: Kristi Hill

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Hillmann Environmental Co. were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: 24501 Clinton Keith Road
Address: 24501 Clinton Keith Road
City, State, Zip: Wildomar, CA 92595
Cross Street:
P.O. # NA
Project: C3-5330
Certification # 04C5-4256-AB69



Sanborn® Library search results
Certification # 04C5-4256-AB69

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- Library of Congress
- University Publications of America
- EDR Private Collection

The Sanborn Library LLC Since 1866™

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24501 Clinton Keith Road

24501 Clinton Keith Road
Wildomar, CA 92595

Inquiry Number: 3386164.6
August 17, 2012

The EDR-City Directory Abstract

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Source</u>	<u>TP</u>	<u>Adjoining</u>	<u>Text Abstract</u>	<u>Source Image</u>
2011	Haines Criss-Cross Directory	-	X	X	-
2005	Haines Criss-Cross Directory	-	X	X	-
2000	Haines Criss-Cross Directory	-	X	X	-
1995	Haines Criss-Cross Directory	-	X	X	-
1990	Haines Criss-Cross Directory	-	X	X	-
1985	Haines Criss-Cross Directory	-	X	X	-
1980	Haines Criss-Cross Directory	-	X	X	-
1975	Haines Criss-Cross Directory	-	X	X	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

24501 Clinton Keith Road
Wildomar, CA 92595

FINDINGS DETAIL

Target Property research detail.

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

Catt Rd

25320 Catt Rd

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2005	No Return	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1995	No Return	Haines Criss-Cross Directory
1990	Residential	Haines Criss-Cross Directory
1985	Residential	Haines Criss-Cross Directory
1980	Residential	Haines Criss-Cross Directory
1975	Residential	Haines Criss-Cross Directory

25330 Catt Rd

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2005	No Return	Haines Criss-Cross Directory
2000	No Return	Haines Criss-Cross Directory
1995	Residential	Haines Criss-Cross Directory

25340 Catt Rd

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2005	No Return	Haines Criss-Cross Directory
2000	No Return	Haines Criss-Cross Directory
1995	No Return	Haines Criss-Cross Directory
1990	No Return	Haines Criss-Cross Directory
1985	Residential	Haines Criss-Cross Directory

25343 Catt Rd

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2005	No Return	Haines Criss-Cross Directory
2000	No Return	Haines Criss-Cross Directory
1995	No Return	Haines Criss-Cross Directory
1990	No Return	Haines Criss-Cross Directory
1985	Residential	Haines Criss-Cross Directory
1980	Residential	Haines Criss-Cross Directory

FINDINGS

25400 Catt Rd

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2005	Residential	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1995	No Return	Haines Criss-Cross Directory
1990	Residential	Haines Criss-Cross Directory
1985	Residential	Haines Criss-Cross Directory
1980	Residential	Haines Criss-Cross Directory
1975	Residential	Haines Criss-Cross Directory

25470 Catt Rd

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2005	No Return	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1995	No Return	Haines Criss-Cross Directory
1990	No Return	Haines Criss-Cross Directory
1985	Residential	Haines Criss-Cross Directory
1980	Residential	Haines Criss-Cross Directory

25500 Catt Rd

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2005	Residential	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1995	Residential	Haines Criss-Cross Directory
1990	Residential	Haines Criss-Cross Directory
1985	Residential	Haines Criss-Cross Directory
1980	Residential	Haines Criss-Cross Directory

25550 Catt Rd

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2005	Leggett Masonry	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1995	Residential	Haines Criss-Cross Directory
1990	Residential	Haines Criss-Cross Directory
1985	No Return	Haines Criss-Cross Directory
1980	No Return	Haines Criss-Cross Directory

25600 Catt Rd

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2011	No Return	Haines Criss-Cross Directory
2005	No Return	Haines Criss-Cross Directory

FINDINGS

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1985	Residential	Haines Criss-Cross Directory
1980	Residential	Haines Criss-Cross Directory

Clinton Keith Road

23937 Clinton Keith Road

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2011	Arby's	Haines Criss-Cross Directory

23971 Clinton Keith Road

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2011	Los Jilberto's Taco Shop	Haines Criss-Cross Directory
	Park's Tae Kwon Do	Haines Criss-Cross Directory
	Synergize Herb's N More	Haines Criss-Cross Directory
	Ynaka Sushi	Haines Criss-Cross Directory
2005	Gilberto's Mexican Food	Haines Criss-Cross Directory
	Liberty Fitness Center	Haines Criss-Cross Directory
	Ynaka Sushi	Haines Criss-Cross Directory

24486 Clinton Keith Road

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1995	No Return	Haines Criss-Cross Directory

24500 Clinton Keith Road

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2011	Residential	Haines Criss-Cross Directory
2005	Residential	Haines Criss-Cross Directory
1995	No Return	Haines Criss-Cross Directory
1990	Residential	Haines Criss-Cross Directory

24781 Clinton Keith Road

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2011	Clinton Keith Self Storage	Haines Criss-Cross Directory
2005	Clinton Keith Self Storage	Haines Criss-Cross Directory

24855 Clinton Keith Road

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1995	No Return	Haines Criss-Cross Directory
1990	Residential	Haines Criss-Cross Directory
1985	Residential	Haines Criss-Cross Directory
1980	Residential	Haines Criss-Cross Directory

FINDINGS

24881 Clinton Keith Road

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1995	No Return	Haines Criss-Cross Directory
1990	No Return	Haines Criss-Cross Directory
1985	No Return	Haines Criss-Cross Directory
1980	Residential	Haines Criss-Cross Directory

25040 Clinton Keith Road

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2005	No Return	Haines Criss-Cross Directory
2000	Sky Mesa Tool & Die	Haines Criss-Cross Directory
1995	Residential	Haines Criss-Cross Directory

25041 Clinton Keith Road

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2011	Residential	Haines Criss-Cross Directory
2005	Lennar Homes	Haines Criss-Cross Directory
	Residential	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory

25125 Clinton Keith Road

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2011	Residential	Haines Criss-Cross Directory
2005	Residential	Haines Criss-Cross Directory
2000	Residential	Haines Criss-Cross Directory
1995	Residential	Haines Criss-Cross Directory
1990	Residential	Haines Criss-Cross Directory
	Sky Mesa Tool & Die	Haines Criss-Cross Directory
1985	Residential	Haines Criss-Cross Directory
	Sky Mesa Tool & Die	Haines Criss-Cross Directory

Inland Valley Dr

36243 Inland Valley Dr

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2011	Commercial Building (13 occupants)	Haines Criss-Cross Directory
2005	Commercial Building (28 occupants)	Haines Criss-Cross Directory
2000	Commercial Building (36 occupants)	Haines Criss-Cross Directory
1995	Commercial Building (30 occupants)	Haines Criss-Cross Directory

FINDINGS

Jana Ln

36030 Jana Ln

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2011	No Return	Haines Criss-Cross Directory
1990	Residential	Haines Criss-Cross Directory
1985	No Return	Haines Criss-Cross Directory

FINDINGS

STREET NOT IDENTIFIED IN RESEARCH SOURCE

The following Streets were researched for this report, and the Streets were not identified in the research source.

<u>Street Researched</u>	<u>Street Not Identified in Research Source</u>
Clinton Keith Road	1975
Inland Valley Dr	1985, 1980, 1975
Jana Ln	1980, 1975
Smith Ranch Rd	2011, 2005, 2000, 1995, 1990, 1985, 1980, 1975

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

<u>Address Researched</u>	<u>Address Not Identified in Research Source</u>
24501 Clinton Keith Road	2011, 2005, 2000, 1995, 1990, 1985, 1980

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

<u>Address Researched</u>	<u>Address Not Identified in Research Source</u>
Smith Ranch Rd	No Years Found
23937 Clinton Keith Road	2005, 2000, 1995, 1990, 1985, 1980
23971 Clinton Keith Road	2000, 1995, 1990, 1985, 1980
24486 Clinton Keith Road	1990, 1985, 1980
24500 Clinton Keith Road	2000, 1985, 1980
24781 Clinton Keith Road	2000, 1995, 1990, 1985, 1980
24855 Clinton Keith Road	No Years Found
24881 Clinton Keith Road	No Years Found
25040 Clinton Keith Road	1990, 1985, 1980
25041 Clinton Keith Road	1995, 1990, 1985, 1980
25125 Clinton Keith Road	1980
25320 Catt Rd	No Years Found
25330 Catt Rd	1990, 1985, 1980, 1975

FINDINGS

Address Researched

25340 Catt Rd

25343 Catt Rd

25400 Catt Rd

25470 Catt Rd

25500 Catt Rd

25550 Catt Rd

25600 Catt Rd

36030 Jana Ln

36243 Inland Valley Dr

Address Not Identified in Research Source

1980, 1975

1975

No Years Found

1975

1975

1975

2000, 1995, 1990, 1975

2005, 2000, 1995

1990

APPENDIX D

REFERENCE DOCUMENTATION / LABORATORY RESULTS (if applicable)



HILLMANN
CONSULTING

August 10, 2012

Attn: File Review Request
State of California
Regional Water Quality Control Board – Santa Ana Region (8)
Underground Storage Tank (UST) File Review Division
3737 Main Street, Suite #500
Riverside, CA 92501-3339
Phone (951) 782-4130
Fax (951) 781-6288

RE: Environmental Files:

24501 Clinton Keith Road
Wildomar, CA 92595

Dear Sir/Madam:

I would like to know if you have any environmental files (UST, groundwater, wells, etc.) for the above referenced property. Please call me and let me know whether or not you locate any records. If you locate any records for the property, I would like to either obtain copies or schedule a file review. My office number is (714) 634-9500.

Sincerely,

Kristi Hill
Administrative Assistant
Hillmann Consulting, LLC

Your Property. Our Priority.

1745 W. Orangewood Avenue, Suite 110, Orange, CA 92868
Telephone (714) 634-9500 Fax: (714) 634-9507 Toll free: (800) 232-4326

www.HillmannConsulting.com



HILLMANN
CONSULTING

August 10, 2012

Attn: File Review
State of California
Department of Toxic Substances Control
Region 4 – Cypress Regional Office
5796 Corporate Avenue
Cypress, CA 90630-4732
Phone (714) 484-5337
Fax (714) 484-5318

RE: DTSC Files:

24501 Clinton Keith Road
Wildomar, CA 92595

Dear Sir/Madam:

I would like to know if you have any records of violations or environmental concerns on file for the above referenced property. Please call me and let me know whether or not you locate any records. If you locate any records for the property, I would like to either obtain copies or schedule a file review. My office number is (714) 634-9500.

Sincerely,

Kristi Hill
Administrative Assistant
Hillmann Consulting, LLC

Your Property. Our Priority.

1745 W. Orangewood Avenue, Suite 110, Orange, CA 92868
Telephone (714) 634-9500 Fax: (714) 634-9507 Toll free: (800) 232-4326

www.HillmannConsulting.com



HILLMANN
CONSULTING

August 10, 2012

Riverside County Fire Department
210 West San Jacinto Avenue
Perris, CA 92570
Phone (951) 940-6900
Fax (951) 940-6910

RE: Underground Storage Tank/Hazardous Materials Files:

24501 Clinton Keith Road
Wildomar, CA 92595

Dear Sir/Madam:

I am currently conducting a Phase I Environmental Site Assessment (ESA) at the above referenced property and would like to know if you have any records of underground storage tanks (USTs) or hazardous materials on file for the above referenced property. If you locate any records for the property, I would like to either obtain copies or schedule a file review. My office number is (714) 634-9500.

Sincerely,

Kristi Hill
Administrative Assistant
Hillmann Consulting, LLC

Your Property. Our Priority.

1745 W. Orangewood Avenue, Suite 110, Orange, CA 92868
Telephone (714) 634-9500 Fax: (714) 634-9507 Toll free: (800) 232-4326

www.HillmannConsulting.com



HILLMANN
CONSULTING

August 10, 2012

South Coast Air Quality Management District
Attn: Public Records
21865 East Copley Drive
Diamond Bar, CA 91765
Phone (909) 396-3700
Fax (909) 396-2961

RE: Environmental Information/Files:

24501 Clinton Keith Road
Wildomar, CA 92595

Dear Sir/Madam:

Hillmann Environmental Group, LLC is conducting an environmental investigation of the property located at the above referenced address. Under the Freedom of Information Act, we are requesting any information your office has regarding the above referenced property. Please contact me and let me know whether or not you locate any records. If you locate any records, I would like to either obtain copies or schedule a file review. My office number is (714) 634-9500.

Sincerely,

Kristi Hill
Administrative Assistant
Hillmann Consulting, LLC

Your Property. Our Priority.

1745 W. Orangewood Avenue, Suite 110, Orange, CA 92868
Telephone (714) 634-9500 Fax: (714) 634-9507 Toll free: (800) 232-4326

www.HillmannConsulting.com

Property Detail Report

For Property Located At



24501 CLINTON KEITH RD, WILDOMAR, CA 92595

Owner Information:		For Sale
Owner Name:	FINANCIAL RESEARCH INC	
Mailing Address:	1853 DELTA AVE, ROSEMEAD CA 91770-4017 C037 C/O CLIFFORD SASAKI	
Phone Number:	Vesting Codes:	//
Location Information:		
Legal Description:	19.35 ACRES M/L IN PAR 6 PM 058/001 PM 9637	
County:	RIVERSIDE, CA	APN: 380-250-003
Census Tract / Block:	432.27 / 3	Alternate APN: 380-250-003
Township-Range-Sect:		Subdivision:
Legal Book/Page:		Map Reference: / 927-G1
Legal Lot:	6	Tract #:
Legal Block:		School District: LAKE ELSINORE
Market Area:		Munic/Township:
Neighbor Code:		
Owner Transfer Information:		
Recording/Sale Date:	/	Deed Type:
Sale Price:		1st Mtg Document #:
Document #:		
Last Market Sale Information:		
Recording/Sale Date:	/	1st Mtg Amount/Type: /
Sale Price:		1st Mtg Int. Rate/Type: /
Sale Type:		1st Mtg Document #: /
Document #:		2nd Mtg Amount/Type: /
Deed Type:		2nd Mtg Int. Rate/Type: /
Transfer Document #:		Price Per SqFt:
New Construction:		Multi/Split Sale:
Title Company:		
Lender:		
Seller Name:		
Prior Sale Information:		
Prior Rec/Sale Date:	/	Prior Lender:
Prior Sale Price:		Prior 1st Mtg Amt/Type: /
Prior Doc Number:		Prior 1st Mtg Rate/Type: /
Prior Deed Type:		
Property Characteristics:		
Year Built / Eff:	/	Total Rooms/Offices:
Gross Area:		Total Restrooms:
Building Area:		Roof Type:
Tot Adj Area:		Roof Material:
Above Grade:		Construction:
# of Stories:		Foundation:
Other Improvements:		Exterior wall:
		Basement Area:
		Garage Area:
		Garage Capacity:
		Parking Spaces:
		Heat Type:
		Air Cond:
		Pool:
		Quality:
		Condition:
Site Information:		
Zoning:	R-R	Acres: 19.35
Lot Area:	842,886	Lot Width/Depth: x
	VACANT	County Use: YY
	LAND	State Use: Y04000
	(NEC)	Water Type: NONE
Land Use:		Commercial Units:
Site Influence:		Sewer Type: NONE
		Building Class:
Tax Information:		
Total Value:	\$274,910	Assessed Year: 2011
Land Value:	\$274,910	Improved %:
Improvement Value:		Tax Year: 2011
Total Taxable Value:	\$274,910	Property Tax: \$3,324.86
		Tax Area: 25007
		Tax Exemption:

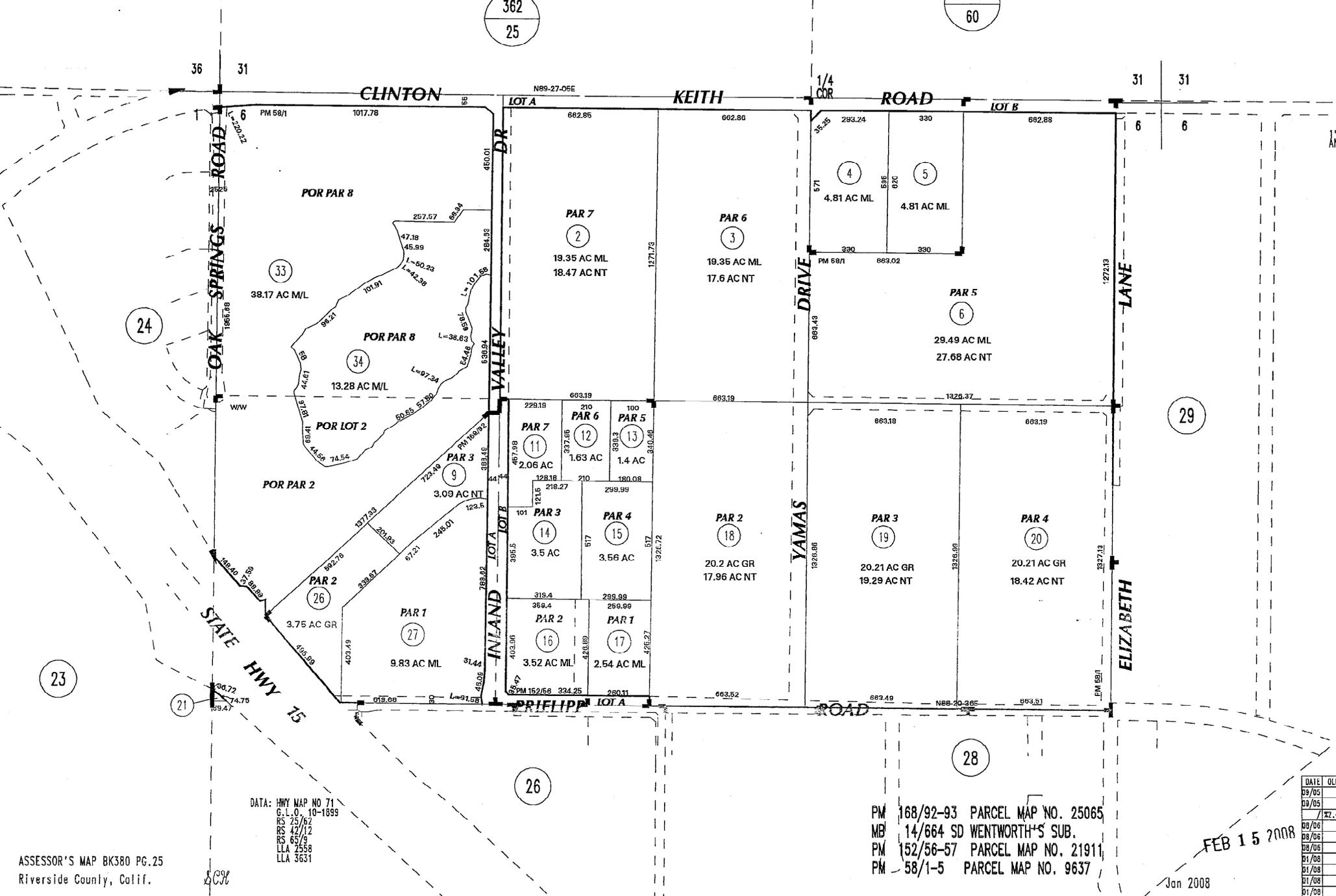
MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY
 ASSUMED FOR THE ACCURACY OF THE DATA SHOWN. ASSESSOR'S PARCEL
 MAPS COMPLY WITH LOCAL LOT-SPLIT OR BUILDING SITE ORDINANCES.

POR. SEC 6 T.7S., R.3W

T.R.A. 065-012
 065-124

380
 369-25

17 2008



DATA: HWY MAP NO 71
 G.L.O. 10-1899
 RS 25/62
 RS 42/12
 RS 65/9
 LLA 2558
 LLA 3631

PM 168/92-93 PARCEL MAP NO. 25065
 MB 14/664 SD WENTWORTH'S SUB.
 PM 152/56-57 PARCEL MAP NO. 21911
 PM 58/1-5 PARCEL MAP NO. 9637

FEB 15 2008

Jan 2008

ASSESSOR'S MAP BK380 PG.25
 Riverside County, Calif.

DATE	OLE	NU
09/05		
09/05		
09/05	7	132
09/05		ADD
09/05		
09/05		
09/05		
09/05		
09/05		

Owners' Certificate

We hereby certify that we are the owners of the land included within the subdivision shown hereon; that we are the only persons whose consent is necessary to pass a clear title to said land and that we consent to the making and recording of this parcel map as shown within the colored border line. We hereby dedicate to public use for street and public utility purposes Lots "A" and "B" and the road easements shown hereon. As a condition of dedication of Lots "A" and "B" (Calf Road) the owners of Parcels 5, 6 and 7 abutting this highway and during such time will have no rights of access whatever, as such, except the general easement of travel. We hereby dedicate abutters rights of access along State Highway 77 (S-15) to the public. The owners of Parcels 9, 10 and 11 abutting this highway and during such time will have no rights of access whatever, as such, except the general easement of travel.

Oak Springs Rancho, a Limited Partnership

David E. Turner
David E. Turner - General Partner

First American Title Insurance Company, a California corporation, as Trustee:

James W. Pease
Asst. Sec.

Notary Acknowledgment

State of California }
County of Riverside } S.S.
On this 17 day of March, 1978, before me, D. L. Wade, a Notary Public in and for said County and State, personally appeared David E. Turner, known to me to be a General Partner of Oak Springs Rancho, a Limited Partnership, the partnership that executed the within instrument, and acknowledged to me that such partnership executed the same.

My commission expires 12-17-78

Witness my hand and official seal
D. L. Wade
Notary Public in and for said County and State

Notary Acknowledgment

State of California }
County of Riverside } S.S.
On this 9 day of June, 1978, before me, The Undersigned, a Notary Public in and for said County and State, personally appeared Brodywick W. Schneider, known to me to be the Asst. V.P. and James W. Pease, known to me to be the Asst. Sec. of First American Title Insurance Company, a California corporation, the corporation that executed the within instrument, and known to me to be the persons who executed the within instrument on behalf of said corporation and acknowledged to me that such corporation executed the same.

My commission expires 10-26-81

Witness my hand and official seal
Lena P. Stricker
Notary Public in and for said County and State

Signature Omission

Pursuant to Section 66436 (e)(3) of the Subdivision Map Act, the signatures of the following owners of easements or other interests have been omitted.

- 1. Nalberto L. Moreno and Amilia S. Moreno, owners of oil and mineral rights by deed recorded June 23, 1950 as instrument number 3198.

In the unincorporated territory of the County of Riverside, California.
PARCEL MAP 9637

being a division of Govt. Lots 3, 4, 6, 7 and a portion of 2 of Section 6, T.7S., R.3W., and Govt. Lots 8, 10 and a portion of 1 and 7 of Section 1, T.7S., R.4W., S.B.M.

February, 1978 Butterfield Surveys Inc.

Tax Collector's Certificate

I hereby certify that according to the records of this office as of this date, there are no liens against the property shown on the within map for unpaid State, County, Municipal or local taxes or special assessments collected as taxes.

Dated: NOVEMBER 15, 1978.

Donna Bauer Euback
County Tax Collector

By: Harold M. Larson Deputy

Tax Bond Certificate

I hereby certify that a bond in the sum of _____ has been executed and filed with the Board of Supervisors of the County of Riverside, State of California, conditioned upon the payment of all taxes, state, county, municipal or local and all special assessments collected as taxes which at the time of filing of this map with the County Records are a lien against said property but not yet payable, and said bond has been duly approved by said Board of Supervisors.

Dated: _____, 1978.

County Clerk and Ex-Officio
Clerk of the Board of Supervisors

By: _____ Deputy

County Surveyor's Certificate

This map conforms with the requirements of the Subdivision Map Act and local ordinances.

Dated: Dec. 1, 1978.

Signed: A. E. Newcomb
A. E. Newcomb, County Surveyor

Recorder's Certificate

Filed this 11 day of Dec, 1978, at 2:45 P.M. in Book 58 of Parcel Maps, at pages 12, 13, 14, 15 at the request of the County Clerk.

Fee: \$ 13.00
No: 2603210

Donald D. Sullivan
County Recorder

By: Jamiera A. Hielex Deputy

Subdivision Guarantor: Safeco Title Insurance Company

Surveyor's Certificate

This map was prepared by me or under my direction and is based upon a field survey in conformance with the requirements of the Subdivision Map Act at the request of Oak Springs Rancho in February, 1978. I hereby state that the parcel map procedures of the local agency have been complied with and that this parcel map conforms to the approved tentative map and the conditions of approval thereof which were required to be fulfilled prior to the filing of the parcel map.

Fred W. Crane
Fred W. Crane L.S. 3698

Surveyor's Notes

Basis of bearings is the centerline of Clinton Keith Road as shown on P.M. 29/48-49 being N 89° 19' 11" E, Riverside County Records.

- o Indicates set 1" I.P. flush and tagged L.S. 3698.
- Indicates monuments found as noted.

Structures for human occupancy will not be allowed on slopes steeper than 10 percent. Structures for human occupancy shall not be allowed in the fault hazard area without additional geologic investigation.

All monuments set per Riverside County Ord. 461.21.

Total gross area within the blue border is 30.49 acres.

Note: to obtain bearings based on California Coordinate System, Zone 6 rotate all map bearings 2°03'11" clockwise. The reference bearing of N 89° 37' 39" W was obtained from Riv. Co. Surv. file No. 824-1 (Calf Rd.). The above bearing is for the 50. line Sec. 31, T.6 S., R.3 W., S.B.M.

Board of Supervisors Certificate

The County of Riverside, State of California, by and through its duly authorized officers hereby approves said parcel map and accepts the offers of dedication made hereon except the road easements shown hereon.

Dated: Dec. 5, 1978.

County of Riverside, State of California

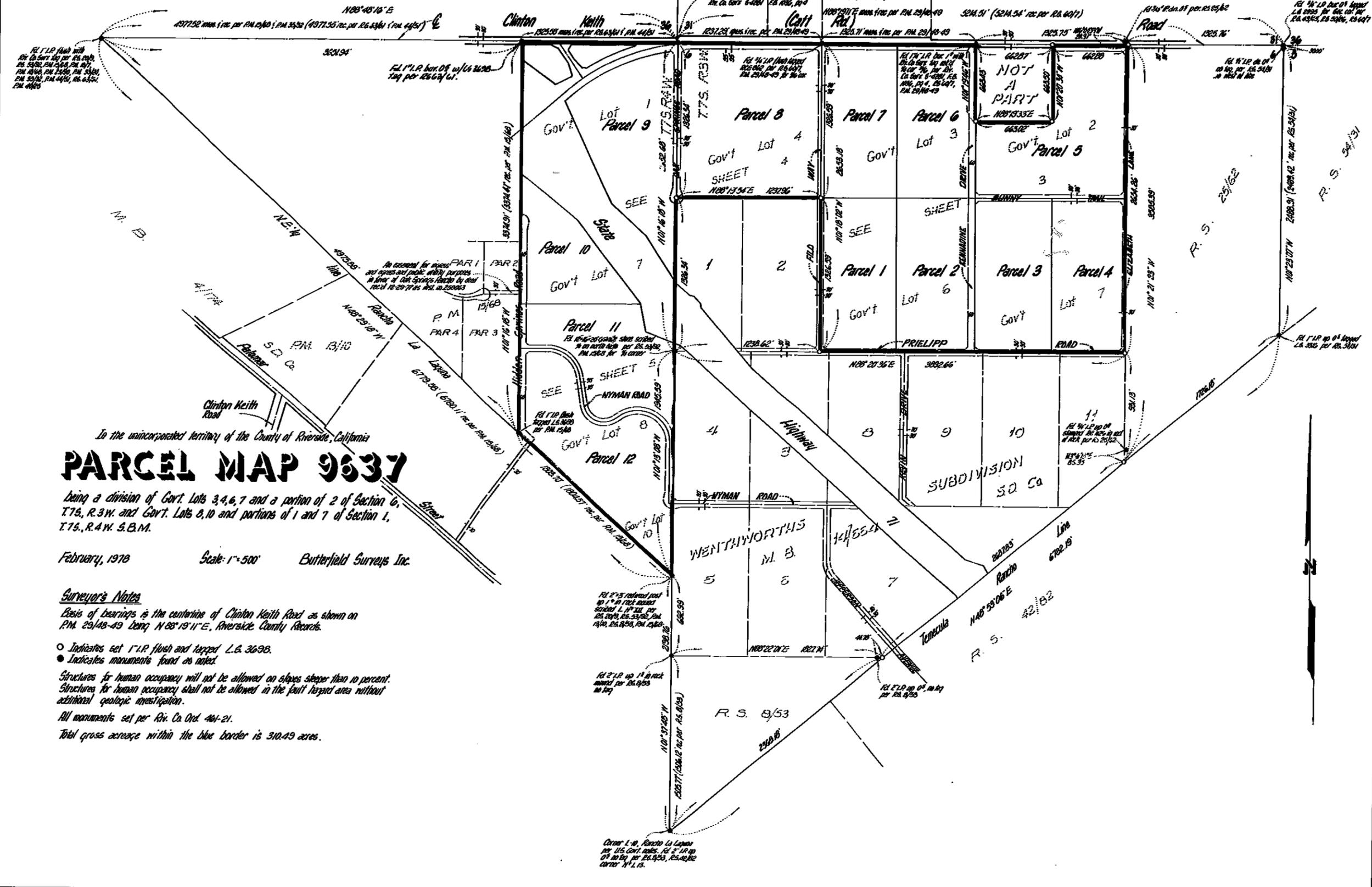
By: Michael A. ...
Chairman of the Board of Supervisors

Attest:
Donald D. Sullivan
County Clerk and Ex-Officio
Clerk of the Board of Supervisors

By: Valery ... Deputy

R. S. 63/61 P. M. 44/51

Sheet 2 of 3 sheets



In the unincorporated territory of the County of Riverside, California

PARCEL MAP 9637

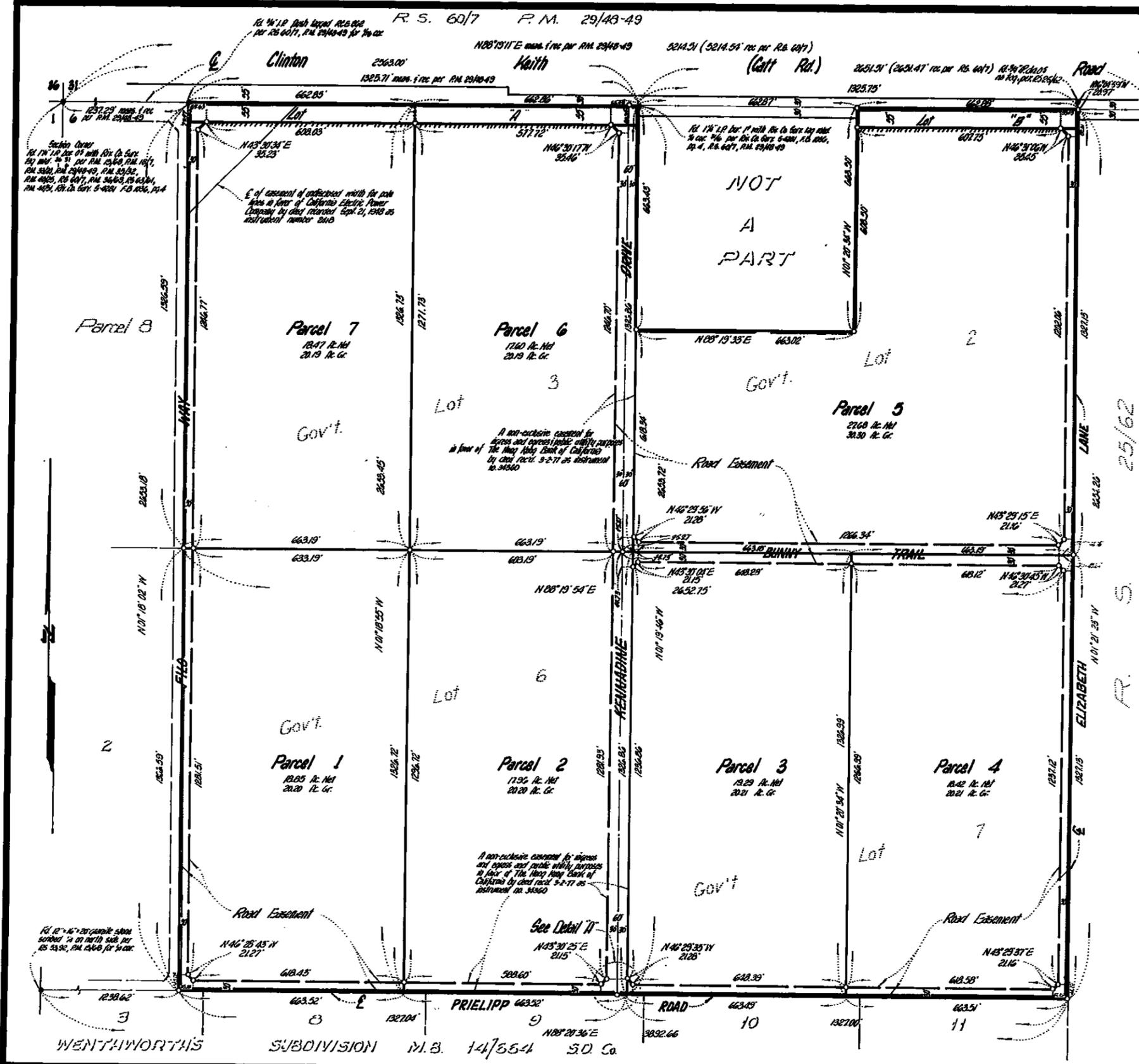
Being a division of Gov't Lots 3, 4, 6, 7 and a portion of 2 of Section 6, T.7S., R.3W. and Gov't Lots 8, 10 and portions of 1 and 7 of Section 1, T.7S., R.4W. S.B.M.

February, 1978 Scale: 1"=500' Butterfield Surveys Inc.

Surveyor's Notes

- Basis of bearings is the centerline of Clinton Keith Road as shown on P.M. 29/48-49 being N 88° 19' 11" E, Riverside County Records.
- Indicates set 1" I.P. flush and topped L.G. 3638.
- Indicates monuments found as noted.
- Structures for human occupancy will not be allowed on slopes steeper than 10 percent.
- Structures for human occupancy shall not be allowed in the fault hazard area without additional geologic investigation.
- All monuments set per Riv. Co. Ord. 464-21.
- Total gross acreage within the blue border is 310.49 acres.

1. 2" x 1/2" iron pin set in concrete at corner of Lot 11, P.M. 13/10.
 2. 2" x 1/2" iron pin set in concrete at corner of Lot 12, P.M. 13/10.
 3. 2" x 1/2" iron pin set in concrete at corner of Lot 1, P.M. 13/10.
 4. 2" x 1/2" iron pin set in concrete at corner of Lot 2, P.M. 13/10.
 5. 2" x 1/2" iron pin set in concrete at corner of Lot 3, P.M. 13/10.
 6. 2" x 1/2" iron pin set in concrete at corner of Lot 4, P.M. 13/10.
 7. 2" x 1/2" iron pin set in concrete at corner of Lot 5, P.M. 13/10.
 8. 2" x 1/2" iron pin set in concrete at corner of Lot 6, P.M. 13/10.
 9. 2" x 1/2" iron pin set in concrete at corner of Lot 7, P.M. 13/10.
 10. 2" x 1/2" iron pin set in concrete at corner of Lot 8, P.M. 13/10.
 11. 2" x 1/2" iron pin set in concrete at corner of Lot 9, P.M. 13/10.
 12. 2" x 1/2" iron pin set in concrete at corner of Lot 10, P.M. 13/10.



In the unincorporated territory of the County of Riverside, California.

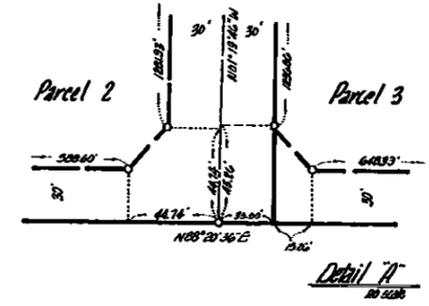
PARCEL MAP 9637

being a division of Gov't. Lots 3, 4, 6, 7 and a portion of 2 of Section 6, T.7S., R.3W. and Gov't. Lots 8, 10 and portions of 1 and 7 of Section 1, T.7S., R.4W., S.B.M.

February, 1978 Scale: 1"=200' Butterfield Surveys Inc.

Surveyor's Notes

- Basis of bearings is the centerline of Clinton Keith Road as shown on Plat 29/48-49 being $N08^{\circ}19'11''E$, Riverside County Records.
- Indicates set I.P.P. flush and topped L.S. 3698.
- Indicates monuments found as noted.
- Structures for human occupancy will not be allowed on slopes steeper than 10 percent.
- Structures for human occupancy shall not be allowed in the fault hazard area without additional geologic investigation.
- All monuments set per Riv. Co. Ord. 461-21.
- mmmm Indicates access rights restricted



R. S. 63/61 P.M. 44/51

Sheet 4 of 5 sheets

In the unincorporated territory of the County of Riverside, California
PARCEL MAP 9637

being a division of Gov't. Lots 3, 4, 6, 7 and a portion of 2 of Section 6, T.7S., R.3W. and Gov't. Lots 8, 10 and portions of 1 and 7 of Section 1, T.7S., R.4W. S.B.M.

February, 1978 Scale: 1" = 200' Butterfield Surveys Inc.

Surveyor's Notes

Basis of bearings is the centerline of Clinton Keith Road as shown on P.M. 2948-49 being N88°19'11"E, Riverside County Records.

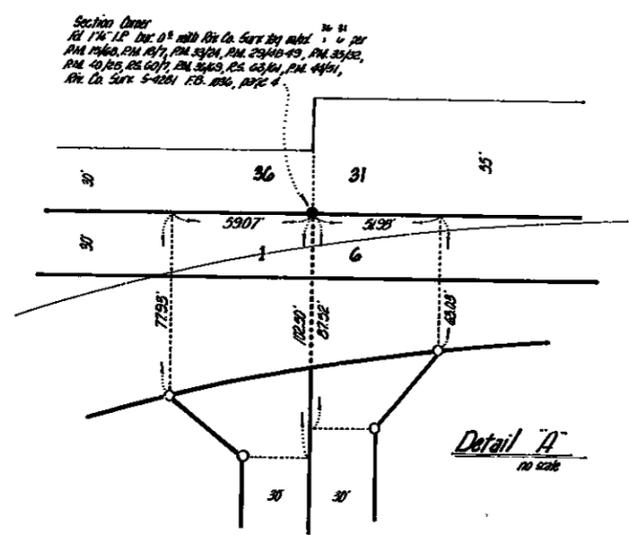
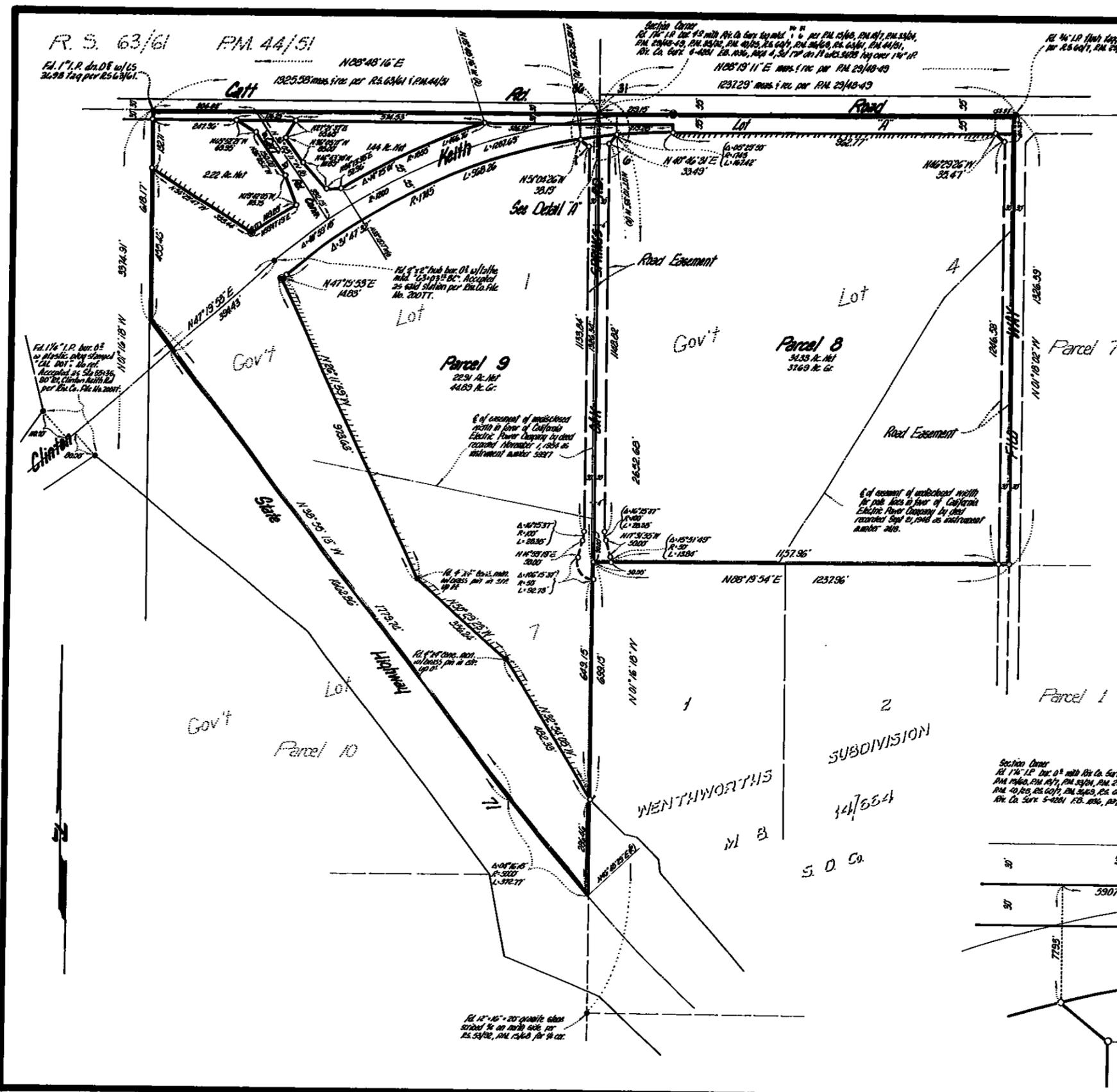
- Indicates set 1" I.P. flush and tagged L.S. 3698.
- Indicates monuments found as noted.

Structures for human occupancy will not be allowed on slopes steeper than 10 percent. Structures for human occupancy shall not be allowed in the fault hazard area without additional geologic investigation.

All monuments set per Riv. Co. Ord. 461-21.

||||| Indicates restricted access.

● Indicates 1/4" I.P. buried or with plastic plug stamped "SB" for points on State R/W per: Caltrans R/W Map 915601 (Riv. Co. Surv. File No 200 TT.)



In the unincorporated territory of the County of Riverside, California.
PARCEL MAP 9637

Being a division of Gov't. Lots 3, 4, 6, 7 and a portion of 2 of Section 6, T. 7 S., R. 3 W. and Gov't. Lots 8, 10 and portions of 1 and 7 of Section 1, T. 7 S., R. 4 W. G. B. M.

February, 1978 Scale: 1"=200' Butterfield Surveys Inc.

Surveyor's Notes

Basis of bearings is the centerline of Clinton Keith Road as shown on P.M. 29140-49 being N 06° 19' 11" E, Riverside County Records.

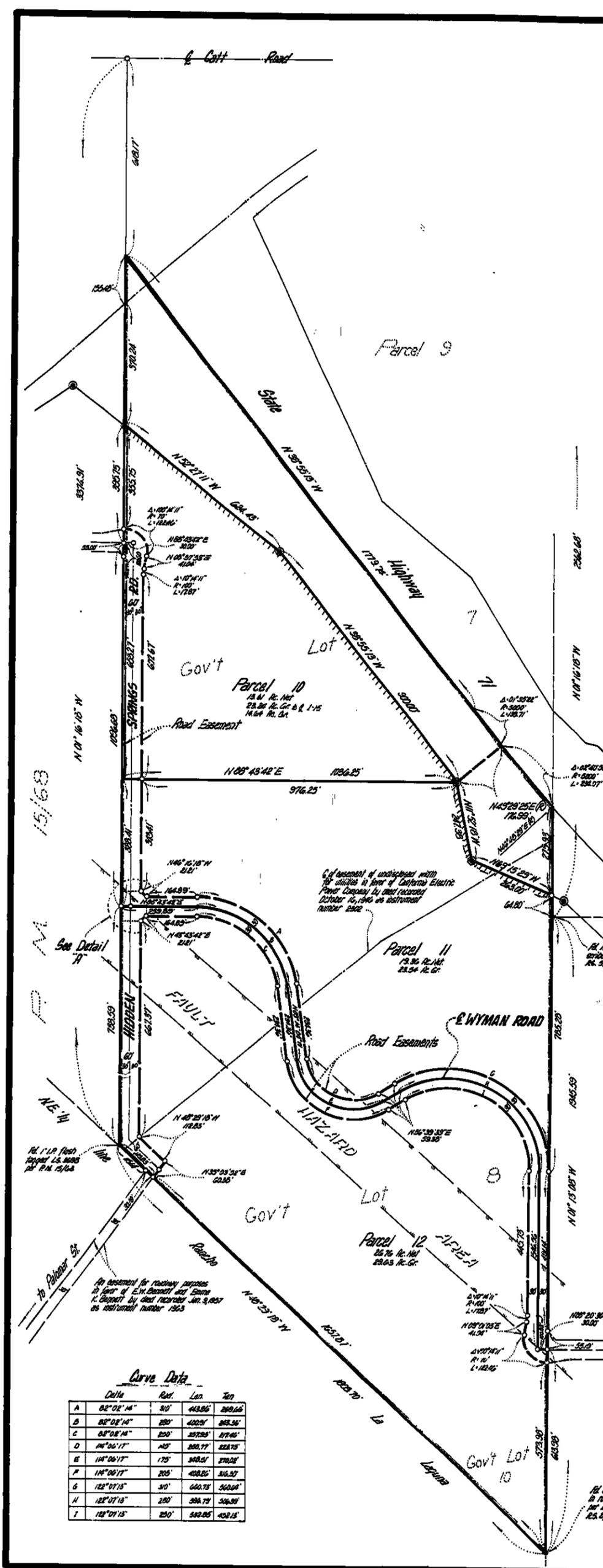
○ Indicates set 1" I.P. flush and topped I.S. 3638.
● Indicates monuments found as noted.

Structures for human occupancy will not be allowed on slopes steeper than 10 percent. Structures for human occupancy shall not be allowed in the fault hazard area without additional geologic investigation.

All monuments set per Riv. Co. Ord. 461-21.

||||| Indicates restricted access.

⊙ Indicates ft. 1 1/4" I.P. buried 0" with plastic plug stamped 3638



15/68

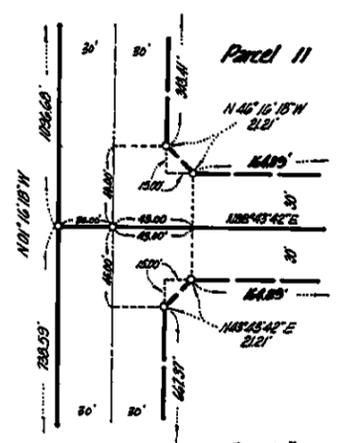
P.M.

NE-14

Curve Data

Curve	Delta	Rad.	Len.	Tan
A	05° 02' 14"	317	43.06	299.16
B	05° 02' 14"	280	40.25	283.36
C	05° 02' 14"	250	37.28	272.40
D	04° 06' 17"	145	20.77	158.75
E	114° 06' 17"	175	348.57	370.24
F	114° 06' 17"	205	428.82	446.32
G	122° 07' 15"	317	430.75	560.61
H	122° 07' 15"	280	384.79	506.89
I	122° 07' 15"	250	342.85	458.15

WENTHWORTH'S SUBDIVISION
M.B. 141786-4 S.D. Co.



Detail 7F

1/4" 2" x 3" reduced plat 40 1" in rock mounted section L 47 222 per 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, P.M. 15140

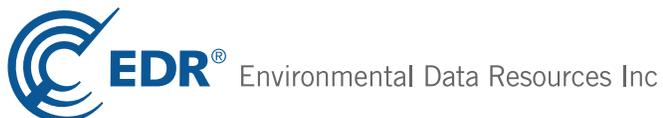
NO LABORATORY RESULTS

APPENDIX E
REGULATORY DATABASE REPORT

24501 Clinton Keith Road
24501 Clinton Keith Road
Wildomar, CA 92595

Inquiry Number: 03386164.2r
August 13, 2012

The EDR Radius Map™ Report with GeoCheck®



440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
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

24501 CLINTON KEITH ROAD
WILDOMAR, CA 92595

COORDINATES

Latitude (North): 33.5943000 - 33° 35' 39.48"
Longitude (West): 117.2304000 - 117° 13' 49.44"
Universal Transverse Mercator: Zone 11
UTM X (Meters): 478621.9
UTM Y (Meters): 3717005.0
Elevation: 1363 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 33117-E2 MURRIETA, CA
Most Recent Revision: 1979

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 2009, 2010
Source: USDA

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:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List

EXECUTIVE SUMMARY

Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR..... EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

SLIC..... Statewide SLIC Cases
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

AST..... Aboveground Petroleum Storage Tank Facilities

EXECUTIVE SUMMARY

INDIAN UST..... Underground Storage Tanks on Indian Land
FEMA UST..... Underground Storage Tank Listing

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing
VCP..... Voluntary Cleanup Program Properties

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI..... Open Dump Inventory
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
WMUDS/SWAT..... Waste Management Unit Database
HAULERS..... Registered Waste Tire Haulers Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL..... Clandestine Drug Labs
HIST Cal-Sites..... Historical Calsites Database
SCH..... School Property Evaluation Program
Toxic Pits..... Toxic Pits Cleanup Act Sites
CDL..... Clandestine Drug Labs
US HIST CDL..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST..... Facility Inventory Database
HIST UST..... Hazardous Substance Storage Container Database

Local Land Records

LIENS 2..... CERCLA Lien Information
LUCIS..... Land Use Control Information System
LIENS..... Environmental Liens Listing
DEED..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
CHMIRS..... California Hazardous Material Incident Report System
LDS..... Land Disposal Sites Listing
MCS..... Military Cleanup Sites Listing

Other Ascertainable Records

RCRA-NonGen..... RCRA - Non Generators
DOT OPS..... Incident and Accident Data

EXECUTIVE SUMMARY

DOD.....	Department of Defense Sites
FUDS.....	Formerly Used Defense Sites
CONSENT.....	Superfund (CERCLA) Consent Decrees
ROD.....	Records Of Decision
UMTRA.....	Uranium Mill Tailings Sites
MINES.....	Mines Master Index File
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)
HIST FTTS.....	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS.....	Section 7 Tracking Systems
ICIS.....	Integrated Compliance Information System
PADS.....	PCB Activity Database System
MLTS.....	Material Licensing Tracking System
RADINFO.....	Radiation Information Database
FINDS.....	Facility Index System/Facility Registry System
RAATS.....	RCRA Administrative Action Tracking System
CA BOND EXP. PLAN.....	Bond Expenditure Plan
WDS.....	Waste Discharge System
UIC.....	UIC Listing
NPDES.....	NPDES Permits Listing
Cortese.....	"Cortese" Hazardous Waste & Substances Sites List
HIST CORTESE.....	Hazardous Waste & Substance Site List
Notify 65.....	Proposition 65 Records
DRYCLEANERS.....	Cleaner Facilities
WIP.....	Well Investigation Program Case List
ENF.....	Enforcement Action Listing
HAZNET.....	Facility and Manifest Data
EMI.....	Emissions Inventory Data
INDIAN RESERV.....	Indian Reservations
SCRD DRYCLEANERS.....	State Coalition for Remediation of Drycleaners Listing
PRP.....	Potentially Responsible Parties
EPA WATCH LIST.....	EPA WATCH LIST
US FIN ASSUR.....	Financial Assurance Information
MWMP.....	Medical Waste Management Program Listing
COAL ASH EPA.....	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER.....	PCB Transformer Registration Database
2020 COR ACTION.....	2020 Corrective Action Program List
COAL ASH DOE.....	Sleam-Electric Plan Operation Data
HWT.....	Registered Hazardous Waste Transporter Database
HWP.....	EnviroStor Permitted Facilities Listing
PROC.....	Certified Processors Database
FINANCIAL ASSURANCE.....	Financial Assurance Information Listing

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants.....	EDR Proprietary Manufactured Gas Plants
EDR Historical Auto Stations.....	EDR Proprietary Historic Gas Stations
EDR Historical Cleaners.....	EDR Proprietary Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS 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. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-LQG: 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. 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). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 03/15/2012 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
SCE WILDOMAR SVC CTR	24487 PRIELIPP RD	SSW 0 - 1/8 (0.015 mi.)	4	14

RCRA-SQG: 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. 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). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 03/15/2012 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>US FAMILY CARE</i>	<i>36450 INLAND VALLEY DR</i>	<i>WSW 0 - 1/8 (0.006 mi.)</i>	<i>A1</i>	<i>8</i>

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 06/14/2012 has revealed that there are 2 LUST sites within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>INLAND VALLEY REGIONAL MEDICAL</i>	<i>36485 INLAND VALLEY DR</i>	<i>WSW 0 - 1/8 (0.009 mi.)</i>	<i>A2</i>	<i>9</i>
<i>INLAND VALLEY REGIONAL MED CTR</i>	<i>36485 INLAND VALLEY DR</i>	<i>WSW 0 - 1/8 (0.009 mi.)</i>	<i>A3</i>	<i>10</i>
Status: Completed - Case Closed				

EXECUTIVE SUMMARY

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 07/19/2012 has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>INLAND VALLEY REGIONAL MEDICAL</i>	<i>36485 INLAND VALLEY DR</i>	<i>WSW 0 - 1/8 (0.009 mi.)</i>	<i>A2</i>	<i>9</i>

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 06/11/2012 has revealed that there is 1 SWRCY site within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>ALBERTSONS #6735</i>	<i>23893 CLINTON KEITH RD</i>	<i>WNW 1/4 - 1/2 (0.340 mi.)</i>	<i>5</i>	<i>18</i>

Local Lists of Registered Storage Tanks

SWEEPS UST: 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 1990'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.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there is 1 SWEEPS UST site within approximately 0.25 miles of the target property.

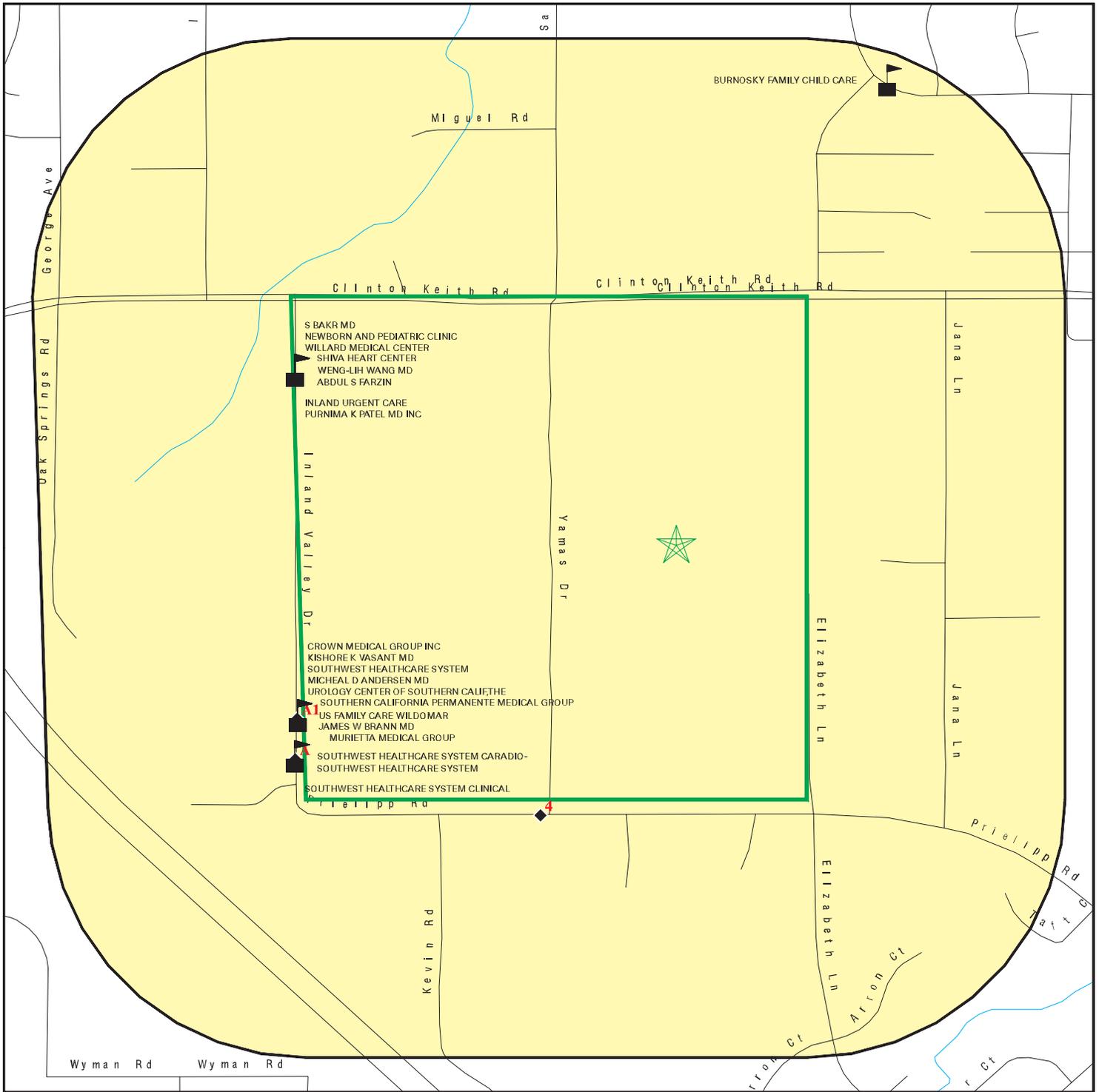
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>INLAND VALLEY REGIONAL MEDICAL</i>	<i>36485 INLAND VALLEY DR</i>	<i>WSW 0 - 1/8 (0.009 mi.)</i>	<i>A2</i>	<i>9</i>

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 10 records.

<u>Site Name</u>	<u>Database(s)</u>
1 215 CLINTON KEITH RD IMPROVEMENT	NPDES
INTERSTATE 215 AT CLINTON KEITH RD	NPDES
TENAJA ROAD	NPDES
CLINTON KEITH ROAD I15 INTERCHANGE	NPDES
CLINTON KEITH VILLAGE	NPDES
PALOMAR ROAD BOOSTER	HAZNET
RANCHO CALIFORNIA WATER DISTRICT W	RCRA-LQG
CLINTON KEITH CROSS OF INT 215	ERNS
46725 CLINTON ST	ERNS
MONTEREY ROAD AND COUNTRY CLUB AVE	ERNS

DETAIL MAP - 03386164.2r



-  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
-  Dept. Defense Sites
-  Indian Reservations BIA
-  Areas of Concern
-  Oil & Gas pipelines from USGS
-  100-year flood zone
-  500-year flood zone



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 24501 Clinton Keith Road
 ADDRESS: 24501 Clinton Keith Road
 Wildomar CA 92595
 LAT/LONG: 33.5943 / 117.2304

CLIENT: Hillmann Environmental Co.
 CONTACT: Kristi Hill
 INQUIRY #: 03386164.2r
 DATE: August 13, 2012 7:06 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS NFRAP site List</i>								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		1	0	NR	NR	NR	1
RCRA-SQG	0.250		1	0	NR	NR	NR	1
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>State- and tribal - equivalent NPL</i>								
RESPONSE	1.000		0	0	0	0	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
ENVIROSTOR	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST	0.500		2	0	0	NR	NR	2
SLIC	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		1	0	NR	NR	NR	1
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	1	NR	NR	1
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	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
CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
SWEEPS UST	0.250		1	0	NR	NR	NR	1
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MCS	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	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
MINES	0.250		0	0	NR	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
HIST 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
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
Cortese	0.500		0	0	0	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
HWT	0.250		0	0	NR	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
PROC	0.500		0	0	0	NR	NR	0
FINANCIAL ASSURANCE	TP		NR	NR	NR	NR	NR	0

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	1.000		0	0	0	0	NR	0
-------------------------	-------	--	---	---	---	---	----	---

MAP FINDINGS SUMMARY

<u>Database</u>	<u>Search Distance (Miles)</u>	<u>Target Property</u>	<u>< 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>> 1</u>	<u>Total Plotted</u>
EDR Historical Auto Stations	0.250		0	0	NR	NR	NR	0
EDR Historical Cleaners	0.250		0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

A1
WSW
< 1/8
0.006 mi.
32 ft.

US FAMILY CARE
36450 INLAND VALLEY DR
WILDOMAR, CA 92595

RCRA-SQG 1000905139
FINDS CA0000348722

Site 1 of 3 in cluster A

Relative:
Lower

RCRA-SQG:

Date form received by agency: 05/17/1994
Facility name: US FAMILY CARE
Facility address: 36450 INLAND VALLEY DR
WILDOMAR, CA 92595
EPA ID: CA0000348722
Mailing address: INLAND VALLEY DR
WILDOMAR, CA 92595
Contact: HARVEY LESSER
Contact address: 36450 INLAND VALLEY DR
WILDOMAR, CA 92595
Contact country: US
Contact telephone: (909) 825-4401
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Actual:
1341 ft.

Owner/Operator Summary:

Owner/operator name: HAFA ADI PROPERTIES
Owner/operator address: 2221 CENTURY BLVD
CENTURY CITY, CA 90044
Owner/operator country: Not reported
Owner/operator telephone: (310) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

US FAMILY CARE (Continued)

1000905139

FINDS:

Registry ID: 110002617204

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

A2
WSW
 < 1/8
0.009 mi.
49 ft.

INLAND VALLEY REGIONAL MEDICAL CENTER
36485 INLAND VALLEY DR
WILDOMAR, CA 92595
 Site 2 of 3 in cluster A

LUST **U003713800**
UST **N/A**
SWEEPS UST

Relative:
Lower

LUST REG 8:
 Region: 8
 County: Riverside
 Regional Board: Santa Ana Region
 Facility Status: Leak being confirmed
 Case Number: 083303712T
 Local Case Num: 99-15433
 Case Type: Soil only
 Substance: Hydrocarbons
 Qty Leaked: Not reported
 Abate Method: Not reported
 Cross Street: Not reported
 Enf Type: Not reported
 Funding: Not reported
 How Discovered: Not reported
 How Stopped: Not reported
 Leak Cause: Not reported
 Leak Source: Not reported
 Global ID: T0606599143
 How Stopped Date: Not reported
 Enter Date: 6/14/2000
 Review Date: 4/7/2000
 Prelim Assess: Not reported
 Discover Date: Not reported
 Enforcement Date: Not reported
 Close Date: Not reported
 Workplan: Not reported
 Pollution Char: Not reported
 Remed Plan: Not reported
 Remed Action: Not reported
 Monitoring: Not reported
 Enter Date: 6/14/2000
 GW Qualifies: Not reported
 Soil Qualifies: Not reported
 Operator: Not reported
 Facility Contact: Not reported
 Interim: Not reported
 Oversight Program: LUST

Actual:
1339 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

INLAND VALLEY REGIONAL MEDICAL CENTER (Continued)

U003713800

Latitude: 33.591114
Longitude: -117.236964
MTBE Date: Not reported
Max MTBE GW: Not reported
MTBE Concentration: 0
Max MTBE Soil: Not reported
MTBE Fuel: 0
MTBE Tested: Not Required to be Tested.
MTBE Class: *
Staff: RS
Staff Initials: Not reported
Lead Agency: Local Agency
Local Agency: 33000L
Hydr Basin #: TEMECULA VALLEY (9-5)
Beneficial: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Work Suspended: No
Summary: Not reported

UST:

Facility ID: 411
Latitude: 33.59122
Longitude: -117.2368

SWEEPS UST:

Status: A
Comp Number: 20290
Number: 1
Board Of Equalization: 44-018075
Ref Date: 11-03-92
Act Date: 11-03-92
Created Date: 02-27-89
Tank Status: A
Owner Tank Id: 001182
Swrcb Tank Id: 33-000-020290-000001
Actv Date: 11-03-92
Capacity: 20000
Tank Use: M.V. FUEL
Stg: P
Content: DIESEL
Number Of Tanks: 1

A3
WSW
< 1/8
0.009 mi.
49 ft.

INLAND VALLEY REGIONAL MED CTR
36485 INLAND VALLEY DR
WILDOMAR, CA 92595
Site 3 of 3 in cluster A

LUST S104228126
EMI N/A

Relative:
Lower

LUST:
Region: STATE
Global Id: T0606599184
Latitude: 33.591114
Longitude: -117.236964
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 10/13/2006

Actual:
1339 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

INLAND VALLEY REGIONAL MED CTR (Continued)

S104228126

Lead Agency: SAN DIEGO RWQCB (REGION 9)
Case Worker: SJP
Local Agency: RIVERSIDE COUNTY LOP
RB Case Number: 9UT3960
LOC Case Number: 9915433
File Location: Regional Board
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Diesel, Other Solvent or Non-Petroleum Hydrocarbon
Site History: Not reported

[Click here to access the California GeoTracker records for this facility:](#)

LUST:

Global Id: T0606599184
Contact Type: Local Agency Caseworker
Contact Name: UNK
Organization Name: RIVERSIDE COUNTY LOP
Address: 4065 COUNTY CIRCLE DR ROOM 123
City: RIVERSIDE
Email: Not reported
Phone Number: Not reported

Global Id: T0606599184
Contact Type: Regional Board Caseworker
Contact Name: SUE J. PEASE
Organization Name: SAN DIEGO RWQCB (REGION 9)
Address: 9174 SKY PARK COURT, SUITE 100
City: SAN DIEGO
Email: spease@waterboards.ca.gov
Phone Number: Not reported

LUST:

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 03/03/2006
Action: Staff Letter - #R9-2006-0030

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 01/10/2006
Action: Site Visit / Inspection / Sampling

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 10/13/2006
Action: Closure/No Further Action Letter

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 08/31/2004
Action: Technical Correspondence / Assistance / Other

Global Id: T0606599184
Action Type: Other
Date: 01/01/1950
Action: Leak Stopped

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

INLAND VALLEY REGIONAL MED CTR (Continued)

S104228126

Global Id:	T0606599184
Action Type:	ENFORCEMENT
Date:	04/04/2006
Action:	* Verbal Communication
Global Id:	T0606599184
Action Type:	ENFORCEMENT
Date:	06/21/2006
Action:	* Verbal Communication
Global Id:	T0606599184
Action Type:	ENFORCEMENT
Date:	03/28/2006
Action:	* Verbal Communication
Global Id:	T0606599184
Action Type:	ENFORCEMENT
Date:	10/20/2005
Action:	Staff Letter
Global Id:	T0606599184
Action Type:	ENFORCEMENT
Date:	10/23/2006
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0606599184
Action Type:	Other
Date:	01/01/1950
Action:	Leak Discovery
Global Id:	T0606599184
Action Type:	Other
Date:	01/01/1950
Action:	Leak Reported
Global Id:	T0606599184
Action Type:	ENFORCEMENT
Date:	10/12/2006
Action:	File review - #RCDEH Upload Site File 4/6/2011
Global Id:	T0606599184
Action Type:	ENFORCEMENT
Date:	10/24/2005
Action:	* Verbal Communication
Global Id:	T0606599184
Action Type:	ENFORCEMENT
Date:	10/05/2006
Action:	* Verbal Communication
Global Id:	T0606599184
Action Type:	ENFORCEMENT
Date:	05/16/2006
Action:	* Verbal Communication
Global Id:	T0606599184
Action Type:	ENFORCEMENT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

INLAND VALLEY REGIONAL MED CTR (Continued)

S104228126

Date: 02/21/2006
Action: * Verbal Communication

LUST REG 9:

Region: 9
Status: Preliminary site assessment workplan submitted
Case Number: 9UT3960
Local Case: 99-15433
Substance: Diesel
Qty Leaked: Not reported
Abate Method: Not reported
Local Agency: Riverside
How Found: Other Means
How Stopped: Repair Piping
Source: Piping
Cause: Unknown
Lead Agency: Local Agency
Case Type: Soil only
Date Found: 07/20/1999
Date Stopped: 07/20/1999
Confirm Date: / /
Submit Workplan: 8/3/99
Prelim Assess: / /
Desc Pollution: Not reported
Remed Plan: / /
Remed Action: Not reported
Began Monitor: Not reported
Release Date: 08/03/1999
Enforce Date: Not reported
Closed Date: Not reported
Enforce Type: Not reported
Pilot Program: LOP
Basin Number: 902.31
GW Depth: Not reported
Beneficial Use: MUNBU
NPDES Number: Not reported
Priority: Medium priority
File Dispn: Not reported
Interim Remedial Actions: Not reported
Cleanup and Abatement order Number: Not reported
Waste Discharge Requirement Number: Not reported

RIVERSIDE CO. LUST:

Region: RIVERSIDE
Facility ID: 9915433
Employee: Winters
Site Closed: Referred to Water Board
Case Type: Drinking Water Aquifer affected
Facility Status: 0

EMI:

Year: 1990
County Code: 33
Air Basin: SC
Facility ID: 54732

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

INLAND VALLEY REGIONAL MED CTR (Continued)

S104228126

Air District Name: SC
SIC Code: 8062
Air District Name: SOUTH COAST AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 1
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smlr Tons/Yr: 0

4
SSW
< 1/8
0.015 mi.
81 ft.

SCE WILDOMAR SVC CTR
24487 PRIELIPP RD
WILDOMAR, CA 92595

RCRA-LQG 1012175864
CAR000196659

Relative:
Lower

RCRA-LQG:

Date form received by agency: 12/07/2010
Facility name: SCE WILDOMAR SVC CTR
Facility address: 24487 PRIELIPP RD
WILDOMAR, CA 92595
EPA ID: CAR000196659
Mailing address: PO BOX 800
ATTN SARA DUVALL
ROSEMEAD, CA 91770
Contact: SARA M DUVALL
Contact address: PO BOX 800
ROSEMEAD, CA 91770
Contact country: US
Contact telephone: 626-302-4187
Contact email: SARA.DUVALL@SCE.COM
EPA Region: 09
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Actual:
1342 ft.

Owner/Operator Summary:

Owner/operator name: SOUTHERN CALIFORNIA EDISON
Owner/operator address: PO BOX 800
ROSEMEAD, CA 91770
Owner/operator country: US
Owner/operator telephone: 626-302-1212
Legal status: Private
Owner/Operator Type: Owner

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCE WILDOMAR SVC CTR (Continued)

1012175864

Owner/Op start date: 11/07/2008
Owner/Op end date: Not reported

Owner/operator name: SOUTHERN CALIFORNIA EDISON
Owner/operator address: Not reported
Not reported

Owner/operator country: Not reported
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 11/07/2008
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:

Date form received by agency: 11/10/2008
Facility name: SCE WILDOMAR SVC CTR
Site name: WILDOMAR SERVICE CENTER
Classification: Large Quantity Generator

Hazardous Waste Summary:

Waste code: 133
Waste name: 133

Waste code: 151
Waste name: 151

Waste code: 181
Waste name: 181

Waste code: 211
Waste name: 211

Waste code: 213
Waste name: 213

Waste code: 214
Waste name: 214

Waste code: 221

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCE WILDOMAR SVC CTR (Continued)

1012175864

Waste name: 221

Waste code: 223

Waste name: 223

Waste code: 261

Waste name: 261

Waste code: 272

Waste name: 272

Waste code: 291

Waste name: 291

Waste code: 331

Waste name: 331

Waste code: 343

Waste name: 343

Waste code: 352

Waste name: 352

Waste code: 461

Waste name: 461

Waste code: 512

Waste name: 512

Waste code: 513

Waste name: 513

Waste code: 541

Waste name: 541

Waste code: 551

Waste name: 551

Waste code: 731

Waste name: 731

Waste code: D001

Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002

Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

SCE WILDOMAR SVC CTR (Continued)

1012175864

DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D008
Waste name: LEAD

Waste code: D018
Waste name: BENZENE

Waste code: D039
Waste name: TETRACHLOROETHYLENE

Waste code: F001
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE, AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

5
WNW
1/4-1/2
0.340 mi.
1793 ft.

ALBERTSONS #6735
23893 CLINTON KEITH RD
WILDOMAR, CA 92595

SWRCY S107137949
HAZNET N/A

Relative:
Lower

SWRCY:
Facility Phone Number: (951) 520-1700
Whether The Facility Is Grandfathered: N
Effective Date: 05/01/2012
Rural: Y
As Of: 06/11/2012
Party Number: 156812

Actual:
1329 ft.

HAZNET:

Year: 2011
Gepaid: CAL000324870
Contact: ERICA FRANSEN
Telephone: 2083954793
Mailing Name: Not reported
Mailing Address: 250 PARKCENTER BLVD
Mailing City,St,Zip: BOISE, ID 837060000
Gen County: Not reported
TSD EPA ID: INR000110197
TSD County: Not reported
Waste Category: Unspecified aqueous solution
Disposal Method: Not reported
Tons: 0.003
Facility County: Riverside

Year: 2011
Gepaid: CAL000324870
Contact: ERICA FRANSEN
Telephone: 2083954793
Mailing Name: Not reported
Mailing Address: 250 PARKCENTER BLVD
Mailing City,St,Zip: BOISE, ID 837060000
Gen County: Not reported
TSD EPA ID: INR000110197
TSD County: Not reported
Waste Category: Unspecified aqueous solution
Disposal Method: Not reported
Tons: 0.003
Facility County: Riverside

Year: 2010
Gepaid: CAL000324870
Contact: ERICA FRANSEN
Telephone: 2083954793
Mailing Name: Not reported
Mailing Address: 250 PARKCENTER BLVD
Mailing City,St,Zip: BOISE, ID 837060000
Gen County: Not reported
TSD EPA ID: OHD083377010
TSD County: Not reported
Waste Category: Aqueous solution (2 < pH < 12.5) containing reactive anions ...
Disposal Method: Chemical Reduction With Or Without Precipitation
Tons: 0.023
Facility County: Riverside

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALBERTSONS #6735 (Continued)

S107137949

Year: 2009
Gepaid: CAL000324870
Contact: ERICA FRANSEN
Telephone: 2083954793
Mailing Name: Not reported
Mailing Address: 250 PARKCENTER BLVD
Mailing City,St,Zip: BOISE, ID 837060000
Gen County: Riverside
TSD EPA ID: AZR000035840
TSD County: 99
Waste Category: Not reported
Disposal Method: Not reported
Tons: 0.02585
Facility County: Riverside

Count: 10 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MURRIETA	92275482	CLINTON KEITH CROSS OF INT 215	CLINTON KEITH CROSS OF INT 215	92562	ERNS
MURRIETA	S109433867	1 215 CLINTON KEITH RD IMPROVEMENT	INTERSECTION OF CLINTON KEITH	92562	NPDES
RIVERSIDE	S110733914	INTERSTATE 215 AT CLINTON KEITH RD	I 215	92562	NPDES
RIVERSIDE	S109460563	TENAJA ROAD	TENAJA RD	92562	NPDES
RIVERSIDE COUNTY	2011980472	46725 CLINTON ST	46725 CLINTON ST		ERNS
RIVERSIDE COUNTY	2011976179	MONTEREY ROAD AND COUNTRY CLUB AVE	MONTEREY ROAD AND COUNTRY CLUB		ERNS
TEMECULA	1012175457	RANCHO CALIFORNIA WATER DISTRICT W	31955 HIGHWAY 79	92562	RCRA-LQG
WILDOMAR	S111828356	CLINTON KEITH ROAD I15 INTERCHANGE	CLINTON KEITH RD	92595	NPDES
WILDOMAR	S109692087	CLINTON KEITH VILLAGE	NE GEORGE AVE	92595	NPDES
WILDOMAR	S109935038	PALOMAR ROAD BOOSTER	21422 S PALOMAR RD	92595	HAZNET

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.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

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: 05/08/2012	Source: EPA
Date Data Arrived at EDR: 05/10/2012	Telephone: N/A
Date Made Active in Reports: 05/15/2012	Last EDR Contact: 07/05/2012
Number of Days to Update: 5	Next Scheduled EDR Contact: 10/22/2012
	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 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/30/2012	Source: EPA
Date Data Arrived at EDR: 04/05/2012	Telephone: N/A
Date Made Active in Reports: 05/15/2012	Last EDR Contact: 07/05/2012
Number of Days to Update: 40	Next Scheduled EDR Contact: 10/22/2012
	Data Release Frequency: Quarterly

NPL LIENS: 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	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

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: 03/30/2012	Source: EPA
Date Data Arrived at EDR: 04/05/2012	Telephone: N/A
Date Made Active in Reports: 05/15/2012	Last EDR Contact: 07/05/2012
Number of Days to Update: 40	Next Scheduled EDR Contact: 10/22/2012
	Data Release Frequency: Quarterly

Federal CERCLIS list

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: 12/27/2011	Source: EPA
Date Data Arrived at EDR: 02/27/2012	Telephone: 703-412-9810
Date Made Active in Reports: 03/12/2012	Last EDR Contact: 07/05/2012
Number of Days to Update: 14	Next Scheduled EDR Contact: 09/10/2012
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/10/2010	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/11/2011	Telephone: 703-603-8704
Date Made Active in Reports: 02/16/2011	Last EDR Contact: 07/13/2012
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/22/2012
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

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: 12/28/2011	Source: EPA
Date Data Arrived at EDR: 02/27/2012	Telephone: 703-412-9810
Date Made Active in Reports: 03/12/2012	Last EDR Contact: 07/05/2012
Number of Days to Update: 14	Next Scheduled EDR Contact: 09/10/2012
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/19/2011
Date Data Arrived at EDR: 08/31/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 132

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

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. 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). Transporters are individuals or entities that move hazardous waste from the generator offsite 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: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

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. 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). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

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. 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). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

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. 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.

Date of Government Version: 03/15/2012
Date Data Arrived at EDR: 04/04/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal institutional controls / engineering controls registries

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: 12/30/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/30/2011	Telephone: 703-603-0695
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 06/11/2012
Number of Days to Update: 11	Next Scheduled EDR Contact: 09/24/2012
	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: 12/30/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/30/2011	Telephone: 703-603-0695
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 06/11/2012
Number of Days to Update: 11	Next Scheduled EDR Contact: 09/24/2012
	Data Release Frequency: Varies

Federal ERNS list

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: 04/02/2012	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 04/03/2012	Telephone: 202-267-2180
Date Made Active in Reports: 06/14/2012	Last EDR Contact: 07/02/2012
Number of Days to Update: 22	Next Scheduled EDR Contact: 10/15/2012
	Data Release Frequency: Annually

State- and tribal - equivalent NPL

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: 06/13/2012	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 06/14/2012	Telephone: 916-323-3400
Date Made Active in Reports: 07/06/2012	Last EDR Contact: 08/07/2012
Number of Days to Update: 22	Next Scheduled EDR Contact: 11/19/2012
	Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies 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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/13/2012
Date Data Arrived at EDR: 06/14/2012
Date Made Active in Reports: 07/06/2012
Number of Days to Update: 22

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/19/2012
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/21/2012
Date Data Arrived at EDR: 05/22/2012
Date Made Active in Reports: 06/21/2012
Number of Days to Update: 30

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/22/2012
Next Scheduled EDR Contact: 09/03/2012
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

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. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 06/14/2012
Date Data Arrived at EDR: 06/14/2012
Date Made Active in Reports: 06/21/2012
Number of Days to Update: 7

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Quarterly

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

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: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

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: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
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: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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	Source: California Regional Water Quality Control Board Santa Ana Region (8)
Date Data Arrived at EDR: 02/15/2005	Telephone: 909-782-4496
Date Made Active in Reports: 03/28/2005	Last EDR Contact: 08/15/2011
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: Varies

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004	Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Date Data Arrived at EDR: 02/26/2004	Telephone: 760-776-8943
Date Made Active in Reports: 03/24/2004	Last EDR Contact: 08/01/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 11/14/2011
	Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008	Source: California Regional Water Quality Control Board Central Valley Region (5)
Date Data Arrived at EDR: 07/22/2008	Telephone: 916-464-4834
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 07/01/2011
Number of Days to Update: 9	Next Scheduled EDR Contact: 10/17/2011
	Data Release Frequency: Quarterly

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	Source: California Regional Water Quality Control Board Los Angeles Region (4)
Date Data Arrived at EDR: 09/07/2004	Telephone: 213-576-6710
Date Made Active in Reports: 10/12/2004	Last EDR Contact: 09/06/2011
Number of Days to Update: 35	Next Scheduled EDR Contact: 12/19/2011
	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	Source: California Regional Water Quality Control Board Lahontan Region (6)
Date Data Arrived at EDR: 09/10/2003	Telephone: 530-542-5572
Date Made Active in Reports: 10/07/2003	Last EDR Contact: 09/12/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003	Source: California Regional Water Quality Control Board Central Coast Region (3)
Date Data Arrived at EDR: 05/19/2003	Telephone: 805-542-4786
Date Made Active in Reports: 06/02/2003	Last EDR Contact: 07/18/2011
Number of Days to Update: 14	Next Scheduled EDR Contact: 10/31/2011
	Data Release Frequency: No Update Planned

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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 06/14/2012
Date Data Arrived at EDR: 06/14/2012
Date Made Active in Reports: 06/21/2012
Number of Days to Update: 7

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

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: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

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: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

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: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

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: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

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: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

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: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

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: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/18/2011
Date Data Arrived at EDR: 08/19/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 25

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/26/2012
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: 02/07/2012
Date Data Arrived at EDR: 02/17/2012
Date Made Active in Reports: 05/15/2012
Number of Days to Update: 88

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
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: 09/12/2011
Date Data Arrived at EDR: 09/13/2011
Date Made Active in Reports: 11/11/2011
Number of Days to Update: 59

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

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: 04/12/2012
Date Data Arrived at EDR: 05/09/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 62

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/12/2012
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: 05/07/2012
Date Data Arrived at EDR: 05/08/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
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: 05/25/2012
Date Data Arrived at EDR: 05/25/2012
Date Made Active in Reports: 07/16/2012
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Quarterly

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 12/14/2011
Date Data Arrived at EDR: 12/15/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 26

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Semi-Annually

State and tribal registered storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 07/19/2012	Source: SWRCB
Date Data Arrived at EDR: 07/19/2012	Telephone: 916-341-5851
Date Made Active in Reports: 08/06/2012	Last EDR Contact: 07/19/2012
Number of Days to Update: 18	Next Scheduled EDR Contact: 10/01/2012
	Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

Registered Aboveground Storage Tanks.

Date of Government Version: 08/01/2009	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/10/2009	Telephone: 916-327-5092
Date Made Active in Reports: 10/01/2009	Last EDR Contact: 07/03/2012
Number of Days to Update: 21	Next Scheduled EDR Contact: 10/22/2012
	Data Release Frequency: Quarterly

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 12/14/2011	Source: EPA Region 4
Date Data Arrived at EDR: 12/15/2011	Telephone: 404-562-9424
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 07/26/2012
Number of Days to Update: 26	Next Scheduled EDR Contact: 11/12/2012
	Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/12/2012	Source: EPA, Region 1
Date Data Arrived at EDR: 05/02/2012	Telephone: 617-918-1313
Date Made Active in Reports: 07/16/2012	Last EDR Contact: 08/03/2012
Number of Days to Update: 75	Next Scheduled EDR Contact: 11/12/2012
	Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/07/2012	Source: EPA Region 10
Date Data Arrived at EDR: 05/08/2012	Telephone: 206-553-2857
Date Made Active in Reports: 07/16/2012	Last EDR Contact: 07/26/2012
Number of Days to Update: 69	Next Scheduled EDR Contact: 11/12/2012
	Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 02/07/2012	Source: EPA Region 7
Date Data Arrived at EDR: 02/17/2012	Telephone: 913-551-7003
Date Made Active in Reports: 05/15/2012	Last EDR Contact: 07/26/2012
Number of Days to Update: 88	Next Scheduled EDR Contact: 11/12/2012
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011	Source: EPA Region 6
Date Data Arrived at EDR: 05/11/2011	Telephone: 214-665-7591
Date Made Active in Reports: 06/14/2011	Last EDR Contact: 07/26/2012
Number of Days to Update: 34	Next Scheduled EDR Contact: 11/12/2012
	Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 02/28/2012	Source: EPA Region 5
Date Data Arrived at EDR: 02/29/2012	Telephone: 312-886-6136
Date Made Active in Reports: 05/15/2012	Last EDR Contact: 07/26/2012
Number of Days to Update: 76	Next Scheduled EDR Contact: 11/12/2012
	Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 11/28/2011	Source: EPA Region 9
Date Data Arrived at EDR: 11/29/2011	Telephone: 415-972-3368
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 07/26/2012
Number of Days to Update: 42	Next Scheduled EDR Contact: 11/12/2012
	Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 08/18/2011	Source: EPA Region 8
Date Data Arrived at EDR: 08/19/2011	Telephone: 303-312-6137
Date Made Active in Reports: 09/13/2011	Last EDR Contact: 07/26/2012
Number of Days to Update: 25	Next Scheduled EDR Contact: 11/12/2012
	Data Release Frequency: Quarterly

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010	Source: FEMA
Date Data Arrived at EDR: 02/16/2010	Telephone: 202-646-5797
Date Made Active in Reports: 04/12/2010	Last EDR Contact: 07/12/2012
Number of Days to Update: 55	Next Scheduled EDR Contact: 10/29/2012
	Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 02/17/2012	Source: EPA, Region 1
Date Data Arrived at EDR: 04/03/2012	Telephone: 617-918-1102
Date Made Active in Reports: 05/15/2012	Last EDR Contact: 07/02/2012
Number of Days to Update: 42	Next Scheduled EDR Contact: 10/15/2012
	Data Release Frequency: Varies

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: 06/13/2012	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 06/14/2012	Telephone: 916-323-3400
Date Made Active in Reports: 07/06/2012	Last EDR Contact: 08/07/2012
Number of Days to Update: 22	Next Scheduled EDR Contact: 11/19/2012
	Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/27/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/27/2011	Telephone: 202-566-2777
Date Made Active in Reports: 09/13/2011	Last EDR Contact: 06/25/2012
Number of Days to Update: 78	Next Scheduled EDR Contact: 10/08/2012
	Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009	Source: EPA, Region 9
Date Data Arrived at EDR: 05/07/2009	Telephone: 415-947-4219
Date Made Active in Reports: 09/21/2009	Last EDR Contact: 07/03/2012
Number of Days to Update: 137	Next Scheduled EDR Contact: 10/08/2012
	Data Release Frequency: No Update Planned

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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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	Source: State Water Resources Control Board
Date Data Arrived at EDR: 04/10/2000	Telephone: 916-227-4448
Date Made Active in Reports: 05/10/2000	Last EDR Contact: 08/07/2012
Number of Days to Update: 30	Next Scheduled EDR Contact: 11/26/2012
	Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 06/11/2012	Source: Department of Conservation
Date Data Arrived at EDR: 06/14/2012	Telephone: 916-323-3836
Date Made Active in Reports: 07/06/2012	Last EDR Contact: 06/14/2012
Number of Days to Update: 22	Next Scheduled EDR Contact: 10/01/2012
	Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 05/10/2012	Source: Integrated Waste Management Board
Date Data Arrived at EDR: 05/10/2012	Telephone: 916-341-6422
Date Made Active in Reports: 05/25/2012	Last EDR Contact: 06/27/2012
Number of Days to Update: 15	Next Scheduled EDR Contact: 09/03/2012
	Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 08/03/2012
Number of Days to Update: 52	Next Scheduled EDR Contact: 11/19/2012
	Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/16/2012	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 06/12/2012	Telephone: 202-307-1000
Date Made Active in Reports: 07/16/2012	Last EDR Contact: 06/04/2012
Number of Days to Update: 34	Next Scheduled EDR Contact: 09/17/2012
	Data Release Frequency: Quarterly

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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
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: 06/13/2012
Date Data Arrived at EDR: 06/14/2012
Date Made Active in Reports: 07/06/2012
Number of Days to Update: 22

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/19/2012
Data Release Frequency: Quarterly

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: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

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: 12/31/2011
Date Data Arrived at EDR: 02/14/2012
Date Made Active in Reports: 02/21/2012
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 08/06/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009	Source: Department of Public Health
Date Data Arrived at EDR: 09/23/2009	Telephone: 707-463-4466
Date Made Active in Reports: 10/01/2009	Last EDR Contact: 06/04/2012
Number of Days to Update: 8	Next Scheduled EDR Contact: 09/17/2012
	Data Release Frequency: 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	Source: State Water Resources Control Board
Date Data Arrived at EDR: 01/25/1991	Telephone: 916-341-5851
Date Made Active in Reports: 02/12/1991	Last EDR Contact: 07/26/2001
Number of Days to Update: 18	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

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 1990'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	Source: State Water Resources Control Board
Date Data Arrived at EDR: 07/07/2005	Telephone: N/A
Date Made Active in Reports: 08/11/2005	Last EDR Contact: 06/03/2005
Number of Days to Update: 35	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/16/2012	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/26/2012	Telephone: 202-564-6023
Date Made Active in Reports: 06/14/2012	Last EDR Contact: 07/27/2012
Number of Days to Update: 80	Next Scheduled EDR Contact: 11/12/2012
	Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005	Source: Department of the Navy
Date Data Arrived at EDR: 12/11/2006	Telephone: 843-820-7326
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 05/21/2012
Number of Days to Update: 31	Next Scheduled EDR Contact: 09/03/2012
	Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 03/12/2012	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 03/13/2012	Telephone: 916-323-3400
Date Made Active in Reports: 04/02/2012	Last EDR Contact: 06/25/2012
Number of Days to Update: 20	Next Scheduled EDR Contact: 09/24/2012
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 06/11/2012	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 06/12/2012	Telephone: 916-323-3400
Date Made Active in Reports: 07/06/2012	Last EDR Contact: 06/12/2012
Number of Days to Update: 24	Next Scheduled EDR Contact: 09/24/2012
	Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 04/01/2012	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 04/03/2012	Telephone: 202-366-4555
Date Made Active in Reports: 06/14/2012	Last EDR Contact: 07/02/2012
Number of Days to Update: 72	Next Scheduled EDR Contact: 10/15/2012
	Data Release Frequency: Annually

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: 03/28/2012	Source: Office of Emergency Services
Date Data Arrived at EDR: 05/01/2012	Telephone: 916-845-8400
Date Made Active in Reports: 05/25/2012	Last EDR Contact: 08/03/2012
Number of Days to Update: 24	Next Scheduled EDR Contact: 11/12/2012
	Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 06/14/2012	Source: State Water Quality Control Board
Date Data Arrived at EDR: 06/14/2012	Telephone: 866-480-1028
Date Made Active in Reports: 07/06/2012	Last EDR Contact: 07/19/2012
Number of Days to Update: 22	Next Scheduled EDR Contact: 10/01/2012
	Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 06/14/2012	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/14/2012	Telephone: 866-480-1028
Date Made Active in Reports: 07/06/2012	Last EDR Contact: 07/19/2012
Number of Days to Update: 22	Next Scheduled EDR Contact: 10/01/2012
	Data Release Frequency: Quarterly

Other Ascertainable Records

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-NonGen: RCRA - Non Generators

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. 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). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/15/2012	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/04/2012	Telephone: (415) 495-8895
Date Made Active in Reports: 05/15/2012	Last EDR Contact: 07/02/2012
Number of Days to Update: 41	Next Scheduled EDR Contact: 10/15/2012
	Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/29/2011	Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 08/09/2011	Telephone: 202-366-4595
Date Made Active in Reports: 11/11/2011	Last EDR Contact: 08/07/2012
Number of Days to Update: 94	Next Scheduled EDR Contact: 11/19/2012
	Data Release Frequency: Varies

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: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 07/19/2012
Number of Days to Update: 62	Next Scheduled EDR Contact: 10/29/2012
	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: 12/31/2009	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 08/12/2010	Telephone: 202-528-4285
Date Made Active in Reports: 12/02/2010	Last EDR Contact: 06/11/2012
Number of Days to Update: 112	Next Scheduled EDR Contact: 09/24/2012
	Data Release Frequency: Varies

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: 12/01/2011	Source: Department of Justice, Consent Decree Library
Date Data Arrived at EDR: 01/25/2012	Telephone: Varies
Date Made Active in Reports: 03/01/2012	Last EDR Contact: 06/27/2012
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/15/2012
	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: 02/27/2012	Source: EPA
Date Data Arrived at EDR: 03/14/2012	Telephone: 703-416-0223
Date Made Active in Reports: 06/14/2012	Last EDR Contact: 06/13/2012
Number of Days to Update: 92	Next Scheduled EDR Contact: 09/24/2012
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 09/14/2010	Source: Department of Energy
Date Data Arrived at EDR: 10/07/2011	Telephone: 505-845-0011
Date Made Active in Reports: 03/01/2012	Last EDR Contact: 05/29/2012
Number of Days to Update: 146	Next Scheduled EDR Contact: 09/10/2012
	Data Release Frequency: Varies

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: 08/18/2011	Source: Department of Labor, Mine Safety and Health Administration
Date Data Arrived at EDR: 09/08/2011	Telephone: 303-231-5959
Date Made Active in Reports: 09/29/2011	Last EDR Contact: 06/05/2012
Number of Days to Update: 21	Next Scheduled EDR Contact: 09/17/2012
	Data Release Frequency: Semi-Annually

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: 12/31/2009	Source: EPA
Date Data Arrived at EDR: 09/01/2011	Telephone: 202-566-0250
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 05/29/2012
Number of Days to Update: 131	Next Scheduled EDR Contact: 09/10/2012
	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: 12/31/2006	Source: EPA
Date Data Arrived at EDR: 09/29/2010	Telephone: 202-260-5521
Date Made Active in Reports: 12/02/2010	Last EDR Contact: 06/29/2012
Number of Days to Update: 64	Next Scheduled EDR Contact: 10/08/2012
	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: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 05/23/2012
Number of Days to Update: 25	Next Scheduled EDR Contact: 09/10/2012
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 05/23/2012
Number of Days to Update: 25	Next Scheduled EDR Contact: 09/10/2012
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

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: 12/31/2009	Source: EPA
Date Data Arrived at EDR: 12/10/2010	Telephone: 202-564-4203
Date Made Active in Reports: 02/25/2011	Last EDR Contact: 07/27/2012
Number of Days to Update: 77	Next Scheduled EDR Contact: 11/12/2012
	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: 07/20/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/10/2011	Telephone: 202-564-5088
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 06/21/2012
Number of Days to Update: 61	Next Scheduled EDR Contact: 10/08/2012
	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: 11/01/2010	Source: EPA
Date Data Arrived at EDR: 11/10/2010	Telephone: 202-566-0500
Date Made Active in Reports: 02/16/2011	Last EDR Contact: 07/19/2012
Number of Days to Update: 98	Next Scheduled EDR Contact: 10/29/2012
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 06/21/2011	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 07/15/2011	Telephone: 301-415-7169
Date Made Active in Reports: 09/13/2011	Last EDR Contact: 06/11/2012
Number of Days to Update: 60	Next Scheduled EDR Contact: 09/24/2012
	Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/10/2012	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/12/2012	Telephone: 202-343-9775
Date Made Active in Reports: 03/01/2012	Last EDR Contact: 07/11/2012
Number of Days to Update: 49	Next Scheduled EDR Contact: 10/22/2012
	Data Release Frequency: Quarterly

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: 10/23/2011	Source: EPA
Date Data Arrived at EDR: 12/13/2011	Telephone: (415) 947-8000
Date Made Active in Reports: 03/01/2012	Last EDR Contact: 06/12/2012
Number of Days to Update: 79	Next Scheduled EDR Contact: 09/24/2012
	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	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	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: 12/31/2009	Source: EPA/NTIS
Date Data Arrived at EDR: 03/01/2011	Telephone: 800-424-9346
Date Made Active in Reports: 05/02/2011	Last EDR Contact: 06/01/2012
Number of Days to Update: 62	Next Scheduled EDR Contact: 09/10/2012
	Data Release Frequency: Biennially

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/21/2012
Date Data Arrived at EDR: 05/22/2012
Date Made Active in Reports: 06/21/2012
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/22/2012
Next Scheduled EDR Contact: 09/03/2012
Data Release Frequency: Quarterly

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/23/2012
Next Scheduled EDR Contact: 09/10/2012
Data Release Frequency: Quarterly

UIC: UIC Listing

A listing of underground control injection wells.

Date of Government Version: 12/09/2011
Date Data Arrived at EDR: 02/29/2012
Date Made Active in Reports: 04/04/2012
Number of Days to Update: 35

Source: Department of Conservation
Telephone: 916-445-2408
Last EDR Contact: 07/24/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Varies

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).

Date of Government Version: 04/02/2012
Date Data Arrived at EDR: 04/03/2012
Date Made Active in Reports: 06/11/2012
Number of Days to Update: 69

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 07/02/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site 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 [CALSTITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 06/21/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: No Update Planned

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: 01/19/2012
Date Data Arrived at EDR: 01/19/2012
Date Made Active in Reports: 02/21/2012
Number of Days to Update: 33

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 06/27/2012
Next Scheduled EDR Contact: 09/24/2012
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: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/27/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 08/15/2011
Date Data Arrived at EDR: 08/23/2011
Date Made Active in Reports: 10/03/2011
Number of Days to Update: 41

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

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: 12/31/2011
Date Data Arrived at EDR: 06/22/2012
Date Made Active in Reports: 07/06/2012
Number of Days to Update: 14

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/16/2012
Next Scheduled EDR Contact: 10/29/2012
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: 12/31/2008
Date Data Arrived at EDR: 09/29/2010
Date Made Active in Reports: 10/18/2010
Number of Days to Update: 19

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/29/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Varies

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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Varies

FINANCIAL ASSURANCE 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/23/2012
Date Data Arrived at EDR: 05/24/2012
Date Made Active in Reports: 07/06/2012
Number of Days to Update: 43

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/21/2012
Next Scheduled EDR Contact: 09/03/2012
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/19/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: N/A

FINANCIAL ASSURANCE 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 03/01/2007
Date Data Arrived at EDR: 06/01/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 28

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/03/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 06/01/2012	Source: Department of Public Health
Date Data Arrived at EDR: 06/12/2012	Telephone: 916-558-1784
Date Made Active in Reports: 07/06/2012	Last EDR Contact: 06/11/2012
Number of Days to Update: 24	Next Scheduled EDR Contact: 09/24/2012
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/03/2011	Telephone: N/A
Date Made Active in Reports: 03/21/2011	Last EDR Contact: 06/12/2012
Number of Days to Update: 77	Next Scheduled EDR Contact: 09/24/2012
	Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 05/24/2012	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/05/2012	Telephone: 202-566-1917
Date Made Active in Reports: 06/14/2012	Last EDR Contact: 05/21/2012
Number of Days to Update: 9	Next Scheduled EDR Contact: 09/03/2012
	Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 03/31/2012	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/17/2012	Telephone: 617-520-3000
Date Made Active in Reports: 06/14/2012	Last EDR Contact: 08/07/2012
Number of Days to Update: 28	Next Scheduled EDR Contact: 11/26/2012
	Data Release Frequency: Quarterly

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 02/27/2012	Source: EPA
Date Data Arrived at EDR: 04/04/2012	Telephone: 202-564-6023
Date Made Active in Reports: 05/15/2012	Last EDR Contact: 07/02/2012
Number of Days to Update: 41	Next Scheduled EDR Contact: 10/15/2012
	Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/11/2011
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/18/2012
Next Scheduled EDR Contact: 08/27/2012
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/16/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Varies

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/31/2012
Date Data Arrived at EDR: 06/01/2012
Date Made Active in Reports: 07/31/2012
Number of Days to Update: 60

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: 09/10/2012
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/11/2012
Date Data Arrived at EDR: 04/12/2012
Date Made Active in Reports: 05/08/2012
Number of Days to Update: 26

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/17/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 06/11/2012
Date Data Arrived at EDR: 06/14/2012
Date Made Active in Reports: 07/06/2012
Number of Days to Update: 22

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/14/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Quarterly

EDR PROPRIETARY RECORDS

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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR Historical Auto Stations: EDR Proprietary Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR Historical Cleaners: EDR Proprietary Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

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: 04/03/2012	Source: Alameda County Environmental Health Services
Date Data Arrived at EDR: 04/04/2012	Telephone: 510-567-6700
Date Made Active in Reports: 05/08/2012	Last EDR Contact: 06/27/2012
Number of Days to Update: 34	Next Scheduled EDR Contact: 10/15/2012
	Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 04/03/2012	Source: Alameda County Environmental Health Services
Date Data Arrived at EDR: 04/04/2012	Telephone: 510-567-6700
Date Made Active in Reports: 05/08/2012	Last EDR Contact: 06/27/2012
Number of Days to Update: 34	Next Scheduled EDR Contact: 10/15/2012
	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: 06/13/2012	Source: Contra Costa Health Services Department
Date Data Arrived at EDR: 06/14/2012	Telephone: 925-646-2286
Date Made Active in Reports: 07/06/2012	Last EDR Contact: 08/06/2012
Number of Days to Update: 22	Next Scheduled EDR Contact: 11/19/2012
	Data Release Frequency: Semi-Annually

KERN COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.

Date of Government Version: 08/31/2010
Date Data Arrived at EDR: 09/01/2010
Date Made Active in Reports: 09/30/2010
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 06/15/2012
Next Scheduled EDR Contact: 08/27/2012
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: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 06/21/2012
Next Scheduled EDR Contact: 10/09/2012
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/29/2012
Date Data Arrived at EDR: 05/29/2012
Date Made Active in Reports: 06/21/2012
Number of Days to Update: 23

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 07/16/2012
Next Scheduled EDR Contact: 10/26/2012
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/23/2012
Date Data Arrived at EDR: 04/24/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 31

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 05/21/2012
Next Scheduled EDR Contact: 09/03/2012
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 12/29/2011
Date Data Arrived at EDR: 02/02/2012
Date Made Active in Reports: 02/21/2012
Number of Days to Update: 19

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/17/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/26/2012
Date Data Arrived at EDR: 05/01/2012
Date Made Active in Reports: 05/24/2012
Number of Days to Update: 23

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 07/17/2012
Next Scheduled EDR Contact: 11/05/2012
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

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: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 07/12/2012
Date Data Arrived at EDR: 07/23/2012
Date Made Active in Reports: 08/02/2012
Number of Days to Update: 10

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 07/12/2012
Next Scheduled EDR Contact: 10/29/2012
Data Release Frequency: Semi-Annually

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 05/22/2012
Date Data Arrived at EDR: 05/29/2012
Date Made Active in Reports: 07/06/2012
Number of Days to Update: 38

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 07/23/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 06/04/2012
Next Scheduled EDR Contact: 09/17/2012
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 12/05/2012
Next Scheduled EDR Contact: 09/17/2012
Data Release Frequency: No Update Planned

ORANGE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 05/01/2012
Date Data Arrived at EDR: 05/17/2012
Date Made Active in Reports: 06/11/2012
Number of Days to Update: 25

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/01/2012
Date Data Arrived at EDR: 05/18/2012
Date Made Active in Reports: 06/21/2012
Number of Days to Update: 34

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 05/01/2012
Date Data Arrived at EDR: 05/17/2012
Date Made Active in Reports: 05/24/2012
Number of Days to Update: 7

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/12/2012
Date Data Arrived at EDR: 06/13/2012
Date Made Active in Reports: 07/06/2012
Number of Days to Update: 23

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 06/11/2012
Next Scheduled EDR Contact: 09/24/2012
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: 04/23/2012
Date Data Arrived at EDR: 04/24/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 31

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/25/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 07/18/2012
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/06/2012
Number of Days to Update: 18

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/25/2012
Next Scheduled EDR Contact: 10/08/2012
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/07/2012
Date Data Arrived at EDR: 04/16/2012
Date Made Active in Reports: 05/08/2012
Number of Days to Update: 22

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/02/2012
Date Data Arrived at EDR: 04/17/2012
Date Made Active in Reports: 05/08/2012
Number of Days to Update: 21

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/13/2012
Next Scheduled EDR Contact: 10/22/2012
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: 05/30/2012
Date Data Arrived at EDR: 05/31/2012
Date Made Active in Reports: 07/06/2012
Number of Days to Update: 36

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/13/2012
Next Scheduled EDR Contact: 11/26/2012
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: 09/09/2010
Date Data Arrived at EDR: 09/15/2010
Date Made Active in Reports: 09/29/2010
Number of Days to Update: 14

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/15/2012
Next Scheduled EDR Contact: 09/24/2012
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2011
Date Data Arrived at EDR: 11/04/2011
Date Made Active in Reports: 12/13/2011
Number of Days to Update: 39

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/26/2012
Next Scheduled EDR Contact: 11/12/2012
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010	Source: San Diego County Department of Environmental Health
Date Data Arrived at EDR: 06/15/2010	Telephone: 619-338-2371
Date Made Active in Reports: 07/09/2010	Last EDR Contact: 06/11/2012
Number of Days to Update: 24	Next Scheduled EDR Contact: 09/24/2012
	Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversight Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008	Source: Department Of Public Health San Francisco County
Date Data Arrived at EDR: 09/19/2008	Telephone: 415-252-3920
Date Made Active in Reports: 09/29/2008	Last EDR Contact: 08/07/2012
Number of Days to Update: 10	Next Scheduled EDR Contact: 11/26/2012
	Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010	Source: Department of Public Health
Date Data Arrived at EDR: 03/10/2011	Telephone: 415-252-3920
Date Made Active in Reports: 03/15/2011	Last EDR Contact: 08/07/2012
Number of Days to Update: 5	Next Scheduled EDR Contact: 11/26/2012
	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: 06/25/2012	Source: Environmental Health Department
Date Data Arrived at EDR: 06/27/2012	Telephone: N/A
Date Made Active in Reports: 07/31/2012	Last EDR Contact: 06/21/2012
Number of Days to Update: 34	Next Scheduled EDR Contact: 10/08/2012
	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: 04/09/2012	Source: San Mateo County Environmental Health Services Division
Date Data Arrived at EDR: 04/09/2012	Telephone: 650-363-1921
Date Made Active in Reports: 05/08/2012	Last EDR Contact: 06/17/2012
Number of Days to Update: 29	Next Scheduled EDR Contact: 10/01/2012
	Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/19/2012	Source: San Mateo County Environmental Health Services Division
Date Data Arrived at EDR: 06/20/2012	Telephone: 650-363-1921
Date Made Active in Reports: 07/06/2012	Last EDR Contact: 06/18/2012
Number of Days to Update: 16	Next Scheduled EDR Contact: 10/01/2012
	Data Release Frequency: Semi-Annually

SANTA CLARA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 06/04/2012
Date Data Arrived at EDR: 06/08/2012
Date Made Active in Reports: 07/06/2012
Number of Days to Update: 28

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 06/04/2012
Next Scheduled EDR Contact: 09/17/2012
Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 05/15/2012
Date Data Arrived at EDR: 05/15/2012
Date Made Active in Reports: 05/25/2012
Number of Days to Update: 10

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/07/2012
Next Scheduled EDR Contact: 11/26/2012
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/18/2012
Date Data Arrived at EDR: 06/21/2012
Date Made Active in Reports: 07/06/2012
Number of Days to Update: 15

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/15/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 06/18/2012
Date Data Arrived at EDR: 06/22/2012
Date Made Active in Reports: 07/06/2012
Number of Days to Update: 14

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/15/2012
Next Scheduled EDR Contact: 10/01/2012
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 03/31/2012
Date Data Arrived at EDR: 06/29/2012
Date Made Active in Reports: 08/09/2012
Number of Days to Update: 41

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/27/2012
Next Scheduled EDR Contact: 10/15/2012
Data Release Frequency: Quarterly

SUTTER COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 06/11/2012	Source: Sutter County Department of Agriculture
Date Data Arrived at EDR: 06/12/2012	Telephone: 530-822-7500
Date Made Active in Reports: 07/06/2012	Last EDR Contact: 06/11/2012
Number of Days to Update: 24	Next Scheduled EDR Contact: 09/24/2012
	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: 03/30/2012	Source: Ventura County Environmental Health Division
Date Data Arrived at EDR: 05/25/2012	Telephone: 805-654-2813
Date Made Active in Reports: 07/06/2012	Last EDR Contact: 05/21/2012
Number of Days to Update: 42	Next Scheduled EDR Contact: 09/03/2012
	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: 12/01/2011	Source: Environmental Health Division
Date Data Arrived at EDR: 12/01/2011	Telephone: 805-654-2813
Date Made Active in Reports: 01/19/2012	Last EDR Contact: 07/03/2012
Number of Days to Update: 49	Next Scheduled EDR Contact: 10/22/2012
	Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008	Source: Environmental Health Division
Date Data Arrived at EDR: 06/24/2008	Telephone: 805-654-2813
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 05/21/2012
Number of Days to Update: 37	Next Scheduled EDR Contact: 09/03/2012
	Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/30/2012	Source: Ventura County Resource Management Agency
Date Data Arrived at EDR: 05/04/2012	Telephone: 805-654-2813
Date Made Active in Reports: 05/25/2012	Last EDR Contact: 07/30/2012
Number of Days to Update: 21	Next Scheduled EDR Contact: 11/12/2012
	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: 06/27/2012	Source: Environmental Health Division
Date Data Arrived at EDR: 06/29/2012	Telephone: 805-654-2813
Date Made Active in Reports: 07/31/2012	Last EDR Contact: 06/27/2012
Number of Days to Update: 32	Next Scheduled EDR Contact: 10/01/2012
	Data Release Frequency: Quarterly

YOLO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 06/29/2012	Source: Yolo County Department of Health
Date Data Arrived at EDR: 07/09/2012	Telephone: 530-666-8646
Date Made Active in Reports: 08/02/2012	Last EDR Contact: 06/21/2012
Number of Days to Update: 24	Next Scheduled EDR Contact: 10/08/2012
	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: 05/21/2012	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 05/22/2012	Telephone: 860-424-3375
Date Made Active in Reports: 05/31/2012	Last EDR Contact: 05/22/2012
Number of Days to Update: 9	Next Scheduled EDR Contact: 09/03/2012
	Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2010	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/20/2011	Telephone: N/A
Date Made Active in Reports: 08/11/2011	Last EDR Contact: 07/19/2012
Number of Days to Update: 22	Next Scheduled EDR Contact: 10/29/2012
	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: 05/01/2012	Source: Department of Environmental Conservation
Date Data Arrived at EDR: 05/09/2012	Telephone: 518-402-8651
Date Made Active in Reports: 06/14/2012	Last EDR Contact: 08/09/2012
Number of Days to Update: 36	Next Scheduled EDR Contact: 11/19/2012
	Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2010	Source: Department of Environmental Protection
Date Data Arrived at EDR: 04/27/2012	Telephone: 717-783-8990
Date Made Active in Reports: 06/05/2012	Last EDR Contact: 07/19/2012
Number of Days to Update: 39	Next Scheduled EDR Contact: 11/05/2012
	Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2011	Source: Department of Environmental Management
Date Data Arrived at EDR: 06/22/2012	Telephone: 401-222-2797
Date Made Active in Reports: 07/31/2012	Last EDR Contact: 02/27/2012
Number of Days to Update: 39	Next Scheduled EDR Contact: 06/11/2012
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2010

Date Data Arrived at EDR: 08/19/2011

Date Made Active in Reports: 09/15/2011

Number of Days to Update: 27

Source: Department of Natural Resources

Telephone: N/A

Last EDR Contact: 07/16/2012

Next Scheduled EDR Contact: 10/01/2012

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: Rextag Strategies Corp.

Telephone: (281) 769-2247

U.S. Electric Transmission and Power Plants Systems Digital GIS Data

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 2003 & 2011 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.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

24501 CLINTON KEITH ROAD
24501 CLINTON KEITH ROAD
WILDOMAR, CA 92595

TARGET PROPERTY COORDINATES

Latitude (North):	33.5943 - 33° 35' 39.48"
Longitude (West):	117.2304 - 117° 13' 49.44"
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	478621.9
UTM Y (Meters):	3717005.0
Elevation:	1363 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	33117-E2 MURRIETA, CA
Most Recent Revision:	1979

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 principal 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).

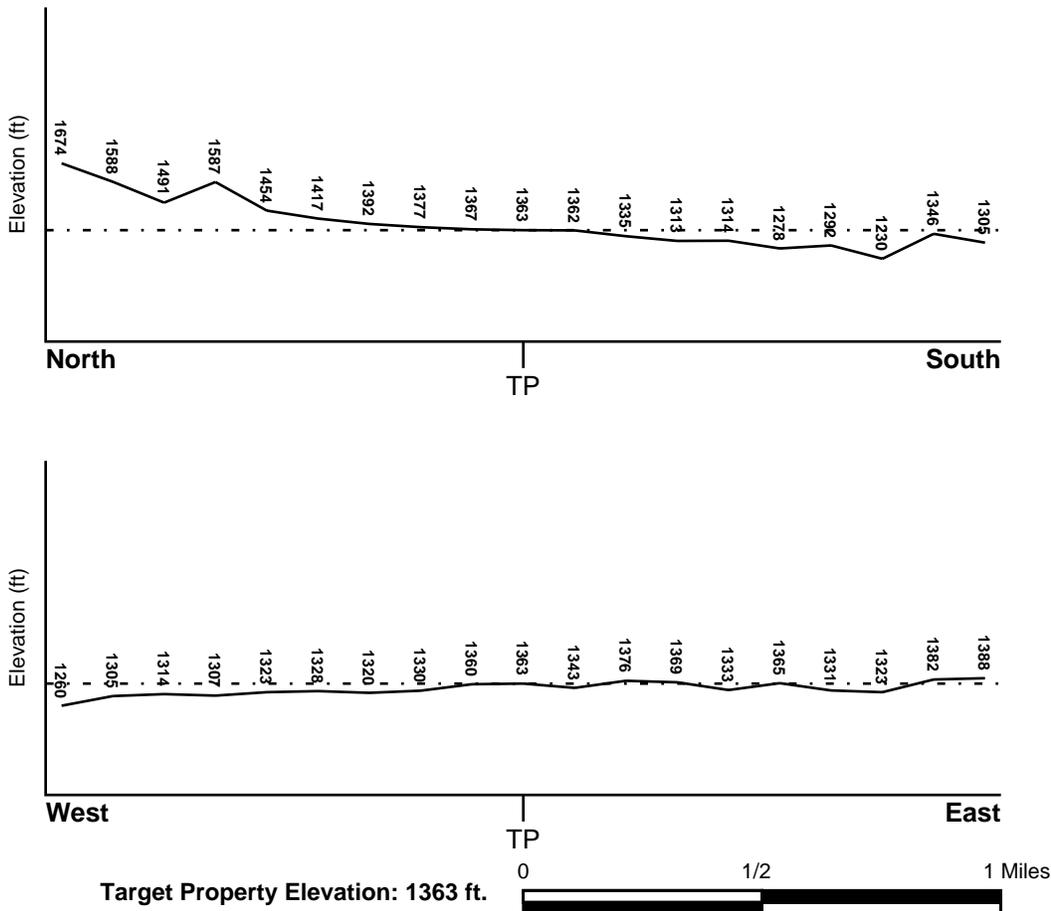
TOPOGRAPHIC INFORMATION

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 SW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



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
RIVERSIDE, CA

FEMA Flood Electronic Data
YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06065C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property
MURRIETA

NWI Electronic Data Coverage
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.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

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

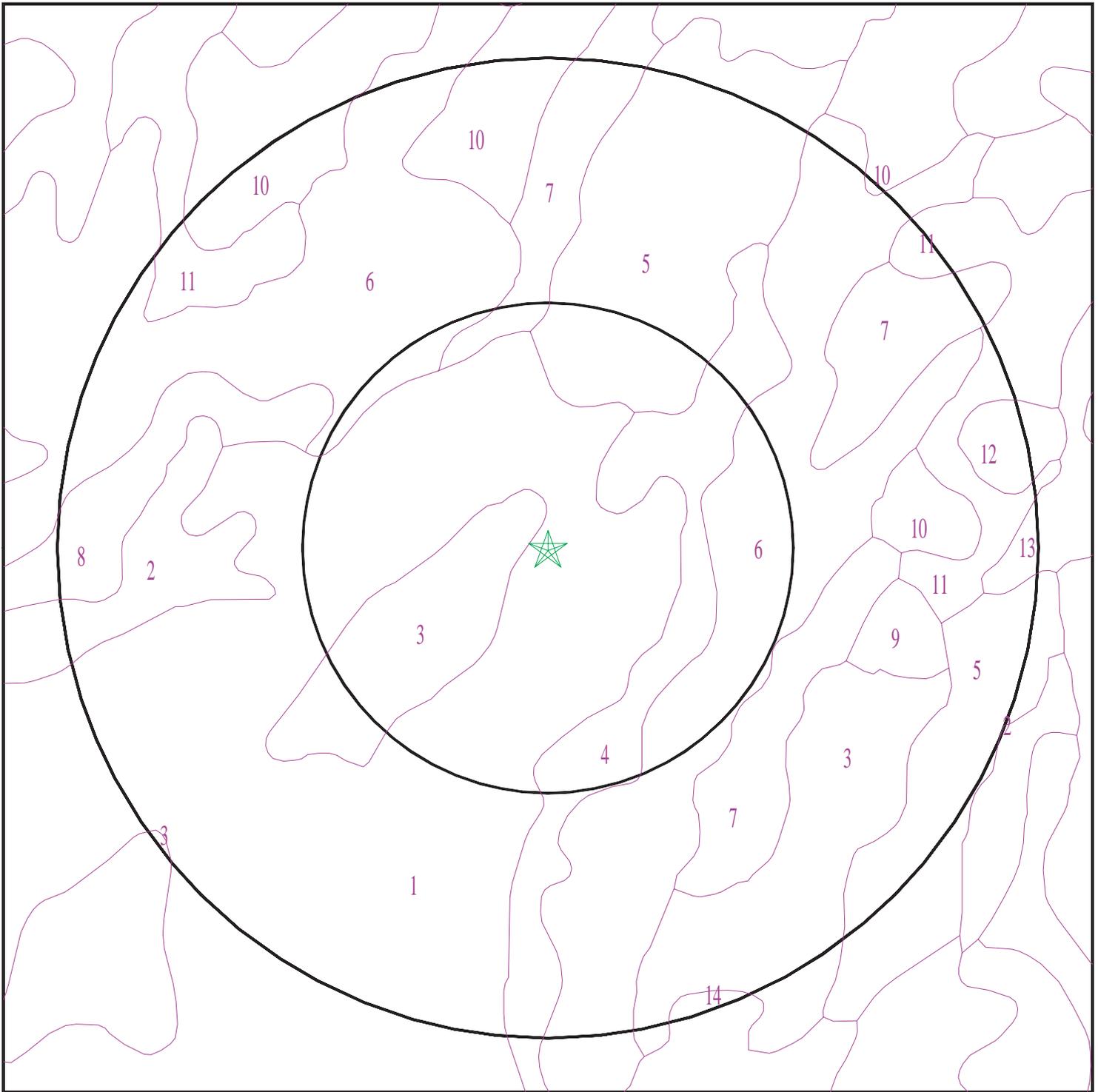
Era: Cenozoic
System: Quaternary
Series: Quaternary
Code: Q (*decoded above as Era, System & Series*)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

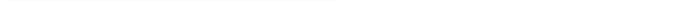
Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 03386164.2r



- ★ Target Property
- ∩ SSURGO Soil
- ∩ Water

0 1/16 1/8 1/4 Miles



SITE NAME: 24501 Clinton Keith Road
ADDRESS: 24501 Clinton Keith Road
Wildomar CA 92595
LAT/LONG: 33.5943 / 117.2304

CLIENT: Hillmann Environmental Co.
CONTACT: Kristi Hill
INQUIRY #: 03386164.2r
DATE: August 13, 2012 7:06 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: RAMONA

Soil Surface Texture: 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

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	9 inches	22 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	22 inches	68 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
4	68 inches	74 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 2

Soil Component Name: RAMONA

Soil Surface Texture: 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

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	7 inches	16 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	16 inches	68 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
4	68 inches	74 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 3

Soil Component Name: ARLINGTON

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
2	11 inches	24 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
3	24 inches	35 inches	cemented	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
4	35 inches	46 inches	coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6

Soil Map ID: 4

Soil Component Name: RAMONA

Soil Surface Texture: 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

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	7 inches	16 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	16 inches	68 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
4	68 inches	74 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 5

Soil Component Name: MONSERATE

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
2	9 inches	27 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
3	27 inches	44 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
4	44 inches	57 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
5	57 inches	70 inches	loamy coarse sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

Soil Map ID: 6

Soil Component Name: MONSERATE

Soil Surface Texture: sandy loam

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

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
2	9 inches	18 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
3	18 inches	44 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
4	44 inches	57 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
5	57 inches	70 inches	loamy coarse sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

Soil Map ID: 7

Soil Component Name: MONSERATE

Soil Surface Texture: sandy loam

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

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
2	9 inches	18 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
3	18 inches	44 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
4	44 inches	57 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
5	57 inches	70 inches	loamy coarse sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

Soil Map ID: 8

Soil Component Name: HANFORD

Soil Surface Texture: 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

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6
2	7 inches	40 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: 141 Min: 42	Max: 7.8 Min: 5.6
3	40 inches	59 inches	stratified loamy sand to coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6

Soil Map ID: 9

Soil Component Name: ARLINGTON

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	fine sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
2	11 inches	24 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
3	24 inches	35 inches	cemented	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6
4	35 inches	46 inches	coarse sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6

Soil Map ID: 10

Soil Component Name: MONSERATE

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
2	9 inches	27 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
3	27 inches	44 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
4	44 inches	57 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
5	57 inches	70 inches	loamy coarse sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

Soil Map ID: 11

Soil Component Name: PLACENTIA

Soil Surface Texture: fine sandy loam

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: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
2	18 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
3	38 inches	57 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
4	57 inches	59 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

Soil Map ID: 12

Soil Component Name: CIENEBA

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	14 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	Not reported	Max: 0.42 Min: 0	Max: Min:
2	14 inches	22 inches	weathered bedrock	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	Not reported	Max: 0.42 Min: 0	Max: Min:

Soil Map ID: 13

Soil Component Name: PLACENTIA

Soil Surface Texture: fine sandy loam

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: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	18 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	18 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
3	38 inches	57 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
4	57 inches	59 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

Soil Map ID: 14

Soil Component Name: SAN TIMOTEO

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	9 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 4 Min: 1.4	Max: Min:
2	9 inches	22 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 4 Min: 1.4	Max: Min:
3	22 inches	27 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 4 Min: 1.4	Max: Min:

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

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
A1	USGS3125724	1/8 - 1/4 Mile NNW
4	USGS3125710	1/4 - 1/2 Mile ESE
C5	USGS3125750	1/4 - 1/2 Mile NNW
B6	USGS3125737	1/4 - 1/2 Mile NE
C8	USGS3125761	1/4 - 1/2 Mile NNW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
9	USGS3125686	1/4 - 1/2 Mile SE
C10	USGS3125762	1/4 - 1/2 Mile NNW
D12	USGS3125712	1/4 - 1/2 Mile West
E13	USGS3125881	1/4 - 1/2 Mile South
F16	USGS3125728	1/4 - 1/2 Mile WNW
G19	USGS3125879	1/2 - 1 Mile SE
H24	USGS3125592	1/2 - 1 Mile NNE
H25	USGS3125591	1/2 - 1 Mile NNE
I27	USGS3125782	1/2 - 1 Mile NE
J28	USGS3125775	1/2 - 1 Mile NE
I29	USGS3125582	1/2 - 1 Mile NE
K30	USGS3125689	1/2 - 1 Mile WSW
31	USGS3125767	1/2 - 1 Mile NE
N34	USGS3125751	1/2 - 1 Mile WNW
M38	USGS3125600	1/2 - 1 Mile NE
L39	USGS3125741	1/2 - 1 Mile ENE
P41	USGS3125717	1/2 - 1 Mile West
P42	USGS3125718	1/2 - 1 Mile West
O43	USGS3125682	1/2 - 1 Mile ESE
44	USGS3125683	1/2 - 1 Mile WSW
O45	USGS3125684	1/2 - 1 Mile ESE
48	USGS3125705	1/2 - 1 Mile West
49	USGS3125731	1/2 - 1 Mile ENE
Q50	USGS3125614	1/2 - 1 Mile NE
R52	USGS3125656	1/2 - 1 Mile NNE
Q53	USGS3125608	1/2 - 1 Mile NE
R55	USGS3125663	1/2 - 1 Mile NNE
56	USGS3125704	1/2 - 1 Mile West
57	USGS3125862	1/2 - 1 Mile SE
58	USGS3125875	1/2 - 1 Mile WSW

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

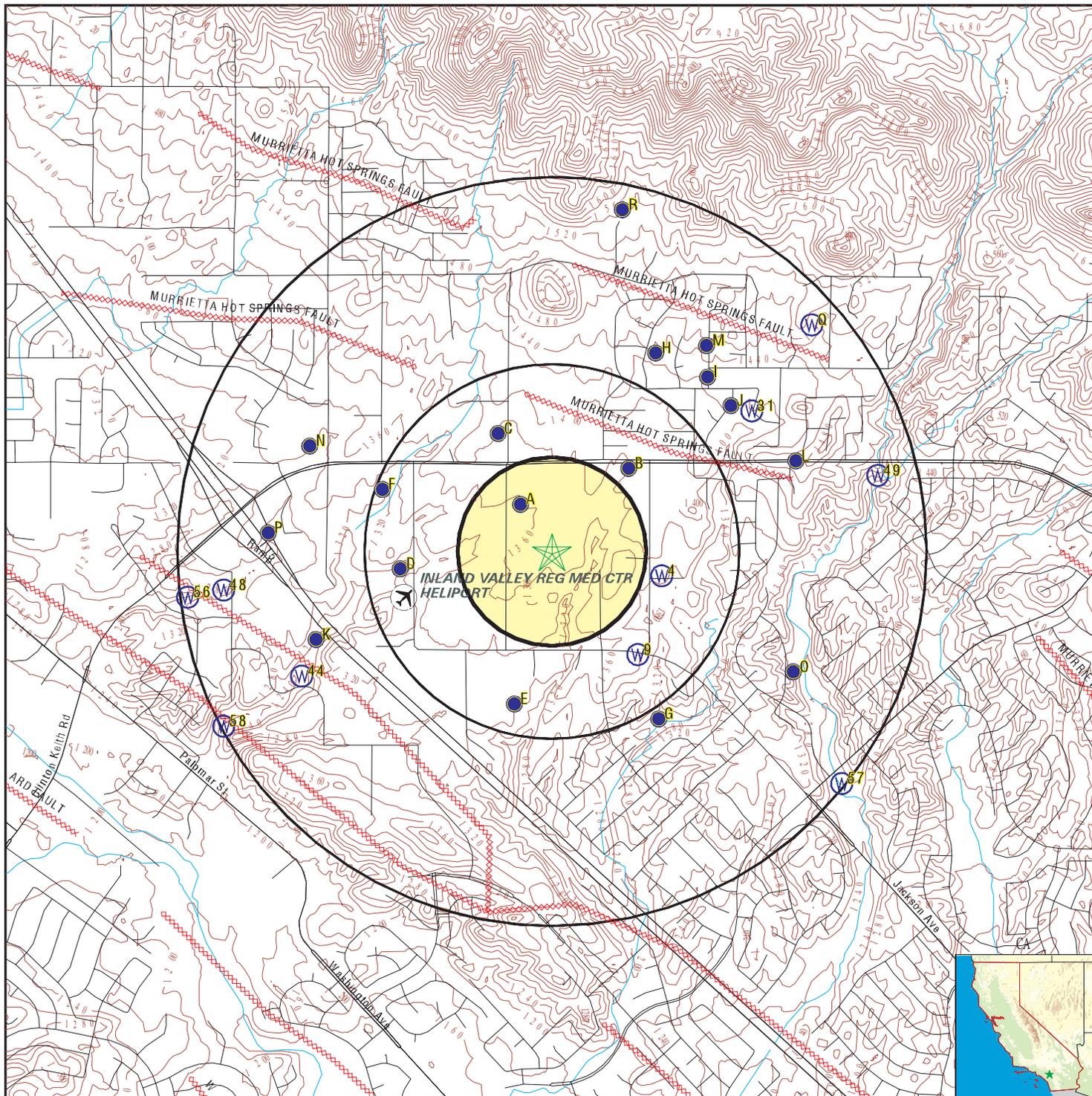
MAP ID	WELL ID	LOCATION FROM TP
A2	CADW40000004509	1/8 - 1/4 Mile NW
B3	CADW40000004515	1/4 - 1/2 Mile NE
C7	CADW40000004526	1/4 - 1/2 Mile NNW
C11	CADW40000004534	1/4 - 1/2 Mile NNW
E14	CADW40000004439	1/4 - 1/2 Mile SSW
D15	CADW40000004486	1/4 - 1/2 Mile West
F17	CADW40000004513	1/2 - 1 Mile WNW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
G18	CADW40000004428	1/2 - 1 Mile SSE
H20	CADW40000004562	1/2 - 1 Mile NNE
H21	CADW40000004563	1/2 - 1 Mile NNE
I22	CADW40000004551	1/2 - 1 Mile NE
J23	CADW40000004537	1/2 - 1 Mile NE
J26	CADW40000004536	1/2 - 1 Mile NE
L32	CADW40000004518	1/2 - 1 Mile ENE
M33	CADW40000004565	1/2 - 1 Mile NE
K35	CADW40000004468	1/2 - 1 Mile WSW
O36	CADW40000004460	1/2 - 1 Mile ESE
O37	CADW40000004462	1/2 - 1 Mile ESE
N40	CADW40000004525	1/2 - 1 Mile WNW
P46	CADW40000004491	1/2 - 1 Mile West
P47	CADW40000004492	1/2 - 1 Mile West
R51	CADW40000004622	1/2 - 1 Mile North
R54	CADW40000004625	1/2 - 1 Mile North

PHYSICAL SETTING SOURCE MAP - 03386164.2r



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Airports
- 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: 24501 Clinton Keith Road
 ADDRESS: 24501 Clinton Keith Road
 Wildomar CA 92595
 LAT/LONG: 33.5943 / 117.2304

CLIENT: Hillmann Environmental Co.
 CONTACT: Kristi Hill
 INQUIRY #: 03386164.2r
 DATE: August 13, 2012 7:06 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

A1
NNW
1/8 - 1/4 Mile
Lower

FED USGS USGS3125724

Agency cd:	USGS	Site no:	333546117135001
Site name:	007S003W06B001S		
Latitude:	333546	EDR Site id:	USGS3125724
Longitude:	1171350	Dec lat:	33.59613521
Dec lon:	-117.2314242	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1355.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	San Jacinto. California. Area = 757 sq.mi.		
Topographic:	Stream channel		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	35.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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:	1968-02-01	Ground water data end date:	1968-02-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-02-01	18.00	

A2
NW
1/8 - 1/4 Mile
Lower

CA WELLS CADW40000004509

Longitude:	-117.2314
Latitude:	33.5961
Stwellno:	07S03W06B001S
Districtco:	3
Welluseco:	Z
Countyco:	33
Gwcode:	900500
Site id:	CADW40000004509

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

B3
NE
1/4 - 1/2 Mile
Higher

CA WELLS CADW40000004515

Longitude: -117.2264
Latitude: 33.5975
Stwellno: 07S03W06A001S
Districtco: 3
Welluseco: Z
Countyco: 33
Gwcode: 900500
Site id: CADW40000004515

4
ESE
1/4 - 1/2 Mile
Higher

FED USGS USGS3125710

Agency cd:	USGS	Site no:	333536117132801
Site name:	007S003W06H001S	EDR Site id:	USGS3125710
Latitude:	333536	Dec lat:	33.59335756
Longitude:	1171328	Coor meth:	M
Dec lon:	-117.2253128	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1360.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Hilltop		
Site type:	Ground-water other than Spring	Date construction:	19610101
Date inventoried:	Not Reported	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:	Not Reported	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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 count:	Not Reported		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

C5
NNW
1/4 - 1/2 Mile
Higher

FED USGS USGS3125750

Agency cd:	USGS	Site no:	333554117135501
Site name:	006S003W31P001S	EDR Site id:	USGS3125750
Latitude:	333554	Dec lat:	33.59835736
Longitude:	1171355	Coor meth:	M
Dec lon:	-117.23281316	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1370.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	19520101
Date inventoried:	Not Reported	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:	24.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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:	1952-08-19
Water quality data end date:	1952-08-19	Water quality data count:	1
Ground water data begin date:	1968-04-01	Ground water data end date:	1968-04-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

	Feet below	Feet to
Date	Surface	Sealevel

1968-04-01	10.00	

B6
NE
1/4 - 1/2 Mile
Higher

FED USGS USGS3125737

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	333551117133201
Site name:	007S003W06A001S	EDR Site id:	USGS3125737
Latitude:	333551	Dec lat:	33.5975241
Longitude:	1171332	Coor meth:	M
Dec lon:	-117.22642399	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1380.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Stream channel		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	47.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin 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:	1968-01-01		
Ground water data end date:	1968-01-01		
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-01-01	10.00	

C7
NNW
1/4 - 1/2 Mile
Higher

CA WELLS CADW40000004526

Longitude:	-117.2328
Latitude:	33.5984
Stwellno:	06S03W31P001S
Districtco:	3
Welluseco:	Z
Countyco:	33
Gwcode:	900500
Site id:	CADW40000004526

C8
NNW
1/4 - 1/2 Mile
Higher

FED USGS USGS3125761

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	333557117135301
Site name:	006S003W31P003S		
Latitude:	333557	EDR Site id:	USGS3125761
Longitude:	1171353	Dec lat:	33.59919067
Dec lon:	-117.23225759	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1430.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	31.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin date:	0000-00-00
Peak flow data begin date:	0000-00-00	Daily flow data count:	0
Peak flow data count:	0	Peak flow data end date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data begin date:	0000-00-00
Ground water data begin date:	1968-04-01	Water quality data count:	0
Ground water data count:	1	Ground water data end date:	1968-04-01

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-04-01	18.00	

9
SE
1/4 - 1/2 Mile
Lower

FED USGS USGS3125686

Agency cd:	USGS	Site no:	333525117133201
Site name:	007S003W06J002S		
Latitude:	333525	EDR Site id:	USGS3125686
Longitude:	1171332	Dec lat:	33.59030208
Dec lon:	-117.22642394	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1350.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Stream channel		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	Mean greenwich time offset:	PST

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

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:	48.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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

**C10
NNW
1/4 - 1/2 Mile
Higher**

FED USGS USGS3125762

Agency cd:	USGS	Site no:	333557117135401
Site name:	006S003W31P002S	EDR Site id:	USGS3125762
Latitude:	333557	Dec lat:	33.59919067
Longitude:	1171354	Coor meth:	M
Dec lon:	-117.23253538	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1430.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	Not Reported	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

C11
NNW
1/4 - 1/2 Mile
Higher

CA WELLS CADW40000004534

Longitude: -117.2323
Latitude: 33.5992
Stwellno: 06S03W31P003S
Districtco: 3
Welluseco: Z
Countyco: 33
Gwcode: 900500
Site id: CADW40000004534

D12
West
1/4 - 1/2 Mile
Lower

FED USGS USGS3125712

Agency cd:	USGS	Site no:	333537117141001
Site name:	007S003W06E001S	EDR Site id:	USGS3125712
Latitude:	333537	Dec lat:	33.59363523
Longitude:	1171410	Coor meth:	M
Dec lon:	-117.23697998	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1290.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	San Jacinto, California. Area = 757 sq.mi.		
Topographic:	Stream channel		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	177	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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:	1968-02-01	Ground water data end date:	1968-02-01
Ground water data count:	1		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-02-01	16.00	

E13
South
1/4 - 1/2 Mile
Lower

FED USGS USGS3125881

Agency cd:	USGS	Site no:	333518117135101
Site name:	007S003W06K001S		
Latitude:	333518	EDR Site id:	USGS3125881
Longitude:	1171351	Dec lat:	33.58835764
Dec lon:	-117.23170194	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1315.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita. California. Area = 731 sq.mi.		
Topographic:	Hilltop		
Site type:	Ground-water other than Spring	Date construction:	19530101
Date inventoried:	Not Reported	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:	166	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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:	1968-02-01	Ground water data end date:	1968-02-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-02-01	43.00	

E14
SSW
1/4 - 1/2 Mile
Lower

CA WELLS CADW40000004439

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude: -117.2317
 Latitude: 33.5884
 Stwellno: 07S03W06K001S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 900500
 Site id: CADW40000004439

D15
West
1/4 - 1/2 Mile
Lower

CA WELLS CADW40000004486

Longitude: -117.237
 Latitude: 33.5936
 Stwellno: 07S03W06E001S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 900500
 Site id: CADW40000004486

F16
WNW
1/4 - 1/2 Mile
Lower

FED USGS USGS3125728

Agency cd:	USGS	Site no:	333548117141301
Site name:	007S003W06D001S	EDR Site id:	USGS3125728
Latitude:	333548	Dec lat:	33.5966907
Longitude:	1171413	Coord meth:	M
Dec lon:	-117.23781337	Latlong datum:	NAD27
Coord accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1315.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	258	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data begin 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

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

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: 1968-02-01	Ground water data end date: 1968-02-01
Ground water data count: 1	

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-02-01	12.00	

F17
WNW
1/2 - 1 Mile
Lower

CA WELLS CADW40000004513

Longitude:	-117.2378
Latitude:	33.5967
Stwellno:	07S03W06D001S
Districtco:	3
Welluseco:	Z
Countyco:	33
Gwcode:	900500
Site id:	CADW40000004513

G18
SSE
1/2 - 1 Mile
Lower

CA WELLS CADW40000004428

Longitude:	-117.225
Latitude:	33.5878
Stwellno:	07S03W06J001S
Districtco:	3
Welluseco:	Z
Countyco:	33
Gwcode:	900500
Site id:	CADW40000004428

G19
SE
1/2 - 1 Mile
Lower

FED USGS USGS3125879

Agency cd:	USGS	Site no:	333516117132701
Site name:	007S003W06J001S	EDR Site id:	USGS3125879
Latitude:	333516	Dec lat:	33.58780216
Longitude:	1171327	Coor meth:	M
Dec lon:	-117.22503498	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Altitude: 1260.00
 Altitude method: Interpolated from topographic map
 Altitude accuracy: 20
 Altitude datum: National Geodetic Vertical Datum of 1929
 Hydrologic: Santa Margarita. California. Area = 731 sq.mi.
 Topographic: Hillside (slope)
 Site type: Ground-water other than Spring Date construction: Not Reported
 Date inventoried: Not Reported 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: 33.0 Hole depth: Not Reported
 Source of depth data: Not Reported
 Project number: Not Reported
 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: 1968-02-01 Ground water data end date: 1968-02-01
 Ground water data count: 1

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-02-01	12.00	

**H20
NNE
1/2 - 1 Mile
Higher**

CA WELLS CADW40000004562

Longitude: -117.2253
 Latitude: 33.602
 Stwellno: 06S03W31R001S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 900500
 Site id: CADW40000004562

**H21
NNE
1/2 - 1 Mile
Higher**

CA WELLS CADW40000004563

Longitude: -117.225
 Latitude: 33.602
 Stwellno: 06S03W31R002S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 900500
 Site id: CADW40000004563

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

I22
NE
1/2 - 1 Mile
Higher

CA WELLS CADW40000004551

Longitude: -117.2228
 Latitude: 33.6009
 Stwellno: 06S03W32N003S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 900500
 Site id: CADW40000004551

J23
NE
1/2 - 1 Mile
Higher

CA WELLS CADW40000004537

Longitude: -117.2217
 Latitude: 33.6
 Stwellno: 06S03W32N001S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 900500
 Site id: CADW40000004537

H24
NNE
1/2 - 1 Mile
Higher

FED USGS USGS3125592

Agency cd:	USGS	Site no:	333607117132801
Site name:	006S003W31R001S	EDR Site id:	USGS3125592
Latitude:	333607	Dec lat:	33.60196843
Longitude:	1171328	Coor meth:	M
Dec lon:	-117.22531286	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1428.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	Not Reported		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	19480101
Date inventoried:	Not Reported	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:	61.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Peak flow data count: 0	Water quality data begin date: 1952-08-17
Water quality data end date: 1952-08-17	Water quality data count: 1
Ground water data begin date: 1968-04-01	Ground water data end date: 1968-04-01
Ground water data count: 1	

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-04-01	20.00	

**H25
NNE
1/2 - 1 Mile
Higher**

FED USGS USGS3125591

Agency cd: USGS	Site no: 333607117132701
Site name: 006S003W31R002S	
Latitude: 333607	EDR Site id: USGS3125591
Longitude: 1171327	Dec lat: 33.60196844
Dec lon: -117.22503507	Coor meth: M
Coor accr: S	Latlong datum: NAD27
Dec latlong datum: NAD83	District: 06
State: 06	County: 065
Country: US	Land net: Not Reported
Location map: Not Reported	Map scale: Not Reported
Altitude: 1415.00	
Altitude method: Interpolated from topographic map	
Altitude accuracy: 20	
Altitude datum: National Geodetic Vertical Datum of 1929	
Hydrologic: Santa Margarita, California. Area = 731 sq.mi.	
Topographic: Stream channel	
Site type: Ground-water other than Spring	Date construction: Not Reported
Date inventoried: Not Reported	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: 23.0	Hole depth: Not Reported
Source of depth data: Not Reported	
Project number: Not Reported	
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: 1968-04-01	Ground water data end date: 1968-04-01
Ground water data count: 1	

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-04-01	8.00	

**J26
NE
1/2 - 1 Mile
Higher**

CA WELLS CADW40000004536

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude: -117.2212
 Latitude: 33.5998
 Stwellno: 06S03W32N002S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 900500
 Site id: CADW40000004536

I27
NE
1/2 - 1 Mile
Higher

FED USGS USGS3125782

Agency cd:	USGS	Site no:	333603117131901
Site name:	006S003W32N003S	EDR Site id:	USGS3125782
Latitude:	333603	Dec lat:	33.60085737
Longitude:	1171319	Coor meth:	M
Dec lon:	-117.22281274	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1400.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita. California. Area = 731 sq.mi.		
Topographic:	Undulating		
Site type:	Ground-water other than Spring	Date construction:	19500101
Date inventoried:	Not Reported	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:	190	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin date:	0000-00-00
Peak flow data begin date:	0000-00-00	Daily flow data count:	0
Peak flow data count:	0	Peak flow data end date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data begin date:	0000-00-00
Ground water data begin date:	1968-04-01	Water quality data count:	0
Ground water data count:	1	Ground water data end date:	1968-04-01

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-04-01	40.00	

J28
NE
1/2 - 1 Mile
Higher

FED USGS USGS3125775

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	333600117131501
Site name:	006S003W32N001S		
Latitude:	333600	EDR Site id:	USGS3125775
Longitude:	1171315	Dec lat:	33.60002407
Dec lon:	-117.22170158	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1420.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita. California. Area = 731 sq.mi.		
Topographic:	Stream channel		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	14.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin date:	0000-00-00
Peak flow data begin date:	0000-00-00	Daily flow data count:	0
Peak flow data count:	0	Peak flow data end date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data begin date:	0000-00-00
Ground water data begin date:	1968-04-01	Water quality data count:	0
Ground water data count:	1	Ground water data end date:	1968-04-01

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-04-01	13.00	

**I29
NE
1/2 - 1 Mile
Higher**

FED USGS USGS3125582

Agency cd:	USGS	Site no:	333605117132001
Site name:	006S003W32M002S		
Latitude:	333605	EDR Site id:	USGS3125582
Longitude:	1171320	Dec lat:	33.60141291
Dec lon:	-117.22309054	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1430.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita. California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	Mean greenwich time offset:	PST

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

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:	8.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin date:	0000-00-00
Peak flow data begin date:	0000-00-00	Daily flow data count:	0
Peak flow data count:	0	Peak flow data end date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data begin date:	0000-00-00
Ground water data begin date:	0000-00-00	Water quality data count:	0
Ground water data count:	0	Ground water data end date:	0000-00-00

Ground-water levels, Number of Measurements: 0

K30
WSW
1/2 - 1 Mile
Lower

FED USGS USGS3125689

Agency cd:	USGS	Site no:	333527117142401
Site name:	007S004W01H001S	EDR Site id:	USGS3125689
Latitude:	333527	Dec lat:	33.59085749
Longitude:	1171424	Coor meth:	M
Dec lon:	-117.24086901	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1270.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin date:	0000-00-00
Peak flow data begin date:	0000-00-00	Daily flow data count:	0
Peak flow data count:	0	Peak flow data end date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data begin date:	0000-00-00
Ground water data begin date:	1968-03-01	Water quality data count:	0
Ground water data count:	1	Ground water data end date:	1968-03-01

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1968-03-01	5.00	

**31
NE
1/2 - 1 Mile
Higher**

FED USGS USGS3125767

Agency cd:	USGS	Site no:	333559117131301
Site name:	006S003W32N002S		
Latitude:	333559	EDR Site id:	USGS3125767
Longitude:	1171313	Dec lat:	33.59974631
Dec lon:	-117.221146	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1410.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Stream channel		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	35.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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:	1968-04-01	Ground water data end date:	1968-04-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1968-04-01	13.00	

**L32
ENE
1/2 - 1 Mile
Higher**

CA WELLS CADW40000004518

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude: -117.2187
 Latitude: 33.5978
 Stwellno: 06S03W32P001S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 900500
 Site id: CADW40000004518

M33
NE
1/2 - 1 Mile
Higher

CA WELLS CADW40000004565

Longitude: -117.2228
 Latitude: 33.6023
 Stwellno: 06S03W32M001S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 900500
 Site id: CADW40000004565

N34
WNW
1/2 - 1 Mile
Lower

FED USGS USGS3125751

Agency cd: USGS	Site no: 333554117142501	
Site name: 006S004W36R001S	EDR Site id: USGS3125751	
Latitude: 333554	Dec lat: 33.59835729	
Longitude: 1171425	Coor meth: M	
Dec lon: -117.24114686	Latlong datum: NAD27	
Coor accr: S	District: 06	
Dec latlong datum: NAD83	County: 065	
State: 06	Land net: Not Reported	
Country: US	Map scale: Not Reported	
Location map: Not Reported		
Altitude: 1328.00		
Altitude method: Interpolated from topographic map		
Altitude accuracy: 20		
Altitude datum: National Geodetic Vertical Datum of 1929		
Hydrologic: Santa Margarita. California. Area = 731 sq.mi.		
Topographic: Hillside (slope)		
Site type: Ground-water other than Spring	Date construction: 19610101	
Date inventoried: Not Reported	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: 132	Hole depth: Not Reported	
Source of depth data: Not Reported		
Project number: Not Reported		
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	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Peak flow data count: 0
 Water quality data end date: 0000-00-00
 Ground water data begin date: 1968-03-01
 Ground water data count: 1

Water quality data begin date: 0000-00-00
 Water quality data count: 0
 Ground water data end date: 1968-03-01

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
----- 1968-03-01	37.00	

K35
WSW
1/2 - 1 Mile
Lower

CA WELLS CADW40000004468

Longitude: -117.2409
 Latitude: 33.5909
 Stwellno: 07S04W01H001S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 900500
 Site id: CADW40000004468

O36
ESE
1/2 - 1 Mile
Lower

CA WELLS CADW40000004460

Longitude: -117.2189
 Latitude: 33.5895
 Stwellno: 07S03W05L002S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 900500
 Site id: CADW40000004460

O37
ESE
1/2 - 1 Mile
Lower

CA WELLS CADW40000004462

Longitude: -117.2187
 Latitude: 33.5898
 Stwellno: 07S03W05L001S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 900500
 Site id: CADW40000004462

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

M38
NE
1/2 - 1 Mile
Higher

FED USGS USGS3125600

Agency cd:	USGS	Site no:	333608117131901
Site name:	006S003W32M001S	EDR Site id:	USGS3125600
Latitude:	333608	Dec lat:	33.60224622
Longitude:	1171319	Coor meth:	M
Dec lon:	-117.22281275	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1440.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	19480101
Date inventoried:	Not Reported	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:	93.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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:	1968-04-01	Ground water data end date:	1968-04-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

	Feet below	Feet to
Date	Surface	Sealevel

1968-04-01	28.00	

L39
ENE
1/2 - 1 Mile
Higher

FED USGS USGS3125741

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	333552117130401
Site name:	006S003W32P001S	EDR Site id:	USGS3125741
Latitude:	333552	Dec lat:	33.59780194
Longitude:	1171304	Coor meth:	M
Dec lon:	-117.21864588	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1480.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita. California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	19640101
Date inventoried:	Not Reported	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:	140	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin 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:	1968-04-01		
Ground water data end date:	1968-04-01		
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-04-01	66.00	

**N40
WNW
1/2 - 1 Mile
Lower**

CA WELLS CADW40000004525

Longitude:	-117.2412
Latitude:	33.5984
Stwellno:	06S04W36R001S
Districtco:	3
Welluseco:	Z
Countyco:	33
Gwcode:	900500
Site id:	CADW40000004525

**P41
West
1/2 - 1 Mile
Lower**

FED USGS USGS3125717

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	333542117143201
Site name:	007S004W01A001S		
Latitude:	333542	EDR Site id:	USGS3125717
Longitude:	1171432	Dec lat:	33.59502403
Dec lon:	-117.24309136	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1298.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita. California. Area = 731 sq.mi.		
Topographic:	Undulating		
Site type:	Ground-water other than Spring	Date construction:	19490101
Date inventoried:	Not Reported	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:	187	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin date:	0000-00-00
Peak flow data begin date:	0000-00-00	Daily flow data count:	0
Peak flow data count:	0	Peak flow data end date:	0000-00-00
Water quality data end date:	1952-09-02	Water quality data begin date:	1952-09-02
Ground water data begin date:	1968-03-01	Water quality data count:	1
Ground water data count:	1	Ground water data end date:	1968-03-01

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-03-01	78.00	

**P42
West
1/2 - 1 Mile
Lower**

FED USGS USGS3125718

Agency cd:	USGS	Site no:	333542117143202
Site name:	007S004W01A002S		
Latitude:	333542	EDR Site id:	USGS3125718
Longitude:	1171432	Dec lat:	33.59502403
Dec lon:	-117.24309136	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1298.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita. California. Area = 731 sq.mi.		
Topographic:	Undulating		
Site type:	Ground-water other than Spring	Date construction:	19510101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-01-01	19.00	

44
WSW
1/2 - 1 Mile
Lower

FED USGS USGS3125683

Agency cd:	USGS	Site no:	333522117142801
Site name:	007S004W01Z001S	EDR Site id:	USGS3125683
Latitude:	333522	Dec lat:	33.58946863
Longitude:	1171428	Coor meth:	M
Dec lon:	-117.24198016	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1240.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Stream channel		
Site type:	Ground-water other than Spring	Date construction:	19610101
Date inventoried:	Not Reported	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:	436	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	Not Reported		
Daily flow data end date:	Not Reported		
Daily flow data begin date:	Not Reported		
Peak flow data begin date:	Not Reported		
Peak flow data count:	Not Reported		
Water quality data begin date:	Not Reported		
Water quality data end date:	Not Reported		
Ground water data begin date:	Not Reported		
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

O45
ESE
1/2 - 1 Mile
Lower

FED USGS USGS3125684

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	333523117130401
Site name:	007S003W05L001S	EDR Site id:	USGS3125684
Latitude:	333523	Dec lat:	33.5897466
Longitude:	1171304	Coor meth:	M
Dec lon:	-117.21864583	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1275.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita. California. Area = 731 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19480101
Date inventoried:	Not Reported	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:	48.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin date:	0000-00-00
Peak flow data begin date:	0000-00-00	Daily flow data count:	0
Peak flow data count:	0	Peak flow data end date:	0000-00-00
Water quality data begin date:	1952-07-30	Water quality data begin date:	1952-07-30
Water quality data end date:	1952-07-30	Water quality data count:	1
Ground water data begin date:	1968-01-01	Ground water data end date:	1968-01-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-01-01	19.00	

P46
West
1/2 - 1 Mile
Lower

CA WELLS CADW40000004491

Longitude:	-117.2431
Latitude:	33.595
Stwellno:	07S04W01A001S
Districtco:	3
Welluseco:	Z
Countyco:	33
Gwcode:	900500
Site id:	CADW40000004491

P47
West
1/2 - 1 Mile
Lower

CA WELLS CADW40000004492

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude: -117.2431
 Latitude: 33.595
 Stwellno: 07S04W01A002S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 900500
 Site id: CADW40000004492

48
West
1/2 - 1 Mile
Lower

FED USGS USGS3125705

Agency cd:	USGS	Site no:	333534117144101
Site name:	007S004W01G001S	EDR Site id:	USGS3125705
Latitude:	333534	Dec lat:	33.59280184
Longitude:	1171441	Coor meth:	M
Dec lon:	-117.24559145	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1270.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita. California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	20.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	Not Reported		
Daily flow data end date:	Not Reported	Daily flow data begin date:	Not Reported
Peak flow data begin date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data count:	Not Reported	Peak flow data end date:	Not Reported
Water quality data end date:	Not Reported	Water quality data begin date:	Not Reported
Ground water data begin date:	Not Reported	Water quality data count:	Not Reported
Ground water data count:	Not Reported	Ground water data end date:	Not Reported

Ground-water levels, Number of Measurements: 0

49
ENE
1/2 - 1 Mile
Higher

FED USGS USGS3125731

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	333550117125201
Site name:	007S003W05C001S		
Latitude:	333550	EDR Site id:	USGS3125731
Longitude:	1171252	Dec lat:	33.59724642
Dec lon:	-117.21531239	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1350.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita. California. Area = 731 sq.mi.		
Topographic:	Stream channel		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	7.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin 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:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

**Q50
NE
1/2 - 1 Mile
Higher**

FED USGS USGS3125614

Agency cd:	USGS	Site no:	333612117130501
Site name:	006S003W32L002S		
Latitude:	333612	EDR Site id:	USGS3125614
Longitude:	1171305	Dec lat:	33.60335734
Dec lon:	-117.2189237	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1500.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita. California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	19530101
Date inventoried:	Not Reported	Mean greenwich time offset:	PST

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

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:	92.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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

R51
North
1/2 - 1 Mile
Higher

CA WELLS CADW40000004622

Longitude:	-117.2267
Latitude:	33.6073
Stwellno:	06S03W31H002S
Districtco:	3
Welluseco:	Z
Countyco:	33
Gwcode:	950299
Site id:	CADW40000004622

R52
NNE
1/2 - 1 Mile
Higher

FED USGS USGS3125656

Agency cd:	USGS	Site no:	333626117133301
Site name:	006S003W31H002S		
Latitude:	333626	EDR Site id:	USGS3125656
Longitude:	1171333	Dec lat:	33.60724606
Dec lon:	-117.22670184	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1530.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	Not Reported	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

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: 1968-04-01	Ground water data end date: 1968-04-01
Ground water data count: 1	

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1968-04-01	26.00	

Q53
NE
1/2 - 1 Mile
Higher

FED USGS USGS3125608

Agency cd: USGS	Site no: 333610117130101
Site name: 006S003W32L001S	
Latitude: 333610	EDR Site id: USGS3125608
Longitude: 1171301	Dec lat: 33.6028018
Dec lon: -117.21781254	Coor meth: M
Coor accr: S	Latlong datum: NAD27
Dec latlong datum: NAD83	District: 06
State: 06	County: 065
Country: US	Land net: Not Reported
Location map: Not Reported	Map scale: Not Reported
Altitude: 1453.00	
Altitude method: Interpolated from topographic map	
Altitude accuracy: 20	
Altitude datum: National Geodetic Vertical Datum of 1929	
Hydrologic: Santa Margarita, California. Area = 731 sq.mi.	
Topographic: Hillside (slope)	
Site type: Ground-water other than Spring	Date construction: 19510101
Date inventoried: Not Reported	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: 74.0	Hole depth: Not Reported
Source of depth data: Not Reported	
Project number: Not Reported	
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

R54
North
1/2 - 1 Mile
Higher

CA WELLS CADW40000004625

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude: -117.2267
 Latitude: 33.6078
 Stwellno: 06S03W31H001S
 Districtco: 3
 Welluseco: Z
 Countyco: 33
 Gwcode: 950299
 Site id: CADW40000004625

R55
NNE
1/2 - 1 Mile
Higher

FED USGS USGS3125663

Agency cd:	USGS	Site no:	333628117133301
Site name:	006S003W31H001S	EDR Site id:	USGS3125663
Latitude:	333628	Dec lat:	33.6078016
Longitude:	1171333	Coor meth:	M
Dec lon:	-117.22670185	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1540.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	Not Reported	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	0		
Daily flow data end date:	0000-00-00	Daily flow data begin date:	0000-00-00
Peak flow data begin date:	0000-00-00	Daily flow data count:	0
Peak flow data count:	0	Peak flow data end date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data begin date:	0000-00-00
Ground water data begin date:	1968-04-01	Water quality data count:	0
Ground water data count:	1	Ground water data end date:	1968-04-01

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
----- 1968-04-01	56.00	

56
West
1/2 - 1 Mile
Lower

FED USGS USGS3125704

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	333533117144701
Site name:	007S004W01G002S		
Latitude:	333533	EDR Site id:	USGS3125704
Longitude:	1171447	Dec lat:	33.59252406
Dec lon:	-117.24725819	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1255.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita. California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	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:	Not Reported	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
Real time data flag:	Not Reported		
Daily flow data end date:	Not Reported	Daily flow data begin date:	Not Reported
Peak flow data begin date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data count:	Not Reported	Peak flow data end date:	Not Reported
Water quality data end date:	Not Reported	Water quality data begin date:	Not Reported
Ground water data begin date:	Not Reported	Water quality data count:	Not Reported
Ground water data count:	Not Reported	Ground water data end date:	Not Reported

Ground-water levels, Number of Measurements: 0

**57
SE
1/2 - 1 Mile
Lower**

FED USGS USGS3125862

Agency cd:	USGS	Site no:	333507117125801
Site name:	007S003W05P001S		
Latitude:	333507	EDR Site id:	USGS3125862
Longitude:	1171258	Dec lat:	33.5853023
Dec lon:	-117.21697906	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	065
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	1250.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita. California. Area = 731 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	Mean greenwich time offset:	PST

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

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:	Not Reported	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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

58
WSW
1/2 - 1 Mile
Lower

FED USGS USGS3125875

Agency cd:	USGS	Site no:	333515117144101
Site name:	007S004W01K002S	EDR Site id:	USGS3125875
Latitude:	333515	Dec lat:	33.58752421
Longitude:	1171441	Coor meth:	M
Dec lon:	-117.24559142	Latlong datum:	NAD27
Coor accr:	S	District:	06
Dec latlong datum:	NAD83	County:	065
State:	06	Land net:	Not Reported
Country:	US	Map scale:	Not Reported
Location map:	Not Reported		
Altitude:	1200.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	20		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Santa Margarita, California. Area = 731 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	19590101
Date inventoried:	Not Reported	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:	103	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	Not Reported		
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:	1968-03-01	Ground water data end date:	1968-03-01
Ground water data count:	1		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1968-03-01	15.00	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92595	5	0

Federal EPA Radon Zone for RIVERSIDE County: 2

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level \geq 2 pCi/L and \leq 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for RIVERSIDE COUNTY, CA

Number of sites tested: 12

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.117 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.450 pCi/L	100%	0%	0%
Basement	1.700 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.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 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.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

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.

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

Water Well Database

Source: Department of Water Resources

Telephone: 916-651-9648

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

Oil and Gas well locations in the state.

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.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

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.

STREET AND ADDRESS INFORMATION

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