

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: 10/30/2015	Source: EPA
Date Data Arrived at EDR: 11/07/2015	Telephone: N/A
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 01/26/2016
Number of Days to Update: 58	Next Scheduled EDR Contact: 04/18/2016
	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: 10/30/2015	Source: EPA
Date Data Arrived at EDR: 11/07/2015	Telephone: N/A
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 01/26/2016
Number of Days to Update: 58	Next Scheduled EDR Contact: 04/18/2016
	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: 10/30/2015	Source: EPA
Date Data Arrived at EDR: 11/07/2015	Telephone: N/A
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 01/26/2016
Number of Days to Update: 58	Next Scheduled EDR Contact: 04/18/2016
	Data Release Frequency: Quarterly

Federal CERCLIS list

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: 03/26/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/08/2015	Telephone: 703-603-8704
Date Made Active in Reports: 06/11/2015	Last EDR Contact: 01/06/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 04/18/2016
	Data Release Frequency: Varies

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: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 11/11/2013	Telephone: 703-412-9810
Date Made Active in Reports: 02/13/2014	Last EDR Contact: 11/23/2015
Number of Days to Update: 94	Next Scheduled EDR Contact: 03/07/2016
	Data Release Frequency: Quarterly

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: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 11/11/2013	Telephone: 703-412-9810
Date Made Active in Reports: 02/13/2014	Last EDR Contact: 11/23/2015
Number of Days to Update: 94	Next Scheduled EDR Contact: 03/07/2016
	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: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
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: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
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: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
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: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
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: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal institutional controls / engineering controls registries

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: 05/28/2015	Source: Department of the Navy
Date Data Arrived at EDR: 05/29/2015	Telephone: 843-820-7326
Date Made Active in Reports: 06/11/2015	Last EDR Contact: 11/13/2015
Number of Days to Update: 13	Next Scheduled EDR Contact: 02/29/2016
	Data Release Frequency: Varies

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: 09/10/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/11/2015	Telephone: 703-603-0695
Date Made Active in Reports: 11/03/2015	Last EDR Contact: 11/24/2015
Number of Days to Update: 53	Next Scheduled EDR Contact: 03/14/2016
	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: 09/10/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/11/2015	Telephone: 703-603-0695
Date Made Active in Reports: 11/03/2015	Last EDR Contact: 11/24/2015
Number of Days to Update: 53	Next Scheduled EDR Contact: 03/14/2016
	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: 06/22/2015	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 06/26/2015	Telephone: 202-267-2180
Date Made Active in Reports: 09/16/2015	Last EDR Contact: 12/29/2015
Number of Days to Update: 82	Next Scheduled EDR Contact: 04/11/2016
	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: 11/07/2015	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 11/07/2015	Telephone: 916-323-3400
Date Made Active in Reports: 12/17/2015	Last EDR Contact: 02/03/2016
Number of Days to Update: 40	Next Scheduled EDR Contact: 05/16/2016
	Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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.

Date of Government Version: 11/07/2015	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 11/07/2015	Telephone: 916-323-3400
Date Made Active in Reports: 12/17/2015	Last EDR Contact: 02/03/2016
Number of Days to Update: 40	Next Scheduled EDR Contact: 05/16/2016
	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: 11/16/2015	Source: Department of Resources Recycling and Recovery
Date Data Arrived at EDR: 11/18/2015	Telephone: 916-341-6320
Date Made Active in Reports: 01/21/2016	Last EDR Contact: 11/18/2015
Number of Days to Update: 64	Next Scheduled EDR Contact: 02/29/2016
	Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

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 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calaveras, 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: No Update Planned

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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

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 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

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: 12/14/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 56

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/14/2015
Next Scheduled EDR Contact: 03/28/2016
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 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
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
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 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001	Source: California Regional Water Quality Control Board San Diego Region (9)
Date Data Arrived at EDR: 04/23/2001	Telephone: 858-637-5595
Date Made Active in Reports: 05/21/2001	Last EDR Contact: 09/26/2011
Number of Days to Update: 28	Next Scheduled EDR Contact: 01/09/2012
	Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005	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

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: 10/27/2015	Source: EPA Region 1
Date Data Arrived at EDR: 10/29/2015	Telephone: 617-918-1313
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 02/08/2016
Number of Days to Update: 67	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 11/24/2015	Source: EPA Region 4
Date Data Arrived at EDR: 12/01/2015	Telephone: 404-562-8677
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 01/25/2016
Number of Days to Update: 34	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: Semi-Annually

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/13/2015	Source: EPA Region 6
Date Data Arrived at EDR: 08/03/2015	Telephone: 214-665-6597
Date Made Active in Reports: 10/13/2015	Last EDR Contact: 01/25/2016
Number of Days to Update: 71	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/30/2015	Source: EPA Region 7
Date Data Arrived at EDR: 04/28/2015	Telephone: 913-551-7003
Date Made Active in Reports: 06/22/2015	Last EDR Contact: 01/25/2016
Number of Days to Update: 55	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/30/2015	Source: EPA Region 8
Date Data Arrived at EDR: 05/05/2015	Telephone: 303-312-6271
Date Made Active in Reports: 06/22/2015	Last EDR Contact: 01/25/2016
Number of Days to Update: 48	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 01/08/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/08/2015	Telephone: 415-972-3372
Date Made Active in Reports: 02/09/2015	Last EDR Contact: 01/27/2016
Number of Days to Update: 32	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 07/21/2015	Source: EPA Region 10
Date Data Arrived at EDR: 07/29/2015	Telephone: 206-553-2857
Date Made Active in Reports: 10/13/2015	Last EDR Contact: 01/25/2016
Number of Days to Update: 76	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 11/04/2015	Source: EPA, Region 5
Date Data Arrived at EDR: 11/13/2015	Telephone: 312-886-7439
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 01/25/2016
Number of Days to Update: 52	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: Varies

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: 12/14/2015	Source: State Water Resources Control Board
Date Data Arrived at EDR: 12/14/2015	Telephone: 866-480-1028
Date Made Active in Reports: 02/08/2016	Last EDR Contact: 12/14/2015
Number of Days to Update: 56	Next Scheduled EDR Contact: 03/28/2016
	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	Source: California Regional Water Quality Control Board, North Coast Region (1)
Date Data Arrived at EDR: 04/07/2003	Telephone: 707-576-2220
Date Made Active in Reports: 04/25/2003	Last EDR Contact: 08/01/2011
Number of Days to Update: 18	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	Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Date Data Arrived at EDR: 10/20/2004	Telephone: 510-286-0457
Date Made Active in Reports: 11/19/2004	Last EDR Contact: 09/19/2011
Number of Days to Update: 30	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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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.

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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/08/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/14/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 56

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/14/2015
Next Scheduled EDR Contact: 03/28/2016
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 12/23/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

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: 07/21/2015
Date Data Arrived at EDR: 07/29/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 76

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

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).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/27/2016
Next Scheduled EDR Contact: 05/09/2016
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: 07/28/2015
Date Data Arrived at EDR: 08/14/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 60

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
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: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

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: 10/20/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

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: 11/05/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

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: 11/24/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 34

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Semi-Annually

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).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/13/2015
Date Data Arrived at EDR: 08/03/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 71

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Semi-Annually

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
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

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: 09/29/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 36

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/28/2015
Next Scheduled EDR Contact: 04/11/2016
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: 11/07/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 12/17/2015
Number of Days to Update: 40

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/03/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfields Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 12/04/2015
Date Data Arrived at EDR: 12/08/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 44

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 12/04/2015
Next Scheduled EDR Contact: 03/21/2016
Data Release Frequency: Varies

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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/21/2015
Date Data Arrived at EDR: 09/23/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 103

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/21/2015
Next Scheduled EDR Contact: 04/04/2016
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 12/14/2015
Date Data Arrived at EDR: 12/17/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 53

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/17/2015
Next Scheduled EDR Contact: 03/28/2016
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 11/23/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 58

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/13/2015
Next Scheduled EDR Contact: 02/29/2016
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
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 01/25/2016
Number of Days to Update: 137	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

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: 08/12/2015	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 09/04/2015	Telephone: 202-307-1000
Date Made Active in Reports: 11/03/2015	Last EDR Contact: 08/31/2015
Number of Days to Update: 60	Next Scheduled EDR Contact: 12/14/2015
	Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005	Source: Department of Toxic Substance Control
Date Data Arrived at EDR: 08/03/2006	Telephone: 916-323-3400
Date Made Active in Reports: 08/24/2006	Last EDR Contact: 02/23/2009
Number of Days to Update: 21	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: 11/07/2015	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 11/07/2015	Telephone: 916-323-3400
Date Made Active in Reports: 12/17/2015	Last EDR Contact: 02/03/2016
Number of Days to Update: 40	Next Scheduled EDR Contact: 05/16/2016
	Data Release Frequency: Quarterly

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: 12/31/2014	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 03/10/2015	Telephone: 916-255-6504
Date Made Active in Reports: 03/18/2015	Last EDR Contact: 01/11/2016
Number of Days to Update: 8	Next Scheduled EDR Contact: 04/25/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

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: 08/12/2015
Date Data Arrived at EDR: 09/04/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 60

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/25/2015
Next Scheduled EDR Contact: 03/14/2016
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

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
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 11/25/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 12/17/2015
Number of Days to Update: 16

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 11/23/2015
Next Scheduled EDR Contact: 03/14/2016
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
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 12/17/2015
Date Data Arrived at EDR: 12/22/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/04/2015
Next Scheduled EDR Contact: 03/21/2016
Data Release Frequency: Varies

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: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

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: 12/07/2015
Date Data Arrived at EDR: 12/08/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 44

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 12/08/2015
Next Scheduled EDR Contact: 12/21/2015
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: 06/24/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 68

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/30/2015
Next Scheduled EDR Contact: 04/11/2016
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).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/25/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 11/16/2015
Number of Days to Update: 20

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 01/27/2016
Next Scheduled EDR Contact: 05/09/2016
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: 12/14/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 56

Source: State Water Quality Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/14/2015
Next Scheduled EDR Contact: 03/28/2016
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: 12/14/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 56

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/14/2015
Next Scheduled EDR Contact: 03/28/2016
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

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: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

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: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 12/11/2015
Next Scheduled EDR Contact: 03/21/2016
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	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: 01/15/2016
Number of Days to Update: 62	Next Scheduled EDR Contact: 04/25/2016
	Data Release Frequency: Semi-Annually

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	Source: U.S. Geological Survey
Date Data Arrived at EDR: 02/06/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/15/2016
Number of Days to Update: 339	Next Scheduled EDR Contact: 04/25/2016
	Data Release Frequency: N/A

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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/09/2011	Telephone: 615-532-8599
Date Made Active in Reports: 05/02/2011	Last EDR Contact: 11/19/2015
Number of Days to Update: 54	Next Scheduled EDR Contact: 02/29/2016
	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: 09/01/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/03/2015	Telephone: 202-566-1917
Date Made Active in Reports: 11/03/2015	Last EDR Contact: 11/13/2015
Number of Days to Update: 61	Next Scheduled EDR Contact: 02/29/2016
	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: 08/30/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/21/2014	Telephone: 617-520-3000
Date Made Active in Reports: 06/17/2014	Last EDR Contact: 02/09/2016
Number of Days to Update: 88	Next Scheduled EDR Contact: 05/23/2016
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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.

Date of Government Version: 04/22/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/03/2015	Telephone: 703-308-4044
Date Made Active in Reports: 03/09/2015	Last EDR Contact: 11/13/2015
Number of Days to Update: 6	Next Scheduled EDR Contact: 02/22/2016
	Data Release Frequency: Varies

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: 12/31/2012	Source: EPA
Date Data Arrived at EDR: 01/15/2015	Telephone: 202-260-5521
Date Made Active in Reports: 01/29/2015	Last EDR Contact: 12/23/2015
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/04/2016
	Data Release Frequency: Every 4 Years

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: 12/31/2013	Source: EPA
Date Data Arrived at EDR: 02/12/2015	Telephone: 202-566-0250
Date Made Active in Reports: 06/02/2015	Last EDR Contact: 11/24/2015
Number of Days to Update: 110	Next Scheduled EDR Contact: 03/07/2016
	Data Release Frequency: Annually

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: 01/25/2016
Number of Days to Update: 77	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: Annually

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: 11/25/2013	Source: EPA
Date Data Arrived at EDR: 12/12/2013	Telephone: 703-416-0223
Date Made Active in Reports: 02/24/2014	Last EDR Contact: 12/11/2015
Number of Days to Update: 74	Next Scheduled EDR Contact: 03/21/2016
	Data Release Frequency: Annually

RMP: Risk Management Plans

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/26/2015	Telephone: 202-564-8600
Date Made Active in Reports: 11/03/2015	Last EDR Contact: 01/25/2016
Number of Days to Update: 69	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: Varies

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

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 10/17/2014	Telephone: 202-564-6023
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 11/13/2015
Number of Days to Update: 3	Next Scheduled EDR Contact: 02/22/2016
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014	Source: EPA
Date Data Arrived at EDR: 10/15/2014	Telephone: 202-566-0500
Date Made Active in Reports: 11/17/2014	Last EDR Contact: 01/12/2016
Number of Days to Update: 33	Next Scheduled EDR Contact: 04/25/2016
	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: 01/23/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/06/2015	Telephone: 202-564-5088
Date Made Active in Reports: 03/09/2015	Last EDR Contact: 01/08/2016
Number of Days to Update: 31	Next Scheduled EDR Contact: 04/25/2016
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 11/18/2015
Number of Days to Update: 25	Next Scheduled EDR Contact: 03/07/2016
	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: 11/18/2015
Number of Days to Update: 25	Next Scheduled EDR Contact: 03/07/2016
	Data Release Frequency: Quarterly

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: 06/26/2015	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 07/10/2015	Telephone: 301-415-7169
Date Made Active in Reports: 10/13/2015	Last EDR Contact: 02/08/2016
Number of Days to Update: 95	Next Scheduled EDR Contact: 05/23/2016
	Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 01/13/2016
Number of Days to Update: 76	Next Scheduled EDR Contact: 04/25/2016
	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: 07/01/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/10/2014	Telephone: N/A
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 12/11/2015
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/21/2016
	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/19/2011	Telephone: 202-566-0517
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 01/29/2016
Number of Days to Update: 83	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: Varies

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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/07/2015 Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/09/2015 Telephone: 202-343-9775
Date Made Active in Reports: 09/16/2015 Last EDR Contact: 01/07/2016
Number of Days to Update: 69 Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

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

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012 Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 08/07/2012 Telephone: 202-366-4595
Date Made Active in Reports: 09/18/2012 Last EDR Contact: 02/03/2016
Number of Days to Update: 42 Next Scheduled EDR Contact: 05/16/2016
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: 12/31/2014 Source: Department of Justice, Consent Decree Library
Date Data Arrived at EDR: 04/17/2015 Telephone: Varies
Date Made Active in Reports: 06/02/2015 Last EDR Contact: 12/23/2015
Number of Days to Update: 46 Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

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: 12/31/2013 Source: EPA/NTIS
Date Data Arrived at EDR: 02/24/2015 Telephone: 800-424-9346
Date Made Active in Reports: 09/30/2015 Last EDR Contact: 11/24/2015
Number of Days to Update: 218 Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Biennially

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 12/08/2006	Telephone: 202-208-3710
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/15/2016
Number of Days to Update: 34	Next Scheduled EDR Contact: 04/25/2016
	Data Release Frequency: Semi-Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 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: 11/19/2015
Number of Days to Update: 146	Next Scheduled EDR Contact: 03/07/2016
	Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/26/2014	Telephone: 703-603-8787
Date Made Active in Reports: 01/29/2015	Last EDR Contact: 01/26/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 04/18/2016
	Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust.

Date of Government Version: 04/05/2001	Source: American Journal of Public Health
Date Data Arrived at EDR: 10/27/2010	Telephone: 703-305-6451
Date Made Active in Reports: 12/02/2010	Last EDR Contact: 12/02/2009
Number of Days to Update: 36	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/20/2015	Source: EPA
Date Data Arrived at EDR: 10/27/2015	Telephone: 202-564-2496
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 12/22/2015
Number of Days to Update: 69	Next Scheduled EDR Contact: 04/11/2016
	Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/20/2015	Source: EPA
Date Data Arrived at EDR: 10/27/2015	Telephone: 202-564-2496
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 12/22/2015
Number of Days to Update: 69	Next Scheduled EDR Contact: 04/11/2016
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US 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: 08/18/2015	Source: Department of Labor, Mine Safety and Health Administration
Date Data Arrived at EDR: 09/01/2015	Telephone: 303-231-5959
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 12/03/2015
Number of Days to Update: 125	Next Scheduled EDR Contact: 03/14/2016
	Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005	Source: USGS
Date Data Arrived at EDR: 02/29/2008	Telephone: 703-648-7709
Date Made Active in Reports: 04/18/2008	Last EDR Contact: 12/04/2015
Number of Days to Update: 49	Next Scheduled EDR Contact: 03/14/2016
	Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011	Source: USGS
Date Data Arrived at EDR: 06/08/2011	Telephone: 703-648-7709
Date Made Active in Reports: 09/13/2011	Last EDR Contact: 12/04/2015
Number of Days to Update: 97	Next Scheduled EDR Contact: 03/14/2016
	Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/20/2015	Source: EPA
Date Data Arrived at EDR: 09/09/2015	Telephone: (415) 947-8000
Date Made Active in Reports: 11/03/2015	Last EDR Contact: 12/10/2015
Number of Days to Update: 55	Next Scheduled EDR Contact: 03/21/2016
	Data Release Frequency: Quarterly

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	Source: Department of Health Services
Date Data Arrived at EDR: 07/27/1994	Telephone: 916-255-2118
Date Made Active in Reports: 08/02/1994	Last EDR Contact: 05/31/1994
Number of Days to Update: 6	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

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).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/28/2015
Date Data Arrived at EDR: 12/29/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 23

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 12/29/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/10/2015
Date Data Arrived at EDR: 08/27/2015
Date Made Active in Reports: 10/01/2015
Number of Days to Update: 35

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 02/05/2016
Next Scheduled EDR Contact: 03/21/2016
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: 12/31/2013
Date Data Arrived at EDR: 09/25/2015
Date Made Active in Reports: 11/05/2015
Number of Days to Update: 41

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/23/2015
Next Scheduled EDR Contact: 04/04/2016
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: 11/18/2015
Date Data Arrived at EDR: 11/23/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 59

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 11/02/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 12/17/2015
Number of Days to Update: 40

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
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: 11/18/2015
Date Data Arrived at EDR: 11/23/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 59

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/13/2015
Next Scheduled EDR Contact: 02/29/2016
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. This database begins with calendar year 1993.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 10/14/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 58

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/11/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Annually

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 [CALSITES]. 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

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 11/23/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 58

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/24/2015
Next Scheduled EDR Contact: 03/07/2016
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: 07/27/2015
Date Data Arrived at EDR: 10/14/2015
Date Made Active in Reports: 11/19/2015
Number of Days to Update: 36

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/13/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 12/14/2015
Date Data Arrived at EDR: 12/17/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 53

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 12/17/2015
Next Scheduled EDR Contact: 03/28/2016
Data Release Frequency: Varies

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: 11/10/2015
Date Data Arrived at EDR: 12/08/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 44

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/08/2015
Next Scheduled EDR Contact: 03/21/2016
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/16/2015
Date Data Arrived at EDR: 11/18/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 64

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/18/2015
Next Scheduled EDR Contact: 02/29/2016
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 12/07/2015
Date Data Arrived at EDR: 12/08/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 44

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 12/08/2015
Next Scheduled EDR Contact: 03/21/2016
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 09/14/2015
Date Data Arrived at EDR: 09/15/2015
Date Made Active in Reports: 10/14/2015
Number of Days to Update: 29

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/17/2015
Next Scheduled EDR Contact: 03/28/2016
Data Release Frequency: Quarterly

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.

Date of Government Version: 08/04/2015
Date Data Arrived at EDR: 08/25/2015
Date Made Active in Reports: 10/05/2015
Number of Days to Update: 41

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/17/2015
Next Scheduled EDR Contact: 04/04/2016
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 07/23/2015
Date Data Arrived at EDR: 09/15/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 28

Source: Department of Conservation
Telephone: 916-445-2408
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 03/28/2016
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board's review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 11/18/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Quarterly

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: 12/23/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: 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

EDR Hist Auto: EDR Exclusive 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. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

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: Varies

EDR Hist Cleaner: EDR Exclusive 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. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
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: 10/09/2015
Date Data Arrived at EDR: 10/13/2015
Date Made Active in Reports: 11/16/2015
Number of Days to Update: 34

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/11/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 10/09/2015
Date Data Arrived at EDR: 10/13/2015
Date Made Active in Reports: 11/19/2015
Number of Days to Update: 37

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/11/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

Cupa Facility List

Date of Government Version: 11/16/2015
Date Data Arrived at EDR: 12/10/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 42

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 12/04/2015
Next Scheduled EDR Contact: 03/21/2016
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 11/20/2014
Date Data Arrived at EDR: 11/24/2014
Date Made Active in Reports: 01/07/2015
Number of Days to Update: 44

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 01/29/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing

Cupa Facility Listing

Date of Government Version: 10/22/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 11/16/2015
Number of Days to Update: 34

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/28/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 06/08/2015
Date Data Arrived at EDR: 09/22/2015
Date Made Active in Reports: 10/14/2015
Number of Days to Update: 22

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 12/01/2015
Date Data Arrived at EDR: 12/04/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 48

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List Cupa Facility list

Date of Government Version: 11/16/2015
Date Data Arrived at EDR: 11/17/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 24

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List CUPA facility list.

Date of Government Version: 11/30/2015
Date Data Arrived at EDR: 12/03/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 49

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/15/2015
Date Data Arrived at EDR: 10/15/2015
Date Made Active in Reports: 11/16/2015
Number of Days to Update: 32

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 01/04/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List CUPA facility list.

Date of Government Version: 12/02/2015
Date Data Arrived at EDR: 12/04/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 48

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/12/2015
Next Scheduled EDR Contact: 12/07/2015
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List Cupa facility list.

Date of Government Version: 10/30/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 34

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INYO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/18/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing

Kern County Sites and Tanks Listing.

Date of Government Version: 05/19/2015
Date Data Arrived at EDR: 06/18/2015
Date Made Active in Reports: 07/22/2015
Number of Days to Update: 34

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/19/2015
Date Data Arrived at EDR: 11/23/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 18

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 11/18/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 08/11/2015
Date Data Arrived at EDR: 08/14/2015
Date Made Active in Reports: 09/03/2015
Number of Days to Update: 20

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/19/2016
Next Scheduled EDR Contact: 05/02/2016
Data Release Frequency: Varies

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: 12/17/2015
Next Scheduled EDR Contact: 04/04/2016
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/24/2014	Source: Department of Public Works
Date Data Arrived at EDR: 01/30/2015	Telephone: 626-458-3517
Date Made Active in Reports: 03/04/2015	Last EDR Contact: 01/08/2016
Number of Days to Update: 33	Next Scheduled EDR Contact: 04/25/2016
	Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/19/2015	Source: La County Department of Public Works
Date Data Arrived at EDR: 10/20/2015	Telephone: 818-458-5185
Date Made Active in Reports: 11/19/2015	Last EDR Contact: 01/20/2016
Number of Days to Update: 30	Next Scheduled EDR Contact: 05/02/2016
	Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2015	Source: Engineering & Construction Division
Date Data Arrived at EDR: 07/27/2015	Telephone: 213-473-7869
Date Made Active in Reports: 08/10/2015	Last EDR Contact: 01/19/2016
Number of Days to Update: 14	Next Scheduled EDR Contact: 05/02/2016
	Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/15/2015	Source: Community Health Services
Date Data Arrived at EDR: 01/29/2015	Telephone: 323-890-7806
Date Made Active in Reports: 03/10/2015	Last EDR Contact: 01/19/2016
Number of Days to Update: 40	Next Scheduled EDR Contact: 05/02/2016
	Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 03/30/2015	Source: City of El Segundo Fire Department
Date Data Arrived at EDR: 04/02/2015	Telephone: 310-524-2236
Date Made Active in Reports: 04/13/2015	Last EDR Contact: 02/01/2016
Number of Days to Update: 11	Next Scheduled EDR Contact: 05/02/2016
	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: 11/04/2015	Source: City of Long Beach Fire Department
Date Data Arrived at EDR: 11/13/2015	Telephone: 562-570-2563
Date Made Active in Reports: 12/17/2015	Last EDR Contact: 01/25/2016
Number of Days to Update: 34	Next Scheduled EDR Contact: 05/09/2016
	Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/12/2016	Source: City of Torrance Fire Department
Date Data Arrived at EDR: 01/15/2016	Telephone: 310-618-2973
Date Made Active in Reports: 02/08/2016	Last EDR Contact: 01/11/2016
Number of Days to Update: 24	Next Scheduled EDR Contact: 04/25/2016
	Data Release Frequency: Semi-Annually

MADERA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 09/15/2015
Date Data Arrived at EDR: 09/17/2015
Date Made Active in Reports: 10/14/2015
Number of Days to Update: 27

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/18/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 10/05/2015
Date Data Arrived at EDR: 10/08/2015
Date Made Active in Reports: 10/15/2015
Number of Days to Update: 7

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 01/19/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 12/14/2015
Date Data Arrived at EDR: 12/18/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 34

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 12/10/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List

CUPA Facility List

Date of Government Version: 11/24/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 51

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 11/23/2015
Next Scheduled EDR Contact: 03/14/2016
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing

CUPA Program listing from the Environmental Health Division.

Date of Government Version: 10/01/2015
Date Data Arrived at EDR: 10/06/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 66

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 11/18/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

NAPA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011	Source: Napa County Department of Environmental Management
Date Data Arrived at EDR: 12/06/2011	Telephone: 707-253-4269
Date Made Active in Reports: 02/07/2012	Last EDR Contact: 11/23/2015
Number of Days to Update: 63	Next Scheduled EDR Contact: 03/14/2016
	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	Source: Napa County Department of Environmental Management
Date Data Arrived at EDR: 01/16/2008	Telephone: 707-253-4269
Date Made Active in Reports: 02/08/2008	Last EDR Contact: 11/23/2015
Number of Days to Update: 23	Next Scheduled EDR Contact: 03/14/2016
	Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 11/16/2015	Source: Community Development Agency
Date Data Arrived at EDR: 11/17/2015	Telephone: 530-265-1467
Date Made Active in Reports: 12/11/2015	Last EDR Contact: 02/01/2016
Number of Days to Update: 24	Next Scheduled EDR Contact: 05/16/2016
	Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 11/01/2015	Source: Health Care Agency
Date Data Arrived at EDR: 11/17/2015	Telephone: 714-834-3446
Date Made Active in Reports: 01/21/2016	Last EDR Contact: 02/09/2016
Number of Days to Update: 65	Next Scheduled EDR Contact: 05/23/2016
	Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 08/03/2015	Source: Health Care Agency
Date Data Arrived at EDR: 08/10/2015	Telephone: 714-834-3446
Date Made Active in Reports: 09/11/2015	Last EDR Contact: 02/09/2016
Number of Days to Update: 32	Next Scheduled EDR Contact: 05/23/2016
	Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 11/01/2015	Source: Health Care Agency
Date Data Arrived at EDR: 11/11/2015	Telephone: 714-834-3446
Date Made Active in Reports: 12/17/2015	Last EDR Contact: 02/10/2016
Number of Days to Update: 36	Next Scheduled EDR Contact: 05/23/2016
	Data Release Frequency: Quarterly

PLACER COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 12/09/2015	Source: Placer County Health and Human Services
Date Data Arrived at EDR: 12/11/2015	Telephone: 530-745-2363
Date Made Active in Reports: 01/21/2016	Last EDR Contact: 12/04/2015
Number of Days to Update: 41	Next Scheduled EDR Contact: 03/21/2016
	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: 10/26/2015	Source: Department of Environmental Health
Date Data Arrived at EDR: 10/28/2015	Telephone: 951-358-5055
Date Made Active in Reports: 11/19/2015	Last EDR Contact: 12/17/2015
Number of Days to Update: 22	Next Scheduled EDR Contact: 04/04/2016
	Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 10/26/2015	Source: Department of Environmental Health
Date Data Arrived at EDR: 10/28/2015	Telephone: 951-358-5055
Date Made Active in Reports: 11/19/2015	Last EDR Contact: 12/17/2015
Number of Days to Update: 22	Next Scheduled EDR Contact: 04/04/2016
	Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/03/2015	Source: Sacramento County Environmental Management
Date Data Arrived at EDR: 10/06/2015	Telephone: 916-875-8406
Date Made Active in Reports: 11/16/2015	Last EDR Contact: 01/05/2016
Number of Days to Update: 41	Next Scheduled EDR Contact: 04/18/2016
	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: 08/03/2015	Source: Sacramento County Environmental Management
Date Data Arrived at EDR: 10/06/2015	Telephone: 916-875-8406
Date Made Active in Reports: 11/06/2015	Last EDR Contact: 01/05/2016
Number of Days to Update: 31	Next Scheduled EDR Contact: 04/18/2016
	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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/14/2015
Date Data Arrived at EDR: 12/18/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 52

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
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: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/04/2015
Next Scheduled EDR Contact: 03/21/2016
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

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
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 12/04/2015
Next Scheduled EDR Contact: 03/21/2016
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
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 12/18/2015	Source: Environmental Health Department
Date Data Arrived at EDR: 12/22/2015	Telephone: N/A
Date Made Active in Reports: 02/08/2016	Last EDR Contact: 12/17/2015
Number of Days to Update: 48	Next Scheduled EDR Contact: 04/04/2016
	Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 12/07/2015	Source: San Luis Obispo County Public Health Department
Date Data Arrived at EDR: 12/10/2015	Telephone: 805-781-5596
Date Made Active in Reports: 01/21/2016	Last EDR Contact: 12/04/2015
Number of Days to Update: 42	Next Scheduled EDR Contact: 03/07/2016
	Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 10/14/2015	Source: San Mateo County Environmental Health Services Division
Date Data Arrived at EDR: 10/15/2015	Telephone: 650-363-1921
Date Made Active in Reports: 11/16/2015	Last EDR Contact: 12/14/2015
Number of Days to Update: 32	Next Scheduled EDR Contact: 03/28/2016
	Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 12/14/2015	Source: San Mateo County Environmental Health Services Division
Date Data Arrived at EDR: 12/17/2015	Telephone: 650-363-1921
Date Made Active in Reports: 02/08/2016	Last EDR Contact: 12/10/2015
Number of Days to Update: 53	Next Scheduled EDR Contact: 03/28/2016
	Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011	Source: Santa Barbara County Public Health Department
Date Data Arrived at EDR: 09/09/2011	Telephone: 805-686-8167
Date Made Active in Reports: 10/07/2011	Last EDR Contact: 11/18/2015
Number of Days to Update: 28	Next Scheduled EDR Contact: 03/07/2016
	Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List

Cupa facility list

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/18/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 17

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 11/18/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

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: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 11/23/2015
Next Scheduled EDR Contact: 03/14/2016
Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/17/2015
Date Data Arrived at EDR: 11/23/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 59

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 11/18/2015
Date Data Arrived at EDR: 11/23/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 18

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/18/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 12/10/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 42

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/18/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

SOLANO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 10/30/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 56

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/10/2015
Next Scheduled EDR Contact: 12/28/2015
Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 10/30/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 56

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/10/2015
Next Scheduled EDR Contact: 03/28/2016
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List

Cupa Facility list

Date of Government Version: 09/28/2015
Date Data Arrived at EDR: 09/30/2015
Date Made Active in Reports: 11/05/2015
Number of Days to Update: 36

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 01/11/2016
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/05/2016
Date Data Arrived at EDR: 01/07/2016
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 32

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 12/23/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 12/07/2015
Date Data Arrived at EDR: 12/08/2015
Date Made Active in Reports: 12/17/2015
Number of Days to Update: 9

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 12/04/2015
Next Scheduled EDR Contact: 03/21/2016
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 10/29/2015
Date Data Arrived at EDR: 10/30/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 42

Source: Division of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

VENTURA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 07/27/2015	Source: Ventura County Environmental Health Division
Date Data Arrived at EDR: 08/17/2015	Telephone: 805-654-2813
Date Made Active in Reports: 09/03/2015	Last EDR Contact: 01/25/2016
Number of Days to Update: 17	Next Scheduled EDR Contact: 05/09/2016
	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: 12/30/2015
Number of Days to Update: 49	Next Scheduled EDR Contact: 04/18/2016
	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: 11/13/2015
Number of Days to Update: 37	Next Scheduled EDR Contact: 02/29/2016
	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: 09/28/2015	Source: Ventura County Resource Management Agency
Date Data Arrived at EDR: 10/28/2015	Telephone: 805-654-2813
Date Made Active in Reports: 11/19/2015	Last EDR Contact: 01/25/2016
Number of Days to Update: 22	Next Scheduled EDR Contact: 05/09/2016
	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: 11/30/2015	Source: Environmental Health Division
Date Data Arrived at EDR: 12/17/2015	Telephone: 805-654-2813
Date Made Active in Reports: 02/08/2016	Last EDR Contact: 12/17/2015
Number of Days to Update: 53	Next Scheduled EDR Contact: 03/28/2016
	Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 10/19/2015	Source: Yolo County Department of Health
Date Data Arrived at EDR: 10/27/2015	Telephone: 530-666-8646
Date Made Active in Reports: 11/19/2015	Last EDR Contact: 02/01/2016
Number of Days to Update: 23	Next Scheduled EDR Contact: 04/18/2016
	Data Release Frequency: Annually

YUBA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 11/13/2015
Date Data Arrived at EDR: 11/17/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 24

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Varies

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: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/16/2015
Next Scheduled EDR Contact: 02/29/2016
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/12/2015
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
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: 11/02/2015
Date Data Arrived at EDR: 11/08/2015
Date Made Active in Reports: 12/09/2015
Number of Days to Update: 31

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 02/03/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/18/2015
Number of Days to Update: 25

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/19/2016
Next Scheduled EDR Contact: 05/02/2016
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/19/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2014

Date Data Arrived at EDR: 03/19/2015

Date Made Active in Reports: 04/07/2015

Number of Days to Update: 19

Source: Department of Natural Resources

Telephone: N/A

Last EDR Contact: 12/09/2015

Next Scheduled EDR Contact: 03/28/2016

Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities

Source: Department of Social Services

Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 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, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Department of Fish & Game

Telephone: 916-445-0411

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK® - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

110 AND 132 EAST CROWTHER AVENUE
110 AND 132 EAST CROWTHER AVENUE
PLACENTIA, CA 92870

TARGET PROPERTY COORDINATES

Latitude (North): 33.867528 - 33° 52' 3.10"
Longitude (West): 117.871348 - 117° 52' 16.85"
Universal Transverse Mercator: Zone 11
UTM X (Meters): 419405.2
UTM Y (Meters): 3747615.5
Elevation: 234 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map: 5641308 ORANGE, CA
Version Date: 2012

Northeast Map: 5640946 YORBA LINDA, CA
Version Date: 2012

Southwest Map: 5641294 ANAHEIM, CA
Version Date: 2012

Northwest Map: 5640256 LA HABRA, CA
Version Date: 2012

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).

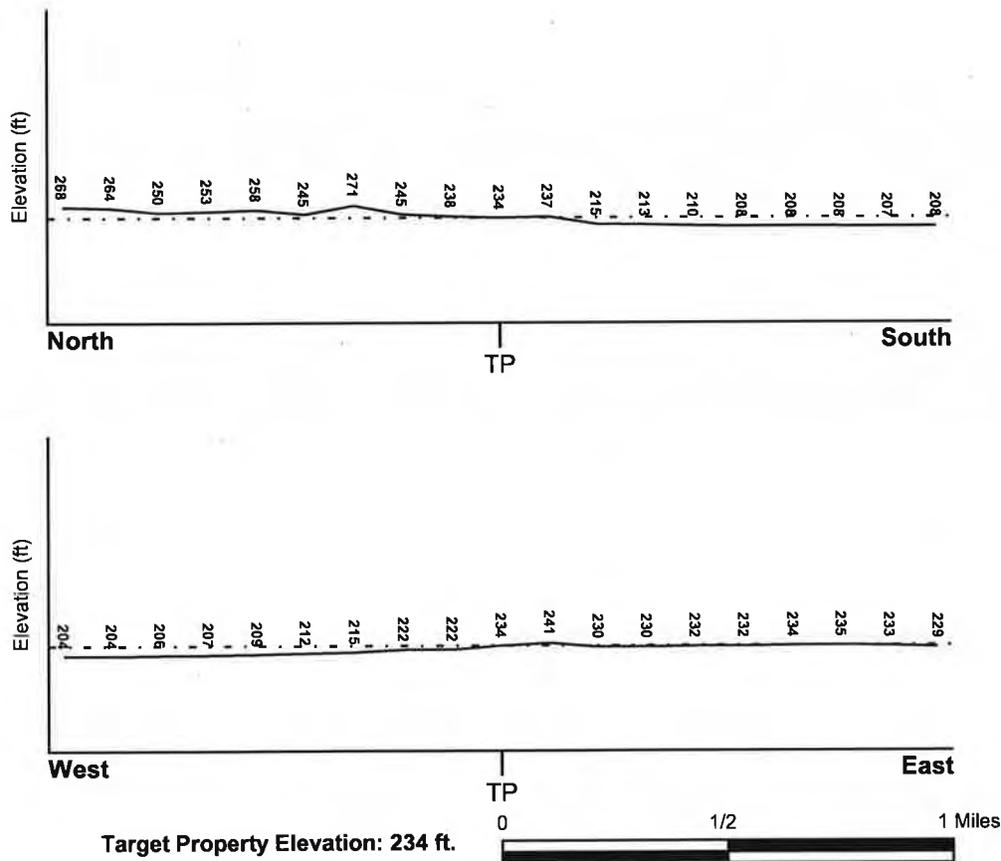
TOPOGRAPHIC INFORMATION

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 South

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
ORANGE, CA

FEMA Flood
Electronic Data
YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06059C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property
ORANGE

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
Location Relative to TP:	1 - 2 Miles East
Site Name:	Precision Anodizing And Plating
Site EPA ID Number:	CAD067629873
Groundwater Flow Direction:	SW TOWARD THE PACIFIC OCEAN ON A REGIONAL BASIS. THE FLOW IS DIFFICULT TO DETERMINE IN THE VICINITY OF THE SITE BECAUSE OF THE PRESENCE OF TWO RECHARGE BASINS, THE MILLER RETARDING BASIN AND ANAHEIM LAKE.
Measured Depth to Water:	15 feet.
Hydraulic Connection:	Separation of the surficial aquifer (semi-perched water zone) and underlying Talbert water bearing zone is indistinct in the vicinity of the site.
Sole Source Aquifer:	No information about a sole source aquifer is available
Data Quality:	Information based on site-specific subsurface investigations is documented in the CERCLIS investigation report(s)

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>
---------------	-------------------------	---

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
B5	1/4 - 1/2 Mile SSW	SW
B6	1/4 - 1/2 Mile SSW	Not Reported
B7	1/4 - 1/2 Mile SSW	Not Reported
8	1/2 - 1 Mile NW	S
9	1/2 - 1 Mile ESE	Not Reported
10	1/2 - 1 Mile NW	W
11	1/2 - 1 Mile SSE	Not Reported
13	1/2 - 1 Mile NNW	S
16	1/2 - 1 Mile NNW	W

For additional site information, refer to Physical Setting Source Map Findings.

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

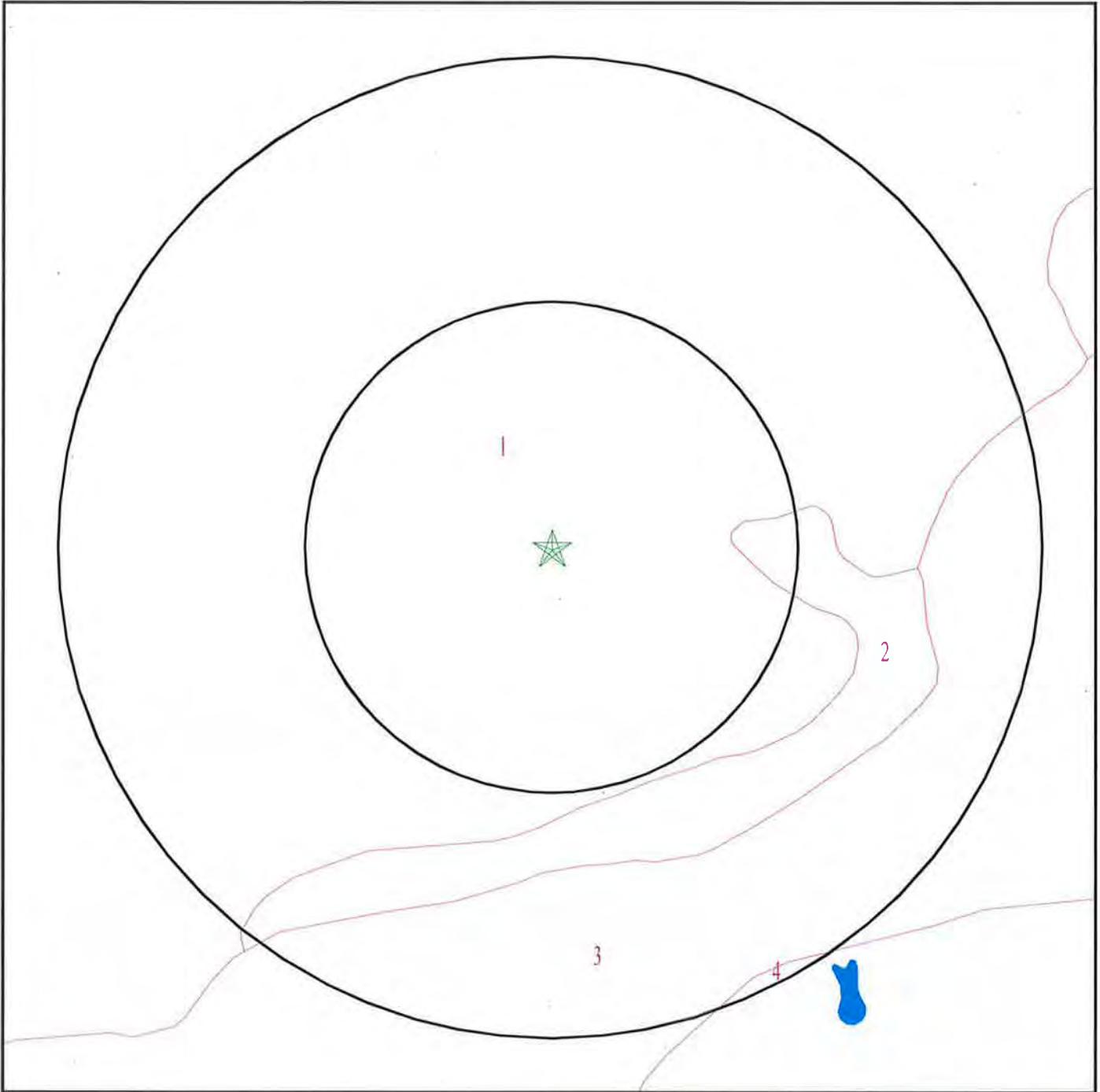
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q (decoded above as Era, System & Series)

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 - 4537608.2s



- ★ Target Property
- ∕ SSURGO Soil
- ∕ Water



SITE NAME: 110 and 132 East Crowther Avenue
ADDRESS: 110 and 132 East Crowther Avenue
Placentia CA 92870
LAT/LONG: 33.867528 / 117.871348

CLIENT: Advanced Env. Concepts
CONTACT: Vanessa Radsick
INQUIRY #: 4537608.2s
DATE: February 12, 2016 4:32 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: MYFORD

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: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

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	11 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 6 Min: 5.1
2	11 inches	18 inches	sandy clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
3	18 inches	27 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6

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	27 inches	70 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 8.4 Min: 6.1
5	70 inches	79 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1

Soil Map ID: 2

Soil Component Name: MYFORD

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: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

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	11 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 6 Min: 5.1

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	11 inches	18 inches	sandy clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
3	18 inches	27 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
4	27 inches	70 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 8.4 Min: 6.1
5	70 inches	79 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 6.5 Min: 6.1

Soil Map ID: 3

Soil Component Name: MOCHO

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: High

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	31 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 8.4 Min: 7.9
2	31 inches	61 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 8.4 Min: 7.9

Soil Map ID: 4

Soil Component Name: METZ

Soil Surface Texture: loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

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	16 inches	loamy sand	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: 14 Min: 4	Max: 8.4 Min: 6.6
2	16 inches	62 inches	stratified sand to 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: 14 Min: 4	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

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 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	USGS40000138676	0 - 1/8 Mile NNW
C17	USGS40000138655	1/2 - 1 Mile ESE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
A2	3843	1/8 - 1/4 Mile ESE
A3	3844	1/8 - 1/4 Mile ESE
A4	5094	1/8 - 1/4 Mile ESE
12	CADW60000000619	1/2 - 1 Mile North
14	3791	1/2 - 1 Mile NE
C15	CADW60000018514	1/2 - 1 Mile ESE
18	CADW60000018075	1/2 - 1 Mile SSE
19	CADW60000001472	1/2 - 1 Mile NE

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

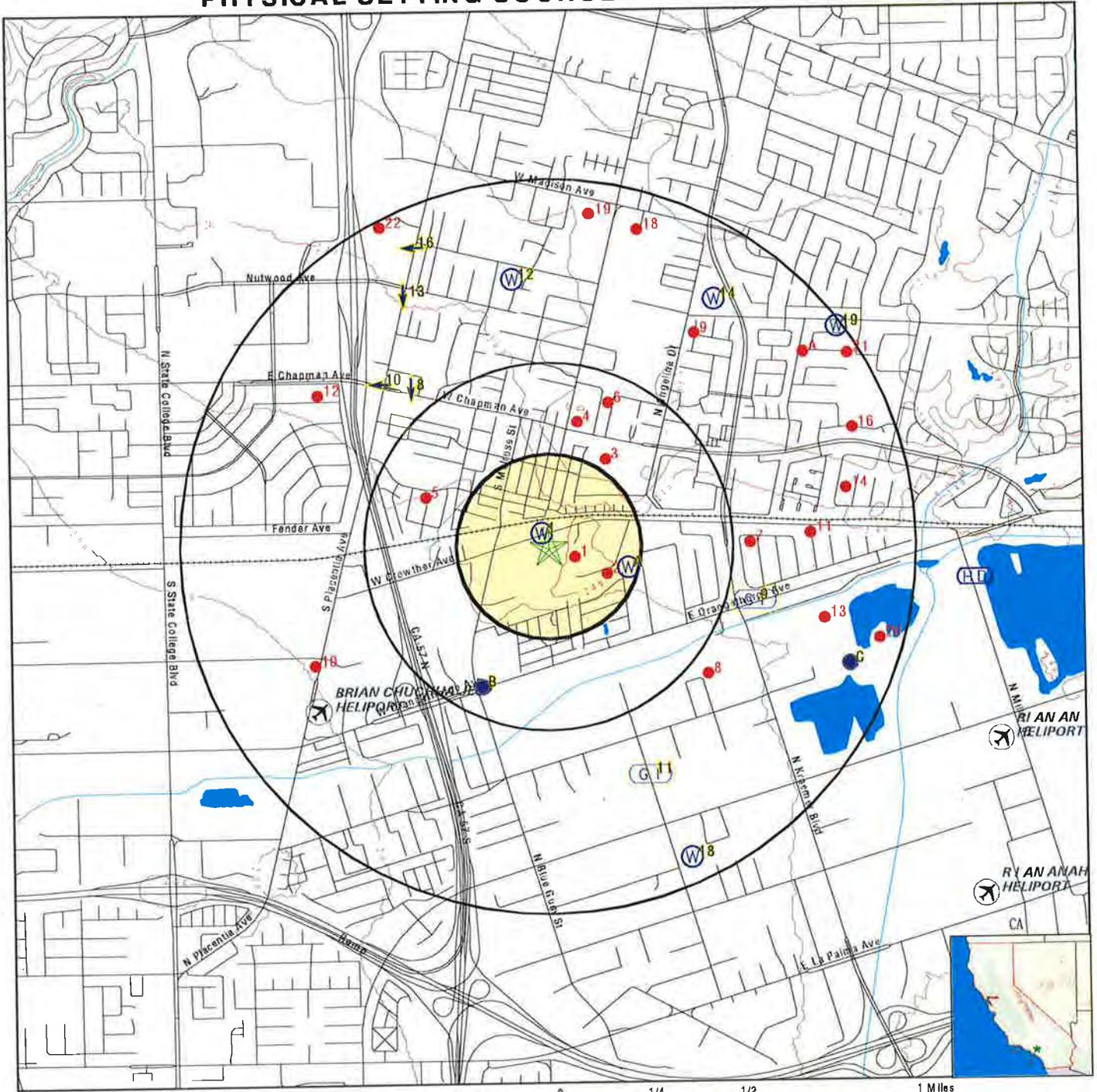
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	CAOG11000221337	0 - 1/8 Mile ESE
2	CAOG11000221385	1/8 - 1/4 Mile ESE
3	CAOG11000221157	1/4 - 1/2 Mile NE
4	CAOG11000221025	1/4 - 1/2 Mile NNE
5	CAOG11000218047	1/4 - 1/2 Mile WNW
6	CAOG11000221407	1/4 - 1/2 Mile NNE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
7	CAOG11000221153	1/2 - 1 Mile East
8	CAOG11000221376	1/2 - 1 Mile SE
9	CAOG11000217424	1/2 - 1 Mile NE
10	CAOG11000217901	1/2 - 1 Mile WSW
11	CAOG11000221154	1/2 - 1 Mile East
12	CAOG11000217894	1/2 - 1 Mile NW
13	CAOG11000217428	1/2 - 1 Mile ESE
14	CAOG11000221121	1/2 - 1 Mile East
A15	CAOG11000221128	1/2 - 1 Mile NE
16	CAOG11000221052	1/2 - 1 Mile ENE
A17	CAOG11000221126	1/2 - 1 Mile NE
18	CAOG11000221277	1/2 - 1 Mile NNE
19	CAOG11000221410	1/2 - 1 Mile North
20	CAOG11000221316	1/2 - 1 Mile ESE
21	CAOG11000217742	1/2 - 1 Mile ENE
22	CAOG11000217898	1/2 - 1 Mile NNW

PHYSICAL SETTING SOURCE MAP - 4537608.2s



- 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: 110 and 132 East Crowther Avenue
 ADDRESS: 110 and 132 East Crowther Avenue
 Placentia CA 92870
 LAT/LONG: 33.867528 / 117.871348

CLIENT: Advanced Env. Concepts
 CONTACT: Vanessa Radsick
 INQUIRY #: 4537608.2s
 DATE: February 12, 2016 4:31 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

1 NNW 0 - 1/8 Mile Lower	FED USGS	USGS40000138676
--	----------	-----------------

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-335205117521801		
Monloc name:	003S010W36H002S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	Not Reported	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	33.8680556
Longitude:	-117.8716667	Sourcemap scale:	24000
Horiz Acc measure:	.5	Horiz Acc measure units:	seconds
Horiz Collection method:	Global positioning system (GPS), uncorrected		
Horiz coord refsys:	NAD83	Vert measure val:	230
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

A2
ESE
 1/8 - 1/4 Mile
 Lower

CA WELLS 3843

Water System Information:

Prime Station Code:	03S/10W-36H01 S	User ID:	TEE
FRDS Number:	3010035001	County:	Orange
District Number:	08	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Untreated
Source Lat/Long:	335200.0 1175200.0	Precision:	Undefined
Source Name:	BRADFORD 03		
System Number:	3010035		
System Name:	Southern Calif WC - Placentia		
Organization That Operates System:	1920 W. CORPORATE WAY ANAHEIM, CA 92801		
Pop Served:	28900	Connections:	8769
Area Served:	PLACENTIA CITY		
Sample Collected:	29-JUL-14	Findings:	. 865. US
Chemical:	SPECIFIC CONDUCTANCE		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	29-JUL-14	Findings:	. 7.9
Chemical:	PH, LABORATORY		
Sample Collected:	29-JUL-14	Findings:	. 176. MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO ₃		
Sample Collected:	29-JUL-14	Findings:	. 214. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	29-JUL-14	Findings:	. 0.38 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	29-JUL-14	Findings:	. 334. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO ₃		
Sample Collected:	29-JUL-14	Findings:	. 104. MG/L
Chemical:	CALCIUM		
Sample Collected:	29-JUL-14	Findings:	. 18.1 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	29-JUL-14	Findings:	. 59.8 MG/L
Chemical:	SODIUM		
Sample Collected:	29-JUL-14	Findings:	. 4.1 MG/L
Chemical:	POTASSIUM		
Sample Collected:	29-JUL-14	Findings:	. 88.4 MG/L
Chemical:	CHLORIDE		
Sample Collected:	29-JUL-14	Findings:	. 0.41 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	29-JUL-14	Findings:	. 170. UG/L
Chemical:	BORON		
Sample Collected:	29-JUL-14	Findings:	. 3.8 UG/L
Chemical:	VANADIUM		
Sample Collected:	29-JUL-14	Findings:	. 550. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	29-JUL-14	Findings:	. 9.5 MG/L
Chemical:	NITRATE (AS NO ₃)		
Sample Collected:	29-JUL-14	Findings:	. 0.2 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	29-JUL-14	Findings:	. 0.16 MG/L
Chemical:	BROMIDE		
Sample Collected:	29-JUL-14	Findings:	. 2150. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	13-AUG-14	Findings:	. 4.74 PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	13-AUG-14	Findings:	. 1.82 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	13-AUG-14	Findings:	. 0.529 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	13-AUG-14	Findings:	. 6.58 PCI/L
Chemical:	URANIUM (PCI/L)		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	13-AUG-14	Findings:	1.64 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	13-AUG-14	Findings:	1.11 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	13-AUG-14	Findings:	0.3 PCI/L
Chemical:	URANIUM MDA95		
Sample Collected:	13-AUG-14	Findings:	0.2 PCI/L
Chemical:	RADIUM 228 MDA95		
Sample Collected:	13-AUG-14	Findings:	9.8e-002 PCI/L
Chemical:	RA-226 OR TOTAL RA BY 903.0 C.E.		
Sample Collected:	13-AUG-14	Findings:	0.363 PCI/L
Chemical:	RADIUM, TOTAL, MDA95-NTNC ONLY, BY 903.0		
Sample Collected:	05-JAN-15	Findings:	280. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	05-JAN-15	Findings:	87. MG/L
Chemical:	CALCIUM		
Sample Collected:	05-JAN-15	Findings:	15. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	05-JAN-15	Findings:	550. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	20-JAN-15	Findings:	9.7 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	20-JAN-15	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	20-JAN-15	Findings:	2200. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	15-JUN-15	Findings:	8.9 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	15-JUN-15	Findings:	2020. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	24-JAN-11	Findings:	370. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	24-JAN-11	Findings:	110. MG/L
Chemical:	CALCIUM		
Sample Collected:	24-JAN-11	Findings:	20. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	24-JAN-11	Findings:	610. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	18-JUL-11	Findings:	973. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	18-JUL-11	Findings:	8.
Chemical:	PH, LABORATORY		
Sample Collected:	18-JUL-11	Findings:	190. MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO3		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	18-JUL-11	Findings:	231. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	18-JUL-11	Findings:	0.4 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	18-JUL-11	Findings:	382. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO ₃		
Sample Collected:	18-JUL-11	Findings:	117. MG/L
Chemical:	CALCIUM		
Sample Collected:	18-JUL-11	Findings:	21.9 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	18-JUL-11	Findings:	55.6 MG/L
Chemical:	SODIUM		
Sample Collected:	18-JUL-11	Findings:	3.8 MG/L
Chemical:	POTASSIUM		
Sample Collected:	18-JUL-11	Findings:	94.4 MG/L
Chemical:	CHLORIDE		
Sample Collected:	18-JUL-11	Findings:	0.43 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	18-JUL-11	Findings:	3.3 UG/L
Chemical:	VANADIUM		
Sample Collected:	18-JUL-11	Findings:	600. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	18-JUL-11	Findings:	13.3 MG/L
Chemical:	NITRATE (AS NO ₃)		
Sample Collected:	18-JUL-11	Findings:	0.2 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	18-JUL-11	Findings:	0.2 MG/L
Chemical:	BROMIDE		
Sample Collected:	18-JUL-11	Findings:	3010. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	10-OCT-11	Findings:	10.7 PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	10-OCT-11	Findings:	1.96 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	10-OCT-11	Findings:	9.84 PCI/L
Chemical:	URANIUM (PCI/L)		
Sample Collected:	10-OCT-11	Findings:	1.1 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	24-JAN-12	Findings:	280. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO ₃		
Sample Collected:	24-JAN-12	Findings:	86. MG/L
Chemical:	CALCIUM		
Sample Collected:	24-JAN-12	Findings:	15. MG/L
Chemical:	MAGNESIUM		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	24-JAN-12	Findings:	530. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	02-JUL-12	Findings:	2.3 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	12-JUL-12	Findings:	875. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	12-JUL-12	Findings:	8.1
Chemical:	PH, LABORATORY		
Sample Collected:	12-JUL-12	Findings:	172. MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO3		
Sample Collected:	12-JUL-12	Findings:	209. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	12-JUL-12	Findings:	0.32 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	12-JUL-12	Findings:	317. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	12-JUL-12	Findings:	98.5 MG/L
Chemical:	CALCIUM		
Sample Collected:	12-JUL-12	Findings:	17.2 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	12-JUL-12	Findings:	51.7 MG/L
Chemical:	SODIUM		
Sample Collected:	12-JUL-12	Findings:	4.1 MG/L
Chemical:	POTASSIUM		
Sample Collected:	12-JUL-12	Findings:	85.8 MG/L
Chemical:	CHLORIDE		
Sample Collected:	12-JUL-12	Findings:	0.42 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	12-JUL-12	Findings:	140. UG/L
Chemical:	BORON		
Sample Collected:	12-JUL-12	Findings:	3.9 UG/L
Chemical:	VANADIUM		
Sample Collected:	12-JUL-12	Findings:	516. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	12-JUL-12	Findings:	11.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	12-JUL-12	Findings:	0.32 MG/L
Chemical:	BROMIDE		
Sample Collected:	12-JUL-12	Findings:	2510. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	12-JUL-12	Findings:	7.3 PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	12-JUL-12	Findings:	1.53 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	12-JUL-12	Findings:	6.91 PCI/L
Chemical:	URANIUM (PCI/L)		
Sample Collected:	12-JUL-12	Findings:	0.91 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	06-AUG-12	Findings:	2.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04-SEP-12	Findings:	2.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	10-OCT-12	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	05-NOV-12	Findings:	2.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	14-JAN-13	Findings:	7.68
Chemical:	PH, LABORATORY		
Sample Collected:	14-JAN-13	Findings:	300. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	14-JAN-13	Findings:	92. MG/L
Chemical:	CALCIUM		
Sample Collected:	14-JAN-13	Findings:	16. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	14-JAN-13	Findings:	480. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	14-JAN-13	Findings:	2.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	05-FEB-13	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	24-JUN-13	Findings:	0.6 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	29-JUL-13	Findings:	901. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	29-JUL-13	Findings:	7.8
Chemical:	PH, LABORATORY		
Sample Collected:	29-JUL-13	Findings:	167. MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO3		
Sample Collected:	29-JUL-13	Findings:	167. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	29-JUL-13	Findings:	0.46 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	29-JUL-13	Findings:	314. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	29-JUL-13	Findings:	97.9 MG/L
Chemical:	CALCIUM		
Sample Collected:	29-JUL-13	Findings:	16.9 MG/L
Chemical:	MAGNESIUM		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	29-JUL-13	Findings:	53.7 MG/L
Chemical:	SODIUM		
Sample Collected:	29-JUL-13	Findings:	3.7 MG/L
Chemical:	POTASSIUM		
Sample Collected:	29-JUL-13	Findings:	87.9 MG/L
Chemical:	CHLORIDE		
Sample Collected:	29-JUL-13	Findings:	0.42 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	29-JUL-13	Findings:	170. UG/L
Chemical:	BORON		
Sample Collected:	29-JUL-13	Findings:	3.4 UG/L
Chemical:	VANADIUM		
Sample Collected:	29-JUL-13	Findings:	554. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	29-JUL-13	Findings:	9.3 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	29-JUL-13	Findings:	0.6 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	29-JUL-13	Findings:	0.16 MG/L
Chemical:	BROMIDE		
Sample Collected:	29-JUL-13	Findings:	2100. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	30-JUL-13	Findings:	0.5 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	30-JUL-13	Findings:	0.5 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	05-AUG-13	Findings:	2.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03-SEP-13	Findings:	2.2 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	22-OCT-13	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	27-NOV-13	Findings:	6. PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	27-NOV-13	Findings:	2.05 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	27-NOV-13	Findings:	4.93 PCI/L
Chemical:	URANIUM (PCI/L)		
Sample Collected:	27-NOV-13	Findings:	1.26 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	27-NOV-13	Findings:	1.56 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	27-NOV-13	Findings:	0.3 PCI/L
Chemical:	URANIUM MDA95		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	23-JAN-14	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	23-JAN-14	Findings:	. 0.493 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	23-JAN-14	Findings:	. 0.253 PCI/L
Chemical:	RADIUM 228 MDA95		
Sample Collected:	23-JAN-14	Findings:	. 0.138 PCI/L
Chemical:	RA-226 OR TOTAL RA BY 903.0 C.E.		
Sample Collected:	23-JAN-14	Findings:	. 0.322 PCI/L
Chemical:	RADIUM, TOTAL, MDA95-NTNC ONLY, BY 903.0		
Sample Collected:	03-MAR-14	Findings:	7.63
Chemical:	PH, LABORATORY		
Sample Collected:	03-MAR-14	Findings:	290. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	03-MAR-14	Findings:	88. MG/L
Chemical:	CALCIUM		
Sample Collected:	03-MAR-14	Findings:	17. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	03-MAR-14	Findings:	600. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	16-APR-14	Findings:	. 0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		

A3
ESE
1/8 - 1/4 Mile
Lower

CA WELLS 3844

Water System Information:

Prime Station Code:	03S/10W-36H02 S	User ID:	TEE
FRDS Number:	3010035002	County:	Orange
District Number:	08	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Untreated
Source Lat/Long:	335200.0 1175200.0	Precision:	Undefined
Source Name:	BRADFORD 04		
System Number:	3010035		
System Name:	Southern Calif WC - Placentia		
Organization That Operates System:	1920 W. CORPORATE WAY ANAHEIM, CA 92801	Connections:	8769
Pop Served:	28900	Findings:	. 10.09 MG/L
Area Served:	PLACENTIA CITY		
Sample Collected:	25-MAR-15	Findings:	. 0.7 UG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	25-MAR-15	Findings:	. 2280. UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	25-MAR-15	Findings:	. 2280. UG/L
Chemical:	NITRATE + NITRITE (AS N)		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	20-APR-15	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	24-JAN-11	Findings:	250. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO ₃		
Sample Collected:	24-JAN-11	Findings:	77. MG/L
Chemical:	CALCIUM		
Sample Collected:	24-JAN-11	Findings:	14. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	24-JAN-11	Findings:	490. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	13-APR-11	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	18-JUL-11	Findings:	4. UNITS
Chemical:	COLOR		
Sample Collected:	18-JUL-11	Findings:	769. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	18-JUL-11	Findings:	8.
Chemical:	PH, LABORATORY		
Sample Collected:	18-JUL-11	Findings:	148. MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO ₃		
Sample Collected:	18-JUL-11	Findings:	148. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	18-JUL-11	Findings:	0.38 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	18-JUL-11	Findings:	253. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO ₃		
Sample Collected:	18-JUL-11	Findings:	77.4 MG/L
Chemical:	CALCIUM		
Sample Collected:	18-JUL-11	Findings:	14.6 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	18-JUL-11	Findings:	54.7 MG/L
Chemical:	SODIUM		
Sample Collected:	18-JUL-11	Findings:	3.3 MG/L
Chemical:	POTASSIUM		
Sample Collected:	18-JUL-11	Findings:	73.7 MG/L
Chemical:	CHLORIDE		
Sample Collected:	18-JUL-11	Findings:	0.49 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	18-JUL-11	Findings:	170. UG/L
Chemical:	BORON		
Sample Collected:	18-JUL-11	Findings:	3.5 UG/L
Chemical:	VANADIUM		
Sample Collected:	18-JUL-11	Findings:	504. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	18-JUL-11	Findings:	12.1 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	18-JUL-11	Findings:	0.4 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	18-JUL-11	Findings:	0.13 MG/L
Chemical:	BROMIDE		
Sample Collected:	18-JUL-11	Findings:	2730. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	18-JUL-11	Findings:	7.63 PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	18-JUL-11	Findings:	1.68 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	18-JUL-11	Findings:	6.21 PCI/L
Chemical:	URANIUM (PCI/L)		
Sample Collected:	18-JUL-11	Findings:	0.87 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	09-JAN-12	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	16-APR-12	Findings:	0.6 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	04-JUN-12	Findings:	0.6 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	04-JUN-12	Findings:	0.6 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	02-JUL-12	Findings:	2.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	12-JUL-12	Findings:	863. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	12-JUL-12	Findings:	7.9
Chemical:	PH, LABORATORY		
Sample Collected:	12-JUL-12	Findings:	157. MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO3		
Sample Collected:	12-JUL-12	Findings:	191. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	12-JUL-12	Findings:	0.43 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	12-JUL-12	Findings:	293. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	12-JUL-12	Findings:	88.3 MG/L
Chemical:	CALCIUM		
Sample Collected:	12-JUL-12	Findings:	17.5 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	12-JUL-12	Findings:	60.1 MG/L
Chemical:	SODIUM		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	12-JUL-12	Findings:	4.1 MG/L
Chemical:	POTASSIUM		
Sample Collected:	12-JUL-12	Findings:	86.9 MG/L
Chemical:	CHLORIDE		
Sample Collected:	12-JUL-12	Findings:	0.46 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	12-JUL-12	Findings:	190. UG/L
Chemical:	BORON		
Sample Collected:	12-JUL-12	Findings:	3.2 UG/L
Chemical:	VANADIUM		
Sample Collected:	12-JUL-12	Findings:	534. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	12-JUL-12	Findings:	11.2 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	12-JUL-12	Findings:	0.7 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	12-JUL-12	Findings:	0.17 MG/L
Chemical:	BROMIDE		
Sample Collected:	12-JUL-12	Findings:	2530. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	06-AUG-12	Findings:	2.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04-SEP-12	Findings:	2.6 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	10-OCT-12	Findings:	0.5 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	05-NOV-12	Findings:	2.7 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04-DEC-12	Findings:	2.7 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	07-JAN-13	Findings:	3.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	07-JAN-13	Findings:	7.95
Chemical:	PH, LABORATORY		
Sample Collected:	07-JAN-13	Findings:	350. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	07-JAN-13	Findings:	110. MG/L
Chemical:	CALCIUM		
Sample Collected:	07-JAN-13	Findings:	19. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	07-JAN-13	Findings:	530. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	05-FEB-13	Findings:	2.7 MG/L
Chemical:	NITRATE (AS NO3)		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	05-FEB-13	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	05-MAR-13	Findings:	2.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	01-APR-13	Findings:	2.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	18-APR-13	Findings:	864. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	18-APR-13	Findings:	3.9 UG/L
Chemical:	VANADIUM		
Sample Collected:	18-APR-13	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	06-MAY-13	Findings:	2.3 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03-JUN-13	Findings:	2.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03-JUL-13	Findings:	2.2 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	29-JUL-13	Findings:	807. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	29-JUL-13	Findings:	7.8
Chemical:	PH, LABORATORY		
Sample Collected:	29-JUL-13	Findings:	153. MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO3		
Sample Collected:	29-JUL-13	Findings:	186. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	29-JUL-13	Findings:	0.49 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	29-JUL-13	Findings:	262. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	29-JUL-13	Findings:	79.9 MG/L
Chemical:	CALCIUM		
Sample Collected:	29-JUL-13	Findings:	15.1 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	29-JUL-13	Findings:	54.8 MG/L
Chemical:	SODIUM		
Sample Collected:	29-JUL-13	Findings:	3.6 MG/L
Chemical:	POTASSIUM		
Sample Collected:	29-JUL-13	Findings:	77. MG/L
Chemical:	CHLORIDE		
Sample Collected:	29-JUL-13	Findings:	0.44 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	29-JUL-13	Findings:	180. UG/L
Chemical:	BORON		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	29-JUL-13	Findings:	3.4 UG/L
Chemical:	VANADIUM		
Sample Collected:	29-JUL-13	Findings:	492. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	29-JUL-13	Findings:	11.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	29-JUL-13	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	29-JUL-13	Findings:	0.13 MG/L
Chemical:	BROMIDE		
Sample Collected:	29-JUL-13	Findings:	2580. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	05-AUG-13	Findings:	2.6 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	03-SEP-13	Findings:	2.6 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	23-OCT-13	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	23-JAN-14	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	25-MAR-14	Findings:	7.66
Chemical:	PH, LABORATORY		
Sample Collected:	25-MAR-14	Findings:	260. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	25-MAR-14	Findings:	78. MG/L
Chemical:	CALCIUM		
Sample Collected:	25-MAR-14	Findings:	15. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	25-MAR-14	Findings:	470. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	16-APR-14	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	29-JUL-14	Findings:	740. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	29-JUL-14	Findings:	7.9
Chemical:	PH, LABORATORY		
Sample Collected:	29-JUL-14	Findings:	143. MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO3		
Sample Collected:	29-JUL-14	Findings:	175. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	29-JUL-14	Findings:	0.33 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	29-JUL-14	Findings:	246. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	29-JUL-14	Findings:	. 74.7 MG/L
Chemical:	CALCIUM		
Sample Collected:	29-JUL-14	Findings:	. 14.6 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	29-JUL-14	Findings:	. 56.4 MG/L
Chemical:	SODIUM		
Sample Collected:	29-JUL-14	Findings:	. 3.8 MG/L
Chemical:	POTASSIUM		
Sample Collected:	29-JUL-14	Findings:	. 76.4 MG/L
Chemical:	CHLORIDE		
Sample Collected:	29-JUL-14	Findings:	. 0.44 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	29-JUL-14	Findings:	. 190. UG/L
Chemical:	BORON		
Sample Collected:	29-JUL-14	Findings:	. 4.2 UG/L
Chemical:	VANADIUM		
Sample Collected:	29-JUL-14	Findings:	. 446. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	29-JUL-14	Findings:	. 10.4 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	29-JUL-14	Findings:	. 0.2 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	29-JUL-14	Findings:	. 0.15 MG/L
Chemical:	BROMIDE		
Sample Collected:	29-JUL-14	Findings:	. 2350. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	29-JUL-14	Findings:	. 7.72 PCI/L
Chemical:	GROSS ALPHA		
Sample Collected:	29-JUL-14	Findings:	. 2.11 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	29-JUL-14	Findings:	. 0.588 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	29-JUL-14	Findings:	. 1.66 PCI/L
Chemical:	URANIUM (PCI/L)		
Sample Collected:	29-JUL-14	Findings:	. 0.835 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	29-JUL-14	Findings:	. 1.11 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	29-JUL-14	Findings:	. 0.343 PCI/L
Chemical:	URANIUM MDA95		
Sample Collected:	29-JUL-14	Findings:	. 0.2 PCI/L
Chemical:	RADIUM 228 MDA95		
Sample Collected:	29-JUL-14	Findings:	. 5.8e-002 PCI/L
Chemical:	RA-226 FOR CWS OR TOTAL RA FOR NTNC BY 903.0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	29-JUL-14	Findings:	. 0.196 PCI/L
Chemical:	RA-226 OR TOTAL RA BY 903.0 C.E.		
Sample Collected:	29-JUL-14	Findings:	. 0.47 PCI/L
Chemical:	RADIUM, TOTAL, MDA95-NTNC ONLY, BY 903.0		
Sample Collected:	17-MAR-15	Findings:	. 7.7
Chemical:	PH, LABORATORY		
Sample Collected:	17-MAR-15	Findings:	. 310. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	17-MAR-15	Findings:	. 94. MG/L
Chemical:	CALCIUM		
Sample Collected:	17-MAR-15	Findings:	. 18. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	17-MAR-15	Findings:	. 570. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	18-MAR-15	Findings:	. 7.72
Chemical:	PH, LABORATORY		
Sample Collected:	18-MAR-15	Findings:	. 300. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	18-MAR-15	Findings:	. 92. MG/L
Chemical:	CALCIUM		
Sample Collected:	18-MAR-15	Findings:	. 18. MG/L
Chemical:	MAGNESIUM		

A4
ESE
1/8 - 1/4 Mile
Lower

CA WELLS 5094

Water System Information:

Prime Station Code:	04S/10W-01B01 S	User ID:	TEE
FRDS Number:	3010035003	County:	Orange
District Number:	08	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Untreated
Source Lat/Long:	335200.0 1175200.0	Precision:	Undefined
Source Name:	LA JOLLA 02		
System Number:	3010035		
System Name:	Southern Calif WC - Placentia		
Organization That Operates System:	1920 W. CORPORATE WAY ANAHEIM, CA 92801		
Pop Served:	28900	Connections:	8769
Area Served:	PLACENTIA CITY		
Sample Collected:	04-JUN-12	Findings:	274. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	04-JUN-12	Findings:	5.75 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04-JUN-12	Findings:	1.2 UG/L
Chemical:	TOTAL TRIHALOMETHANES		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	04-JUN-12	Findings:	1300. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	04-JUN-12	Findings:	0.73 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	04-JUN-12	Findings:	1.42 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	04-JUN-12	Findings:	212. PCI/L
Chemical:	TRITIUM COUNTING ERROR		
Sample Collected:	04-JUN-12	Findings:	0.34 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	10-SEP-12	Findings:	0.11 PCI/L
Chemical:	RADIUM 226 COUNTING ERROR		
Sample Collected:	10-SEP-12	Findings:	0.37 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	10-SEP-12	Findings:	0.28 PCI/L
Chemical:	COMBINED RA 226 + RA 228		
Sample Collected:	10-SEP-12	Findings:	0.36 PCI/L
Chemical:	COMBINED RA 226 + RA 228 COUNTING ERROR		
Sample Collected:	10-SEP-12	Findings:	0.52 PCI/L
Chemical:	STRONTIUM-90 COUNTING ERROR		
Sample Collected:	10-SEP-12	Findings:	396. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	10-SEP-12	Findings:	8.1
Chemical:	PH, LABORATORY		
Sample Collected:	10-SEP-12	Findings:	72.6 MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO ₃		
Sample Collected:	10-SEP-12	Findings:	88.5 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	10-SEP-12	Findings:	75.5 MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO ₃		
Sample Collected:	10-SEP-12	Findings:	19.8 MG/L
Chemical:	CALCIUM		
Sample Collected:	10-SEP-12	Findings:	6.3 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	10-SEP-12	Findings:	35.9 MG/L
Chemical:	SODIUM		
Sample Collected:	10-SEP-12	Findings:	2.9 MG/L
Chemical:	POTASSIUM		
Sample Collected:	10-SEP-12	Findings:	25.1 MG/L
Chemical:	CHLORIDE		
Sample Collected:	10-SEP-12	Findings:	0.66 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	10-SEP-12	Findings:	230. UG/L
Chemical:	BORON		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	10-SEP-12	Findings:	3.6 UG/L
Chemical:	VANADIUM		
Sample Collected:	03-JAN-11	Findings:	0.5 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	24-JAN-11	Findings:	120. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO ₃		
Sample Collected:	24-JAN-11	Findings:	31. MG/L
Chemical:	CALCIUM		
Sample Collected:	24-JAN-11	Findings:	9.7 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	24-JAN-11	Findings:	300. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	07-FEB-11	Findings:	0.17 PCI/L
Chemical:	RADIUM 226 COUNTING ERROR		
Sample Collected:	07-FEB-11	Findings:	0.42 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	07-FEB-11	Findings:	- 0.38 PCI/L
Chemical:	COMBINED RA 226 + RA 228		
Sample Collected:	07-FEB-11	Findings:	0.59 PCI/L
Chemical:	COMBINED RA 226 + RA 228 COUNTING ERROR		
Sample Collected:	07-FEB-11	Findings:	0.3 PCI/L
Chemical:	STRONTIUM-90 COUNTING ERROR		
Sample Collected:	07-FEB-11	Findings:	508. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	07-FEB-11	Findings:	7.7
Chemical:	PH, LABORATORY		
Sample Collected:	07-FEB-11	Findings:	80.4 MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO ₃		
Sample Collected:	07-FEB-11	Findings:	80.4 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	07-FEB-11	Findings:	0.39 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	07-FEB-11	Findings:	129. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO ₃		
Sample Collected:	07-FEB-11	Findings:	33.3 MG/L
Chemical:	CALCIUM		
Sample Collected:	07-FEB-11	Findings:	11.2 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	07-FEB-11	Findings:	53.6 MG/L
Chemical:	SODIUM		
Sample Collected:	07-FEB-11	Findings:	3.5 MG/L
Chemical:	POTASSIUM		
Sample Collected:	07-FEB-11	Findings:	47. MG/L
Chemical:	CHLORIDE		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	07-FEB-11	Findings:	0.6 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	07-FEB-11	Findings:	230. UG/L
Chemical:	BORON		
Sample Collected:	07-FEB-11	Findings:	304. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	07-FEB-11	Findings:	5.9 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	10-SEP-12	Findings:	220. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	10-SEP-12	Findings:	7.36 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	10-SEP-12	Findings:	0.1 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	10-SEP-12	Findings:	0.8 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	10-SEP-12	Findings:	1670. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	10-SEP-12	Findings:	0.62 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	10-SEP-12	Findings:	1.38 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	10-SEP-12	Findings:	367. PCI/L
Chemical:	TRITIUM COUNTING ERROR		
Sample Collected:	10-SEP-12	Findings:	0.28 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	19-NOV-12	Findings:	7.5e-002 PCI/L
Chemical:	RADIUM 226 COUNTING ERROR		
Sample Collected:	19-NOV-12	Findings:	0.22 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	19-NOV-12	Findings:	0.519 PCI/L
Chemical:	COMBINED RA 226 + RA 228		
Sample Collected:	19-NOV-12	Findings:	0.232 PCI/L
Chemical:	COMBINED RA 226 + RA 228 COUNTING ERROR		
Sample Collected:	19-NOV-12	Findings:	290. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	19-NOV-12	Findings:	7.8
Chemical:	PH, LABORATORY		
Sample Collected:	19-NOV-12	Findings:	65.2 MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO3		
Sample Collected:	19-NOV-12	Findings:	79.4 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	19-NOV-12	Findings:	62.4 MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	19-NOV-12	Findings:	16.5 MG/L
Chemical:	CALCIUM		
Sample Collected:	19-NOV-12	Findings:	5.2 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	19-NOV-12	Findings:	31. MG/L
Chemical:	SODIUM		
Sample Collected:	19-NOV-12	Findings:	2.6 MG/L
Chemical:	POTASSIUM		
Sample Collected:	19-NOV-12	Findings:	21.5 MG/L
Chemical:	CHLORIDE		
Sample Collected:	19-NOV-12	Findings:	0.77 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	07-FEB-11	Findings:	0.2 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07-FEB-11	Findings:	0.7 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	07-FEB-11	Findings:	1330. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	07-FEB-11	Findings:	0.89 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	07-FEB-11	Findings:	1.69 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	07-FEB-11	Findings:	209. PCI/L
Chemical:	TRITIUM COUNTING ERROR		
Sample Collected:	07-FEB-11	Findings:	1.2 PCI/L
Chemical:	URANIUM (PCI/L)		
Sample Collected:	07-FEB-11	Findings:	0.38 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	19-NOV-12	Findings:	240. UG/L
Chemical:	BORON		
Sample Collected:	19-NOV-12	Findings:	3.8 UG/L
Chemical:	VANADIUM		
Sample Collected:	19-NOV-12	Findings:	182. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	19-NOV-12	Findings:	0.66 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	19-NOV-12	Findings:	1.34 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	19-NOV-12	Findings:	214. PCI/L
Chemical:	TRITIUM COUNTING ERROR		
Sample Collected:	19-NOV-12	Findings:	0.25 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	07-JAN-13	Findings:	8.01
Chemical:	PH, LABORATORY		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	07-JAN-13	Findings:	54. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO ₃		
Sample Collected:	07-JAN-13	Findings:	14. MG/L
Chemical:	CALCIUM		
Sample Collected:	07-JAN-13	Findings:	4.4 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	07-JAN-13	Findings:	130. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	03-JUN-13	Findings:	.011 PCI/L
Chemical:	RADIUM 226 COUNTING ERROR		
Sample Collected:	03-JUN-13	Findings:	.02 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	03-JUN-13	Findings:	.0405 PCI/L
Chemical:	COMBINED RA 226 + RA 228		
Sample Collected:	03-JUN-13	Findings:	.0228 PCI/L
Chemical:	COMBINED RA 226 + RA 228 COUNTING ERROR		
Sample Collected:	03-JUN-13	Findings:	.061 PCI/L
Chemical:	STRONTIUM-90 COUNTING ERROR		
Sample Collected:	15-MAR-11	Findings:	1. UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	11-APR-11	Findings:	1.1 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	11-APR-11	Findings:	1.1 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	14-JUN-11	Findings:	8.8e-002 PCI/L
Chemical:	RADIUM 226 COUNTING ERROR		
Sample Collected:	14-JUN-11	Findings:	0.29 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	14-JUN-11	Findings:	0.549 PCI/L
Chemical:	COMBINED RA 226 + RA 228		
Sample Collected:	03-JUN-13	Findings:	8.09 MG/L
Chemical:	NITRATE (AS NO ₃)		
Sample Collected:	14-JUN-11	Findings:	0.303 PCI/L
Chemical:	COMBINED RA 226 + RA 228 COUNTING ERROR		
Sample Collected:	14-JUN-11	Findings:	584. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	14-JUN-11	Findings:	7.8
Chemical:	PH, LABORATORY		
Sample Collected:	14-JUN-11	Findings:	90.7 MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO ₃		
Sample Collected:	14-JUN-11	Findings:	90.7 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	14-JUN-11	Findings:	0.39 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	14-JUN-11	Findings:	173. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	14-JUN-11	Findings:	46. MG/L
Chemical:	CALCIUM		
Sample Collected:	14-JUN-11	Findings:	14.2 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	14-JUN-11	Findings:	59.4 MG/L
Chemical:	SODIUM		
Sample Collected:	14-JUN-11	Findings:	4.1 MG/L
Chemical:	POTASSIUM		
Sample Collected:	14-JUN-11	Findings:	75.4 MG/L
Chemical:	CHLORIDE		
Sample Collected:	14-JUN-11	Findings:	0.38 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	14-JUN-11	Findings:	200. UG/L
Chemical:	BORON		
Sample Collected:	03-JUN-13	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	03-JUN-13	Findings:	1830. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	03-JUN-13	Findings:	0.42 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	03-JUN-13	Findings:	1.37 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	03-JUN-13	Findings:	219. PCI/L
Chemical:	TRITIUM COUNTING ERROR		
Sample Collected:	03-JUN-13	Findings:	0.2 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	03-JUN-13	Findings:	1.44 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	03-JUN-13	Findings:	0.26 PCI/L
Chemical:	URANIUM MDA95		
Sample Collected:	03-JUN-13	Findings:	1.76 PCI/L
Chemical:	GROSS BETA MDA95		
Sample Collected:	03-JUN-13	Findings:	358. PCI/L
Chemical:	TRITIUM MDA95		
Sample Collected:	14-JUN-11	Findings:	348. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	14-JUN-11	Findings:	6. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	14-JUN-11	Findings:	0.1 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	14-JUN-11	Findings:	1. UG/L
Chemical:	TOTAL TRIHALOMETHANES		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	03-DEC-13	Findings:	0.25 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	03-MAR-14	Findings:	7.76
Chemical:	PH, LABORATORY		
Sample Collected:	03-MAR-14	Findings:	55. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO ₃		
Sample Collected:	03-MAR-14	Findings:	14. MG/L
Chemical:	CALCIUM		
Sample Collected:	03-MAR-14	Findings:	4.8 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	03-MAR-14	Findings:	180. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	10-MAR-14	Findings:	9.1 MG/L
Chemical:	NITRATE (AS NO ₃)		
Sample Collected:	10-MAR-14	Findings:	0.6 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	10-MAR-14	Findings:	2050. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	14-JUN-11	Findings:	0.14 MG/L
Chemical:	BROMIDE		
Sample Collected:	14-JUN-11	Findings:	1360. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	14-JUN-11	Findings:	0.79 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	14-JUN-11	Findings:	198. PCI/L
Chemical:	TRITIUM COUNTING ERROR		
Sample Collected:	14-JUN-11	Findings:	0.37 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	07-SEP-11	Findings:	487. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	07-SEP-11	Findings:	7.8
Chemical:	PH, LABORATORY		
Sample Collected:	07-SEP-11	Findings:	88.1 MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO ₃		
Sample Collected:	07-SEP-11	Findings:	88.1 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	07-SEP-11	Findings:	0.34 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	07-SEP-11	Findings:	117. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO ₃		
Sample Collected:	07-SEP-11	Findings:	30.7 MG/L
Chemical:	CALCIUM		
Sample Collected:	07-SEP-11	Findings:	9.9 MG/L
Chemical:	MAGNESIUM		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	07-SEP-11	Findings:	49.3 MG/L
Chemical:	SODIUM		
Sample Collected:	07-SEP-11	Findings:	3.2 MG/L
Chemical:	POTASSIUM		
Sample Collected:	07-SEP-11	Findings:	42.8 MG/L
Chemical:	CHLORIDE		
Sample Collected:	07-SEP-11	Findings:	0.58 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	07-SEP-11	Findings:	180. UG/L
Chemical:	BORON		
Sample Collected:	30-JUL-14	Findings:	0.657 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	30-JUL-14	Findings:	0.39 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	30-JUL-14	Findings:	1.05 PCI/L
Chemical:	URANIUM (PCI/L)		
Sample Collected:	30-JUL-14	Findings:	0.759 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	30-JUL-14	Findings:	1.11 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	30-JUL-14	Findings:	0.3 PCI/L
Chemical:	URANIUM MDA95		
Sample Collected:	30-JUL-14	Findings:	0.253 PCI/L
Chemical:	RADIUM 228 MDA95		
Sample Collected:	30-JUL-14	Findings:	0.143 PCI/L
Chemical:	RA-226 OR TOTAL RA BY 903.0 C.E.		
Sample Collected:	30-JUL-14	Findings:	0.418 PCI/L
Chemical:	RADIUM, TOTAL, MDA95-NTNC ONLY, BY 903.0		
Sample Collected:	04-AUG-14	Findings:	0.33 MG/L
Chemical:	AMMONIA (NH3-N)		
Sample Collected:	02-SEP-14	Findings:	0.26 MG/L
Chemical:	AMMONIA (NH3-N)		
Sample Collected:	05-JAN-15	Findings:	200. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	05-JAN-15	Findings:	54. MG/L
Chemical:	CALCIUM		
Sample Collected:	05-JAN-15	Findings:	16. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	05-JAN-15	Findings:	410. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	03-FEB-15	Findings:	0.32 MG/L
Chemical:	AMMONIA (NH3-N)		
Sample Collected:	20-APR-15	Findings:	1.8 UG/L
Chemical:	CHLOROFORM (THM)		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	07-SEP-11	Findings:	304. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	07-SEP-11	Findings:	7.5 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	20-APR-15	Findings:	1.8 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	18-MAY-15	Findings:	4.8 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	18-MAY-15	Findings:	1090. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	07-SEP-11	Findings:	0.1 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	07-SEP-11	Findings:	0.7 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	07-SEP-11	Findings:	1700. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	07-SEP-11	Findings:	0.93 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	07-SEP-11	Findings:	200. PCI/L
Chemical:	TRITIUM COUNTING ERROR		
Sample Collected:	07-SEP-11	Findings:	0.34 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	12-DEC-11	Findings:	6.5e-002 PCI/L
Chemical:	RADIUM 226 COUNTING ERROR		
Sample Collected:	12-DEC-11	Findings:	0.33 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	12-DEC-11	Findings:	0.197 PCI/L
Chemical:	COMBINED RA 226 + RA 228		
Sample Collected:	12-DEC-11	Findings:	0.336 PCI/L
Chemical:	COMBINED RA 226 + RA 228 COUNTING ERROR		
Sample Collected:	12-DEC-11	Findings:	0.47 PCI/L
Chemical:	STRONTIUM-90 COUNTING ERROR		
Sample Collected:	12-DEC-11	Findings:	452. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	12-DEC-11	Findings:	7.8
Chemical:	PH, LABORATORY		
Sample Collected:	12-DEC-11	Findings:	82.5 MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO3		
Sample Collected:	12-DEC-11	Findings:	82.5 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	12-DEC-11	Findings:	0.31 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	12-DEC-11	Findings:	107. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	12-DEC-11	Findings:	27.5 MG/L
Chemical:	CALCIUM		
Sample Collected:	12-DEC-11	Findings:	9.4 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	12-DEC-11	Findings:	46.8 MG/L
Chemical:	SODIUM		
Sample Collected:	12-DEC-11	Findings:	3. MG/L
Chemical:	POTASSIUM		
Sample Collected:	12-DEC-11	Findings:	42.6 MG/L
Chemical:	CHLORIDE		
Sample Collected:	12-DEC-11	Findings:	0.55 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	12-DEC-11	Findings:	180. UG/L
Chemical:	BORON		
Sample Collected:	12-DEC-11	Findings:	274. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	12-DEC-11	Findings:	6.77 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	12-DEC-11	Findings:	0.1 NTU
Chemical:	TURBIDITY, LABORATORY		
Sample Collected:	12-DEC-11	Findings:	0.8 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	12-DEC-11	Findings:	1530. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	12-DEC-11	Findings:	0.83 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	12-DEC-11	Findings:	2.06 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	12-DEC-11	Findings:	208. PCI/L
Chemical:	TRITIUM COUNTING ERROR		
Sample Collected:	12-DEC-11	Findings:	1.19 PCI/L
Chemical:	URANIUM (PCI/L)		
Sample Collected:	12-DEC-11	Findings:	0.4 PCI/L
Chemical:	URANIUM COUNTING ERROR		
Sample Collected:	30-JAN-12	Findings:	9.1e-002 PCI/L
Chemical:	RADIUM 226 COUNTING ERROR		
Sample Collected:	30-JAN-12	Findings:	0.26 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	30-JAN-12	Findings:	0.284 PCI/L
Chemical:	COMBINED RA 226 + RA 228		
Sample Collected:	30-JAN-12	Findings:	0.275 PCI/L
Chemical:	COMBINED RA 226 + RA 228 COUNTING ERROR		
Sample Collected:	30-JAN-12	Findings:	0.45 PCI/L
Chemical:	STRONTIUM-90 COUNTING ERROR		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	30-JAN-12	Findings:	460. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	30-JAN-12	Findings:	7.7
Chemical:	PH, LABORATORY		
Sample Collected:	30-JAN-12	Findings:	79.8 MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO3		
Sample Collected:	30-JAN-12	Findings:	79.8 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	30-JAN-12	Findings:	0.31 MG/L
Chemical:	TOTAL ORGANIC CARBON (TOC)		
Sample Collected:	30-JAN-12	Findings:	119. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	30-JAN-12	Findings:	31.5 MG/L
Chemical:	CALCIUM		
Sample Collected:	30-JAN-12	Findings:	9.8 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	30-JAN-12	Findings:	49.9 MG/L
Chemical:	SODIUM		
Sample Collected:	30-JAN-12	Findings:	3.5 MG/L
Chemical:	POTASSIUM		
Sample Collected:	30-JAN-12	Findings:	42.5 MG/L
Chemical:	CHLORIDE		
Sample Collected:	30-JAN-12	Findings:	0.54 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	30-JAN-12	Findings:	190. UG/L
Chemical:	BORON		
Sample Collected:	30-JAN-12	Findings:	1.1 UG/L
Chemical:	CHLOROFORM (THM)		
Sample Collected:	30-JAN-12	Findings:	284. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	30-JAN-12	Findings:	6.15 MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	30-JAN-12	Findings:	1.1 UG/L
Chemical:	TOTAL TRIHALOMETHANES		
Sample Collected:	30-JAN-12	Findings:	1390. UG/L
Chemical:	NITRATE + NITRITE (AS N)		
Sample Collected:	30-JAN-12	Findings:	0.69 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	30-JAN-12	Findings:	1.63 PCI/L
Chemical:	GROSS BETA COUNTING ERROR		
Sample Collected:	30-JAN-12	Findings:	211. PCI/L
Chemical:	TRITIUM COUNTING ERROR		
Sample Collected:	30-JAN-12	Findings:	0.31 PCI/L
Chemical:	URANIUM COUNTING ERROR		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample Collected:	04-JUN-12	Findings:	9.e-002 PCI/L
Chemical:	RADIUM 226 COUNTING ERROR		
Sample Collected:	04-JUN-12	Findings:	0.33 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	04-JUN-12	Findings:	0.425 PCI/L
Chemical:	COMBINED RA 226 + RA 228		
Sample Collected:	04-JUN-12	Findings:	0.342 PCI/L
Chemical:	COMBINED RA 226 + RA 228 COUNTING ERROR		
Sample Collected:	04-JUN-12	Findings:	0.47 PCI/L
Chemical:	STRONTIUM-90 COUNTING ERROR		
Sample Collected:	04-JUN-12	Findings:	456. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	04-JUN-12	Findings:	7.7
Chemical:	PH, LABORATORY		
Sample Collected:	04-JUN-12	Findings:	79.4 MG/L
Chemical:	ALKALINITY (TOTAL) AS CaCO3		
Sample Collected:	04-JUN-12	Findings:	79.4 MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	04-JUN-12	Findings:	117. MG/L
Chemical:	HARDNESS (TOTAL) AS CaCO3		
Sample Collected:	04-JUN-12	Findings:	31.3 MG/L
Chemical:	CALCIUM		
Sample Collected:	04-JUN-12	Findings:	9.5 MG/L
Chemical:	MAGNESIUM		
Sample Collected:	04-JUN-12	Findings:	45.8 MG/L
Chemical:	SODIUM		
Sample Collected:	04-JUN-12	Findings:	3.5 MG/L
Chemical:	POTASSIUM		
Sample Collected:	04-JUN-12	Findings:	37.6 MG/L
Chemical:	CHLORIDE		
Sample Collected:	04-JUN-12	Findings:	0.57 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	04-JUN-12	Findings:	230. UG/L
Chemical:	BORON		
Sample Collected:	04-JUN-12	Findings:	3.6 UG/L
Chemical:	VANADIUM		
Sample Collected:	04-JUN-12	Findings:	1.2 UG/L
Chemical:	CHLOROFORM (THM)		

B5
SSW
1/4 - 1/2 Mile
Lower

Site ID: 083001013T
Groundwater Flow: SW
Shallow Water Depth: Not Reported
Deep Water Depth: Not Reported
Average Water Depth: 50
Date: 05/27/1994

AQUIFLOW 38983

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
B6 SSW 1/4 - 1/2 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	083002414T Not Reported Not Reported Not Reported 50 04/15/1994	AQUIFLOW	37885
B7 SSW 1/4 - 1/2 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	083002414T Not Reported Not Reported Not Reported 50 04/15/1994	AQUIFLOW	37886
8 NW 1/2 - 1 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	083002244T S 70.83 86.71 Not Reported 12/31/1996	AQUIFLOW	67236
9 ESE 1/2 - 1 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	083000964T Not Reported 65 102 Not Reported 09/30/1996	AQUIFLOW	65045
10 NW 1/2 - 1 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	083001404T W 71 150 Not Reported 09/30/1994	AQUIFLOW	65372
11 SSE 1/2 - 1 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	083002636T Not Reported Not Reported Not Reported 85 08/28/1997	AQUIFLOW	38640
12 North 1/2 - 1 Mile Higher			CA WELLS	CADW6000000619

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Objectid: 619
 Latitude: 33.8781
 Longitude: -117.8729
 Site code: 338781N1178729W001
 State well number: 03S10W25R001S
 Local well name: "
 Well use id: 6
 Well use descrip: Unknown
 County id: 30
 County name: Orange
 Basin code: '8-1'
 Basin desc: Coastal Plain Of Orange County
 Dwr region id: 80238
 Dwr region: Southern Region Office
 Site id: CADW60000000619

13
NNW
1/2 - 1 Mile
Higher

Site ID:	083000226T	AQUIFLOW	54999
Groundwater Flow:	S		
Shallow Water Depth:	Not Reported		
Deep Water Depth:	Not Reported		
Average Water Depth:	120		
Date:	01/16/1997		

14
NE
1/2 - 1 Mile
Higher

CA WELLS 3791

Water System Information:

Prime Station Code:	03S/09W-30P01 S	User ID:	TEE
FRDS Number:	3000744001	County:	Orange
District Number:	08	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Destroyed
Source Lat/Long:	335238.0 1175145.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 01 CHAPMAN WELL - DESTROYED		
System Number:	3000744		
System Name:	ALTA VISTA COUNTRY CLUB		
Organization That Operates System:	Not Reported		
Pop Served:	Unknown, Small System	Connections:	Unknown, Small System
Area Served:	Not Reported		

C15
ESE
1/2 - 1 Mile
Lower

CA WELLS CADW60000018514

Objectid: 18514
 Latitude: 33.8628
 Longitude: -117.8576
 Site code: 338628N1178576W001
 State well number: 03S09W31J002S
 Local well name: "
 Well use id: 6
 Well use descrip: Unknown
 County id: 30
 County name: Orange

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Basin code: '8-1'
 Basin desc: Coastal Plain Of Orange County
 Dwr region id: 80238
 Dwr region: Southern Region Office
 Site id: CADW60000018514

16
NNW
1/2 - 1 Mile
Higher

Site ID:	083002045T		AQUIFLOW 38871
Groundwater Flow:	W		
Shallow Water Depth:	83.78		
Deep Water Depth:	86.38		
Average Water Depth:	Not Reported		
Date:	09/28/1998		

C17
ESE
1/2 - 1 Mile
Lower

FED USGS USGS40000138655

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-335146117512101		
Monloc name:	003S009W31J002S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070106	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	33.8627929
Longitude:	-117.8567246	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	223.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported		
Welldepth units:	Not Reported	Welldepth:	Not Reported
Wellholedepth units:	ft	Wellholedepth:	350

Ground-water levels, Number of Measurements: 70

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1986-09-04	117.33		1986-05-05	105.88	
1986-02-11	93.82		1985-11-04	86.34	
1985-08-22	111.00		1985-05-07	98.31	
1985-04-15	93.9		1985-02-13	93.38	
1984-11-02	91.60		1984-10-09	93.10	
1984-09-06	100.10		1984-08-07	105.8	
1984-07-03	119.75		1984-06-04	92.80	
1984-05-07	86.60		1984-04-02	91.60	
1984-03-07	81.00		1984-02-17	79.39	
1983-11-03	113.48		1983-10-13	108.2	
1983-09-01	102.9		1983-08-02	99.2	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, continued:

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1983-07-05	95.4		1983-06-09	92.6	
1983-05-12	90.37		1983-05-10	91.96	
1983-04-19	88.83		1983-02-09	90.76	
1982-11-03	101.45		1982-08-03	102.87	
1982-04-28	91.67		1982-01-25	89.36	
1981-11-03	103.79		1981-07-30	96.41	
1981-05-05	72.80		1981-02-04	82.93	
1980-10-29	104.82		1980-08-25	90.30	
1980-06-12	79.18		1980-02-06	86.81	
1979-11-14	108.45		1979-08-01	99.26	
1979-04-30	90.70		1979-02-02	96.73	
1978-11-07	102.38		1978-08-29	91.70	
1977-11-04	156.30		1977-03-14	121.40	
1976-10-27	154.10		1976-04-27	119.50	
1976-03-10	115.80		1975-12-30	129.80	
1975-10-28	132.00		1975-08-28	128.20	
1975-06-23	120.90		1975-04-28	111.00	
1975-03-05	118.10		1975-01-06	107.10	
1974-10-24	113.80		1974-08-28	116.90	
1974-06-27	120.70		1974-04-29	134.80	
1974-03-13	133.70		1973-08-29	142.00	
1973-06-29	115.00		1973-05-08	118.10	
1973-02-23	124.20		1972-12-27	166.10	
1972-10-31	168.90		1972-10-24	166.90	

18
SSE
1/2 - 1 Mile
Lower

CA WELLS CADW60000018075

Objectid: 18075
 Latitude: 33.8552
 Longitude: -117.8648
 Site code: 338552N1178648W001
 State well numbe: 04S09W06F001S
 Local well name: "
 Well use id: 6
 Well use descrip: Unknown
 County id: 30
 County name: Orange
 Basin code: '8-1'
 Basin desc: Coastal Plain Of Orange County
 Dwr region id: 80238
 Dwr region: Southern Region Office
 Site id: CADW60000018075

19
NE
1/2 - 1 Mile
Higher

CA WELLS CADW60000001472

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Objectid:	1472
Latitude:	33.8761
Longitude:	-117.8576
Site code:	338761N1178576W001
State well numbe:	03S09W30R001S
Local well name:	"
Well use id:	6
Well use descrip:	Unknown
County id:	30
County name:	Orange
Basin code:	'8-1'
Basin desc:	Coastal Plain Of Orange County
Dwr region id:	80238
Dwr region:	Southern Region Office
Site id:	CADW60000001472

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
ESE

0 - 1/8 Mile

OIL_GAS CAOG11000221337

District nun:	1	Api number:	05906539
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Majestic Oil Co.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	31
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Not Reported	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000221337		

2

ESE

1/8 - 1/4 Mile

OIL_GAS CAOG11000221385

District nun:	1	Api number:	05906597
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Shell Western Exploration & Production Inc.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	31
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Peter J. Allec	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000221385		

3

NE

1/4 - 1/2 Mile

OIL_GAS CAOG11000221157

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

District nun:	1	Api number:	05906277
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	31
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Kraemer	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spupdate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000221157		

4

NNE

1/4 - 1/2 Mile

OIL_GAS

CAOG11000221025

District nun:	1	Api number:	05906040
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	California-Eastern Oil Co.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	31
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Verde	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spupdate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000221025		

5

WNW

1/4 - 1/2 Mile

OIL_GAS

CAOG11000218047

District nun:	1	Api number:	05901271
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	B
Operator name:	Union Oil Company of California		
County name:	Orange	Fieldname:	Any Field
Area name:	Any Area	Section:	36
Township:	03S	Range:	10W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Comments:	Not Reported	Wellnumber:	1
Leasename:	Placentia Orchard	Hydraulica:	N
Epawell:	N	Spuddate:	Not Reported
Confidenti:	N		
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000218047		

6

NNE

1/4 - 1/2 Mile

OIL_GAS

CAOG11000221407

District nun:	1	Api number:	05906634
Bim well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	31
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Amalgamated Wents	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000221407		

7

East

1/2 - 1 Mile

OIL_GAS

CAOG11000221153

District nun:	1	Api number:	05906271
Bim well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	31
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Dowling	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000221153		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

8

SE
1/2 - 1 Mile

OIL_GAS CAOG11000221376

District nun:	1	Api number:	05906588
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	A
Operator name:	Placentia Oil Co.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	31
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Not Reported	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	AOG
Site id:	CAOG11000221376		

9

NE
1/2 - 1 Mile

OIL_GAS CAOG11000217424

District nun:	1	Api number:	05900406
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Kraemer Estate		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	30
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Kraemer Fee 3	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000217424		

10

WSW
1/2 - 1 Mile

OIL_GAS CAOG11000217901

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

District nun:	1	Api number:	05901118
Blm well:	N	Redrill can:	Not Reported
Dryhole:	Y	Well status:	P
Operator name:	Royalty Service Corp., Ltd.		
County name:	Orange	Fieldname:	Any Field
Area name:	Any Area	Section:	36
Township:	03S	Range:	10W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	H-B	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000217901		

**11
East
1/2 - 1 Mile**

OIL_GAS CAOG11000221154

District nun:	1	Api number:	05906272
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	31
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Dowling	Wellnumber:	2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000221154		

**12
NW
1/2 - 1 Mile**

OIL_GAS CAOG11000217894

District nun:	1	Api number:	05901111
Blm well:	N	Redrill can:	Not Reported
Dryhole:	Y	Well status:	P
Operator name:	Providence Oil Co.		
County name:	Orange	Fieldname:	Any Field
Area name:	Any Area	Section:	36
Township:	03S	Range:	10W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Comments:	Not Reported	Wellnumber:	1
Leasename:	Chapman	Hydraulica:	N
Epawell:	N	Spuddate:	Not Reported
Confidenti:	N		
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000217894		

13

ESE

1/2 - 1 Mile

OIL_GAS

CAOG11000217428

District nun:	1	Api number:	05900410
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	31
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Ruth L. Williams	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000217428		

14

East

1/2 - 1 Mile

OIL_GAS

CAOG11000221121

District nun:	1	Api number:	05906201
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	31
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	A. R. Kraemer	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000221121		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

A15

NE

1/2 - 1 Mile

OIL_GAS

CAOG11000221128

District nun:	1	Api number:	05906208
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	30
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Kraemer 3	Wellnumber:	4
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000221128		

16

ENE

1/2 - 1 Mile

OIL_GAS

CAOG11000221052

District nun:	1	Api number:	05906086
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Hamilton and Sherman		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	31
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Kraemer	Wellnumber:	3-2
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000221052		

A17

NE

1/2 - 1 Mile

OIL_GAS

CAOG11000221126

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

District nun:	1	Api number:	05906206
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	30
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Kraemer 3	Wellnumber:	3
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spupdate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000221126		

**18
NNE**

1/2 - 1 Mile

OIL_GAS

CAOG11000221277

District nun:	1	Api number:	05906455
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Union Oil Company of California		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	30
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Placentia Community	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spupdate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000221277		

19

**North
1/2 - 1 Mile**

OIL_GAS

CAOG11000221410

District nun:	1	Api number:	05906640
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Chevron U.S.A. Inc.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	30
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Comments:	Not Reported	Wellnumber:	12-1
Leasename:	Community	Hydraulica:	N
Epawell:	N	Spuddate:	Not Reported
Confidenti:	N		
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000221410		

**20
ESE**

1/2 - 1 Mile

OIL_GAS

CAOG11000221316

District nun:	1	Api number:	05906511
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Heffern Oil Co., Inc.		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	31
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Not Reported	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	POG
Site id:	CAOG11000221316		

**21
ENE**

1/2 - 1 Mile

OIL_GAS

CAOG11000217742

District nun:	1	Api number:	05900938
Blm well:	N	Redrill can:	Not Reported
Dryhole:	N	Well status:	P
Operator name:	Kraemer II Partners		
County name:	Orange	Fieldname:	Richfield
Area name:	Any Area	Section:	30
Township:	03S	Range:	09W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Kraemer 3	Wellnumber:	8
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PWF
Site id:	CAOG11000217742		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database FDR ID Number

22
NNW
1/2 - 1 Mile

OIL_GAS CAOG11000217898

District nun:	1	Api number:	05901115
Blm well:	N	Redrill can:	Not Reported
Dryhole:	Y	Well status:	P
Operator name:	Richard S. Rheem		
County name:	Orange	Fieldname:	Any Field
Area name:	Any Area	Section:	25
Township:	03S	Range:	10W
Base meridian:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Placentia Fruit Company	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	Not Reported
Welldeptha:	0		
Redrillfoo:	0		
Abandonedd:	Not Reported	Completion:	Not Reported
Directiona:	Unknown	Gissymbol:	PDH
Site id:	CAOG11000217898		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92870	63	9

Federal EPA Radon Zone for ORANGE County: 3

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for ORANGE COUNTY, CA

Number of sites tested: 30

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.763 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

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.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

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, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Department of Fish & Game

Telephone: 916-445-0411

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 Service (NRCS)

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 Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, 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 Public Health

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 IRRA 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

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

110 and 132 East Crowther Avenue
110 and 132 East Crowther Avenue
Placentia, CA 92870

Inquiry Number: 4537608.5
February 16, 2016

The EDR-City Directory Image Report



6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report 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 Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Target Street</u>	<u>Cross Street</u>	<u>Source</u>
2013	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information Services
2008	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information Services
2003	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information Services
1999	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information Services
1995	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information Services
1992	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information Services
1985	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Haines Criss-Cross Directory
1980	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Haines Criss-Cross Directory
1975	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Haines Criss-Cross Directory
1972	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Haines Criss-Cross Directory

RECORD SOURCES

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.

FINDINGS

TARGET PROPERTY STREET

110 and 132 East Crowther Avenue
Placentia, CA 92870

<u>Year</u>	<u>CD Image</u>	<u>Source</u>
-------------	-----------------	---------------

E CROWTHER AVE

2013	pg A1	Cole Information Services
2008	pg A2	Cole Information Services
2003	pg A3	Cole Information Services
1999	pg A4	Cole Information Services
1995	pg A5	Cole Information Services
1992	pg A6	Cole Information Services
1985	pg A7	Haines Criss-Cross Directory
1980	pg A8	Haines Criss-Cross Directory
1975	pg A9	Haines Criss-Cross Directory
1972	pg A10	Haines Criss-Cross Directory
1972	pg A11	Haines Criss-Cross Directory

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street

Cross Street

Source

Cole Information Services



E CROWTHER AVE 2013

110	EXCALIBUR EXTRUSION INC
132	BOYS CLUB OF PLACENTIA
190	ADVANCE INSTALLATION SERVICES
	EVGA
	TEETOT & COMPANY INC
	TORREZ TRUCKING
210	EXPRESS PACKAGING
320	LINDBY CUSTOM
340	KIPE MOLDS INC
350	SPACEWALL SOCAL SLOTWALL MFG
360	FARRISILK INC
370	TECHNICAL ARTS INC
380	EDM XPRESS INC

Target Street

Cross Street

Source

✓

-

Cole Information Services

E CROWTHER AVE 2008

110	EXCALIBUR EXTRUSION INC
132	BOYS & GIRLS CLUB OF PLACENTIA
190	ALS DISTRIBUTION
	TEETOT & CO INC
	TORREZ TRUCKING INC
	WALTEK WEST INC
210	HARBOR TRUCK BODIES INC
320	LINDBY CUSTOM
340	KIPE MOLDS INC
350	SPACEWALL
	SPACEWALL WEST
360	DIAGNOSTICS & DESIGNS INC
	FARRISILK INC
380	EDM XPRESS INC

Target Street

Cross Street

Source

Cole Information Services

E CROWTHER AVE 2003

110 EXCALIBUR EXTRUSION INC
OCCUPANT UNKNOWN

132 BOYS & GIRLS CLUB OF PLACENTIA

190 DAVID BERNAL
NELSON POWER TECHNOLOGIES
PATRICIA BEALS
TEETOT CO
TORREZ TRUCKING INC

210 OCCUPANT UNKNOWN
ROLL A LONG VANS INC

320 JACK BROWN
NORTH WEST MARKETING CO

340 KIPE MOLDS INC
OCCUPANT UNKNOWN

350 SPACEWALL WEST SLOTWALL MFG

360 INSTITUTE OF TRICHOLOGY
OCCUPANT UNKNOWN
SOLAR CONTRACT CARPET

370 SOUTHERN CLFRN TCHNCL ARTS INC
TECHNICAL ARTS INC

380 HEC CONSULTING
HERBERT CONWAY
INTEGRATED ARSPC STRUCTURES CORP
OC FINANCIAL SERVICES
SUN EIGHT CO

Target Street

Cross Street

Source

Cole Information Services

E CROWTHER AVE 1999

110	EXCALIBUR EXTRUSION INCORPORATED
125	INNOVATOR SWEEPERS
132	BOYS CLUB OF PLACENTIA
210	ROLL A LONG VANS INCORPORATED
320	NORTH WEST MARKETING COMPANY INCORPORATED
340	KIPE MOLDS INCORPORATED
	SILICONE SAMPLING & SERVICES INCORPORATED
350	SPACEWALL SO CAL SLOTWALL MANUFACTURING
360	INSTITUTE OF TRICHOLOGY
	SOLAR CONTRACT CARPET
370	TECHNICAL ARTS INCORPORATED

Target Street

Cross Street

Source

✓

Cole Information Services

E CROWTHER AVE 1995

110	EXCALIBUR EXTRUSION INC
132	BOYS CLUB OF PLACENTIA
207	HARDAS, BHUSHAN
210	ROLL A LONG VANS INC
350	SPACEWALL INC
360	LESEBERG, LOUIS
370	IDEAL SPA COVERS

Target Street

Cross Street

Source

✓

Cole Information Services

E CROWTHER AVE 1992

101	JACOBS WELL FOOD
110	EXCALIBUR
125	K D R MANUFACTURING
132	BOYS CLB PLACENTIA
210	ROLL A LONG VANS
320	SUNSET THRMGRPHRS
350	SPACEWALL INC
370	AUSTIN WARNER&ASSOC
380	A S A P PACK&SHIP

E CROWTHER AVE 1985

**CROWTHER AV E 92670
PLACENTIA**

101	HARMONY HSE DISTRBG	524-1780	3
110	EXCALIBUR	528-8835	+ 5
	EXCALIBUR	528-8836	+ 5
	EXCALIBUR	528-8837	+ 5
125	K D R MANUFACTURING	528-3141	4
132	BOYS CLB PLACENTIA	528-8140	
140	ELROSAL RESTAURANT	528-4866	
152	SANCHEZ NICOLUS	996-4588	7
210	ROLL A LONG VANS	528-9600	9
240	XXXX	00	
320	SUNSET THERMOGRPHRS	528-3600	+ 5
340	TAYLAR INSTALLATNS	996-5800	+ 5
350	SPACEWALL INC	961-1300	+ 5
380	PIKE INVESTMENT INC	993-7747	+ 5
	THE PED&DECK PEOPLE	993-7747	+ 5
523	XXXX	00	
★	13 BUS	3 RES	6 NEW

E CROWTHER AVE 1980

**CROWTHER AV E 92670
PLACENTIA**

110	EXCALIBUR	528-8834	4
125	EVERROAD CO DIESEL	870-0902	+0
132	BOYS CLB PLACENTIA	528-8140	3
	CHAPMAN HALL	993-9031	+0
140	ELROSAL RESTAURANT	528-4866	
	RUIZ BERNARDO	528-3661	
148	XXXX	00	
152	SANCHEZ NICOLUS	996-4588	7
210	ROLL A LONG VANS	528-9600	9
240	XXXX	00	
801	PLANT ENGINEERS CO	524-5244	6
809	J C ENTERPRISES	993-1040	+0
825	XXXX	00	
833	BROOKS B H	993-4750	9

★ 9 BUS 5 RES 3 NEW

E CROWTHER AVE 1975

CROWTHER AV E 92670 PLACENTIA

101*	LEEGAR CORP	528-9500
110*	EXCALIBUR	528-8834 4
110 1/2*	JACK JONES TRUCKING	993-4343+5
125	XXXX	00
132*	BOYS CLUB PLACENTIA	528-8140 3
140*	EL ROSAL RESTAURANT	528-4866
	RUIZ BERNARDO	528-3661
148	XXXX	00
224	CUSHING CHAS	528-2653
240	XXXX	00
330	KRAEMER BEN H	528-2659
809	XXXX	00
825*	PLANT ENGINEERS CO	524-5901+5
*	6 BUS 7 RES	2 NEW

E CROWTHER AVE 1972

CROWTHER AV E 92670 PLACENTIA

101*LEEGAR CORP 528-9500

110*ORGANOCERAMS INC 528-3526

125*OLANDERS WELDING SH528-1126

*ROCKY MTN STL PRDCT524-0960

132*BOYS CLUB OF PLCNTA528-8141+2

140*EL ROSAL RESTAURANT528-4866

RUIZ BERNARDO 528-3661

152 CASTRO JULIA 528-2977

Target Street

Cross Street

Source

Haines Criss-Cross Directory

E CROWTHER AVE 1972

•• CROWTHER AV E	92670 CONT..
CASTRO MANUEL	524-2625
224 CUSHING CHAS	528-2653
240 DUNBAR A J	528-1604
330 HART DANL KENNETH	528-9758
KRAEMER BEN H	528-2659
* 6 BUS	7 RES
	1 NEW



110 and 132 East Crowther Avenue

110 and 132 East Crowther Avenue
Placentia, CA 92870

Inquiry Number: 4537608.3

February 12, 2016



Certified Sanborn® Map Report



6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

2/12/16

Site Name:

110 and 132 East Crowther
110 and 132 East Crowther
Placentia, CA 92870

Client Name:

Advanced Env. Concepts
220 E. Truxtun Avenue
Bakersfield, CA 93305

EDR Inquiry # 4537608.3

Contact: Vanessa Radsick



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Advanced Env. Concepts were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Site Name: 110 and 132 East Crowther Avenue
Address: 110 and 132 East Crowther Avenue
City, State, Zip: Placentia, CA 92870
Cross Street:
P.O. # NA
Project: NA
Certification # CABE-4D53-84EB



Sanborn® Library search results
Certification # CABE-4D53-84EB

Maps Provided:

1933
1922
1917

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others 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™

Limited Permission To Make Copies

Advanced Env. Concepts (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2016 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Sanborn Sheet Thumbnails

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.



1933 Source Sheets



Volume 1, Sheet Keymap/Sheet 1



Volume 1, Sheet 3

1922 Source Sheets



Volume 1, Sheet Keymap/Sheet 1



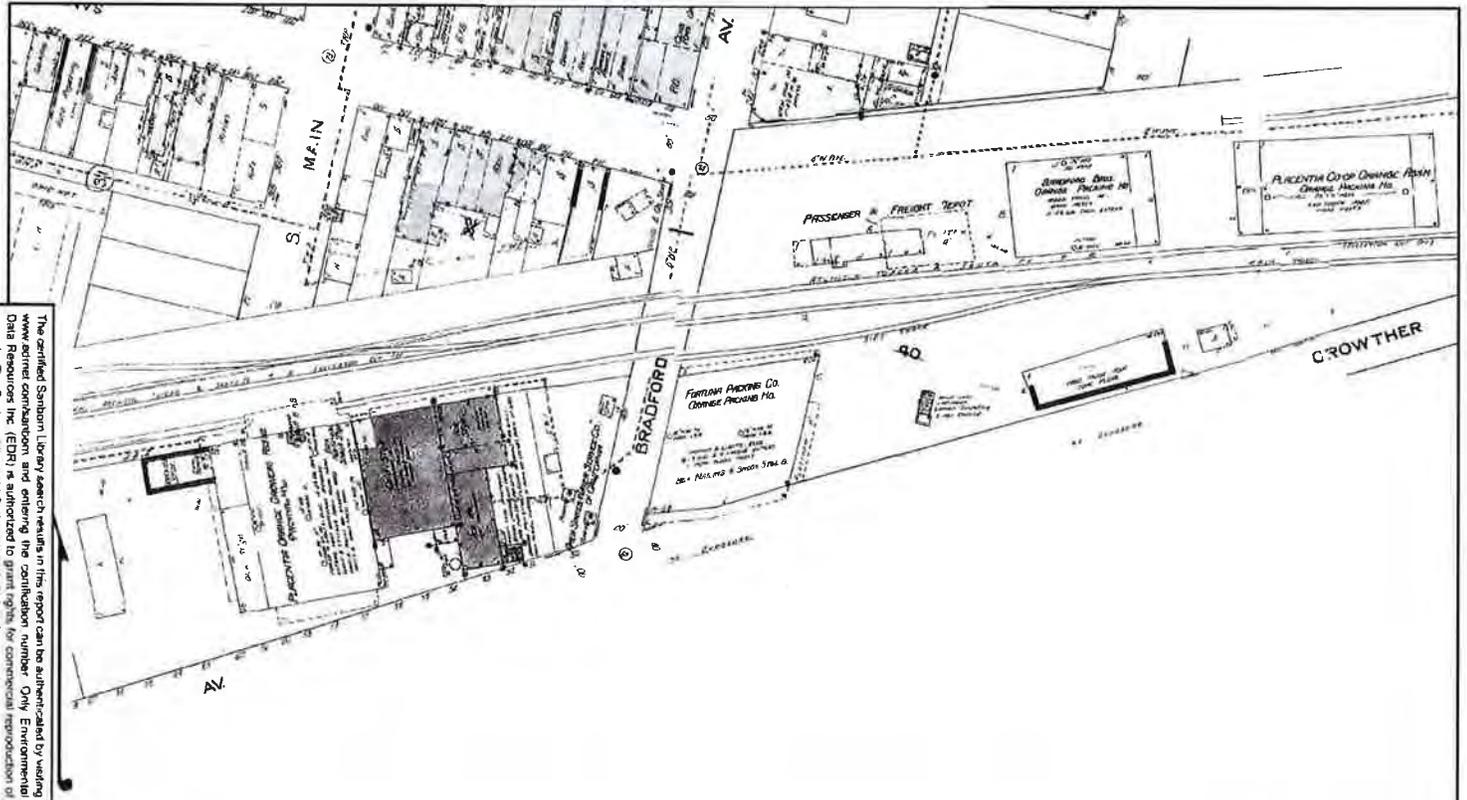
Volume 1, Sheet 3

1917 Source Sheets



Volume 1, Sheet 1

1933 Certified Sanborn Map



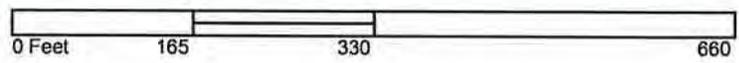
The certified Sanborn Library search results in this report can be authenticated by visiting www.enr.com/sanborn and entering the publication number. Only Environmental Data Resources Inc. (EDR) is authorized to print rights for commercial reproduction of maps by the Sanborn Library LLC. The copyright holder for the collection.

Certification # CABE-4D53-84EB

Site Name: 110 and 132 East Crowther Avenue
 Address: 110 and 132 East Crowther Avenue
 City, ST, ZIP: Placencia CA 92970
 Client: Advanced Env. Concepts
 EDR Inquiry: 4537808.3
 Order Date: 2/12/2016 3:29 01 PM
 Certification #: CABE-4D53-84EB
 Copyright: 1933



This Certified Sanborn Map combines the following sheets.
 Outlined areas indicate map sheets within the collection.



Volume 1, Sheet Keymap/Sheet1
 Volume 1, Sheet 3



1922 Certified Sanborn Map



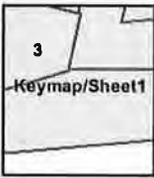
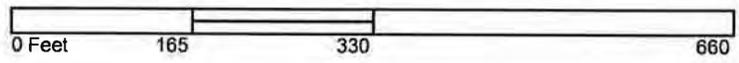
The certified Sanborn Library search results in this report can be authenticated by visiting www.edr.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC. The copyright holder for the collection.

Certification # CABE-4D53-84EB

Site Name: 110 and 132 East Crowther Avenue
 Address: 110 and 132 East Crowther Avenue
 City, ST, ZIP: Placentia CA 92670
 Client: Advanced Env Concepts
 EDR Inquiry: 4537608.3
 Order Date: 2/12/2016 3:28:01 PM
 Certification #: CABE-4D53-84EB
 Copyright: 1922



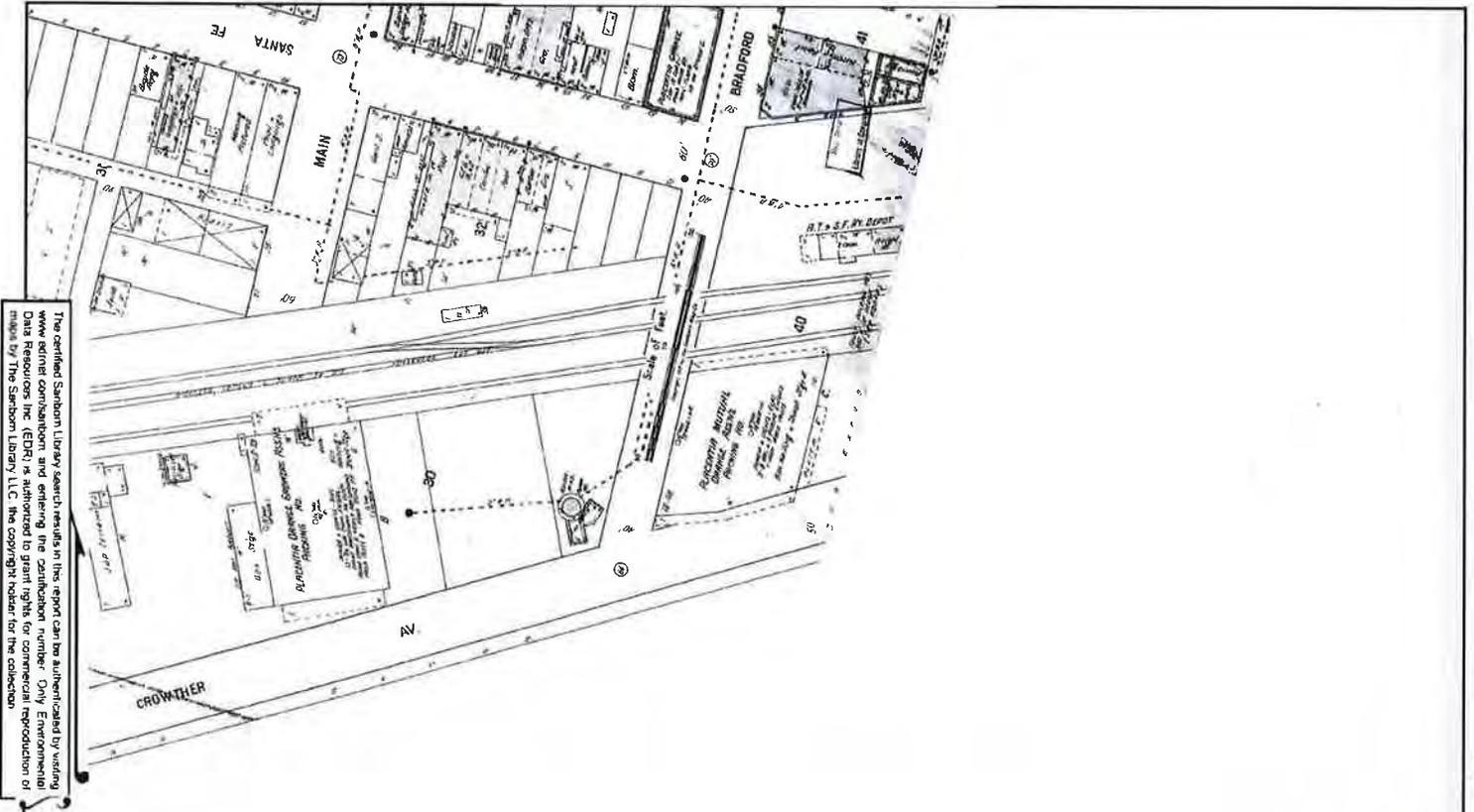
This Certified Sanborn Map combines the following sheets.
 Outlined areas indicate map sheets within the collection.



Volume 1, Sheet Keymap/Sheet1
 Volume 1, Sheet 3



1917 Certified Sanborn Map

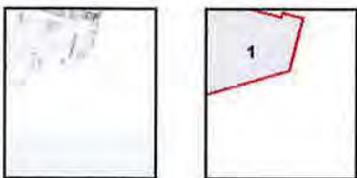
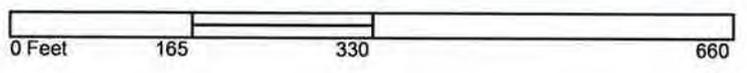


The certified Sanborn Library search results in this report can be authenticated by visiting www.edr.com and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by The Sanborn Library LLC, the copyright holder for the collection.

Certification # CABE-4D53-84EB

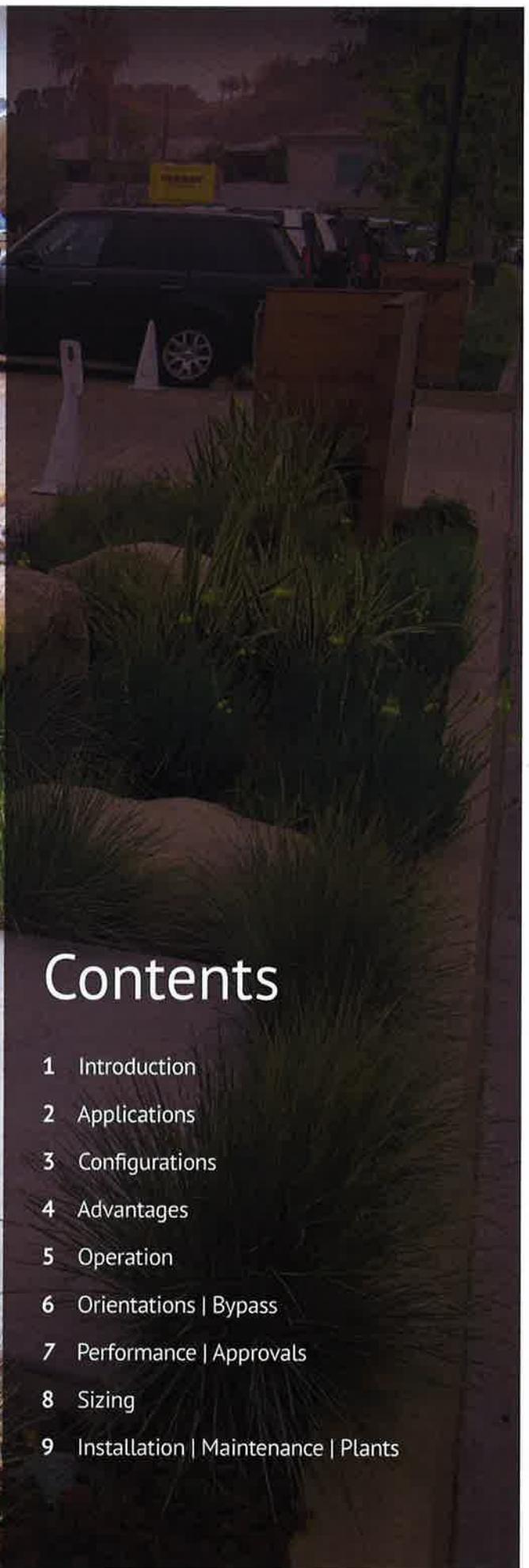
Site Name:	110 and 132 East Crowther Avenue
Address:	110 and 132 East Crowther Avenue
City, ST, ZIP:	Placencia CA 92670
Client:	Advanced Env Concepts
EDR Inquiry:	4537608-3
Order Date:	2/12/2016 3:28:01 PM
Certification #:	CABE-4D53-84EB
Copyright:	1917

This Certified Sanborn Map combines the following sheets. Outlined areas indicate map sheets within the collection.



Volume 1, Sheet 1





Contents

- 1 Introduction
- 2 Applications
- 3 Configurations
- 4 Advantages
- 5 Operation
- 6 Orientations | Bypass
- 7 Performance | Approvals
- 8 Sizing
- 9 Installation | Maintenance | Plants

The Urban Impact

For hundreds of years natural wetlands surrounding our shores have played an integral role as nature's stormwater treatment system. But as our cities grow and develop, these natural wetlands have perished under countless roads, rooftops, and parking lots.



Plant A Wetland

Without natural wetlands our cities are deprived of water purification, flood control, and land stability. Modular Wetlands and the MWS Linear re-establish nature's presence and rejuvenate water ways in urban areas.



MWS Linear

The Modular Wetland System Linear represents a pioneering breakthrough in stormwater technology as the only biofiltration system to utilize patented horizontal flow, allowing for a smaller footprint and higher treatment capacity. While most biofilters use little or no pre-treatment, the MWS Linear incorporates an advanced pre-treatment chamber that includes separation and pre-filter cartridges. In this chamber sediment and hydrocarbons are removed from runoff before it enters the biofiltration chamber, in turn reducing maintenance costs and improving performance.

Applications

The MWS Linear has been successfully used on numerous new construction and retrofit projects. The system's superior versatility makes it beneficial for a wide range of stormwater and waste water applications - treating rooftops, streetscapes, parking lots, and industrial sites.



Industrial

Many states enforce strict regulations for discharges from industrial sites. The MWS Linear has helped various sites meet difficult EPA mandated effluent limits for dissolved metals and other pollutants.



Residential

Low to high density developments can benefit from the versatile design of the MWS Linear. The system can be used in both decentralized LID design and cost-effective end-of-the-line configurations.



Streets

Street applications can be challenging due to limited space. The MWS Linear is very adaptable, and offers the smallest footprint to work around the constraints of existing utilities on retrofit projects.



Parking Lots

Parking lots are designed to maximize space and the MWS Linear's 4 ft. standard planter width allows for easy integration into parking lot islands and other landscape medians.



Commercial

Compared to bioretention systems, the MWS Linear can treat far more area in less space - meeting treatment and volume control requirements.



Mixed Use

The MWS Linear can be installed as a raised planter to treat runoff from rooftops or patios, making it perfect for sustainable "live-work" spaces.

More applications are available on our website: www.ModularWetlands.com/Applications

- Agriculture
- Low Impact Development
- Reuse
- Waste Water



Configurations

The MWS Linear is the preferred biofiltration system of Civil Engineers across the country due to its versatile design. This highly versatile system has available “pipe-in” options on most models, along with built-in curb or grated inlets for simple integration into your stormdrain design.



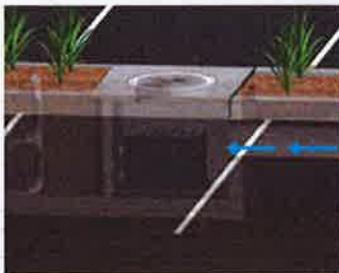
Curb Type

The *Curb Type* configuration accepts sheet flow through a curb opening and is commonly used along road ways and parking lots. It can be used in sump or flow by conditions. Length of curb opening varies based on model and size.



Grate Type

The *Grate Type* configuration offers the same features and benefits as the *Curb Type* but with a grated/drop inlet above the systems pre-treatment chamber. It has the added benefit of allowing for pedestrian access over the inlet. ADA compliant grates are available to assure easy and safe access. The *Grate Type* can also be used in scenarios where runoff needs to be intercepted on both sides of landscape islands.



Vault Type

The system’s patented horizontal flow biofilter is able to accept inflow pipes directly into the pre-treatment chamber, meaning the MWS Linear can be used in end-of-the-line installations. This greatly improves feasibility over typical decentralized designs that are required with other biofiltration/bioretenion systems. Another benefit of the “pipe in” design is the ability to install the system downstream of underground detention systems to meet water quality volume requirements.



Downspout Type

The *Downspout Type* is a variation of the *Vault Type* and is designed to accept a vertical downspout pipe from roof top and podium areas. Some models have the option of utilizing an internal bypass, simplifying the overall design. The system can be installed as a raised planter and the exterior can be stuccoed or covered with other finishes to match the look of adjacent buildings.

Advantages & Operation

The MWS Linear is the most efficient and versatile biofiltration system on the market, and the only system with horizontal flow which improves performance, reduces footprint, and minimizes maintenance. Figure-1 and Figure-2 illustrate the invaluable benefits of horizontal flow and the multiple treatment stages.

Featured Advantages

- Horizontal Flow Biofiltration
- Greater Filter Surface Area
- Pre-Treatment Chamber
- Patented Perimeter Void Area
- Flow Control
- No Depressed Planter Area

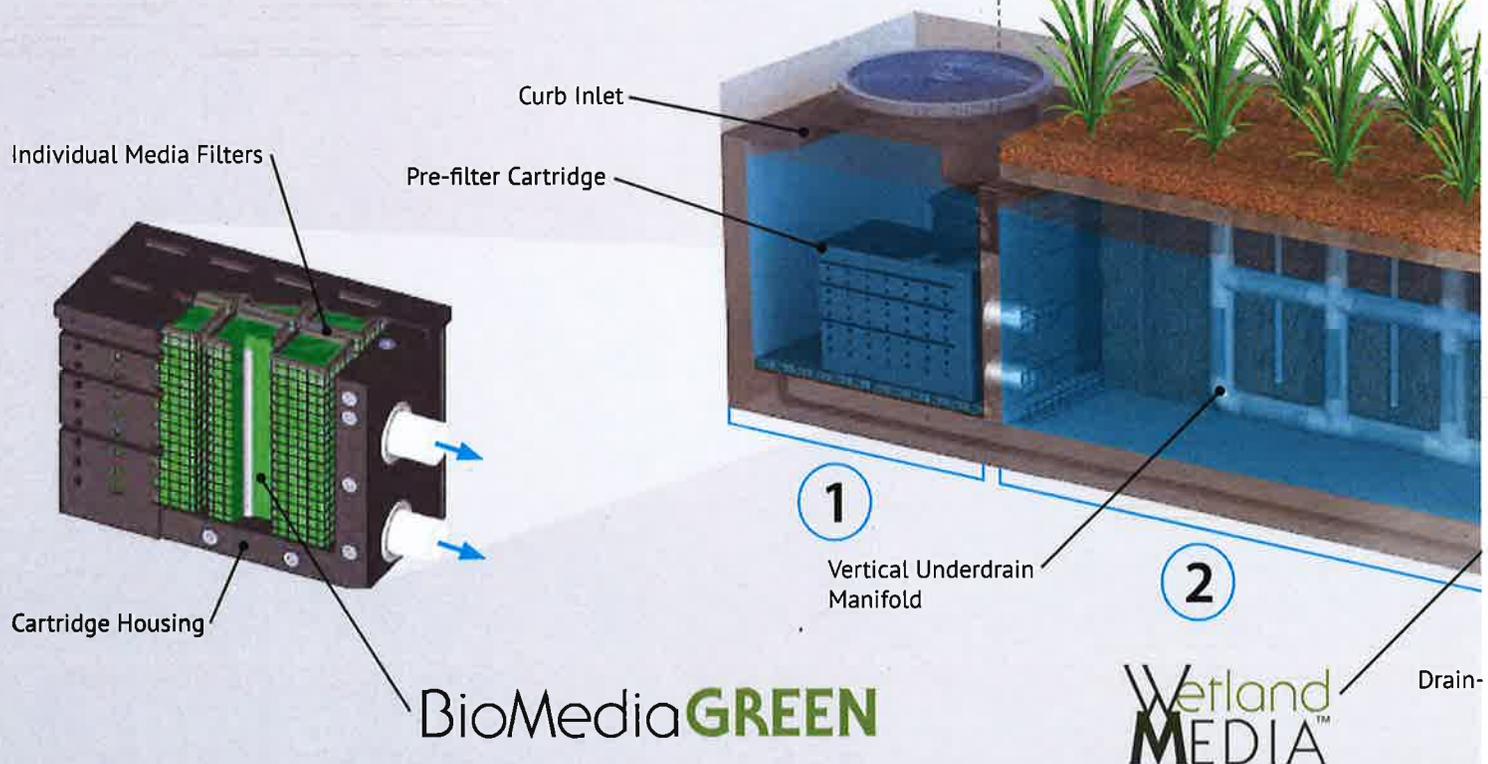
1 Pre-Treatment

Separation

- Trash, sediment, and debris are separated before entering the pre-filter cartridges
- Designed for easy maintenance access

Pre-Filter Cartridges

- Over 25 ft² of surface area per cartridge
- Utilizes BioMediaGREEN filter material
- Removes over 80% of TSS & 90% of hydrocarbons
- Prevents pollutants that cause clogging from migrating to the biofiltration chamber



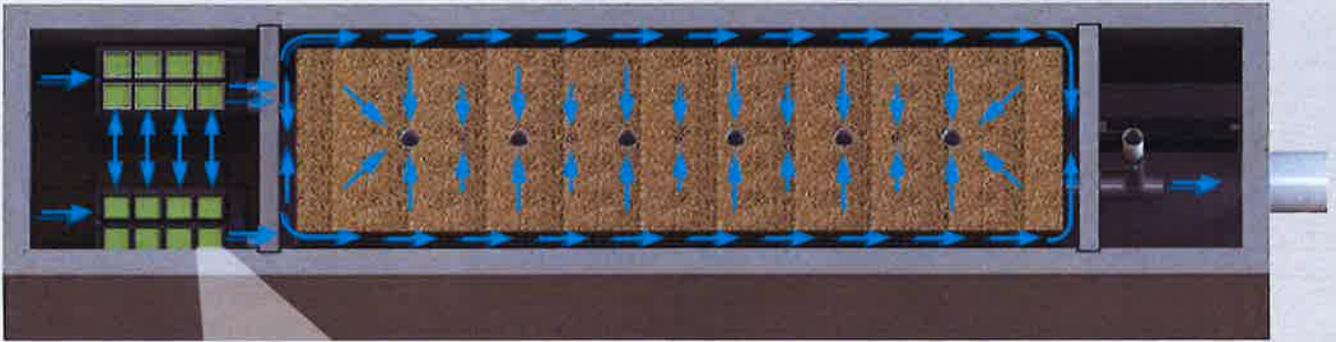


Fig. 2 - Top View

2x to 3x More Surface Area Than Traditional Downward Flow Bioretention Systems.

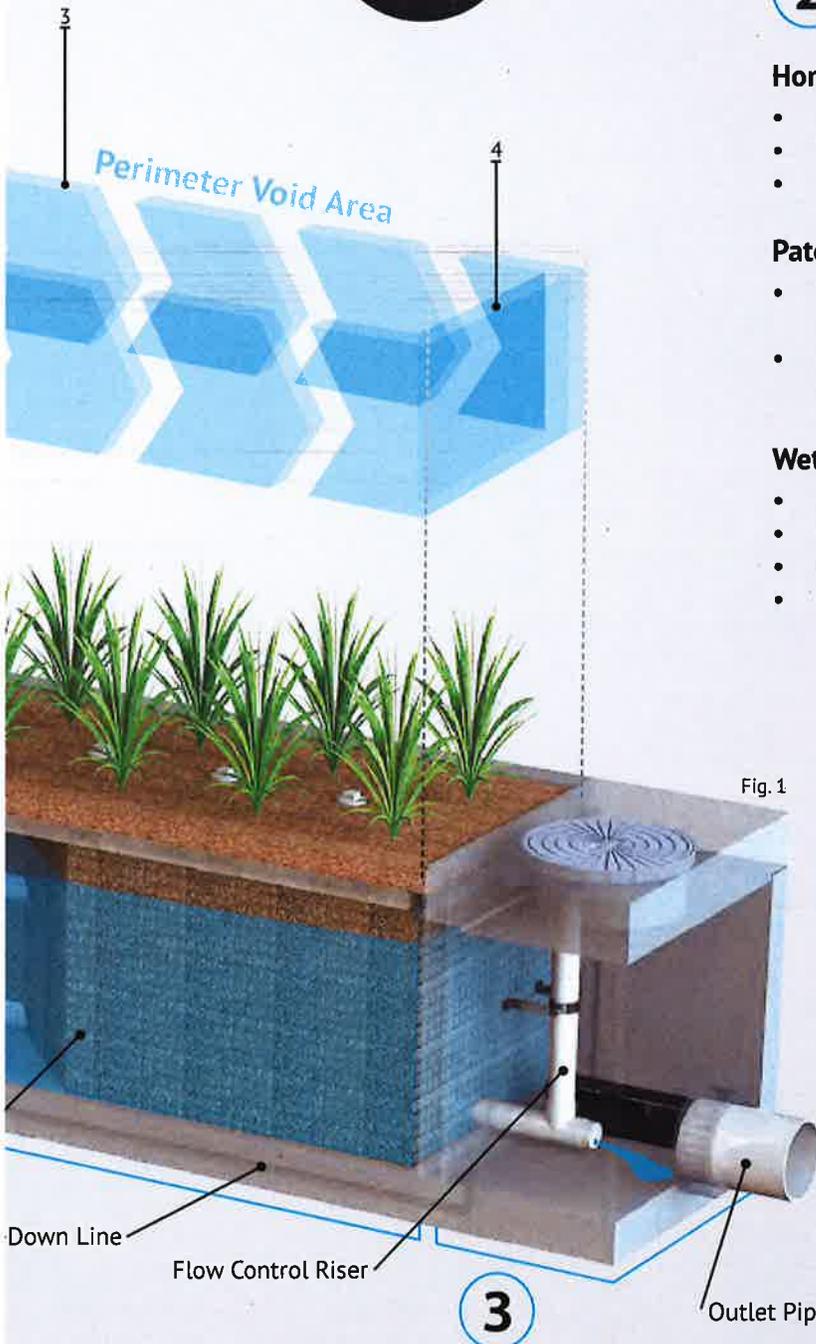


Fig. 1

2 Biofiltration

Horizontal Flow

- Less clogging than downward flow biofilters
- Water flow is subsurface
- Improves biological filtration

Patented Perimeter Void Area

- Vertically extends void area between the walls and the WetlandMEDIA on all four sides.
- Maximizes surface area of the media for higher treatment capacity

WetlandMEDIA

- Contains no organics and removes phosphorus
- Greater surface area and 48% void space
- Maximum evapotranspiration
- High ion exchange capacity and light weight

3 Discharge

Flow Control

- Orifice plate controls flow of water through WetlandMEDIA to a level lower than the media's capacity.
- Extends the life of the media and improves performance

Drain-Down Filter

- The Drain-Down is an optional feature that completely drains the pre-treatment chamber
- Water that drains from the pre-treatment chamber between storm events will be treated

Orientations



Side-By-Side

The *Side-By-Side* orientation places the pre-treatment and discharge chamber adjacent to one another with the biofiltration chamber running parallel on either side. This minimizes the system length, providing a highly compact footprint. It has been proven useful in situations such as streets with directly adjacent sidewalks, as half of the system can be placed under that sidewalk. This orientation also offers internal bypass options as discussed below.



End-To-End

The *End-To-End* orientation places the pre-treatment and discharge chambers on opposite ends of the biofiltration chamber therefore minimizing the width of the system to 5 ft (outside dimension). This orientation is perfect for linear projects and street retrofits where existing utilities and sidewalks limit the amount of space available for installation. One limitation of this orientation is bypass must be external.

Bypass

Internal Bypass Weir (Side-by-Side Only)

The *Side-By-Side* orientation places the pre-treatment and discharge chambers adjacent to one another allowing for integration of internal bypass. The wall between these chambers can act as a bypass weir when flows exceed the system's treatment capacity, thus allowing bypass from the pre-treatment chamber directly to the discharge chamber.

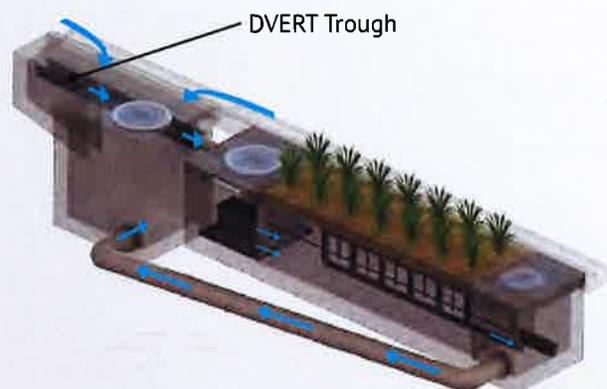
External Diversion Weir Structure

This traditional offline diversion method can be used with the MWS Linear in scenarios where runoff is being piped to the system. These simple and effective structures are generally configured with two outflow pipes. The first is a smaller pipe on the upstream side of the diversion weir - to divert low flows over to the MWS Linear for treatment. The second is the main pipe that receives water once the system has exceeded treatment capacity and water flows over the weir.

Flow By Design

This method is one in which the system is placed just upstream of a standard curb or grate inlet to intercept the first flush. Higher flows simply pass by the MWS Linear and into the standard inlet downstream.

DVERT Low Flow Diversion



This simple yet innovative diversion trough can be installed in existing or new curb and grate inlets to divert the first flush to the MWS Linear via pipe. It works similar to a rain gutter and is installed just below the opening into the inlet. It captures the low flows and channels them over to a connecting pipe exiting out the wall of the inlet and leading to the MWS Linear. The DVERT is perfect for retrofit and green street applications that allows the MWS Linear to be installed anywhere space is available.



Performance

The MWS Linear continues to outperform other treatment methods with superior pollutant removal for TSS, heavy metals, nutrients, hydrocarbons and bacteria. Since 2007 the MWS Linear has been field tested on numerous sites across the country. With its advanced pre-treatment chamber and innovative horizontal flow biofilter, the system is able to effectively remove pollutants through a combination of physical, chemical, and biological filtration processes. With the same biological processes found in natural wetlands, the MWS Linear harnesses nature's ability to process, transform, and remove even the most harmful pollutants.

Approvals

The MWS Linear has successfully met years of challenging technical reviews and testing from some of the most prestigious and demanding agencies in the nation, and perhaps the world.



Washington State DOE Approved

The MWS Linear is approved for General Use Level Designation (GULD) for Basic, Enhanced, and Phosphorus treatment at 1 gpm/ft² loading rate. The highest performing BMP on the market for all main pollutant categories.

TSS	Total Phosphorus	Ortho Phosphorus	Nitrogen	Dissolved Zinc	Dissolved Copper	Total Zinc	Total Copper	Motor Oil
85%	64%	67%	45%	66%	38%	69%	50%	95%



DEQ Assignment

The Virginia Department of Environmental Quality assigned the MWS Linear, the highest phosphorus removal rating for manufactured treatment devices to meet the new Virginia Stormwater Management Program (VSMP) Technical Criteria.



MASTEP Evaluation

The University of Massachusetts at Amherst – Water Resources Research Center, issued a technical evaluation report noting removal rates up to 84% TSS, 70% Total Phosphorus, 68.5% Total Zinc, and more.

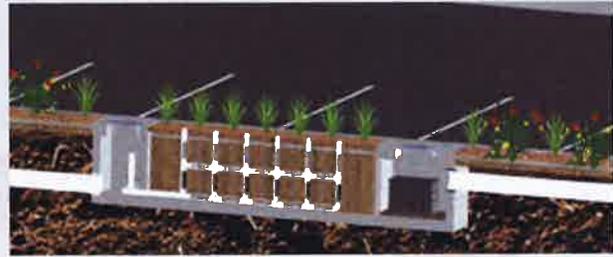


Rhode Island DEM Approved

Approved as an authorized BMP and noted to achieve the following minimum removal efficiencies: 85% TSS, 60% Pathogens, 30% Total Phosphorus for discharges to freshwater systems, and 30% Total Nitrogen for discharges to saltwater or tidal systems.

Flow Based Sizing

The MWS Linear can be used in stand alone applications to meet treatment flow requirements. Since the MWS Linear is the only biofiltration system that can accept inflow pipes several feet below the surface it can be used not only in decentralized design applications but also as a large central end-of-the-line application for maximum feasibility.

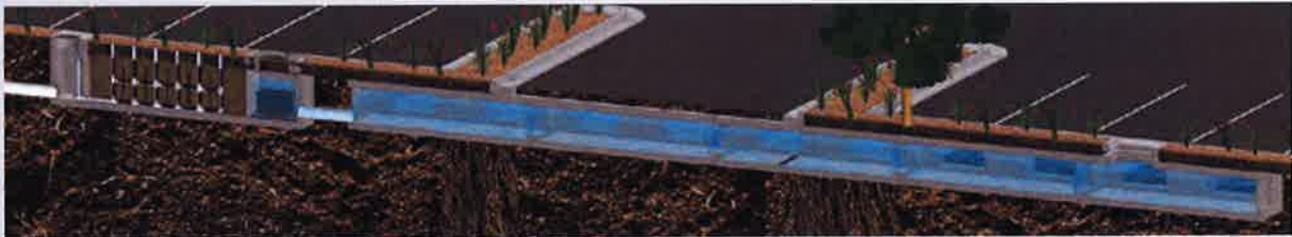


Treatment Flow Sizing Table

Model #	Dimensions	WetlandMedia Surface Area	Treatment Flow Rate (cfs)
MWS-L-4-4	4' x 4'	23 ft ²	0.052
MWS-L-4-6	4' x 6'	32 ft ²	0.073
MWS-L-4-8	4' x 8'	50 ft ²	0.115
MWS-L-4-13	4' x 13'	63 ft ²	0.144
MWS-L-4-15	4' x 15'	76 ft ²	0.175
MWS-L-4-17	4' x 17'	90 ft ²	0.206
MWS-L-4-19	4' x 19'	103 ft ²	0.237
MWS-L-4-21	4' x 21'	117 ft ²	0.268
MWS-L-8-8	8' x 8'	100 ft ²	0.230
MWS-L-8-12	8' x 12'	151 ft ²	0.346
MWS-L-8-16	8' x 16'	201 ft ²	0.462

Volume Based Sizing

Many states require treatment of a water quality volume and do not offer the option of flow based design. The MWS Linear and its unique horizontal flow makes it the only biofilter that can be used in volume based design installed downstream of ponds, detention basins, and underground storage systems.



Treatment Volume Sizing Table

Model #	Treatment Capacity (cu. ft.) @ 24-Hour Drain Down	Treatment Capacity (cu. ft.) @ 48-Hour Drain Down
MWS-L-4-4	1140	2280
MWS-L-4-6	1600	3200
MWS-L-4-8	2518	5036
MWS-L-4-13	3131	6261
MWS-L-4-15	3811	7623
MWS-L-4-17	4492	8984
MWS-L-4-19	5172	10345
MWS-L-4-21	5853	11706
MWS-L-8-8	5036	10072
MWS-L-8-12	7554	15109
MWS-L-8-16	10073	20145

Installation

The MWS Linear is simple, easy to install, and has a space efficient design that offers lower excavation and installation costs compared to traditional tree-box type systems. The structure of the system resembles pre-cast catch basin or utility vaults and is installed in a similar fashion.

The system is delivered fully assembled for quick installation. Generally, the structure can be unloaded and set in place in 15 minutes. Our experienced team of field technicians are available to supervise installations and provide technical support.



Maintenance

Reduce your maintenance costs, man hours, and materials with the MWS Linear. Unlike other biofiltration systems that provide no pre-treatment, the MWS Linear is a self-contained treatment train which incorporates simple and effective pre-treatment.

Maintenance requirements for the biofilter itself are almost completely eliminated, as the pre-treatment chamber removes and isolates trash, sediments, and hydrocarbons. What's left is the simple maintenance of an easily accessible pre-treatment chamber that can be cleaned by hand or with a standard vac truck. Only periodic replacement of low-cost media in the pre-filter cartridges is required for long term operation and there is absolutely no need to replace expensive biofiltration media.



Plant Selection

Abundant plants, trees, and grasses bring value and an aesthetic benefit to any urban setting, but those in the MWS Linear do even more - they increase pollutant removal. What's not seen, but very important, is that below grade the stormwater runoff/flow is being subjected to nature's secret weapon: a dynamic physical, chemical, and biological process working to break down and remove non-point source pollutants. The flow rate is controlled in the MWS Linear, giving the plants more "contact time" so that pollutants are more successfully decomposed, volatilized and incorporated into the biomass of The MWS Linear's micro/macro flora and fauna.

A wide range of plants are suitable for use in the MWS Linear, but selections vary by location and climate. View suitable plants by selecting the list relative to your project location's hardy zone.

Please visit www.ModularWetlands.com/Plants for more information and various plant lists.

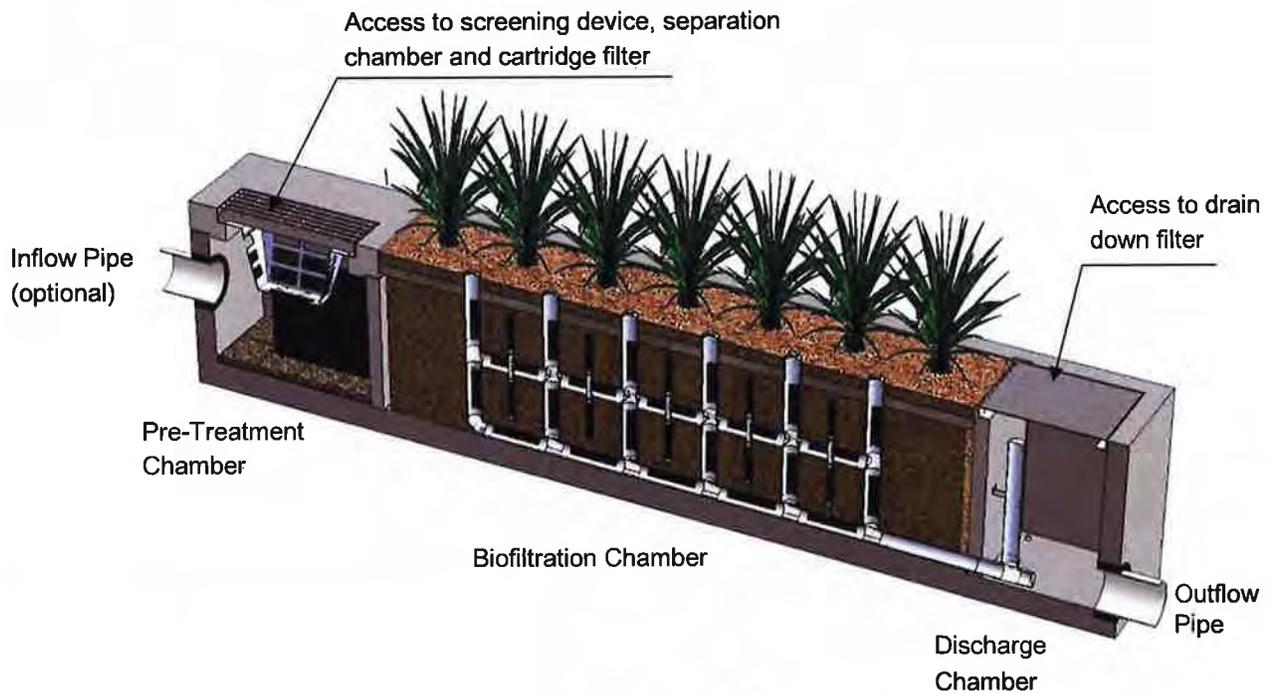


Maintenance Guidelines for Modular Wetland System - Linear

Maintenance Summary

- Remove Trash from Screening Device – average maintenance interval is 6 to 12 months.
 - *(5 minute average service time).*
- Remove Sediment from Separation Chamber – average maintenance interval is 12 to 24 months.
 - *(10 minute average service time).*
- Replace Cartridge Filter Media – average maintenance interval 12 to 24 months.
 - *(10-15 minute per cartridge average service time).*
- Replace Drain Down Filter Media – average maintenance interval is 12 to 24 months.
 - *(5 minute average service time).*
- Trim Vegetation – average maintenance interval is 6 to 12 months.
 - *(Service time varies).*

System Diagram





Maintenance Procedures

Screening Device

1. Remove grate or manhole cover to gain access to the screening device in the Pre-Treatment Chamber. Vault type units do not have screening device. Maintenance can be performed without entry.
2. Remove all pollutants collected by the screening device. Removal can be done manually or with the use of a vacuum truck. The hose of the vacuum truck will not damage the screening device.
3. Screening device can easily be removed from the Pre-Treatment Chamber to gain access to separation chamber and media filters below. Replace grate or manhole cover when completed.

Separation Chamber

1. Perform maintenance procedures of screening device listed above before maintaining the separation chamber.
2. With a pressure washer spray down pollutants accumulated on walls and cartridge filters.
3. Vacuum out Separation Chamber and remove all accumulated pollutants. Replace screening device, grate or manhole cover when completed.

Cartridge Filters

1. Perform maintenance procedures on screening device and separation chamber before maintaining cartridge filters.
2. Enter separation chamber.
3. Unscrew the two bolts holding the lid on each cartridge filter and remove lid.
4. Remove each of 4 to 8 media cages holding the media in place.
5. Spray down the cartridge filter to remove any accumulated pollutants.
6. Vacuum out old media and accumulated pollutants.
7. Reinstall media cages and fill with new media from manufacturer or outside supplier. Manufacturer will provide specification of media and sources to purchase.
8. Replace the lid and tighten down bolts. Replace screening device, grate or manhole cover when completed.

Drain Down Filter

1. Remove hatch or manhole cover over discharge chamber and enter chamber.
2. Unlock and lift drain down filter housing and remove old media block. Replace with new media block. Lower drain down filter housing and lock into place.
3. Exit chamber and replace hatch or manhole cover.



Maintenance Notes

1. Following maintenance and/or inspection, it is recommended the maintenance operator prepare a maintenance/inspection record. The record should include any maintenance activities performed, amount and description of debris collected, and condition of the system and its various filter mechanisms.
2. The owner should keep maintenance/inspection record(s) for a minimum of five years from the date of maintenance. These records should be made available to the governing municipality for inspection upon request at any time.
3. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.
4. Entry into chambers may require confined space training based on state and local regulations.
5. No fertilizer shall be used in the Biofiltration Chamber.
6. Irrigation should be provided as recommended by manufacturer and/or landscape architect. Amount of irrigation required is dependent on plant species. Some plants may require irrigation.

Maintenance Procedure Illustration

Screening Device

The screening device is located directly under the manhole or grate over the Pre-Treatment Chamber. It's mounted directly underneath for easy access and cleaning. Device can be cleaned by hand or with a vacuum truck.



Separation Chamber

The separation chamber is located directly beneath the screening device. It can be quickly cleaned using a vacuum truck or by hand. A pressure washer is useful to assist in the cleaning process.



Cartridge Filters

The cartridge filters are located in the Pre-Treatment chamber connected to the wall adjacent to the biofiltration chamber. The cartridges have removable tops to access the individual media filters. Once the cartridge is open media can be easily removed and replaced by hand or a vacuum truck.



Drain Down Filter

The drain down filter is located in the Discharge Chamber. The drain filter unlocks from the wall mount and hinges up. Remove filter block and replace with new block.



Trim Vegetation

Vegetation should be maintained in the same manner as surrounding vegetation and trimmed as needed. No fertilizer shall be used on the plants. Irrigation per the recommendation of the manufacturer and or landscape architect. Different types of vegetation requires different amounts of irrigation.





Inspection Form



Modular Wetland System, Inc.

P. 760.433-7640

F. 760-433-3176

E. Info@modularwetlands.com

www.modularwetlands.com



Inspection Report Modular Wetlands System



Project Name _____

Project Address _____

(city) (Zip Code)

Owner / Management Company _____

Contact _____

Phone () - _____

Inspector Name _____

Date ____ / ____ / ____

Time _____ AM / PM

Type of Inspection Routine Follow Up Complaint

Storm

Storm Event in Last 72-hours? No Yes

Weather Condition _____

Additional Notes _____

For Office Use Only

(Reviewed By) _____

(Date) _____
Office personnel to complete section to the left.

Inspection Checklist

Modular Wetland System Type (Curb, Grate or UG Vault): _____

Size (22', 14' or etc.): _____

Structural Integrity:	Yes	No	Comments
Damage to pre-treatment access cover (manhole cover/grate) or cannot be opened using normal lifting pressure?			
Damage to discharge chamber access cover (manhole cover/grate) or cannot be opened using normal lifting pressure?			
Does the MWS unit show signs of structural deterioration (cracks in the wall, damage to frame)?			
Is the inlet/outlet pipe or drain down pipe damaged or otherwise not functioning properly?			
Working Condition:			
Is there evidence of illicit discharge or excessive oil, grease, or other automobile fluids entering and clogging the unit?			
Is there standing water in inappropriate areas after a dry period?			
Is the filter insert (if applicable) at capacity and/or is there an accumulation of debris/trash on the shelf system?			
Does the depth of sediment/trash/debris suggest a blockage of the inflow pipe, bypass or cartridge filter? If yes specify which one in the comments section. Note depth of accumulation in in pre-treatment chamber.			Depth:
Does the cartridge filter media need replacement in pre-treatment chamber and/or discharge chamber?			Chamber:
Any signs of improper functioning in the discharge chamber? Note issues in comments section.			
Other Inspection Items:			
Is there an accumulation of sediment/trash/debris in the wetland media (if applicable)?			
Is it evident that the plants are alive and healthy (if applicable)? Please note Plant Information below.			
Is there a septic or foul odor coming from inside the system?			

Waste:	Yes	No
Sediment / Silt / Clay		
Trash / Bags / Bottles		
Green Waste / Leaves / Foliage		

Recommended Maintenance	
No Cleaning Needed	
Schedule Maintenance as Planned	
Needs Immediate Maintenance	

Plant Information	
Damage to Plants	
Plant Replacement	
Plant Trimming	

Additional Notes: _____



Maintenance Report



Modular Wetland System, Inc.

P. 760.433-7640

F. 760-433-3176

E. Info@modularwetlands.com

www.modularwetlands.com



Cleaning and Maintenance Report Modular Wetlands System



Project Name _____

Project Address _____ (city) (Zip Code)

Owner / Management Company _____

Contact _____

Phone () _____

Inspector Name _____

Date ____ / ____ / ____ Time ____ AM / PM

Type of Inspection Routine Follow Up Complaint

Storm Storm Event in Last 72-hours? No Yes

Weather Condition _____

Additional Notes _____

For Office Use Only

(Reviewed By) _____

(Date) _____
Office personnel to complete section to the left.

Site Map #	GPS Coordinates of Insert	Manufacturer / Description / Sizing	Trash Accumulation	Foliage Accumulation	Sediment Accumulation	Total Debris Accumulation	Condition of Media 25/50/75/100 (will be changed @ 75%)	Operational Per Manufactures' Specifications (If not, why?)
	Lat: _____ Long: _____	MWS Catch Basins						
		MWS Sedimentation Basin						
		Media Filter Condition						
		Plant Condition						
		Drain Down Media Condition						
		Discharge Chamber Condition						
		Drain Down Pipe Condition						
		Inlet and Outlet Pipe Condition						

Comments:



Corrugated Metal Pipe Infiltration System



Stormwater Solutions from Contech



Selecting the Right Stormwater Solution Just Got Easier...

It's simple to choose the right stormwater solution to achieve your goals with the Contech Stormwater Solutions Staircase. First, select the runoff reduction practices that are most appropriate for your site, paying particular attention to pretreatment needs. If the entire design storm cannot be retained, select a treatment best management practice (BMP) for the balance. Finally, select a detention system to address any outstanding downstream erosion.

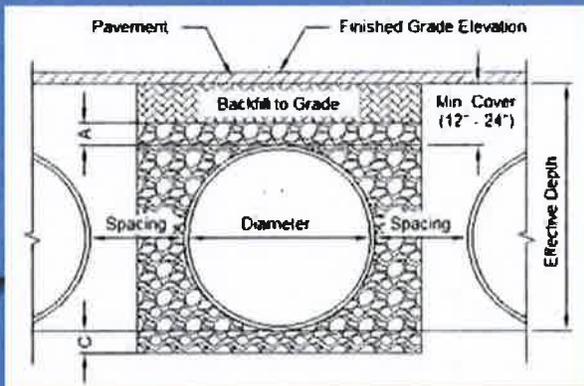


DYODS

DESIGN YOUR OWN DETENTION OR INFILTRATION SYSTEM

The Contech DYODS is an exclusive online design tool that allows users to quickly and easily design their own detention or infiltration system. Just input your required storage volume to calculate the quantity of the material needed for your Contech CMP, CON/SPAN®, or ChamberMaxx® system.

To use the *Design Your Own Detention or Infiltration System* tool, visit: www.ContechES.com/dyods



Subsurface Infiltration as a Stormwater Management Strategy

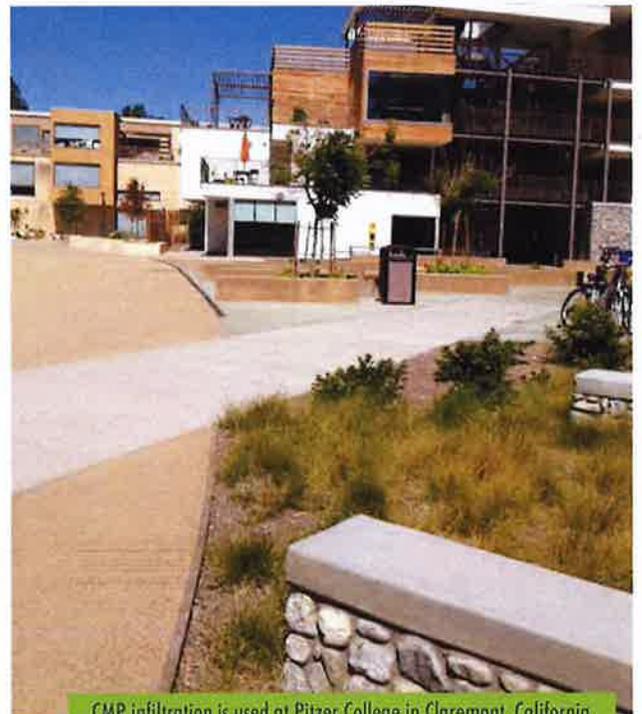
The only sure way to eliminate stormwater pollution is to eliminate stormwater runoff. In recognition of this fact, Green Infrastructure and Low Impact Development based stormwater management regulations prioritizing runoff reduction have proliferated throughout the United States.

Where site conditions allow, infiltration is typically the most cost effective and reliable runoff reduction approach. In urban environments where there are competing demands for land, subsurface infiltration can provide many of the benefits of landscape based systems but without requiring dedicated land area. Infiltration systems are commonly comprised of a pretreatment component designed to remove sediment, trash, and oil, followed by plastic, metal or concrete storage units surrounded by permeable stone creating a high voids storage gallery. Infiltration systems are typically designed to support vehicular loading and to withstand lateral pressures from surrounding soil that allows the overlying land to be used for virtually any non-building application.

Subsurface infiltration meets the objectives of LID by reducing runoff with the added benefit of saving land space in urban environments.



LID benefits include runoff volume reduction, peak flow control, ground water recharge, and water quality improvement.



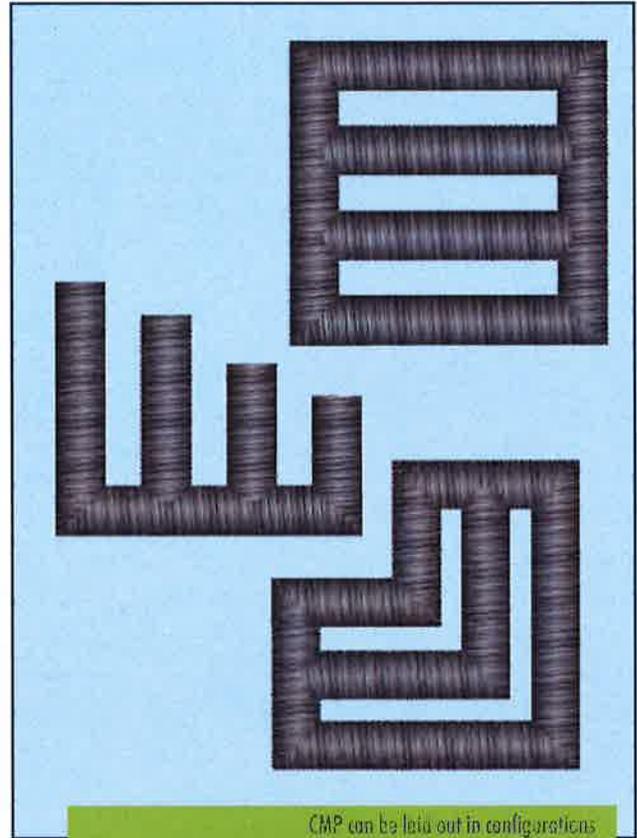
CMP infiltration is used at Pitzer College in Claremont, California.



CMP – the “Go To” Material for Subsurface Infiltration

The purpose of the storage vessel is to hold stormwater runoff underground while allowing it to infiltrate the surrounding soil. For the majority of applications, corrugated metal pipe (CMP) is the “go to” material for subsurface infiltration.

- A minimum of 75-year service life for most soil/water conditions.
- Various pipe coatings and materials are available to accommodate site-specific needs and extend service life: Aluminized Steel Type 2 (ALT2), Galvanized, CORLIX® Aluminum, and Polymeric.
- Wide range of gages, corrugations, and shapes, in diameters 12” – 144”.
- Pipe can be fully or partially perforated for infiltration, retention, or groundwater recharge applications.
- Custom access risers and manifolds provide direct access for maintenance.
- Outlet control devices can be incorporated within the system, eliminating the need for a separate structure.
- Customizable - a variety of fittings allow CMP to match most layout configurations.
- May be designed for heavy loading and high maximum cover.
- Contributes to LEED points.
- Available locally; quick turnaround time.
- The most economical installed solution.



CMP can be laid out in configurations not achievable with other materials.

With its low cost, a wide variety of diameters, layout configurations, and materials, no other material can match CMP's flexibility and versatility.



A wide range of CMP diameters and coatings are available to meet site specific needs.

Addressing the Question of Longevity

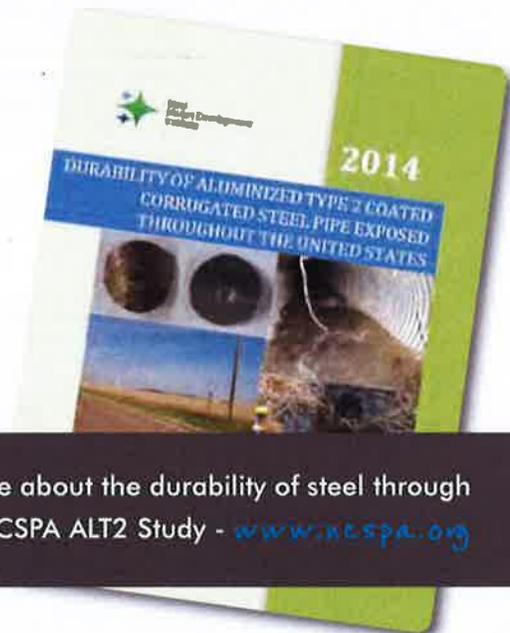
Some engineers are hesitant to use corrugated metal pipe (CMP) for stormwater applications because they have read or heard about CMP being used in culverts that have corroded. This shouldn't be the case. Many decades ago, galvanized pipe was the coating of choice for culverts; that now has been replaced with Aluminized Type 2 (ALT2). The primary reason for culvert failure is the galvanized coating was not properly designed to withstand a high flow and abrasive environment, which wears the galvanized coating off the invert of the pipe. The ALT2 is far more abrasive resistant for applications such as culverts and has a wider range for pH and resistivity. Additionally, a detention/infiltration application is not an abrasive environment, so these concerns are further mitigated. Finally, a properly designed infiltration system includes pretreatment and flow control, as well as a stone envelope which prevents interaction with native soils, further reducing the potential for abrasion and corrosion.

- A minimum of 75 year service life for most soil/water conditions and has a proven service life that exceed 100 years with proper specification that meets all AASHTO and ASTM pipe specifications.
- CMP infiltration systems can be designed to meet HS-20 or greater load requirements with proper depths of cover.
- With no abrasion and low flows, coatings remain intact and protect against corrosion inside the pipe that holds stormwater runoff.
- Protective pipe coatings and materials such as ALT2, Galvanized, Polymeric, and CORLIX® Aluminum are matched to the pH and resistivity of the surrounding soil.
- CMP infiltration systems are surrounded by clean crushed rock to provide increased storage capacity. The entire system is wrapped with fabric on the sides and top to prevent the soils from having contact with CMP. Thus, corrosive soils do not come into contact with the

CMP infiltration systems have a proven service life that exceeds 100-years with proper specification that meets all AASHTO and ASTM pipe specifications.



CMP has a proven service life



Learn more about the durability of steel through the recent NCS ALT2 Study - www.ncspa.org



Maximizing Vertical Space: Every Inch Counts

One of the most overlooked advantages of CMP is its ability to maximize vertical storage space.

Increasing the depth of a CMP infiltration system allows for more water storage in the same footprint. For example, doubling the diameter of pipe yields four times as much storage volume in the pipe. This provides a significant cost savings per cubic foot of storage. In addition, more vertical storage space means a smaller footprint, less excavation, and lower project costs.

Contech's Corrugated Metal Pipe Detention systems maximize vertical storage space.



96" diameter - 50.2 ft³/ft

48" diameter - 12.5 ft³/ft

2x the diameter - 4x the storage

Sizing

Round Pipe – CMP → 6-in to 144-in

Diameter (inches)	Volume (ft ³ /ft)	Min. Cover Height	Diameter (inches)	Volume (ft ³ /ft)	Min. Cover Height
12	.78	12"	78	33.1	12"
15	1.22	12"	84	38.4	12"
18	1.76	12"	90	44.1	12"
21	2.40	12"	96	50.2	12"
24	3.14	12"	102	56.7	18"
30	4.9	12"	108	63.6	18"
36	7.0	12"	114	70.8	18"
42	9.6	12"	120	78.5	18"
48	12.5	12"	126	86.5	18"
54	15.9	12"	132	95.0	18"
60	19.6	12"	138	103.8	18"
66	23.7	12"	144	113.1	18"
72	28.2	12"			

The Need for Effective Pretreatment

Infiltration systems have multiple components, and one of the most important is pretreatment. The purpose of a pretreatment device is to prolong the life of the infiltration system by removing debris and sediment that can collect on the invert and within the stone backfill voids. Pretreatment will maintain the efficiency of an infiltration system as well as extend the life cycle, therefore preventing a premature replacement. Pretreatment also offers these additional benefits:

- Easier to clean and maintain compared to the infiltration system itself.
- Cost savings due to the extended service life of the system.
- Removing trash and debris protects downstream outlet control structures from clogging.

Pretreatment Design Considerations

When choosing a pretreatment system, it is important to consider the following:

- Downstream outlet control structures may require protection from a pretreatment device that screens trash and debris.
- Pretreatment system selection depends on pollutant targets. Trash, debris, and larger particles can be removed with hydrodynamic separators. Removing high percentages of fine particles and associated heavy metals and nutrients requires filtration.
- Reduced long term maintenance or replacement cost of the infiltration system can help justify pretreatment construction costs.
- Inlet and pipe layout will influence the number and type of pretreatment systems used. A combination of different systems may be appropriate for the various inlet locations and flows.

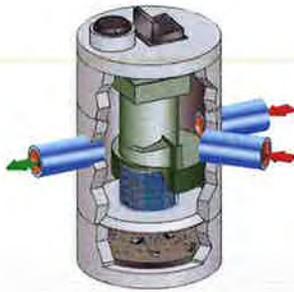
Pretreatment systems that are easy to maintain and do not rely on the use of geotextile fabric are preferred.



Pretreatment Options

Contech offers a number of pretreatment options, all of which will extend the life of subsurface infiltration systems and improve water quality. The type of system chosen will depend on a number of factors including footprint, soil conditions, local regulations, and the desired level of pretreatment.

CDS provides direct access to cleaning, and the built-in high flow bypass weir eliminates the need for a separate bypass structure.



Hydrodynamic Separation

Hydrodynamic Separation (HDS) provides a basic level of pretreatment by capturing and retaining trash and debris, sediment, and oil from stormwater runoff.

CDS®

The CDS uses a combination of swirl concentration and indirect screening and is the only non-blocking screening technology available in an HDS system.



Filtration

Filtration provides a higher level of pretreatment and improved water quality by removing trash and debris, oil, fine solids, and dissolved pollutants such as metals, hydrocarbons, and nutrients.

Filterra® Bioretention System

Filterra is an engineered bioretention system that has been optimized for high volume/flow treatment and high pollutant removal.



The Stormwater Management StormFilter®

The StormFilter system is comprised of a structure that houses rechargeable, media-filled cartridges. The media can be customized to target site-specific pollutants.



Jellyfish® Filter

The Jellyfish filter uses membrane filtration in a compact footprint to remove a high level and a wide variety of stormwater pollutants such as fine particulates, oil, trash and debris, metals, and nutrients.

Alternative Materials for Subsurface Infiltration

There may be instances where alternative materials are needed for subsurface infiltration due to site specific needs.

Plastic Chambers

Plastic chambers are best suited to shallow depth applications; minimum cover is 18 inches, and maximum cover is 96 inches. Some benefits of chambers are:

- Chambers may be beneficial for sites with limited vertical storage.
- Lightweight and installed by hand.
- Heavy equipment is not required to set units into place.
- Centralized stocking locations for short lead times.

Concrete Structures/Vaults

Some concrete structures and vaults are best suited for high loading applications such as railroads or airports. Concrete units are also ideal in corrosive environments or areas with high salinity. Some benefits of concrete structures are:

- Wide range of spans and heights.
- Greater underground infiltration storage in a smaller footprint.
- Ample and easy maintenance access.
- Fast installation.



Project Profiles: CMP Infiltration Systems in Action

Edie and Lew Wasserman Building, UCLA

Westwood, California

- The new six-story, 100,000 square foot Edie and Lew Wasserman Building was built on a very dense site that needed to meet sustainability requirements.
- The design needed to maximize infiltration volume, match existing inverts, and work around existing utilities.
- The stormwater management systems included a CDS pretreatment system and a CMP infiltration system using 57' of 72" perforated CMP.
- Perforated CMP was selected to avoid utilities, minimize excavation, meet the City of LA LID requirements, contribute to the building's LEED certification, and to provide space for the buildings "outdoor room" and gardens.



Creative Office Space

El Segundo, California

- A stormwater infiltration solution was needed for a new group of office buildings.
- The owner wanted to maximize the use of the parking area in the urban setting.
- The site had a tight footprint and multiple utility constraints, requiring the design of five separate systems.
- A total of 860 LF of perforated CMP was installed providing of 25,265 CF of storage.
- Perforated CMP was selected for its design flexibility, cost effectiveness, and ease of installation.

City Center Regional Stormwater Facility

Mountlake Terrace, Washington

- The city of Mountlake Terrace, Washington needed a new stormwater retention facility to provide stormwater treatment and downstream flood control.
- There was limited footprint for 80,000 CF of runoff, and the system was required to be very deep, with about 15' of cover.
- Engineers designed a system consisting of a CDS pretreatment system in front of 800 linear feet of 120" diameter, perforated, aluminized type 2 CMP that allows the runoff to slowly infiltrate the surrounding soil.
- Perforated CMP was selected for its ability to accommodate the deep bury, the relatively small footprint, and cost effectiveness.



The Right Partner Can Make All the Difference

Regardless of your project's objectives and constraints, our team of stormwater design engineers, regulatory managers, and local stormwater consultants are here to provide you with expert advice and assistance. If your goal is to eliminate or detain runoff, you can rely on Contech for a wide range of subsurface infiltration, detention, and rainwater harvesting solutions. If treatment is needed, our landscape-based biofiltration or subsurface filtration designs can fit into virtually any site and can be tailored to address specific pollutants.

At every stage of your project, count on Contech to provide engineering services including:

- Regulatory guidance and permitting assistance
- Preliminary standard details and/or site specific final CAD drawings and specifications
- Low Impact Development design assistance
- Engineering calculations for hydraulics/hydrology, rainwater harvesting, and detention/retention
- Online "Design Your Own" tools
- Review of preliminary site design, feasibility screening, and layout assistance
- Value engineering – cost estimates and options analysis
- Pre-construction support, project scheduling, and contractor coordination
- Installation and construction support
- Maintenance support:
 - » Guidance manuals
 - » Demonstrations
 - » Qualified contractor identification

The result: an efficient design process, the right product, greater land space savings, and faster permitting. The entire Contech stormwater team welcomes the opportunity to work with you on your stormwater projects.

To get started, please visit www.conteches.com/localresources or call us at 800-338-1122.



Learn more at www.ContechES.com/cmp-detention





Dig Deeper

Find all the information you need at www.ContechES.com, including field and laboratory test results, approvals, brochures, design guides, standard details, and specifications within the product section of our site.

Connect with Us

We're here to make your job easier – and that includes being able to get in touch with us when you need to. Go to www.ContechES.com/ConnectwithContech.

While you're there, be sure to check out our upcoming seminar schedule or request an in-house technical presentation.

Start a Project

If you are ready to begin a project, contact your local representative to get started. Or you can check out our design toolbox for all our online resources at www.ContechES.com/designtoolbox.

Links to Stormwater Tools:

To use the Land Value Calculator, visit:

www.ContechES.com/lvc

(Look under the Stormwater Management section to download the Land Value Calculator)

To use the Design Your Own Detention System tool, visit:

www.ContechES.com/dyods

To use the Design Your Own Hydrodynamic Separator tool, visit:

www.ContechES.com/dyohds

To use the Rainwater Harvesting Runoff Reduction Calculator tool, visit: www.ContechES.com/rwh-calculator

To use the LID Site Planner, visit:

www.ContechES.com/LIDsiteplanner



COMPLETE SITE SOLUTIONS



Treatment Solutions

Helping to satisfy stormwater management requirements on land development projects

- Stormwater Treatment
- Detention/Infiltration
- Rainwater Harvesting
- Biofiltration/Bioretenion

Pipe Solutions

Meeting project needs for durability, hydraulics, corrosion resistance, and stiffness

- Corrugated Metal Pipe (CMP)
- Steel Reinforced Polyethylene (SRPE)
- High Density Polyethylene (HDPE)
- Polyvinyl Chloride (PVC)

Structures Solutions

Providing innovative options and support for crossings, culverts, and bridges

- Plate, Precast & Truss bridges
- Hard Armor
- Retaining Walls
- Tunnel Liner Plate

NOTHING IN THIS CATALOG SHOULD BE CONSTRUED AS AN EXPRESSED WARRANTY OR AN IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. SEE THE CONTECH STANDARD CONDITION OF SALES (VIEWABLE AT WWW.CONTECHES.COM/COS) FOR MORE INFORMATION.

Get Social With Us!



CMP Infiltration Bro (5M as of 1/15) PDF 10/15



©2015 Contech Engineered Solutions LLC
800-338-1122 | www.ContechES.com
All Rights Reserved. Printed in the USA.

We print our brochures entirely on Forest Stewardship Council certified paper. FSC certification ensures that the paper in our brochures contain fiber from well-managed and responsibly harvested forests that meet strict environmental and socioeconomic standards.

FSC



Maintenance

Underground storm water detention and retention systems should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size or configuration of the system.

Inspection

Inspection is the key to effective maintenance and is easily performed. CONTECH recommends ongoing quarterly inspections of the accumulated sediment. Sediment deposition and transport may vary from year to year and quarterly inspections will help insure that systems are cleaned out at the appropriate time. Inspections should be performed more often in the winter months in climates where sanding operations may lead to rapid accumulations, or in equipment washdown areas. It is very useful to keep a record of each inspection. A sample inspection log is included for your use.

Systems should be cleaned when inspection reveals that accumulated sediment or trash is clogging the discharge orifice. CONTECH suggests that all systems be designed with an access/inspection manhole situated at or near the inlet and the outlet orifice. Should it be necessary to get inside the system to perform maintenance activities, all appropriate precautions regarding confined space entry and OSHA regulations should be followed.

Cleaning

Maintaining an underground detention or retention system is easiest when there is no flow entering the system. For this reason, it is a good idea to schedule the cleanout during dry weather.

Accumulated sediment and trash can typically be evacuated through the manhole over the outlet orifice. If maintenance is not performed as recommended, sediment and trash may accumulate in front of the outlet orifice. Manhole covers should be securely seated following cleaning activities.

BMP OPERATION & MAINTENANCE LOG

SITE ADDRESS - 110 & 132 E. Crowther Avenue, Placentia, CA 92870

Today's Date: _____

**Name of Person
Performing Activity:** _____

Signature: _____

BMP Name (As Shown on BMP Exhibits)	Brief Description of Implementation, Maintenance, and Inspection Activity Performed
MWS #1 (Modular Wetlands unit)	
MWS #2 (Modular Wetlands unit)	
A (Corrugated Steel Pipe (CSP)) – Access by Manhole	
B (Corrugated Steel Pipe (CSP)) – Access by manhole	

Attachment C Hydrology Information (Q2 – Two-year frequency storm evaluation)

WinTR-55 Current Data Description

--- Identification Data ---

User: KHR Assoc. Date: 5/5/2017
 Project: The Herald Units: English
 SubTitle: Ex. 2 Year Areal Units: Acres
 State: California
 County: Orange
 Filename: R:\Integral\Documents\WQMP\Conceptual WQMP\Back up Documents\VIII - Attachment C - Ex.w55

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
Site Area		Outlet	2.95	92	0.117
Total area: 2.95 (ac)					

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.05	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
 Rainfall Distribution Type: Type I
 Dimensionless Unit Hydrograph: <standard>

KHR Assoc.

The Herald
Ex. 2 Year
Orange County, California

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.05	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type I
Dimensionless Unit Hydrograph: <standard>

KHR Assoc.

The Herald
Ex. 2 Year
Orange County, California

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period	
	2-Yr (cfs)	

SUBAREAS		
Site Area	2.88	
REACHES		
OUTLET	2.88	

KHR Assoc.

The Herald
Ex. 2 Year
Orange County, California

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 2-Yr (cfs) (hr)
------------------------------------	---

SUBAREAS	
Site Area	2.88
	9.94

REACHES

OUTLET	2.88
--------	------

KHR Assoc.

The Herald
Ex. 2 Year
Orange County, California

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
Site Area	2.95	0.117	92	Outlet	
Total Area:	2.95 (ac)				

KHR Assoc.

The Herald
Ex. 2 Year
Orange County, California

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use	Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
Site Area	Open space; grass cover > 75%	(good) A	.3	39
	Paved parking lots, roofs, driveways	A	2.65	98
	Total Area / Weighted Curve Number		2.95	92

8.675	0.17	0.17	0.17	0.17	0.17	0.17	0.17
8.727	0.18	0.18	0.18	0.18	0.18	0.18	0.18
8.778	0.18	0.19	0.19	0.19	0.19	0.19	0.19
8.830	0.19	0.19	0.19	0.20	0.20	0.20	0.20
8.882	0.20	0.20	0.20	0.20	0.21	0.21	0.21

WinTR-20 Version 1.10

Page 1

05/05/2017 11:59

The Herald
Ex. 2 Year

Line Start Time (hr)	Flow (cfs)						
8.933	0.21	0.21	0.21	0.21	0.21	0.22	0.22
8.985	0.22	0.22	0.22	0.22	0.22	0.23	0.23
9.037	0.23	0.23	0.23	0.23	0.23	0.24	0.24
9.089	0.24	0.24	0.24	0.25	0.25	0.25	0.25
9.140	0.25	0.25	0.26	0.26	0.26	0.26	0.27
9.192	0.27	0.27	0.27	0.27	0.28	0.28	0.28
9.244	0.28	0.28	0.29	0.29	0.29	0.30	0.30
9.296	0.30	0.30	0.30	0.31	0.31	0.31	0.31
9.347	0.32	0.32	0.32	0.32	0.33	0.33	0.33
9.399	0.33	0.34	0.34	0.34	0.34	0.34	0.35
9.451	0.35	0.35	0.36	0.36	0.36	0.36	0.37
9.502	0.37	0.37	0.38	0.38	0.39	0.40	0.41
9.554	0.42	0.43	0.45	0.46	0.48	0.49	0.50
9.606	0.52	0.53	0.54	0.56	0.57	0.59	0.62
9.658	0.65	0.68	0.71	0.74	0.77	0.79	0.82
9.709	0.84	0.87	0.89	0.92	0.96	1.01	1.06
9.761	1.11	1.17	1.22	1.28	1.33	1.38	1.42
9.813	1.47	1.52	1.58	1.64	1.73	1.83	1.94
9.865	2.06	2.18	2.30	2.41	2.52	2.62	2.71
9.916	2.78	2.83	2.86	2.88	2.87	2.85	2.81
9.968	2.77	2.73	2.68	2.63	2.59	2.55	2.50
10.020	2.46	2.41	2.34	2.26	2.16	2.04	1.92
10.071	1.80	1.67	1.56	1.45	1.35	1.26	1.19
10.123	1.13	1.08	1.03	0.99	0.96	0.92	0.90
10.175	0.87	0.85	0.83	0.81	0.80	0.79	0.77
10.227	0.76	0.75	0.74	0.74	0.73	0.72	0.71
10.278	0.70	0.69	0.68	0.68	0.67	0.67	0.66
10.330	0.66	0.65	0.64	0.64	0.63	0.62	0.61
10.382	0.61	0.60	0.60	0.59	0.59	0.58	0.58
10.434	0.57	0.57	0.56	0.55	0.54	0.54	0.53
10.485	0.52	0.52	0.51	0.51	0.50	0.50	0.49
10.537	0.49	0.48	0.48	0.47	0.47	0.46	0.46
10.589	0.46	0.45	0.45	0.44	0.44	0.44	0.44
10.640	0.43	0.43	0.43	0.43	0.43	0.42	0.42
10.692	0.42	0.42	0.42	0.42	0.41	0.41	0.41
10.744	0.41	0.41	0.41	0.40	0.40	0.40	0.40
10.796	0.40	0.40	0.40	0.39	0.39	0.39	0.39
10.847	0.39	0.39	0.39	0.38	0.38	0.38	0.38
10.899	0.38	0.38	0.37	0.37	0.37	0.37	0.37
10.951	0.37	0.37	0.36	0.36	0.36	0.36	0.36
11.003	0.36	0.36	0.35	0.35	0.35	0.35	0.35
11.054	0.35	0.35	0.35	0.34	0.34	0.34	0.34
11.106	0.34	0.34	0.34	0.34	0.34	0.34	0.34
11.158	0.34	0.33	0.33	0.33	0.33	0.33	0.33
11.209	0.33	0.33	0.33	0.33	0.33	0.33	0.33
11.261	0.33	0.33	0.33	0.33	0.33	0.32	0.32
11.313	0.32	0.32	0.32	0.32	0.32	0.32	0.32
11.365	0.32	0.32	0.32	0.32	0.32	0.32	0.32
11.416	0.32	0.32	0.32	0.32	0.31	0.31	0.31
11.468	0.31	0.31	0.31	0.31	0.31	0.31	0.31
11.520	0.31	0.31	0.31	0.31	0.31	0.31	0.31

WinTR-20 Version 1.10

Page 2

05/05/2017 11:59

WinTR-55, Version 1.00.10

Page 1

5/5/2017

11:59:27 AM

WinTR-20 Printed Page File
TR20.inp

Beginning of Input Data List

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 92. .117

STREAM REACH:

The Herald
Ex. 2 Year

Line	Start Time	Flow	Values @ time	increment	of	0.007 hr	
	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
	11.572	0.31	0.31	0.30	0.30	0.30	0.30
	11.623	0.30	0.30	0.30	0.30	0.30	0.30
	11.675	0.30	0.30	0.30	0.30	0.30	0.30
	11.727	0.29	0.29	0.29	0.29	0.29	0.29
	11.778	0.29	0.29	0.29	0.29	0.29	0.29
	11.830	0.29	0.29	0.29	0.29	0.29	0.28
	11.882	0.28	0.28	0.28	0.28	0.28	0.28
	11.934	0.28	0.28	0.28	0.28	0.28	0.28
	11.985	0.28	0.27	0.27	0.27	0.27	0.27
	12.037	0.27	0.27	0.27	0.27	0.27	0.27
	12.089	0.27	0.27	0.27	0.27	0.27	0.27
	12.141	0.27	0.27	0.27	0.26	0.26	0.26
	12.192	0.26	0.26	0.26	0.26	0.26	0.26
	12.244	0.26	0.26	0.26	0.26	0.26	0.26
	12.296	0.26	0.26	0.26	0.26	0.26	0.26
	12.347	0.26	0.26	0.26	0.26	0.25	0.25
	12.399	0.25	0.25	0.25	0.25	0.25	0.25
	12.451	0.25	0.25	0.25	0.25	0.25	0.25
	12.503	0.25	0.25	0.25	0.25	0.25	0.25
	12.554	0.25	0.25	0.25	0.25	0.25	0.24
	12.606	0.24	0.24	0.24	0.24	0.24	0.24
	12.658	0.24	0.24	0.24	0.24	0.24	0.24
	12.710	0.24	0.24	0.24	0.24	0.24	0.24
	12.761	0.24	0.24	0.24	0.24	0.24	0.23
	12.813	0.23	0.23	0.23	0.23	0.23	0.23
	12.865	0.23	0.23	0.23	0.23	0.23	0.23
	12.916	0.23	0.23	0.23	0.23	0.23	0.23
	12.968	0.23	0.23	0.23	0.23	0.23	0.22
	13.020	0.22	0.22	0.22	0.22	0.22	0.22
	13.072	0.22	0.22	0.22	0.22	0.22	0.22

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 92. .117

STREAM REACH:

13.123	0.22	0.22	0.22	0.22	0.22	0.22	0.22
13.175	0.22	0.22	0.22	0.22	0.22	0.22	0.21
13.227	0.21	0.21	0.21	0.21	0.21	0.21	0.21
13.279	0.21	0.21	0.21	0.21	0.21	0.21	0.21
13.330	0.21	0.21	0.21	0.21	0.21	0.21	0.21
13.382	0.21	0.21	0.21	0.21	0.21	0.21	0.20
13.434	0.20	0.20	0.20	0.20	0.20	0.20	0.20
13.485	0.20	0.20	0.20	0.20	0.20	0.20	0.20
13.537	0.20	0.20	0.20	0.20	0.20	0.20	0.20
13.589	0.20	0.20	0.20	0.20	0.20	0.20	0.19
13.641	0.19	0.19	0.19	0.19	0.19	0.19	0.19
13.692	0.19	0.19	0.19	0.19	0.19	0.19	0.19
13.744	0.19	0.19	0.19	0.19	0.19	0.19	0.19
13.796	0.19	0.19	0.19	0.19	0.19	0.19	0.18
13.847	0.18	0.18	0.18	0.18	0.18	0.18	0.18
13.899	0.18	0.18	0.18	0.18	0.18	0.18	0.18
13.951	0.18	0.18	0.18	0.18	0.18	0.18	0.18
14.003	0.18	0.18	0.18	0.18	0.18	0.17	0.17
14.054	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.106	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.158	0.17	0.17	0.17	0.17	0.17	0.17	0.17

The Herald
Ex. 2 Year

Line Start Time (hr)	Flow Values @ time (cfs)	increment (cfs)	of (cfs)	0.007 hr (cfs)	----- (cfs)	----- (cfs)
14.210	0.17	0.17	0.17	0.17	0.17	0.17
14.261	0.17	0.17	0.17	0.17	0.17	0.17
14.313	0.17	0.17	0.17	0.17	0.17	0.17
14.365	0.17	0.17	0.17	0.17	0.17	0.17
14.416	0.17	0.17	0.17	0.17	0.17	0.17
14.468	0.17	0.17	0.17	0.17	0.17	0.17
14.520	0.17	0.17	0.17	0.17	0.17	0.17

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 92. .117

STREAM REACH:

16.537	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.589	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.641	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.692	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.744	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.796	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15

WinTR-20 Version 1.10

Page 4

05/05/2017 11:59

The Herald
Ex. 2 Year

Line	Start Time	Flow	Values @ time	increment	of	0.007 hr		
	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
16.848	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.899	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.951	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.14
17.003	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.055	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.106	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.158	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.210	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.261	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.313	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.365	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.417	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.468	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.520	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.572	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.624	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.675	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.727	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.779	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.830	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.882	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.934	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 92. .117

STREAM REACH:

17.986	0.14	0.14	0.14	0.14	0.13	0.13	0.13
18.037	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.089	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.141	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.193	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.244	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.296	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.348	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.399	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.451	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.503	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.555	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.606	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.658	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.710	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.761	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.813	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.865	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.917	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.968	0.13	0.13	0.13	0.13	0.13	0.12	0.12
19.020	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.072	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.124	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.175	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.227	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.279	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.330	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.382	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.434	0.12	0.12	0.12	0.12	0.12	0.12	0.12

WinTR-20 Version 1.10

Page 5

05/05/2017 11:59

The Herald
Ex. 2 Year

Line
Start Time (hr) ----- Flow Values @ time increment of 0.007 hr -----
(cfs) (cfs) (cfs) (cfs) (cfs) (cfs) (cfs)

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 92. .117

STREAM REACH:

19.486	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.537	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.589	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.641	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.693	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.744	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.796	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.848	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.899	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.951	0.12	0.12	0.12	0.12	0.11	0.11	0.11
20.003	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.055	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.106	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.158	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.210	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.262	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.313	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.365	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.417	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.468	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.520	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.572	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.624	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.675	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.727	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.779	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.831	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.882	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.934	0.11	0.10	0.10	0.10	0.10	0.10	0.10
20.986	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.037	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.089	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.141	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.193	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.244	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.296	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.348	0.10	0.10	0.10	0.10	0.10	0.10	0.10

WinTR-20: Version 1.10 0 0 0.05 (continued)
 erald
 Ex. 2 Year

STORM 2-Yr

SUB-AREA: Site Area Outlet .00461 92. .117

STREAM REACH:

21.400	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.451	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.503	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.555	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.606	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.658	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.710	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.762	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.813	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.865	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.09
21.917	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
21.969	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.020	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.072	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09

WinTR-20 Version 1.10 Page 6 05/05/2017 11:59

The Herald
Ex. 2 Year

Line Start Time (hr)	Flow (cfs)	Values @ time (cfs)	increment (cfs)	of 0.007 hr (cfs)	of 0.007 hr (cfs)	of 0.007 hr (cfs)	of 0.007 hr (cfs)
22.124	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.175	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.227	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.279	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.331	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.382	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.434	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.486	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.538	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.589	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.641	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.693	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.744	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.796	0.09	0.09	0.09	0.09	0.08	0.08	0.08

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 92. .117

STREAM REACH:

22.848	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.900	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.951	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.003	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.055	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.107	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.158	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.210	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.262	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.313	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.365	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.417	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.469	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.520	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.572	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.624	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.675	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.727	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07
23.779	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
23.831	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
23.882	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
23.934	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
23.986	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
24.038	0.07	0.06	0.06	0.05				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.005		1.264		9.94	2.88	624.18

Line Start Time (hr)	Flow (cfs)						
6.864	0.05	0.05	0.05	0.05	0.05	0.05	0.05
6.916	0.05	0.05	0.05	0.05	0.05	0.05	0.05

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 92. .117

STREAM REACH:

WinTR-20 Version 1.10

Page 7

05/05/2017 11:59

The Herald
Ex. 2 Year

Line Start Time (hr)	Flow (cfs)	Values @ (cfs)	time (cfs)	increment (cfs)	of (cfs)	0.007 hr (cfs)	Flow (cfs)
6.968	0.05	0.05	0.05	0.06	0.06	0.06	0.06
7.020	0.06	0.06	0.06	0.06	0.06	0.06	0.06
7.071	0.06	0.06	0.06	0.06	0.06	0.06	0.06
7.123	0.06	0.06	0.06	0.06	0.06	0.06	0.06
7.175	0.06	0.06	0.06	0.06	0.06	0.06	0.06
7.227	0.06	0.06	0.06	0.06	0.06	0.06	0.06
7.278	0.06	0.06	0.07	0.07	0.07	0.07	0.07
7.330	0.07	0.07	0.07	0.07	0.07	0.07	0.07
7.382	0.07	0.07	0.07	0.07	0.07	0.07	0.07
7.433	0.07	0.07	0.07	0.07	0.07	0.07	0.07
7.485	0.07	0.07	0.07	0.07	0.07	0.07	0.07
7.537	0.07	0.07	0.07	0.07	0.07	0.07	0.07
7.589	0.07	0.07	0.07	0.07	0.07	0.07	0.08
7.640	0.08	0.08	0.08	0.08	0.08	0.08	0.08
7.692	0.08	0.08	0.08	0.08	0.08	0.08	0.08
7.744	0.08	0.08	0.08	0.08	0.08	0.08	0.08
7.796	0.08	0.08	0.08	0.08	0.08	0.08	0.08
7.847	0.08	0.08	0.08	0.08	0.08	0.08	0.08
7.899	0.08	0.08	0.08	0.08	0.08	0.08	0.08
7.951	0.08	0.08	0.09	0.09	0.09	0.09	0.09
8.002	0.09	0.09	0.09	0.09	0.09	0.09	0.09
8.054	0.09	0.09	0.09	0.09	0.09	0.09	0.09
8.106	0.09	0.09	0.09	0.09	0.09	0.10	0.10
8.158	0.10	0.10	0.10	0.10	0.10	0.10	0.10
8.209	0.10	0.10	0.10	0.11	0.11	0.11	0.11
8.261	0.11	0.11	0.11	0.11	0.11	0.11	0.12
8.313	0.12	0.12	0.12	0.12	0.12	0.12	0.12
8.365	0.12	0.12	0.13	0.13	0.13	0.13	0.13
8.416	0.13	0.13	0.13	0.13	0.13	0.14	0.14

WinTR-20: Version 1.10
The Herald
Ex. 2 Year

0 0 0.05

(continued)

SUB-AREA:

STORM 2-Yr

Site Area Outlet .00461 92. .117

STREAM REACH:

8.468	0.14	0.14	0.14	0.14	0.14	0.14	0.14
8.520	0.14	0.15	0.15	0.15	0.15	0.15	0.15
8.571	0.15	0.15	0.16	0.16	0.16	0.16	0.16
8.623	0.16	0.16	0.16	0.16	0.16	0.17	0.17
8.675	0.17	0.17	0.17	0.17	0.17	0.17	0.17
8.727	0.18	0.18	0.18	0.18	0.18	0.18	0.18
8.778	0.18	0.19	0.19	0.19	0.19	0.19	0.19
8.830	0.19	0.19	0.19	0.20	0.20	0.20	0.20
8.882	0.20	0.20	0.20	0.20	0.21	0.21	0.21
8.933	0.21	0.21	0.21	0.21	0.21	0.22	0.22
8.985	0.22	0.22	0.22	0.22	0.22	0.23	0.23
9.037	0.23	0.23	0.23	0.23	0.23	0.24	0.24
9.089	0.24	0.24	0.24	0.25	0.25	0.25	0.25
9.140	0.25	0.25	0.26	0.26	0.26	0.26	0.27
9.192	0.27	0.27	0.27	0.27	0.28	0.28	0.28
9.244	0.28	0.28	0.29	0.29	0.29	0.30	0.30
9.296	0.30	0.30	0.30	0.31	0.31	0.31	0.31
9.347	0.32	0.32	0.32	0.32	0.33	0.33	0.33
9.399	0.33	0.34	0.34	0.34	0.34	0.34	0.35
9.451	0.35	0.35	0.36	0.36	0.36	0.36	0.37
9.502	0.37	0.37	0.38	0.38	0.39	0.40	0.41
9.554	0.42	0.43	0.45	0.46	0.48	0.49	0.50

The Herald
Ex. 2 Year

Line Start Time (hr)	Flow Values @ time increment of 0.007 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
9.606	0.52	0.53	0.54	0.56	0.57	0.59	0.62
9.658	0.65	0.68	0.71	0.74	0.77	0.79	0.82
9.709	0.84	0.87	0.89	0.92	0.96	1.01	1.06
9.761	1.11	1.17	1.22	1.28	1.33	1.38	1.42
9.813	1.47	1.52	1.58	1.64	1.73	1.83	1.94
9.865	2.06	2.18	2.30	2.41	2.52	2.62	2.71

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA: Site Area Outlet .00461 92. .117

STREAM REACH:

9.916	2.78	2.83	2.86	2.88	2.87	2.85	2.81
9.968	2.77	2.73	2.68	2.63	2.59	2.55	2.50
10.020	2.46	2.41	2.34	2.26	2.16	2.04	1.92
10.071	1.80	1.67	1.56	1.45	1.35	1.26	1.19
10.123	1.13	1.08	1.03	0.99	0.96	0.92	0.90
10.175	0.87	0.85	0.83	0.81	0.80	0.79	0.77
10.227	0.76	0.75	0.74	0.74	0.73	0.72	0.71
10.278	0.70	0.69	0.68	0.68	0.67	0.67	0.66
10.330	0.66	0.65	0.64	0.64	0.63	0.62	0.61
10.382	0.61	0.60	0.60	0.59	0.59	0.58	0.58
10.434	0.57	0.57	0.56	0.55	0.54	0.54	0.53
10.485	0.52	0.52	0.51	0.51	0.50	0.50	0.49
10.537	0.49	0.48	0.48	0.47	0.47	0.46	0.46
10.589	0.46	0.45	0.45	0.44	0.44	0.44	0.44
10.640	0.43	0.43	0.43	0.43	0.43	0.42	0.42
10.692	0.42	0.42	0.42	0.42	0.41	0.41	0.41
10.744	0.41	0.41	0.41	0.40	0.40	0.40	0.40
10.796	0.40	0.40	0.40	0.39	0.39	0.39	0.39
10.847	0.39	0.39	0.39	0.38	0.38	0.38	0.38
10.899	0.38	0.38	0.37	0.37	0.37	0.37	0.37
10.951	0.37	0.37	0.36	0.36	0.36	0.36	0.36
11.003	0.36	0.36	0.35	0.35	0.35	0.35	0.35
11.054	0.35	0.35	0.35	0.34	0.34	0.34	0.34
11.106	0.34	0.34	0.34	0.34	0.34	0.34	0.34
11.158	0.34	0.33	0.33	0.33	0.33	0.33	0.33
11.209	0.33	0.33	0.33	0.33	0.33	0.33	0.33
11.261	0.33	0.33	0.33	0.33	0.33	0.32	0.32
11.313	0.32	0.32	0.32	0.32	0.32	0.32	0.32
11.365	0.32	0.32	0.32	0.32	0.32	0.32	0.32
11.416	0.32	0.32	0.32	0.32	0.31	0.31	0.31
11.468	0.31	0.31	0.31	0.31	0.31	0.31	0.31
11.520	0.31	0.31	0.31	0.31	0.31	0.31	0.31
11.572	0.31	0.31	0.30	0.30	0.30	0.30	0.30
11.623	0.30	0.30	0.30	0.30	0.30	0.30	0.30
11.675	0.30	0.30	0.30	0.30	0.30	0.30	0.30
11.727	0.29	0.29	0.29	0.29	0.29	0.29	0.29
11.778	0.29	0.29	0.29	0.29	0.29	0.29	0.29
11.830	0.29	0.29	0.29	0.29	0.29	0.28	0.28

WinTR-20: Version 1.10
The Herald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 92. .117

STREAM REACH:

11.882	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
11.934	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
11.985	0.28	0.27	0.27	0.27	0.27	0.27	0.27	0.27
12.037	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
12.089	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
12.141	0.27	0.27	0.27	0.26	0.26	0.26	0.26	0.26
12.192	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26

WinTR-20 Version 1.10

Page 9

05/05/2017 11:59

The Herald
Ex. 2 Year

Line Start Time (hr)	Flow (cfs)							
12.244	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
12.296	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
12.347	0.26	0.26	0.26	0.26	0.25	0.25	0.25	0.25
12.399	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
12.451	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
12.503	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
12.554	0.25	0.25	0.25	0.25	0.25	0.24	0.24	0.24
12.606	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
12.658	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
12.710	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
12.761	0.24	0.24	0.24	0.24	0.24	0.24	0.23	0.23
12.813	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
12.865	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
12.916	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
12.968	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.22
13.020	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
13.072	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
13.123	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
13.175	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.21
13.227	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
13.279	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 92. .117

STREAM REACH:

13.330	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
13.382	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.20
13.434	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
13.485	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
13.537	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
13.589	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.19
13.641	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
13.692	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
13.744	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
13.796	0.19	0.19	0.19	0.19	0.19	0.19	0.18	0.18
13.847	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
13.899	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
13.951	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
14.003	0.18	0.18	0.18	0.18	0.18	0.18	0.17	0.17
14.054	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.106	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.158	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.210	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.261	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.313	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.365	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.416	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.468	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.520	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.572	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.623	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.675	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.727	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.779	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.830	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16

Line
Start Time ----- Flow Values @ time increment of 0.007 hr -----

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA: Site Area Outlet .00461 92. .117

STREAM REACH: (hr)	(cfs)						
14.882	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.934	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.985	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.037	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.089	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.141	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.192	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.244	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.296	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.348	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.399	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.451	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.503	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.554	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.606	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.658	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.710	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.761	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.813	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.865	0.16	0.16	0.16	0.16	0.16	0.16	0.16
15.917	0.16	0.16	0.16	0.16	0.16	0.15	0.15
15.968	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.020	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.072	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.123	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.175	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.227	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.279	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.330	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.382	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.434	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.486	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.537	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.589	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.641	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.692	0.15	0.15	0.15	0.15	0.15	0.15	0.15

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 92. .117

STREAM REACH:

16.744	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.796	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.848	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.899	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.951	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.14
17.003	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.055	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.106	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.158	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.210	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.261	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.313	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.365	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.417	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.468	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14

The Herald
Ex. 2 Year

Line	Start Time (hr)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)	Flow (cfs)
		----- Flow Values @ time increment of 0.007 hr -----						
17.520	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.572	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.624	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.675	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.727	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.779	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.830	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.882	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.934	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.986	0.14	0.14	0.14	0.14	0.14	0.13	0.13	0.13
18.037	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.089	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.141	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 92. .117

STREAM REACH:

18.193	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.244	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.296	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.348	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.399	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.451	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.503	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.555	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.606	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.658	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.710	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.761	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.813	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.865	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.917	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.968	0.13	0.13	0.13	0.13	0.13	0.13	0.12	0.12
19.020	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.072	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.124	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.175	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.227	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.279	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.330	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.382	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.434	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.486	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.537	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.589	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.641	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.693	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.744	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.796	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.848	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.899	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.951	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11
20.003	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.055	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.106	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 92. .117

STREAM REACH:

21.606	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.658	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.710	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.762	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.813	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.865	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.09
21.917	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
21.969	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.020	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.072	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.124	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.175	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.227	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.279	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.331	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.382	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.434	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.486	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.538	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.589	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.641	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.693	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.744	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09

The Herald
Ex. 2 Year

Line	Start Time	Flow Values @ time increment of 0.007 hr						
	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
22.796		0.09	0.09	0.09	0.09	0.08	0.08	0.08
22.848		0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.900		0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.951		0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.003		0.08	0.08	0.08	0.08	0.08	0.08	0.08

WinTR-20 Printed Page File
TR20.inp

Beginning of Input Data List

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet

.00461 92. .117

STREAM REACH:

23.055	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.107	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.158	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.210	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.262	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.313	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.365	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.417	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.469	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.520	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.572	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.624	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.675	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.727	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07
23.779	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
23.831	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
23.882	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
23.934	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
23.986	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
24.038	0.07	0.06	0.06	0.05				

WinTR-20 Printed Page File
TR20.inp

Beginning of Input Data List

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:
Site Area Outlet

.00461 92. .117

STREAM REACH:

WinTR-20 Version 1.10

Page 14

05/05/2017 11:59

The Herald
Ex. 2 Year

Area or Reach Identifier	Drainage Area (sq mi)	Alternate	----- Peak Flow by Storm -----				
			2-Yr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)
Site Area	0.005		2.88				
OUTLET	0.005		2.88				

WinTR-20 Printed Page File
TR20.inp

Beginning of Input Data List

WinTR-20: Version 1.10
erald
Ex. 2 Year

0 0 0.05

(continued)

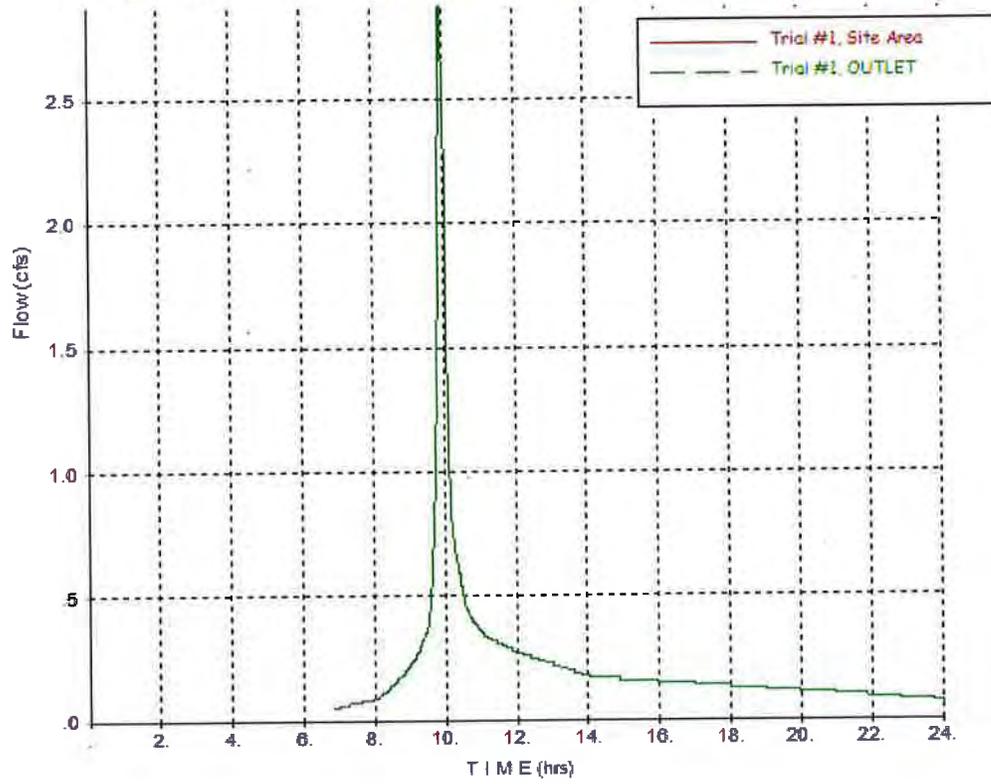
SUB-AREA:

STORM 2-Yr

Site Area Outlet

.00461 92. .117

STREAM REACH:



WinTR-55 Current Data Description

--- Identification Data ---

User: KHR Assoc. Date: 5/5/2017
 Project: The Herald Units: English
 SubTitle: Prop. 2 Year Areal Units: Acres
 State: California
 County: Orange
 Filename: R:\Integral\Documents\WQMP\Conceptual WQMP\Back up Documents\VIII - Attachment C - Prop.w55

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
Site Area		Outlet	2.95	90	0.188

Total area: 2.95 (ac)

--- Storm Data ---

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.05	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
 Rainfall Distribution Type: Type I
 Dimensionless Unit Hydrograph: <standard>

KHR Assoc.

The Herald
Prop. 2 Year
Orange County, California

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.05	.0	.0	.0	.0	.0	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type I
Dimensionless Unit Hydrograph: <standard>

KHR Assoc.

The Herald
Prop. 2 Year
Orange County, California

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period	
	2-Yr (cfs)	

SUBAREAS		
Site Area	2.26	
REACHES		
OUTLET	2.26	

KHR Assoc.

The Herald
Prop. 2 Year
Orange County, California

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 2-Yr (cfs) (hr)
------------------------------------	---

SUBAREAS	
Site Area	2.26
	10.00

REACHES	
OUTLET	2.26

KHR Assoc.

The Herald
Prop. 2 Year
Orange County, California

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
Site Area	2.95	0.188	90	Outlet	
Total Area: 2.95 (ac)					

KHR Assoc.

The Herald
Prop. 2 Year
Orange County, California

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)

Site Area User-provided							0.188
							Time of Concentration 0.188
							=====

KHR Assoc.

The Herald
Prop. 2 Year
Orange County, California

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use	Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
Site Area	Open space; grass cover > 75%	(good) A	.38	39
	Paved parking lots, roofs, driveways	A	2.57	98
	Total Area / Weighted Curve Number		2.95	90
			====	==

WinTR-20 Printed Page File Beginning of Input Data List
 TR20.inp

WinTR-20: Version 1.10 0 0 0.05
 The Herald
 Prop. 2 Year

SUB-AREA: Site Area Outlet .00461 90. .188

STREAM REACH:

STORM ANALYSIS:
 2-Yr 2.05 Type I 2

STRUCTURE RATING:

GLOBAL OUTPUT:
 2 0.05 YYYYN YYYYNN

WinTR-20 Printed Page File End of Input Data List

The Herald
 Prop. 2 Year

Name of printed page file:
 TR20.out

STORM 2-Yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Elevation (ft)	Peak Flow Time (hr)	Rate (cfs)	Rate (csm)
Site Area	0.005		1.119		10.00	2.26	489.57

Line Start Time (hr)	Flow (cfs)						
7.741	0.05	0.05	0.05	0.05	0.05	0.05	0.05
7.824	0.05	0.05	0.05	0.05	0.05	0.05	0.05
7.907	0.05	0.06	0.06	0.06	0.06	0.06	0.06
7.990	0.06	0.06	0.06	0.06	0.06	0.06	0.06
8.073	0.06	0.06	0.06	0.06	0.06	0.06	0.06
8.156	0.06	0.06	0.07	0.07	0.07	0.07	0.07
8.239	0.07	0.07	0.07	0.07	0.07	0.08	0.08
8.323	0.08	0.08	0.08	0.08	0.08	0.08	0.09
8.406	0.09	0.09	0.09	0.09	0.09	0.09	0.09
8.489	0.10	0.10	0.10	0.10	0.10	0.10	0.10
8.572	0.11	0.11	0.11	0.11	0.11	0.11	0.11
8.655	0.12	0.12	0.12	0.12	0.12	0.12	0.12
8.738	0.13	0.13	0.13	0.13	0.13	0.13	0.13
8.821	0.14	0.14	0.14	0.14	0.14	0.14	0.15
8.904	0.15	0.15	0.15	0.15	0.15	0.16	0.16
8.987	0.16	0.16	0.16	0.17	0.17	0.17	0.17
9.071	0.17	0.17	0.18	0.18	0.18	0.18	0.19
9.154	0.19	0.19	0.19	0.20	0.20	0.20	0.20
9.237	0.21	0.21	0.21	0.22	0.22	0.22	0.23
9.320	0.23	0.23	0.23	0.24	0.24	0.24	0.25
9.403	0.25	0.25	0.26	0.26	0.27	0.27	0.27
9.486	0.28	0.28	0.28	0.29	0.29	0.30	0.31
9.569	0.32	0.33	0.34	0.35	0.37	0.38	0.40
9.652	0.42	0.45	0.47	0.50	0.53	0.56	0.59
9.735	0.63	0.67	0.71	0.76	0.81	0.87	0.93
9.819	0.99	1.06	1.13	1.22	1.32	1.43	1.54
9.902	1.66	1.79	1.90	2.01	2.10	2.17	2.22
9.985	2.25	2.26	2.25	2.24	2.20	2.16	2.10
10.068	2.02	1.92	1.82	1.71	1.60	1.49	1.38
10.151	1.29	1.20	1.12	1.05	0.99	0.94	0.90
10.234	0.86	0.83	0.80	0.77	0.75	0.73	0.71
10.317	0.69	0.67	0.66	0.64	0.63	0.62	0.60
10.400	0.59	0.58	0.57	0.56	0.55	0.54	0.53
10.484	0.52	0.51	0.50	0.49	0.48	0.48	0.47
10.567	0.46	0.45	0.45	0.44	0.43	0.43	0.42

10.650	0.42	0.41	0.41	0.40	0.40	0.40	0.39
10.733	0.39	0.39	0.38	0.38	0.38	0.38	0.37
10.816	0.37	0.37	0.37	0.36	0.36	0.36	0.36
10.899	0.35	0.35	0.35	0.35	0.35	0.34	0.34
10.982	0.34	0.34	0.34	0.33	0.33	0.33	0.33

WinTR-20 Version 1.10

Page 1

05/05/2017 11:53

The Herald
Prop. 2 Year

Line Start Time (hr)	Flow Values @ time increment of 0.012 hr						
(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
11.065	0.33	0.32	0.32	0.32	0.32	0.32	0.32
11.148	0.31	0.31	0.31	0.31	0.31	0.31	0.31
11.232	0.31	0.31	0.30	0.30	0.30	0.30	0.30
11.315	0.30	0.30	0.30	0.30	0.30	0.30	0.30
11.398	0.30	0.29	0.29	0.29	0.29	0.29	0.29
11.481	0.29	0.29	0.29	0.29	0.29	0.29	0.29
11.564	0.29	0.28	0.28	0.28	0.28	0.28	0.28
11.647	0.28	0.28	0.28	0.28	0.28	0.28	0.28
11.730	0.27	0.27	0.27	0.27	0.27	0.27	0.27
11.813	0.27	0.27	0.27	0.27	0.27	0.27	0.26
11.896	0.26	0.26	0.26	0.26	0.26	0.26	0.26
11.980	0.26	0.26	0.26	0.26	0.26	0.25	0.25
12.063	0.25	0.25	0.25	0.25	0.25	0.25	0.25
12.146	0.25	0.25	0.25	0.25	0.25	0.25	0.24
12.229	0.24	0.24	0.24	0.24	0.24	0.24	0.24
12.312	0.24	0.24	0.24	0.24	0.24	0.24	0.24
12.395	0.24	0.24	0.24	0.24	0.24	0.23	0.23
12.478	0.23	0.23	0.23	0.23	0.23	0.23	0.23
12.561	0.23	0.23	0.23	0.23	0.23	0.23	0.23
12.645	0.23	0.23	0.23	0.23	0.22	0.22	0.22
12.728	0.22	0.22	0.22	0.22	0.22	0.22	0.22
12.811	0.22	0.22	0.22	0.22	0.22	0.22	0.22
12.894	0.22	0.22	0.22	0.21	0.21	0.21	0.21
12.977	0.21	0.21	0.21	0.21	0.21	0.21	0.21
13.060	0.21	0.21	0.21	0.21	0.21	0.21	0.21
13.143	0.21	0.21	0.20	0.20	0.20	0.20	0.20
13.226	0.20	0.20	0.20	0.20	0.20	0.20	0.20
13.309	0.20	0.20	0.20	0.20	0.20	0.20	0.20
13.393	0.19	0.19	0.19	0.19	0.19	0.19	0.19
13.476	0.19	0.19	0.19	0.19	0.19	0.19	0.19
13.559	0.19	0.19	0.19	0.19	0.19	0.18	0.18
13.642	0.18	0.18	0.18	0.18	0.18	0.18	0.18
13.725	0.18	0.18	0.18	0.18	0.18	0.18	0.18
13.808	0.18	0.18	0.17	0.17	0.17	0.17	0.17
13.891	0.17	0.17	0.17	0.17	0.17	0.17	0.17
13.974	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.057	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.141	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.224	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.307	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.390	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.473	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.556	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.639	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.722	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.806	0.16	0.16	0.16	0.16	0.16	0.15	0.15
14.889	0.15	0.15	0.15	0.15	0.15	0.15	0.15
14.972	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.055	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.138	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.221	0.15	0.15	0.15	0.15	0.15	0.15	0.15

WinTR-20 Version 1.10

Page 2

05/05/2017 11:53

WinTR-20: Version 1.10
erald
Prop. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 90. .188

STREAM REACH:

The Herald
Prop. 2 Year

Line Start Time (hr)	Flow (cfs)	Values @ time (cfs)	increment (cfs)	of (cfs)	0.012 hr (cfs)	Flow (cfs)
15.304	0.15	0.15	0.15	0.15	0.15	0.15
15.387	0.15	0.15	0.15	0.15	0.15	0.15
15.470	0.15	0.15	0.15	0.15	0.15	0.15
15.554	0.15	0.15	0.15	0.15	0.15	0.15
15.637	0.15	0.15	0.15	0.15	0.15	0.15
15.720	0.15	0.15	0.15	0.15	0.15	0.15
15.803	0.15	0.15	0.15	0.15	0.15	0.15
15.886	0.15	0.15	0.15	0.15	0.15	0.15
15.969	0.15	0.15	0.15	0.15	0.15	0.15
16.052	0.15	0.15	0.15	0.14	0.14	0.14
16.135	0.14	0.14	0.14	0.14	0.14	0.14
16.219	0.14	0.14	0.14	0.14	0.14	0.14
16.302	0.14	0.14	0.14	0.14	0.14	0.14
16.385	0.14	0.14	0.14	0.14	0.14	0.14
16.468	0.14	0.14	0.14	0.14	0.14	0.14
16.551	0.14	0.14	0.14	0.14	0.14	0.14
16.634	0.14	0.14	0.14	0.14	0.14	0.14
16.717	0.14	0.14	0.14	0.14	0.14	0.14
16.800	0.14	0.14	0.14	0.14	0.14	0.14
16.883	0.14	0.14	0.14	0.14	0.14	0.14
16.967	0.14	0.14	0.14	0.14	0.14	0.14
17.050	0.14	0.14	0.14	0.14	0.14	0.14
17.133	0.14	0.14	0.14	0.14	0.14	0.14
17.216	0.14	0.14	0.13	0.13	0.13	0.13
17.299	0.13	0.13	0.13	0.13	0.13	0.13
17.382	0.13	0.13	0.13	0.13	0.13	0.13
17.465	0.13	0.13	0.13	0.13	0.13	0.13
17.548	0.13	0.13	0.13	0.13	0.13	0.13
17.631	0.13	0.13	0.13	0.13	0.13	0.13
17.715	0.13	0.13	0.13	0.13	0.13	0.13

WinTR-20: Version 1.10
The Herald
Prop. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 90. .188

STREAM REACH:

17.798	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
17.881	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
17.964	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.047	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.130	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.213	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.296	0.13	0.13	0.13	0.13	0.13	0.12	0.12	0.12
18.380	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.463	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.546	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.629	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.712	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.795	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.878	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.961	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.044	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.128	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.211	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.294	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.377	0.12	0.12	0.12	0.11	0.11	0.11	0.11	0.11
19.460	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11

The Herald
Prop. 2 Year

Line Start Time (hr)	Flow (cfs)						
19.543	0.11	0.11	0.11	0.11	0.11	0.11	0.11
19.626	0.11	0.11	0.11	0.11	0.11	0.11	0.11
19.709	0.11	0.11	0.11	0.11	0.11	0.11	0.11
19.792	0.11	0.11	0.11	0.11	0.11	0.11	0.11
19.876	0.11	0.11	0.11	0.11	0.11	0.11	0.11
19.959	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.042	0.11	0.11	0.11	0.11	0.11	0.11	0.11

WinTR-20: Version 1.10
erald
Prop. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 90. .188

STREAM REACH:

20.125	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.208	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.291	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.374	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
20.457	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
20.541	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
20.624	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
20.707	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
20.790	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
20.873	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
20.956	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.039	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.122	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.205	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.289	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.372	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
21.455	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.09
21.538	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
21.621	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
21.704	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
21.787	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
21.870	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
21.953	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.037	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.120	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.203	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.286	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.369	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.452	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08
22.535	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.618	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.702	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.785	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.868	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.951	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.034	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.117	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.200	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08

WinTR-20: Version 1.10
The Herald
Prop. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA: Site Area Outlet .00461 90. .188

STREAM REACH:

8.323	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09
8.406	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
8.489	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
8.572	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
8.655	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
8.738	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
8.821	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.15
8.904	0.15	0.15	0.15	0.15	0.15	0.15	0.16	0.16
8.987	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17
9.071	0.17	0.17	0.18	0.18	0.18	0.18	0.18	0.19
9.154	0.19	0.19	0.19	0.20	0.20	0.20	0.20	0.20
9.237	0.21	0.21	0.21	0.22	0.22	0.22	0.22	0.23
9.320	0.23	0.23	0.23	0.24	0.24	0.24	0.24	0.25
9.403	0.25	0.25	0.26	0.26	0.27	0.27	0.27	0.27
9.486	0.28	0.28	0.28	0.29	0.29	0.30	0.30	0.31
9.569	0.32	0.33	0.34	0.35	0.37	0.38	0.38	0.40
9.652	0.42	0.45	0.47	0.50	0.53	0.56	0.56	0.59
9.735	0.63	0.67	0.71	0.76	0.81	0.87	0.87	0.93
9.819	0.99	1.06	1.13	1.22	1.32	1.43	1.43	1.54
9.902	1.66	1.79	1.90	2.01	2.10	2.17	2.17	2.22
9.985	2.25	2.26	2.25	2.24	2.20	2.16	2.16	2.10
10.068	2.02	1.92	1.82	1.71	1.60	1.49	1.49	1.38
10.151	1.29	1.20	1.12	1.05	0.99	0.94	0.94	0.90
10.234	0.86	0.83	0.80	0.77	0.75	0.73	0.73	0.71
10.317	0.69	0.67	0.66	0.64	0.63	0.62	0.62	0.60
10.400	0.59	0.58	0.57	0.56	0.55	0.54	0.54	0.53
10.484	0.52	0.51	0.50	0.49	0.48	0.48	0.48	0.47
10.567	0.46	0.45	0.45	0.44	0.43	0.43	0.43	0.42
10.650	0.42	0.41	0.41	0.40	0.40	0.40	0.40	0.39

The Herald
Prop. 2 Year

Line
Start Time ----- Flow Values @ time increment of 0.012 hr -----
(hr) (cfs) (cfs) (cfs) (cfs) (cfs) (cfs) (cfs)

WinTR-20: Version 1.10
erald
Prop. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 90. .188

STREAM REACH:

10.733	0.39	0.39	0.38	0.38	0.38	0.38	0.37
10.816	0.37	0.37	0.37	0.36	0.36	0.36	0.36
10.899	0.35	0.35	0.35	0.35	0.35	0.34	0.34
10.982	0.34	0.34	0.34	0.33	0.33	0.33	0.33
11.065	0.33	0.32	0.32	0.32	0.32	0.32	0.32
11.148	0.31	0.31	0.31	0.31	0.31	0.31	0.31
11.232	0.31	0.31	0.30	0.30	0.30	0.30	0.30
11.315	0.30	0.30	0.30	0.30	0.30	0.30	0.30
11.398	0.30	0.29	0.29	0.29	0.29	0.29	0.29
11.481	0.29	0.29	0.29	0.29	0.29	0.29	0.29
11.564	0.29	0.28	0.28	0.28	0.28	0.28	0.28
11.647	0.28	0.28	0.28	0.28	0.28	0.28	0.28
11.730	0.27	0.27	0.27	0.27	0.27	0.27	0.27
11.813	0.27	0.27	0.27	0.27	0.27	0.27	0.26
11.896	0.26	0.26	0.26	0.26	0.26	0.26	0.26
11.980	0.26	0.26	0.26	0.26	0.26	0.25	0.25
12.063	0.25	0.25	0.25	0.25	0.25	0.25	0.25
12.146	0.25	0.25	0.25	0.25	0.25	0.25	0.24
12.229	0.24	0.24	0.24	0.24	0.24	0.24	0.24
12.312	0.24	0.24	0.24	0.24	0.24	0.24	0.24
12.395	0.24	0.24	0.24	0.24	0.24	0.23	0.23
12.478	0.23	0.23	0.23	0.23	0.23	0.23	0.23
12.561	0.23	0.23	0.23	0.23	0.23	0.23	0.23
12.645	0.23	0.23	0.23	0.23	0.22	0.22	0.22
12.728	0.22	0.22	0.22	0.22	0.22	0.22	0.22
12.811	0.22	0.22	0.22	0.22	0.22	0.22	0.22
12.894	0.22	0.22	0.22	0.21	0.21	0.21	0.21
12.977	0.21	0.21	0.21	0.21	0.21	0.21	0.21
13.060	0.21	0.21	0.21	0.21	0.21	0.21	0.21
13.143	0.21	0.21	0.20	0.20	0.20	0.20	0.20
13.226	0.20	0.20	0.20	0.20	0.20	0.20	0.20
13.309	0.20	0.20	0.20	0.20	0.20	0.20	0.20
13.393	0.19	0.19	0.19	0.19	0.19	0.19	0.19
13.476	0.19	0.19	0.19	0.19	0.19	0.19	0.19
13.559	0.19	0.19	0.19	0.19	0.19	0.18	0.18
13.642	0.18	0.18	0.18	0.18	0.18	0.18	0.18
13.725	0.18	0.18	0.18	0.18	0.18	0.18	0.18

WinTR-20: Version 1.10
erald
Prop. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA: Site Area Outlet .00461 90. .188

STREAM REACH:

13.808	0.18	0.18	0.17	0.17	0.17	0.17	0.17
13.891	0.17	0.17	0.17	0.17	0.17	0.17	0.17
13.974	0.17	0.17	0.17	0.17	0.17	0.17	0.17
14.057	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.141	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.224	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.307	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.390	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.473	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.556	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.639	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.722	0.16	0.16	0.16	0.16	0.16	0.16	0.16
14.806	0.16	0.16	0.16	0.16	0.16	0.15	0.15
14.889	0.15	0.15	0.15	0.15	0.15	0.15	0.15

The Herald
Prop. 2 Year

Line Start Time (hr)	Flow Values @ time increment of 0.012 hr						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
14.972	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.055	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.138	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.221	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.304	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.387	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.470	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.554	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.637	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.720	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.803	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.886	0.15	0.15	0.15	0.15	0.15	0.15	0.15
15.969	0.15	0.15	0.15	0.15	0.15	0.15	0.15
16.052	0.15	0.15	0.15	0.14	0.14	0.14	0.14

WinTR-20: Version 1.10
erald
Prop. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 90. .188

STREAM REACH:

16.135	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
16.219	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
16.302	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
16.385	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
16.468	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
16.551	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
16.634	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
16.717	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
16.800	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
16.883	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
16.967	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.050	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.133	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
17.216	0.14	0.14	0.13	0.13	0.13	0.13	0.13	0.13
17.299	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
17.382	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
17.465	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
17.548	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
17.631	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
17.715	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
17.798	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
17.881	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
17.964	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.047	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.130	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.213	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
18.296	0.13	0.13	0.13	0.13	0.12	0.12	0.12	0.12
18.380	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.463	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.546	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.629	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.712	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.795	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.878	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
18.961	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.044	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
19.128	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12

WinTR-20: Version 1.10
The Herald
Prop. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet .00461 90. .188

STREAM REACH:

21.621	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
21.704	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
21.787	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
21.870	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
21.953	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.037	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.120	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.203	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.286	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.369	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
22.452	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08
22.535	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.618	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.702	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.785	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.868	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
22.951	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.034	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.117	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.200	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.283	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
23.366	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08

The Herald
Prop. 2 Year

Line	Flow Values @ time increment of 0.012 hr						
Start Time (hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
23.450	0.08	0.07	0.07	0.07	0.07	0.07	0.07
23.533	0.07	0.07	0.07	0.07	0.07	0.07	0.07
23.616	0.07	0.07	0.07	0.07	0.07	0.07	0.07
23.699	0.07	0.07	0.07	0.07	0.07	0.07	0.07
23.782	0.07	0.07	0.07	0.07	0.07	0.07	0.07
23.865	0.07	0.07	0.07	0.07	0.07	0.07	0.07

WinTR-20 Printed Page File
TR20.inp

Beginning of Input Data List

WinTR-20: Version 1.10
erald
Prop. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:

Site Area Outlet

.00461 90. .188

STREAM REACH:

23.948	0.07	0.07	0.07	0.07	0.07	0.07	0.07
24.031	0.07	0.07	0.06	0.06	0.06	0.05	

WinTR-20 Printed Page File
TR20.inp

Beginning of Input Data List

WinTR-20: Version 1.10
erald
Prop. 2 Year

0 0 0.05

(continued)

STORM 2-Yr

SUB-AREA:
Site Area Outlet

.00461 90. .188

STREAM REACH:

WinTR-20 Version 1.10

Page 9

05/05/2017 11:53

The Herald
Prop. 2 Year

Area or Reach Identifier	Drainage Area (sq mi)	Alternate	----- Peak Flow by Storm -----				
			2-Yr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)
Site Area	0.005		2.26				
OUTLET	0.005		2.26				

WinTR-20 Printed Page File
TR20.inp

Beginning of Input Data List

WinTR-20: Version 1.10
erald
Prop. 2 Year

0 0 0.05

(continued)

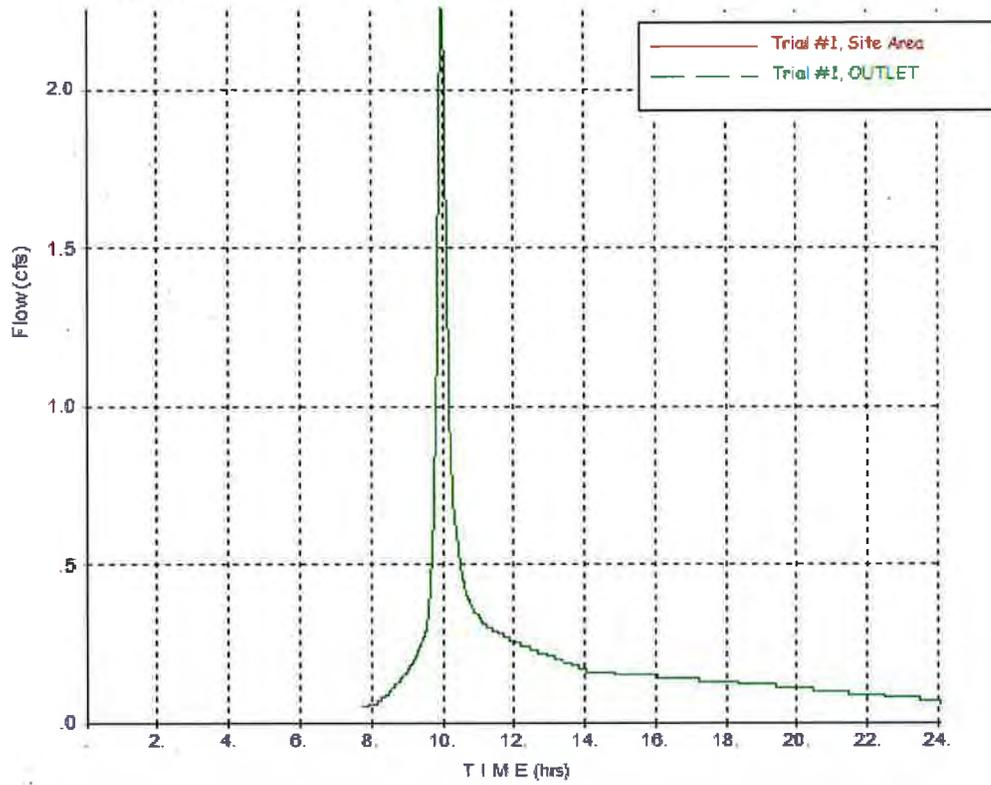
STORM 2-Yr

SUB-AREA:

Site Area Outlet

.00461 90. .188

STREAM REACH:



Attachment D BMP Drainage Plan/Site Plan

Attachment F

Noise and Vibration Analysis

Placentia Crowther Project

Noise and Vibration Analysis Report

May 2017

Prepared for:
Integral Communities
888 San Clemente Drive, Suite 100
Newport Beach, CA 92660

Prepared by:
HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

Placentia Crowther Project Noise and Vibration Analysis Report

Prepared for:

Integral Communities
888 San Clemente Drive, Suite 100
Newport Beach, CA 92660

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

May 2017

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
	EXECUTIVE SUMMARY	1
1.0	INTRODUCTION	1
1.1	Purpose of the Report.....	1
1.2	Project Location.....	1
1.3	Project Description.....	1
1.4	Noise and Sound Level Descriptors and Terminology	1
1.4.1	Descriptors	1
1.4.2	Terminology.....	2
1.4.3	Noise-Sensitive Land Uses	3
1.5	Vibration	3
1.5.1	Ground-borne Noise.....	3
1.5.2	Vibration Waves	3
1.5.3	Vibration Descriptors.....	4
1.5.4	Typical levels of Ground-borne Vibration and Noise.....	4
1.5.5	Vibration Sensitive Land Uses.....	4
1.6	Regulatory Framework	4
2.0	ENVIRONMENTAL SETTING	9
2.1	Surrounding Land Uses.....	9
2.2	Existing Noise Environment.....	10
2.2.1	Ambient Noise Survey.....	10
3.0	ANALYSIS METHODOLOGY AND ASSUMPTIONS.....	11
3.1	Methodology	11
3.1.1	Ambient Noise Survey.....	11
3.1.2	Noise Modeling Software	12
3.2	Assumptions.....	12
3.2.1	Construction.....	12
3.2.2	Operation.....	13
3.3	Guidelines for the Determination of Significance	14
4.0	IMPACTS	16
4.1	Issue 1: Excessive Noise Levels	16
4.1.1	On-site Exterior Use Area Noise Exposure	16
4.1.2	Interior Noise	17
4.1.3	Operational Noise	19
4.2	Issue 2: Excessive Vibration.....	19
4.2.1	Ground-Borne Vibration and Noise.....	19
4.2.2	Construction Vibration.....	21
4.3	Issue 3: Permanent Increase in Ambient Noise Levels.....	21
4.3.1	Off-site Transportation Noise	21

TABLE OF CONTENTS (cont.)

<u>Section</u>	<u>Title</u>	<u>Page</u>
4.0	IMPACTS (cont.)	
4.4	Issue 4: Temporary Increase in Ambient Noise.....	22
4.4.1	Construction Noise.....	22
4.5	Issue 5: Airport Noise Exposure.....	23
4.5.1	Airport Noise.....	23
5.0	LIST OF PREPARERS.....	24
6.0	REFERENCES	25

LIST OF APPENDICES

A	Carrier 38HDR060 Split System Condenser
B	Exterior-to-Interior Noise Reduction Analysis
C	Existing and Future Traffic Noise Levels
D	Construction Noise Modeling Outputs
E	Generalized Ground Surface Vibration Curves

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

<u>No.</u>	<u>Title</u>	<u>Follows Page</u>
1	Regional Location.....	2
2	Project Vicinity Map.....	2
3a	Project Site Plan.....	2
3b	Rooftop Terrace and Noise Receivers	2
4	Title 24 Analyzed Room.....	18

LIST OF TABLES

<u>No.</u>	<u>Title</u>	<u>Page</u>
1	Noise and Land Use Compatibility Guidelines	6
2	Applicable Exterior Noise Standards.....	7
3	Ground-borne Vibration and Ground-borne Noise Impact Criteria for General Assessment.....	9
4	Noise Measurement Results.....	11
5	Recorded Traffic Volume and Vehicle Mix	11
6	Carrier HDR060 Condenser Noise	13
7	Existing and Future Traffic Volumes	14
8	Project Façade and Exterior Use Area Noise Level Exposure	17
9	Exterior-to-Interior Noise Levels – Unit B2-A.....	18
10	Adjustment to Vibration Due to Change in Speed.....	20
11	Off-Site Traffic Noise Levels	22
12	Construction Equipment Noise Levels	22

LIST OF ACRONYMS

ADT	average daily traffic
AGA	Albert Grover & Associates
ANSI	American National Standards Institute
CEQA	California Environmental Quality Act
City	City of Placentia
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighted decibels
FTA	Federal Transit Administration
HVAC	Heating, ventilation, and air conditioning
Hz	Hertz
in/sec	inches per second
kHz	kilohertz
L _{DN}	Day-Night level
L _{EQ}	equivalent sound level
L _{MAX}	maximum noise level
L _V	velocity level
mPa	micro-Pascals
NSLU	noise-sensitive land use
PPV	peak particle velocity
RCNM	Roadway Construction Noise Model
RMS	root mean square
SPL	sound pressure level
STC	Sound Transmission Class
S _{WL}	sound power level
TOD	Transit Oriented Development
USDOT	U.S. Department of Transportation
V	RMS velocity amplitude
VdB	Vibration decibel

EXECUTIVE SUMMARY

This report presents an assessment of potential noise and vibration impacts from construction and operations associated with the proposed Placentia Crowther project (project).

The project is located in the City of Placentia (City) on a 2.95-acre site. The project would construct a 5-story residential building containing 215 residential units and a 7-level parking structure with a rooftop terrace. The project is located approximately 212 feet south of an existing Burlington Northern Santa Fe (BNSF) railway used by freight trains, Metrolink commuter rail, and Amtrak trains. The project is located south of the planned Placentia Metrolink station, and would be within the City's Packing House District Transit Oriented Development (TOD) District.

The project would add some traffic to nearby roadways, but transportation noise impacts to off-site noise-sensitive land uses would be less than significant.

Noise levels from vehicular traffic and train noise would not exceed the City's 55 Community Noise Equivalent Level (CNEL) for the project's exterior use areas. Noise levels at the building façades were modeled at over 60 CNEL, so an exterior-to-interior noise reduction analysis was conducted to determine if the interior noise levels would comply with the Title 24 noise standard of 45 CNEL. The analysis determined that with the implementation of mitigation measure NOI-1, which requires a minimum window standard of Sound Transmission Class (STC) 31, and a wall standard of STC 46, interior noise levels would be below 45 CNEL. Proper ventilation in accordance with the International Building Code would ensure that the windows could remain closed to maintain adequate interior noise levels.

Construction of the project would not cause any noise or vibration impacts to nearby residents. Due to the distance from the nearby railway, impacts from ground-borne vibration and ground-borne noise would be less than significant.

Operational noise sources such as the project's heating, ventilation, and air conditioning (HVAC) noise would not exceed allowable City limits within the noise ordinance for operational sources at the nearest property lines.

THIS PAGE INTENTIONALLY LEFT BLANK

1.0 INTRODUCTION

1.1 Purpose of the Report

This report analyzes potential noise and vibration impacts associated with the proposed Placentia Crowther Project (project). The analysis includes a description of existing conditions in the project vicinity, an assessment of potential impacts associated with project construction, and an evaluation of project operational impacts. Analysis within this report addresses the relevant issues listed in Appendix G of the California Environmental Quality Act (CEQA) Guidelines.

1.2 Project Location

The project is located on a 2.95-acre site in the City of Placentia (City). The site is south of East Crowther Avenue, and west of Cameron Street. The project site approximately 212 feet south of a Burlington Northern Santa Fe (BNSF) railway line used by freight trains, the Metrolink commuter rail system, and Amtrak trains. The project is south of a planned Placentia Metrolink station. The site is located within the City's Packing House Transit Oriented Development (TOD) District. See Figure 1, *Regional Location*, and Figure 2, *Project Vicinity Map*.

1.3 Project Description

The project proposes a multi-family residential development containing 215 residential units, two landscaped courtyards, and a 7-level parking structure with a rooftop terrace. The residences would be located in 5-story buildings. Exterior use areas include the aforementioned landscaped courtyards and rooftop terrace, as well as a tot lot and dog run. A ground-floor leasing office would be located near the northeastern corner of the development. The project also involves the demolition and removal of existing vacant industrial/warehouse buildings, including four buildings, sheet metal canopy structures, a carport, and related infrastructure. See Figure 3a, *Project Site Plan*, and Figure 3b, *Rooftop Terrace and Noise Receivers*.

The project site is zoned and designated in the General Plan as Transit-Oriented Development (TOD).

1.4 Noise and Sound Level Descriptors and Terminology

1.4.1 Descriptors

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting (dBA) to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol L_{EQ} , with a specified duration. The Community Noise Equivalent Level (CNEL) is a 24-hour average, where noise levels during the evening hours of 7:00 p.m. to 10:00 p.m. have an added 5 dBA weighting, and sound levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dBA weighting. This is similar to the Day-Night sound level (L_{DN}), which is a 24-hour average with an added 10 dBA weighting on the same nighttime hours but no added weighting on the evening hours. Sound levels expressed in CNEL are always based on dBA. These metrics are used to express noise levels for both measurement and municipal regulations, as well as for land use guidelines and enforcement of noise ordinances.

1.4.2 Terminology

1.4.2.1 *Sound, Noise, and Acoustics*

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

1.4.2.2 *Frequency*

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

1.4.2.3 *Sound Pressure Levels and Decibels*

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.0000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this wide range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of dBA. The threshold of hearing for the human ear is about 0 dBA, which corresponds to 20 mPa.

1.4.2.4 *Addition of Decibels*

Because decibels are logarithmic units, SPL cannot be added or subtracted through standard arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than from one source under the same conditions. For example, if one automobile produces an SPL of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dBA—rather, they would combine to produce 73 dBA. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dBA louder than one source.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dBA changes in sound levels, when exposed to steady, single-frequency (“pure-tone”) signals in the mid-frequency (1,000 Hz–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dBA are generally not perceptible. It is widely accepted, however, that people begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dBA

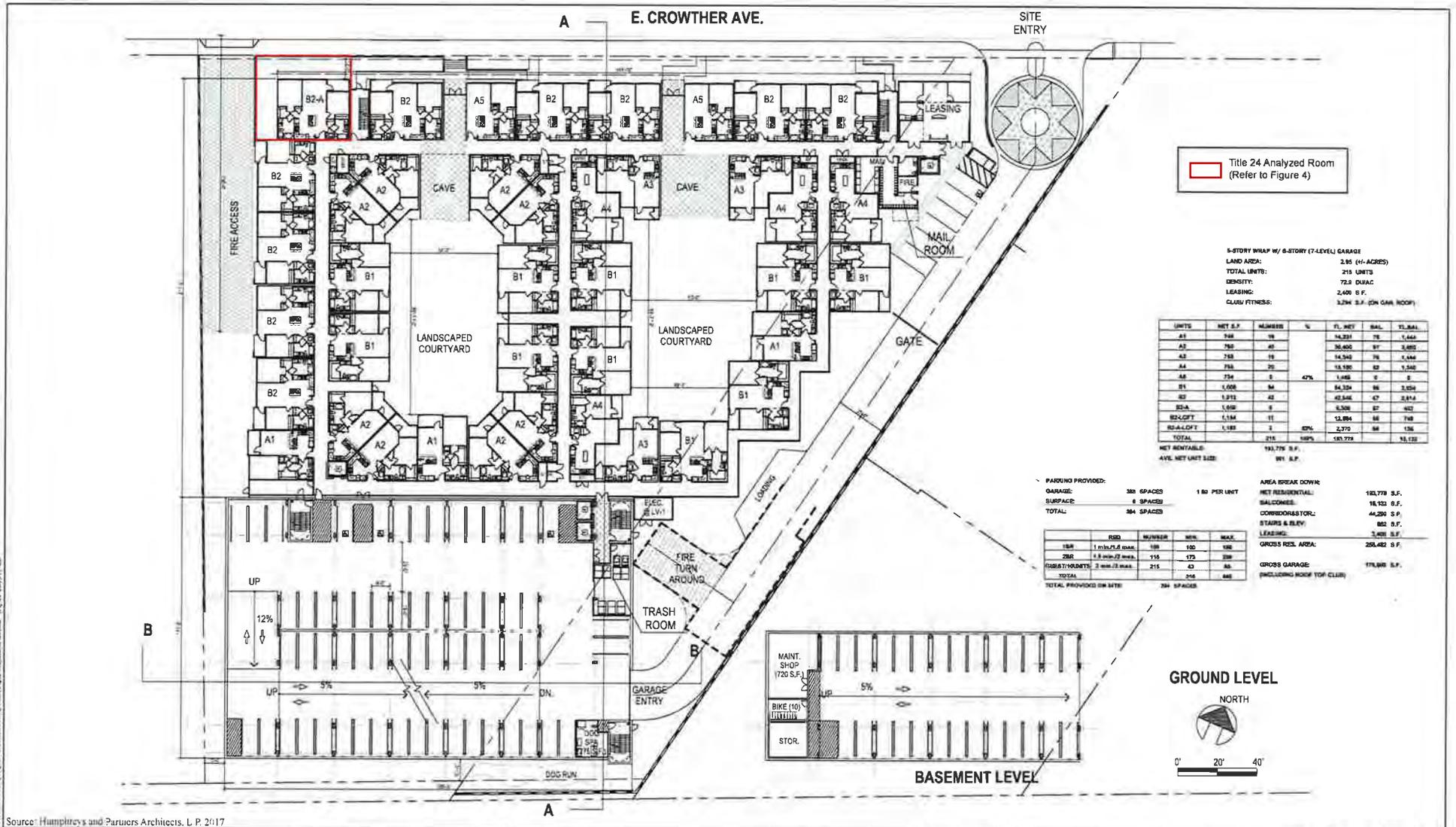


I:\PROJECTS\100\100-23_CrowtherAve\Map\Notes\Fig_Regional.mxd (10-23_04/17/17-LG)

Regional Location

EAST CROWTHER AVENUE

Figure 1



Title 24 Analyzed Room
(Refer to Figure 4)

5-STORY W/ 8-STORY (7-LEVEL) GARAGE
 LAND AREA: 2.95 (4-ACRES)
 TOTAL UNITS: 215 UNITS
 DENSITY: 72.8 DU/AC
 LEASING: 2,400 S.F.
 CLUB FITNESS: 3,204 S.F. (ON GAR. ROOF)

UNITS	NET S.F.	NUMBER	%	FL. NET	BAL.	TOTAL
A1	748	16		14,231	78	1,444
A2	752	47		32,455	97	3,495
A3	748	19		14,343	78	1,544
A4	734	20		14,190	82	1,540
A5	734	8	47%	1,485	8	8
B1	1,008	54		54,324	86	3,524
B2	1,215	43		62,546	67	3,814
B2A	1,010	8		5,378	87	423
B2-C/F	1,134	11		12,884	88	1,148
RES-L-CLF	1,185	5	23%	2,270	84	126
TOTAL		215	100%	187,729		18,122

NET RENTABLE: 183,776 S.F.
 AVE. NET UNIT SIZE: 851 S.F.

PARKING PROVIDED:

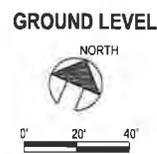
GARAGE:	384 SPACES	1.60 PER UNIT
SURFACE:	8 SPACES	
TOTAL:	394 SPACES	

	RSD	NUMBER	MIN.	MAX.
1SR	1 min./7.6 max.	158	150	166
2SR	1.8 min./7 max.	115	175	238
GUEST/10METS	3 min./7 max.	215	43	86
TOTAL		488		488

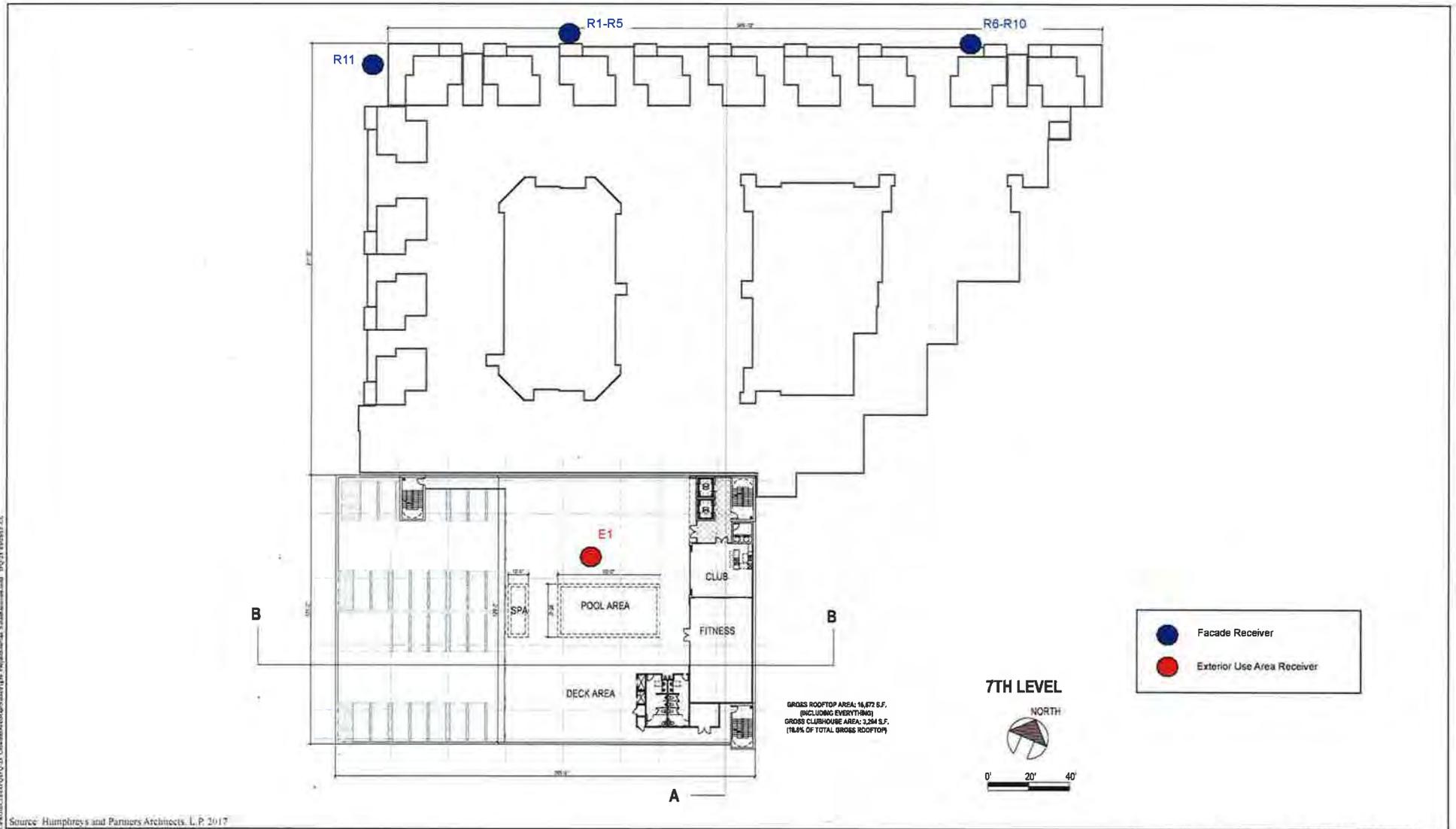
TOTAL PROVIDED ON SITE: 394 SPACES

AREA BREAK DOWN

NET RESIDENTIAL:	183,776 S.F.
BALCONIES:	16,122 S.F.
COMMONS/STOR:	44,200 S.F.
STAIRS & ELEV:	802 S.F.
LEASING:	2,400 S.F.
GROSS RES. AREA:	288,482 S.F.
GROSS GARAGE:	178,880 S.F.
(INCLUDING ROOF TOP CLUB)	



Source: Humphreys and Partners Architects, L.P. 2017



Source: Humphreys and Partners Architects, L.P. 2017

Rooftop Terrace and Noise Receivers

EAST CROWTHER AVENUE

increase is generally perceived as a distinctly noticeable increase, and a 10 dBA increase is generally perceived as a doubling of loudness.

No known studies have directly correlated the ability of a healthy human ear to discern specific levels of change in traffic noise over a 24-hour period. Many ordinances, however, specify a change of 3 CNEL as the significant impact threshold. This is based on the concept of a doubling in noise energy resulting in a 3 dBA change in noise, which is the amount of change in noise necessary for the increase to be perceptible to the average healthy human ear.

1.4.3 Noise-Sensitive Land Uses

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise, including residences, hospitals, schools, hotels, resorts, libraries, sensitive wildlife habitat, or similar facilities where quiet is an important attribute of the environment. Noise receptors are individual locations that may be affected by noise. NSLUs in the project vicinity include residences located approximately 450 feet to the north.

1.5 Vibration

Ground vibration is an oscillatory motion of soil particles with respect to the equilibrium position that can be described in terms of displacement, velocity, or acceleration.

1.5.1 Ground-borne Noise

The audible sound caused by the vibration of room surfaces is called ground-borne noise. The annoyance potential of ground-borne noise is usually characterized by using the A-weighted sound level. Although the A-weighted level is almost exclusively used as the descriptor for community noise, there are potential problems when characterizing low-frequency noise using A-weighting. This is because of the nonlinearity of human hearing, which causes sounds dominated by low-frequency components to seem louder than broadband sounds that have the same A-weighted level. The result is that a ground-borne noise level of 40 dBA sounds louder than 40-dBA broadband airborne noise. This anomaly is accounted for by setting the limits for ground-borne noise lower than would be the case for broadband noise.

1.5.2 Vibration Waves

A Rayleigh wave (R-wave), is a seismic surface wave causing the ground to shake in an elliptical motion, with no transverse, or perpendicular, motion. Rayleigh waves include both longitudinal and transverse motions that decrease exponentially in amplitude as distance from the surface increases. Trains and other surface disturbance primarily create energy in R-waves.

The normal propagation path for rail vibration is similar to that of acoustic propagation. The vibration wave travels outward and downward from the rail. Vibration levels reduce with distance from the source; this is primarily due to the damping of the vibration that occurs as the wave travels through soil.

1.5.3 Vibration Descriptors

Vibration is measured in either feet or inches. Acceleration is measured by comparing acceleration to that of the Earth's gravity. These units of acceleration or velocity are relative to time in seconds and are noted as in/sec² for acceleration and in/sec for velocity.

Vibration effects can be described by its peak and root mean square (RMS) amplitudes. Building damage is often discussed in terms of peak velocity, or peak particle velocity (PPV). The PPV is defined as the maximum instantaneous positive or negative peak of the vibration signal. PPV is related to the stresses that are experienced by buildings; it is often used in monitoring of blasting vibration and to discuss construction vibration. PPV is appropriate for evaluating the potential for building damage, and RMS amplitude is useful for assessing human annoyance.

Decibel notation is commonly used for vibration. Decibel notation serves to compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as: $L_v = 20 \times \text{LOG}_{10}(V/V_{ref})$, where L_v is the velocity level in decibels, V is the RMS velocity amplitude, and V_{ref} is the reference velocity amplitude. The reference must be specified whenever a quantity is expressed in terms of decibels. All railroad vibration levels in this report are referenced to 1×10^{-6} in/sec with the notation VdB for vibration decibels.

1.5.4 Typical levels of Ground-borne Vibration and Noise

The background vibration velocity level in residential areas is usually 50 VdB or lower. Humans can perceive vibration velocity levels of approximately 65 VdB. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads.

1.5.5 Vibration Sensitive Land Uses

Land uses in which ground-borne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations are considered vibration-sensitive. The degree of sensitivity depends on the specific equipment that would be affected by the ground-borne vibration. Other vibration sensitive land uses include residences and buildings where people sleep such as hotels, hospitals, and dormitories.

1.6 Regulatory Framework

California Noise Control Act

The California Noise Control Act is a section within the California Health and Safety Code that describes excessive noise as a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and

abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

California Noise Insulation Standards [California's Title 24 Noise Standards. Cal. Adm. Code Title 24, Chap. 2-35]

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for multi-family residential buildings (Title 24, Part 2, California Code of Regulations). Title 24 establishes standards for interior room noise (attributable to outside noise sources). The regulations also specify that acoustical studies must be prepared whenever a residential building or structure is proposed to be located near an existing or adopted freeway route, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source, and where such noise source or sources create an exterior CNEL (or L_{DN}) of 60 dBA or greater. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise to an interior CNEL (or L_{DN}) of 45 dBA or less.

City of Placentia General Plan, Noise Element

The Noise Element of the City's General Plan was completed in 1974. Rail and roadways are identified as the main generators of noise, with future residences along the railway corridor as a specific concern. The Noise Element lists three standards of acceptability for noise exposure:

- 1) Clearly Acceptable: The noise exposure that is such that both the indoor and outdoor environments are pleasant.
- 2) Discretionary
 - a. Normally Acceptable: The noise exposure is great enough to be of some concern but common building constructions will make the indoor environment acceptable, even for sleeping quarters, and the outdoor environment will be reasonably pleasant and not impair hearing
 - b. Normally Unacceptable: the noise exposure is significantly more severe so that unusual and costly building constructions are necessary to insure some tranquility indoors, and barriers must be erected between the site and prominent noise sources to make the outdoor environment tolerable and not harmful enough to impair hearing.
- 3) Clearly Unacceptable: The noise exposure at the site is so severe that persistent noise impairs hearing and the outdoor environment would be intolerable.

The maximum ambient noise base level in a residential district shall be 45 dBA when read in any inhabitable room and shall not exceed 55 dBA at the property line for a cumulative period of more than 15 minutes in any hour. The maximum ambient base noise level in a residential district adjacent to a commercial or industrial district shall be 45 dBA when read in any inhabitable room and shall not exceed 60 dBA at the property line for a cumulative period of more than 15 minutes in any hour.

Noise standards modified from the United States Department of Housing and Urban Development Guidelines and California's Office of Planning and Research Guidelines are shown in Table 1 below.

**Table 1
NOISE AND LAND USE COMPATIBILITY GUIDELINES**

Land Use Category	Community Noise Exposure			
	Ldn or CNEL, dB			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density	50-60	60-65	65-75	75-85
Residential – Multiple Family	50-60	60-65	65-75	75-85
Transient Lodging – Motels, Hotels	50-65	65-70	70-80	80-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-60	60-65	65-80	80-85
Auditoriums, Concert Halls, Amphitheaters	N/A	50-65	N/A	65-85
Sports Arenas, Outdoor Spectator Sports	N/A	50-70	N/A	70-85
Playgrounds, Neighborhood Parks	50-70	N/A	70-75	75-85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-70	N/A	70-80	80-85
Office Buildings, Business Commercial and Professional	50-67.5	67.5-75	75-85	N/A
Industrial, Manufacturing, Utilities, Agriculture	50-70	70-75	75-85	N/A

Notes:

Normally Acceptable: Specified Land Use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

N/A: Not Applicable.

Source: Modified from the U.S. Department of Housing and Urban Development Guidelines and State of California Standards.

Exceptions to these standards are made for construction. Construction and operation of construction equipment shall not be permitted between 6:00 p.m. and 7:00 a.m. The ambient noise level shall not exceed 75 dBA for a cumulative period of one hour. Furthermore, maximum noise levels are not to exceed 110 dBA.

City of Placentia Noise Ordinance (Municipal Code, Chapter 23.76, Noise Control)

Chapters 25.76.050 and 25.76.060 regulate exterior and interior noise standards, respectively. Table 2, *Applicable Exterior Noise Standards*, lists the applicable exterior property line noise limits.

**Table 2
APPLICABLE EXTERIOR NOISE STANDARDS**

Zone	Time	Noise Level (dBA)
All Residential Property	7:00 a.m. – 10:00 p. m.	55
	10:00 p.m. – 7:00 a. m.	50
All Commercial Property	Anytime	65
All Industrial Property	Anytime	70

Source: City of Placentia Municipal Code Chapter 23.76.050

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by 5 dBA.

It is unlawful for any person at any location within the City to create any noise, or to allow the creation of any noise when the foregoing causes the noise level, when measured on any other residential, commercial, or industrial property, to exceed:

- 1) The noise standards for a cumulative period of time more than 30 minutes in any hour; or
- 2) The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour; or
- 3) The noise standard plus 10 dBA for a cumulative period of more than five minutes in any hour; or
- 4) The noise standard plus 15 dBA for a cumulative period of more than one minute in any hour; or
- 5) The noise standard plus 20 dBA for any period of time.

In the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

Interior noise standards for all residential property are 55 dBA between 7:00 a.m. and 10:00 p.m. and 45 dBA between 10:00 p.m. and 7:00 a.m. It is unlawful for any person to create any noise to exceed:

- 1) The interior noise standard for a cumulative period of more than five (5) minutes in any hour; or
- 2) The interior noise standard plus five (5) dBA for a cumulative period of more than one (1) minute in any hour; or
- 3) Interior noise standard plus ten (10) dBA for any period of time.

In the event the ambient noise level exceeds either of the first two noise limit categories above, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the third noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

Chapter 23.76.085 prohibits the use of a locomotive bell, air siren, steam, or air whistle at all gate-protected grade crossings except to avert an immediate threat to life or property.

Chapter 23.81 of the Municipal Code permits construction activity between 7:00 a.m. and 7:00 p.m. Monday through Friday, and between 9:00 a.m. and 6:00 p.m. on Saturdays.

The project site is zoned for Transit-Oriented Development (TOD), therefore the residential limits apply.

Federal Transit Administration Guidelines

The Federal Transit Administration (FTA) has established guidelines for the evaluation of transit noise and vibration for trains that operate at speeds generally less than 90 mph. The guidelines are set forth in the Transit Noise and Vibration Impact Assessment (FTA 2006). The guidelines establish impact criteria for rail noise and vibration, define sensitive receivers, and provide methodology for assessing impacts. These guidelines are appropriate to use for the existing rail operations in the vicinity of the proposed project and are therefore used in this analysis.

Three categories are typically used to differentiate the sensitivity to ground-borne vibration:

- **Category 1** includes buildings where vibration would interfere with interior operations. Typical land uses covered by Category 1 are manufacturing, hospitals with vibration-sensitive equipment, and research operations. The degree of sensitivity to vibration depends on the specific equipment that will be affected by the vibration.
- **Category 2** includes residences and buildings where people sleep (hotels, hospitals, and dormitories).
- **Category 3** includes institutional land uses with primarily daytime use that do not have vibration-sensitive equipment (schools, churches, office buildings).

The impact criteria for general assessment are based on the vibration-sensitive land use categories. Table 3 describes the FTA's ground-borne vibration and ground-borne noise impact criteria for general assessment.

**Table 3
GROUND-BORNE VIBRATION AND GROUND-BORNE NOISE
IMPACT CRITERIA FOR GENERAL ASSESSMENT**

Land Use Category	Ground-Borne Vibration Impact Levels (VdB re 1 micro-in/sec)			Ground-Borne Noise Impact Levels (dB re 20 mPa)		
	Frequent Events ¹	Occasional Events ²	Infrequent Events ³	Frequent Events ¹	Occasional Events ²	Infrequent Events ³
Category 1: Buildings where vibration would interfere with interior operations	65 VdB ⁴	65 VdB ⁴	65 VdB ⁴	N/A ⁵	N/A ⁵	N/A ⁵
Category 2: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB	35 dBA	38 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB	40 dBA	43 dBA	48 dBA

Source: FTA 2006

- ¹ Frequent Events is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.
- ² Occasional Events is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.
- ³ Infrequent Events is defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.
- ⁴ This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.
- ⁵ Vibration-sensitive equipment is generally not sensitive to ground-borne noise.

The proposed project would be considered a Category 2 land use and would be subject to maximum ground-borne vibration impact levels of 72 VdB and ground-borne noise of 35 dBA.

2.0 ENVIRONMENTAL SETTING

2.1 Surrounding Land Uses

The project site is within a predominantly urban area, with existing adjacent uses including industrial development to the east, west, and south; and East Crowther Avenue, a parking lot, and a graded/undeveloped lot to the north. More distant land uses include the Metrolink rail corridor and mixed residential, commercial, institutional (school/church), and recreational (park) uses north of East Crowther Avenue; a mix of residential and commercial sites to the east and south; and predominantly commercial and industrial development to the west. Land use and

zoning designations in surrounding areas reflect these uses, and include a number of residential, commercial, and industrial/manufacturing categories.

2.2 Existing Noise Environment

The existing noise environment includes noise from nearby industrial uses to the south, east, and west, nearby train traffic, and some vehicular traffic on East Crowther Avenue. Existing industrial uses utilize large air-handling systems, which are the main noise sources contributing to the ambient noise environment in the area. Metrolink trains periodically pass by the site, causing short bursts of loud noise levels. Nine Metrolink commuter trains pass by the site in a given day, with three trains during the busiest hour between 6:00 a.m. and 7:00 a.m. Other trains include two daily Amtrak Southwest Chief trains and freight train traffic during nighttime and daytime hours. An estimated 75 freight trains pass the site per day, which is expected to rise to 125 per day by 2025 (Orange County Transit Authority 2017). The project is subject to some distant aircraft noise, though the site is not located near any active airports. The nearest airport is Fullerton Municipal Airport, located approximately six miles to the west.

2.2.1 Ambient Noise Survey

Two measurements on a single site were included in the ambient noise survey. The measurement site was located on the project site approximately 50 feet south of East Crowther Avenue. One measurement was conducted for 15 minutes that included nearby traffic noise. Traffic counts were recorded for automobiles, medium-size trucks (double-tires/two axles), and heavy trucks (three or more axles). Traffic counts for the timed measurement and the one-hour equivalent volume are shown in Table 5, *Recorded Traffic Volume and Vehicle Mix*.

A second measurement was taken to isolate background ambient noise without traffic from East Crowther Avenue. The measured noise levels and related environmental conditions are shown in Table 4, *Noise Measurement Results*.

Table 4 NOISE MEASUREMENT RESULTS	
Measurement 1 - Traffic	
Date:	May 10, 2017
Conditions:	Temperature: 70°F. Wind Speed: 0 mph. 50% humidity.
Time:	10:35 a.m. – 10:50 a.m.
Location:	110 East Crowther Avenue
Measured Noise Level:	64.5 dBA L _{EQ}
Notes:	Paused for light aircraft overflight and backup alarm nearby
Measurement 2 – No Traffic	
Date:	May 10, 2017
Conditions:	Temperature: 70°F. Wind Speed: 0 mph. 50% humidity.
Time:	10:50 a.m. – 11:05 a.m.
Location:	110 East Crowther Avenue
Measured Noise Level:	54.2 dBA L _{EQ}
Notes:	Nearby industrial facilities' air handling systems contributed to ambient noise level. Measurement did not include car or train pass-bys.

Table 5 RECORDED TRAFFIC VOLUME AND VEHICLE MIX				
Roadway	Traffic	Autos	MT¹	HT²
East Crowther Avenue	15-minute Count	54	6	0
	One-hour Equivalent	216	24	0
	Percent	90%	10%	0%

¹ Medium Trucks (double tires/two axles)

² Heavy Trucks (three or more axles)

3.0 ANALYSIS METHODOLOGY AND ASSUMPTIONS

3.1 Methodology

3.1.1 Ambient Noise Survey

The following equipment was used to measure existing noise levels at the project site:

- Larson Davis Model 831 Meter
- Larson Davis Model CA250 Calibrator
- Windscreen and tripod for the sound level meter

The sound level meter was field-calibrated immediately prior to the noise measurements to ensure accuracy. All sound level measurements conducted and presented in this report were made with a sound level meter that conforms to the American National Standards Institute (ANSI) specifications for sound level meters (ANSI SI.4-1983 R2006). All instruments were

maintained with National Institute of Standards and Technology traceable calibration per the manufacturers' standards.

3.1.2 Noise Modeling Software

Modeling of the exterior noise environment for this report was accomplished using two computer noise models: Computer Aided Noise Abatement (CadnaA) version 2017 and Traffic Noise Model (TNM) version 2.5. CadnaA is a model-based computer program developed by *DataKustik* for predicting noise impacts in a wide variety of conditions. CadnaA assists in the calculation, presentation, assessment, and mitigation of noise exposure. It allows for the input of project-related information, such as noise source data, barriers, structures, and topography to create a detailed CadnaA model, and uses the most up-to-date calculation standards to predict outdoor noise impacts. CadnaA traffic noise prediction is based on the data and methodology used in the TNM. The TNM was released in February 2004 by the U.S. Department of Transportation (USDOT), and calculates the daytime average hourly L_{EQ} from three-dimensional model inputs and traffic data (Caltrans 2004). The TNM used in this analysis was developed from Computer Aided Design (CAD) plans provided by the project architect. Input variables included railway alignment, locomotive types and lengths, train speeds, and HVAC unit types and locations.

The one-hour L_{EQ} noise level is calculated utilizing peak-hour traffic; peak-hour traffic volumes can be estimated based on the assumption that 10 percent of the average daily traffic would occur during a peak hour. The model-calculated one-hour L_{EQ} noise output is the equivalent to the CNEL (Caltrans 2009).

Due to the high ambient noise levels from nearby industrial facilities, the measured noise level from the May 11, 2017 site visit was not used for model calibration.

Project construction noise was analyzed using the Roadway Construction Noise Model (RCNM; USDOT 2008), which utilizes estimates of sound levels from standard construction equipment.

3.2 Assumptions

3.2.1 Construction

3.2.1.1 *General Equipment Assumptions*

Construction would require the use of equipment throughout the site for the full term of construction. Standard equipment used on the site is assumed to include an excavator, front-end loader, grader, scraper, vibratory roller, and bulldozer.

The most likely source of vibration during project construction would be a vibratory roller, which may be used to achieve soil compaction as part of foundation construction and fill compaction.

3.2.2 Operation

Anticipated project site operational noise sources include heating, ventilation, and air conditioning (HVAC) systems and vehicular traffic.

3.2.2.1 Residential Air Conditioners

Specific planning data for the future HVAC systems is not available at this stage of project design; however, analysis using a typical to larger-sized residential condenser mounted on the rooftop provides a reasonable basis for analysis. The unit used in this analysis is a Carrier 38HDR060 split system condenser (see Appendix A, *Carrier 38HDR060 Split System Condenser*). The manufacturer's noise data is provided below in Table 6, *Carrier HDR060 Condenser Noise*.

Table 6 CARRIER 38HDR060 CONDENSER NOISE							Overall Noise Level in A-weighted Scale (dBA) ¹
Noise Levels in Decibels ¹ (dB) Measured at Octave Frequencies							
125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	
63.0	61.5	64.0	66.5	66.0	64.5	55.5	72.0

¹ Sound Power Levels (S_{WL})
Hz = Hertz; kHz = kilohertz

3.2.2.2 Vehicular Traffic

Traffic data for roadways in the project vicinity are based on volumes provided in the project's traffic analysis (Fehr & Peers 2017), which are in part based on the Traffic Impact Study for the Proposed Packing House Area Redevelopment (Albert Grover & Associates [AGA] 2016). The Memorandum assumed a total of 1,430 average daily trips (ADT) due to the project. After subtracting trips from the site's existing use, and after a transit reduction due to the project's proximity to the future Metrolink station, the project would contribute 275 net new daily trips to nearby roadways.

The AGA study provided existing (2016) traffic volumes for nearby intersections and traffic volumes for the area's buildout in 2035. These intersection traffic volumes were used to calculate roadway segment volumes. Under the assumption that 10 percent of ADT would occur during a peak hour, the project would produce approximately 28 trips during a given hour. All 28 trips were calculated for each segment as a conservative assumption. Peak hour traffic volumes on nearby streets are shown in Table 7, *Existing and Future Traffic Volumes*.

Roadway Segment	Peak Hour Traffic			
	Existing	Project	Existing + Project	2035 Buildout + Project
Crowther Avenue				
Placentia Ave. to Melrose Ave.	474	28	502	661
Melrose St. to Kramer Blvd.	509	28	537	1,219
Melrose Street				
Orangethorpe Ave. to Crowther Ave.	892	28	920	1,808
Crowther Ave. to Chapman Ave.	709	28	737	1,604

Source: Fehr & Peers 2017

3.2.2.3 Railway Noise and Vibration

The project is located along a rail line between Fullerton and Corona upon which carries passenger trains (Amtrak, Metrolink) and freight trains. The project is located between the Fullerton Transportation Center and the West Corona station. A total of nine Metrolink commuter trains pass the site per day. During the busiest hour, two Metrolink trains pass the site on the westbound tracks and one train passes the site on the eastbound tracks for a total of three Metrolink trains between 6:00 a.m. and 7:00 a.m. on weekdays. Metrolink trains are approximately 500 feet in length based on the assumption of five passenger cars and a single locomotive (Metrolink 2014). Based on distance between stations and schedule, it was assumed that Metrolink trains would be travelling approximately 45 mph. Two Amtrak passenger trains pass the site daily during nighttime hours.

No set freight schedule is available, but the line is anticipated to carry approximately 125 daily freight trains by 2025 (Orange County Transportation Authority 2017). This equates to approximately five freight trains per hour during daytime and nighttime hours. A freight train is estimated to consist of 4 locomotives and 75 cars, traveling at approximately 35 mph.

There are no level rail crossings within the vicinity of the project. The nearest crossings are approximately 1.5 mile west and 2 miles east of the project site. Therefore, no noise from train horns or crossing bells is anticipated along the railway.

For a conservative estimate of railway noise and vibration, analysis assumes project completion prior to construction of the future Placentia Metrolink station. Therefore, this analysis makes the conservative assumption that commuter trains do not reduce speed or stop.

3.3 Guidelines for the Determination of Significance

Based on Appendix G of the CEQA Guidelines and the U.S. Department of Housing and Urban Management, implementation of the project would result in a significant adverse impact if it would result in:

Threshold 1: *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.*

According to the guidelines developed by the U.S. Department of Housing and Urban Management and the State of California, the project would have a significant impact if it would expose proposed residential uses to exterior noise levels exceeding the “normally acceptable” threshold of 60 CNEL. Per Title 24 standards, interior noise levels would be significant if they exceed 45 CNEL. According to the City Noise Ordinance, the project would have a significant impact if it would generate noise levels at nearby residential uses to noise levels of 55 dBA from 7:00 a.m. to 10:00 p.m. and 50 dBA from 10:00 p.m. to 7:00 a.m., at commercial properties to noise levels of 65 dBA at any time, and industrial properties to noise levels of 70 dBA at any time.

Threshold 2: *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.*

According to the FTA Transit Noise and Vibration Impact Assessment (FTA 2006), excessive railroad ground-borne vibration for a Category 2 land use is defined as equal to or in excess of 72 VdB. For construction equipment, excessive ground-borne vibration is defined as equal or in excess of 0.4 inches per second (in/sec) PPV (Caltrans 2013).

Threshold 3: *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

Based on the City of Placentia General Plan, traffic-related noise impacts are considered significant in areas where existing traffic noise exceeds 55 CNEL (in residential areas) and implementation of the proposed project results in a 3 CNEL or greater increase in traffic noise on the roadway segment.

Threshold 4: *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*

According to the City of Placentia General Plan, construction activity would be considered significant for nearby residences if it exceeds 75 dBA for a cumulative one-hour, or a maximum noise level of 110 dBA. The City noise ordinance prohibits construction outside the hours of 7:00 p.m. and 7:00 a.m. from Monday through Friday and 9:00 a.m. through 6:00 p.m. on Saturdays.

Threshold 5: *For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public use airport or private airstrip, expose people residing or working in the project area to excessive noise.*

Excessive noise exposure is defined as noise levels that exceed the standards in the Placentia General Plan for the associated land use.

4.0 IMPACTS

4.1 Issue 1: Excessive Noise Levels

Would the project expose persons to or generate noise levels in excess of standards established in the City of Placentia General Plan or noise ordinance?

4.1.1 On-site Exterior Use Area Noise Exposure

4.1.1.1 *Transportation (Combined Railway and Roadway) Noise*

As noted in the assumptions listed in Section 3.2.2.2, future roadway traffic noise levels presented in this analysis are based on traffic volumes provided by the project's traffic analysis (Fehr & Peers 2017) and from the Traffic Impact Study for the Proposed Packing House Area Redevelopment (AGA 2016). Because the highest traffic volumes were estimated under the 2035 Buildout + Project scenario, this scenario was used to conservatively estimate on-site traffic noise impacts (see Table 7). Although the roadway's speed limit is posted as 45 mph, the presence of a three-way stop sign would reduce speeds to zero directly abutting the project. Road speeds were reduced to 20 mph for modeling purposes.

As noted in the assumptions listed in Section 3.2.2.3, railway noise levels presented in this analysis are based on the number of train trips throughout the day along the BNSF railway corridor. Up to three Metrolink trains may pass the project vicinity during a given hour between 4:00 a.m. and 9:00 p.m. Freight traffic is assumed to be five trips per hour both day and night. Nighttime train traffic includes the two daily Amtrak trains.

For anticipated vehicular and railway noise, multiple receiver locations along the project building's façade were modeled. As shown on Figure 3b, receivers were placed vertically at 2 locations on each floor along the northern façade for a total of 10 receivers (Receivers R1 to R10). A receiver was placed at one location on the ground floor of the western façade (R11) and at the proposed exterior use area on the parking garage rooftop (Receiver E1). Descriptions of each location and results of the modeling are shown in Table 8, *Project Façade and Exterior Use Area Noise Levels* below. Project traffic information and the CadnaA model's train inputs were used to determine noise levels from outside noise sources to the project site. Railway and vehicular traffic were modeled in CadnaA for daytime hours, and nighttime freight and Amtrak traffic were modeled for their respective nighttime hours. The results from the separate models were then combined to calculate the CNEL at the receivers. The CNEL results of this modeling are shown in Table 8 below.

Table 8 PROJECT FAÇADE AND EXTERIOR USE AREA NOISE LEVEL EXPOSURE		
Receiver	Location	Noise Levels (CNEL)
R1	West end of north façade, 5 feet from ground	68.8
R2	West end of north façade, 17 feet from ground	68.5
R3	West end of north façade, 29 feet from ground	68.4
R4	West end of north façade, 41 feet from ground	68.4
R5	West end of north façade, 53 feet from ground	68.1
R6	East end of north façade, 5 feet from ground	68.9
R7	East end of north façade, 17 feet from ground	68.7
R8	East end of north façade, 29 feet from ground	68.6
R9	East end of north façade, 41 feet from ground	68.5
R10	East end of north façade, 53 feet from ground	68.4
R11	East façade, 5 feet from ground	66.0
E1	Exterior Use Area (Rooftop Pool Area)	52.6

Note: Noise levels include Metrolink noise, freight train noise, and 2035 Buildout + Project scenario traffic conditions.

As seen in Table 8, noise levels at the northern building façade would be exposed to transportation (rail and traffic) noise that would exceed the allowable residential standards of 60 dBA. The analysis included an exterior use area location (E1) on the parking garage rooftop, which was modeled at 53 dBA, which is within the allowable noise standard. Other exterior use areas on the project site would be within interior courtyards, where exterior noise levels are likely to be lower due to shielding from the surrounding building.

4.1.2 Interior Noise

Building façade noise levels are used to estimate noise levels at road and rail-facing units to determine whether interior noise levels would meet City General Plan and Title 24 standards. Table 8, *Project Façade and Exterior Use Area Noise Levels*, shows the modeling results for the building façades at multiple heights. Locations of the façade receivers used for this analysis are shown on Figure 3b.

As shown in Table 8, building façade noise levels would exceed 60 CNEL on all floors facing the railway. Conservatively assuming that standard architectural materials attenuate noise levels by 15 CNEL, interior noise levels could potentially exceed the Title 24 interior noise standard of 45 CNEL for residences. Impacts related to interior noise levels would therefore be potentially significant.

An exterior-to-interior noise analysis was conducted to calculate expected interior noise levels at a typical unit. The information in the interior noise analysis includes wall heights/lengths, room volumes, window/door tables typical for a standard building plan, and information on any other openings in the building shell. The analysis provides information for the rooms with the highest potential interior noise level and extends these requirements to other similar rooms.

The residential room used in the exterior-to-interior analysis was the master bedroom of the B2-A residential unit (Receivers R1 and R11), as shown in Figure 3b. This room is exposed to the greatest amount of exterior noise due to its corner location and proximity to the railroad tracks and roadway. The noise level at the other residential uses would be expected to be lower. The master bedroom specifications used in this analysis were based on January 2017 floor plans provided by the project applicant. Refer to Figure 4, *Exterior-to-Interior Title 24 Analyzed Rooms*, for the project plans depicting the room included in this Title 24 analysis. The analyzed room has two walls, Wall 1 and Wall 2 that are exposed to railway and traffic noise.

Table 9, *Exterior-to-Interior Noise Levels – Unit B2-A* displays the Sound Transmission Class (STC) ratings necessary to ensure interior noise levels for the proposed project would be below the 45 CNEL threshold. Detailed modeling results can be seen in Appendix B, *Exterior-to-Interior Noise Reduction Analysis*.

Specification	Master Bedroom
Exterior wall requirement	STC 46
Minimum window requirement	STC 31
Minimum door requirement	N/A
Window construction	Dual Glazing Window Thickness 1/8- and 1/2-inch Air Gap
Glass Door construction	N/A
Exterior Noise	68.8 CNEL on Wall 1 66.0 CNEL on Wall 2
Interior Noise (calculated)	38.5 CNEL with windows closed 48.1 CNEL with windows open
Above 45 CNEL interior noise standard with windows closed?	No

With standard dual glazing and the incorporation of the building materials as described above, all rooms would be in compliance with the relevant interior noise standards of 45 CNEL for residences. Appropriate means of air circulation and provision of fresh air must be present to allow windows to remain closed for extended intervals of time so that acceptable levels of noise can be maintained on the interior. The building design would include HVAC units that would

meet the criteria of the International Building Code (Chapter 12, Section 1203.3 of the 2013 California Building Code) to ensure that windows would be able to remain closed for extended periods of time. With the incorporation of mitigation measure NOI-1 below, noise levels would be reduced to acceptable levels as described by Threshold 3.

NOI-1 Noise-Reducing Building Materials. Interior noise levels shall not exceed the Title 24 interior noise standard of 45 CNEL for multi-family residences. The following building materials shall be used in the construction of all units facing East Crowther Avenue and the railway to reduce interior noise to acceptable levels:

- Exterior walls shall have an STC 46 rating
- Windows shall have an STC 31 rating
- Exterior doors shall have an STC 28 rating
- Glass doors shall be at least 0.5 inch thick

4.1.3 Operational Noise

The known or anticipated project stationary noise sources include the residential HVAC systems. Potential impacts from these noise sources are discussed below.

4.1.3.1 Heating Ventilation and Air Conditioning (HVAC)

The project includes the outdoor installation of HVAC condenser units. HVAC units would be placed on the building rooftops. As mentioned in the assumptions, modeling assumed that the air conditioning condenser would be a Carrier 38HDR060 split system. This unit typically generates a noise level of 56 dBA at a distance of 7 feet. Modeling assumed that each residential unit would have a corresponding condenser unit on the rooftop. The building rooftop would therefore contain 215 individual units. Assuming an architectural parapet typical for a building of this size, multiple condensers would generate an hourly noise level of approximately 39.9 dBA at ground level of the nearest property line. Noise levels would be 40.6 dBA at 15 feet, and 41.5 dBA at 25 feet. These levels would not exceed the City's nighttime allowable hourly limit of 50 dBA for residential zones as defined in Threshold 1. Impacts would be less than significant.

4.2 Issue 2: Excessive Vibration

Would the project expose persons to or generate excessive ground-borne vibration or noise levels?

4.2.1 Ground-Borne Vibration and Noise

The FTA's Transit Noise and Vibration Impact Assessment provides screening distances for vibration assessment based on the type of vibration source and land use. For a residential project near a conventional commuter railroad, the screening distance from a railway right-of-way is 200 feet. The project is located beyond this distance at approximately 212 feet from the centerline of the closest active track. Therefore, a detailed analysis of vibration is not warranted.

However, to provide an additional estimate of vibration levels, the FTA provides a generalized assessment of vibration distances for transportation types (see Appendix E, *Generalized Ground Surface Vibration Curves*, which depicts Figure 10-1 from the FTA's Transit Noise and Vibration Impact Assessment). The vibration curve is applicable for locomotive powered passenger or freight trains. Vibration levels are approximately proportional to $20 \cdot \log(\text{speed}/\text{speed}_{\text{ref}})$, where $\text{speed}_{\text{ref}}$ is the referenced 50 mph speed shown in the FTA graph.

Using the vibration curves in Appendix E, Table 10 below provides the calculated change in vibration levels for various rail speeds. It is assumed that passenger trains would travel speeds of approximately 45 mph through the railway corridor. Using the vibration curve from the FTA graph and the adjustment for change in speed in Table 10, the vibration levels at the project building are assumed to be approximately 70.1 VdB at 212 feet. Because ground-borne vibration is below 72 VdB, associated ground-borne noise would likewise be below 35 dBA.

Table 10 ADJUSTMENT TO VIBRATION DUE TO CHANGE IN SPEED	
Speed (mph)	Adjustment to Figure (VdB)
70	2.9
65	2.3
60	1.6
55	0.8
50	0.0
45	-0.9
40	-1.9
35	-3.1
30	-4.4

Vibration levels are approximately proportional to $20 \cdot \log(\text{speed}/50)$.

To confirm these adjustments, two rail planning vibration reports were reviewed in corridors with combined passenger and freight traffic. The Noise and Vibration Technical Report for the Perris Valley Line Commuter Rail (STV Incorporated 2010) provides measurements taken along a similar alignment. All measurements were below the values predicted by the FTA graph. The Lindley Avenue to Balboa Boulevard Vibration Study (HDR 2015) depicts measurements that provide regression lines which predict vibration between 66 VdB and 70 VdB at 212 feet. Both reports indicate that the guidance provided by the FTA, and used in this report, are appropriate to show a conservative estimate for the project's vibration impacts.

Because ground-borne vibration and noise levels are expected to be below the allowable 72 VdB and 35 dBA thresholds, respectively, vibration and noise impacts from nearby railway uses would be less than significant.

4.2.2 Construction Vibration

An on-site source of vibration during project construction other than from blasting would be a vibratory roller (primarily used to achieve soil compaction as part of the foundation and paving construction), which is expected to be used within 450 feet of the nearest occupied residence. A vibratory roller creates approximately 0.210 in/sec PPV at a distance of 25 feet. Using the construction vibration damage criteria from the Transit Noise and Vibration Impacts Assessment (FTA 2006), a vibratory roller would fall below the 0.2 in/sec PPV threshold for non-engineered buildings at 450 feet as defined in Threshold 2. Therefore, temporary impacts associated with the vibratory roller (and other potential equipment) would be less than significant.

4.3 Issue 3: Permanent Increase in Ambient Noise Levels

Would the project cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

4.3.1 Off-site Transportation Noise

As noted in the assumptions, future traffic noise levels presented in this analysis are based on traffic volumes provided by the project's traffic analysis (Fehr & Peers 2017). Refer to Table 7 for the forecasted peak hour traffic data for existing and project-added traffic volumes.

TNM software was used to calculate the noise contour distances for Existing and Existing + Project conditions. The off-site roadway modeling represents a conservative analysis that does not take into account topography or attenuation provided by existing structures. The results of this analysis for the CNEL at 50 feet are shown below in Table 11, *Off-site Traffic Noise Levels*. Additional analysis for the 70, 65, and 60 CNEL distances are provided in Appendix C, *Existing and Future Traffic Noise Levels*.

As noted in Section 3.3, a significant direct impact would occur if existing conditions approach or exceed City standards and the project more than doubles (increases by more than 3 CNEL) the existing noise level. The project would not increase any of the noise levels by more than 3 CNEL, as specified in Threshold 3. Therefore, exterior off-site direct transportation noise impacts would be less than significant.

**Table 11
OFF-SITE TRAFFIC NOISE LEVELS**

Roadway Segment	CNEL @ 50 feet			
	Existing	Existing + Project	Change from Existing	Direct Impact ¹
Crowther Avenue				
Placentia Ave. to Melrose St.	64.7	65.0	0.3	No
Melrose St. to Kraemer Blvd.	65.1	65.3	0.2	No
Melrose Street				
Orangethorpe Ave. to E. Crowther Ave.	66.1	66.3	0.2	No
E. Crowther Ave. to Chapman Ave.	62.2	62.4	0.2	No

¹ A direct impact to off-site uses would occur if the project more than doubles (increases by more than 3 CNEL) the existing noise level.

4.4 Issue 4: Temporary Increase in Ambient Noise

Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

4.4.1 Construction Noise

Construction of the project would involve demolition of existing structures, minor grading, paving of the site, and erecting new buildings. The magnitude of the impact would depend on the type of construction activity, equipment, duration of each construction phase, distance between the noise source and receiver, and any intervening structures. Construction would generate elevated noise levels that may disrupt nearby residences. Residences are located approximately 450 feet north of the project across East Crowther Avenue and the BNSF railway tracks.

As noted in Section 3.2, construction would rely on the use of equipment including an excavator, front-end loader, grader, scraper, and bulldozer. Table 12, *Construction Equipment Noise Levels*, provides the 450-foot distance noise level for expected (highest noise-generating) construction equipment.

**Table 12
CONSTRUCTION EQUIPMENT NOISE LEVELS**

Unit	Percent Operating Time	L _{MAX} at 450 feet	dB _A L _{EQ} at 450 feet
Dozer	40	62.6	58.6
Excavator	40	61.6	57.6
Front End Loader	40	60.0	56.0
Grader	40	65.9	61.9
Scraper	40	64.5	60.5
Scraper/Dozer	40	64.5	60.5

Source: RCNM

Construction equipment would not all operate at the same time or location. A dozer and an excavator may be working on the site simultaneously, but would not be working in close proximity to one another at a given time due to the nature of their respective operations. A scraper and dozer were analyzed together for construction noise impacts due to their likelihood of being used in conjunction with one another. RCNM was used to determine reasonable construction noise levels at nearby residential locations for a given hour.

Based on these assumptions, the highest impact level for a scraper and dozer at the nearest NSLU is 60.5 dBA L_{EQ} (see Appendix D, *Construction Noise Modeling Outputs*). The impact level for a grader in isolation at the nearest NSLU is 61.9 dBA L_{EQ} . Construction noise from this equipment was modeled below the significance threshold defined in Threshold 4 of 75 dBA L_{EQ} . Furthermore, construction would not occur between the hours of 7:00 p.m. and 7:00 a.m. as stated in the City Noise Ordinance. Construction noise impacts would be less than significant.

4.5 Issue 5: Airport Noise Exposure

Would the project expose people residing or working in the project area to excessive noise from a nearby public use airport or private airstrip?

4.5.1 Airport Noise

The project is subject to some distant aircraft noise, though the site is not located near any active airports. The nearest airport is Fullerton Municipal Airport, located six miles to the west. Furthermore, no private airstrips are located in the vicinity of the project site. At these distances, no effects related to airport noise would occur at the project site, and impacts would be less than significant.

5.0 LIST OF PREPARERS

Charles Terry, Senior Acoustician
Jason Runyan, Noise Analyst
Joanne M. Dramko, AICP, Senior Technical Specialist, QA/QC

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

6.0 REFERENCES

Albert Grover & Associates

- 2016 Traffic Impact Study for the Proposed Packing House Area Redevelopment. August 18.

California Building Standards Commission

- 2013 California Building Code, California Code of Regulations, Title 24, Part 2.

California Department of Transportation (Caltrans).

- 2013 Transportation and Construction Vibration Guidance Manual. September.
- 2009 Technical Noise Supplement (TeNS). November.
- 2004 California Department of Transportation, Traffic Noise Model (TNM).

City of Placentia

- 1975 City of Placentia Municipal Code, Chapter 23.76, Noise Control.
- 1974 City of Placentia General Plan, Noise Element.

HDR

- 2015 Lindley Avenue to Balboa Boulevard Vibration Study. November 17.

Fehr & Peers

- 2017 Placentia-Crowther Avenue Project Memorandum. April 26.

Federal Transit Administration

- 2006 Transit Noise and Vibration Impact Assessment. May.

Orange County Transportation Authority

- 2017 Goods Movement. Available at: <http://www.octa.net/Plans-and-Programs/Goods-Movement/>

Metrolink

- 2014 SCRRRA Design Criteria Manual. November.

STV Incorporated

- 2010 The Noise and Vibration Technical Report for the Perris Valley Line Commuter Rail. November.

U.S. Department of Transportation

- 2008 Roadway Construction Noise Model.

THIS PAGE INTENTIONALLY LEFT BLANK



Appendix A

CARRIER 38HDR060 SPLIT SYSTEM CONDENSER



ELECTRICAL DATA

38HDR UNIT SIZE	V-PH-Hz	VOLTAGE RANGE*		COMPRESSOR		OUTDOOR FAN MOTOR			MIN CKT AMPS	FUSE/ HACR BKR AMPS
		Min	Max	RLA	LRA	FLA	NEC Hp	kW Out		
018	208/230-1-60	187	253	9.0	48.0	0.80	0.125	0.09	12.1	20
024	208/230-1-60	187	253	12.8	58.3	0.80	0.125	0.09	16.8	25
030	208/230-1-60	187	253	14.1	73.0	1.45	0.25	0.19	19.1	30
036	208/230-1-60	187	253	14.1	77.0	1.45	0.25	0.19	19.1	30
	208/230-3-60	187	253	9.0	71.0	1.45	0.25	0.19	12.7	20
	460-3-60	414	506	5.6	38.0	0.80	0.25	0.19	7.8	15
048	208/230-1-60	187	253	21.8	117.0	1.45	0.25	0.19	28.7	50
	208/230-3-60	187	253	13.7	83.1	1.45	0.25	0.19	18.6	30
	460-3-60	414	506	6.2	41.0	0.80	0.25	0.19	8.6	15
060	208/230-1-60	187	253	26.4	134.0	1.45	0.25	0.19	34.5	60
	208/230-3-60	187	253	16.0	110.0	1.45	0.25	0.19	21.5	35
	460-3-60	414	506	7.8	52.0	0.80	0.25	0.19	10.6	15

* Permissible limits of the voltage range at which the unit will operate satisfactorily

FLA - Full Load Amps

HACR - Heating, Air Conditioning, Refrigeration

LRA - Locked Rotor Amps

NEC - National Electrical Code

RLA - Rated Load Amps (compressor)

NOTE: Control circuit is 24-V on all units and requires external power source. Copper wire must be used from service disconnect to unit. All motors/compressors contain internal overload protection.

38HDR

SOUND LEVEL

Unit Size	Standard Rating (dB)	Typical Octave Band Spectrum (dBA) (without tone adjustment)						
		125	250	500	1000	2000	4000	8000
018	68	52.0	57.5	60.5	63.5	60.5	57.5	46.5
024	69	57.5	61.5	63.0	61.0	60.0	56.0	45.0
030	72	56.5	63.0	65.0	66.0	64.0	62.5	57.0
036	72	65.0	61.5	63.5	65.0	64.5	61.0	54.5
048	72	58.5	61.0	64.0	67.5	66.0	64.0	57.0
060	72	63.0	61.5	64.0	66.5	66.0	64.5	55.5

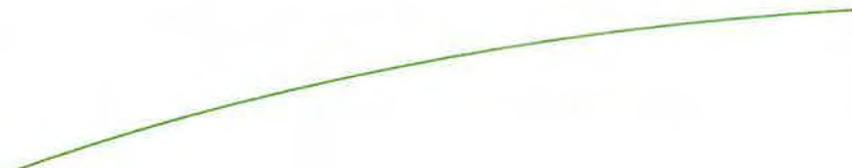
CHARGING SUBCOOLING (TXV-TYPE EXPANSION DEVICE)

UNIT SIZE-VOLTAGE, SERIES	REQUIRED SUBCOOLING °F (°C)
018	12 (6.7)
024	12 (6.7)
030	12 (6.7)
036	12 (6.7)
048	12 (6.7)
060	12 (6.7)



Appendix B

EXTERIOR-TO-INTERIOR NOISE
REDUCTION ANALYSIS



EXTERIOR TO INTERIOR NOISE REDUCTION ANALYSIS

Project Name: E Crowther Avenue Project
 Project # : IPQ-23
 Room Name: Unit B2-A Master Bedroom (Ground Floor)

Wall 1 of 2

Room Type : Soft						
	125 Hz	250 Hz	500 Hz	1KHz	2KHz	4KHz
Reverberation Time (sec) :	0.8	0.8	0.8	0.8	0.7	0.7
Room Absorption (Sabins) :	112	112	112	112	140	140

	Noise Level		125 Hz	250 Hz	500 Hz	1KHz	2KHz	4KHz	
Source 1: Train	68.8 CNEL		62.2	55.7	62.1	62.3	61.5	58.3	: Train Spectrum
Source 2: <N/A>	0.0 CNEL		0.0	0.0	0.0	0.0	0.0	0.0	
Source 3: <N/A>	0.0 CNEL		0.0	0.0	0.0	0.0	0.0	0.0	
Source 4: <N/A>	0.0 CNEL		0.0	0.0	0.0	0.0	0.0	0.0	
Overall:	68.8 CNEL		62.2	55.7	62.1	62.3	61.5	58.3	: Effective Noise Spectrum

Assembly Type	Open	Width	Height	Qty	Total Area	125 Hz	250 Hz	500 Hz	1KHz	2KHz	4KHz
STC 46 Typical Exterior Wall	N	12.1	9	1	78.9	29	40	46	46	44	53
STC 31 5/8-inch Dual Insulating Window	Y	6	5	1	30.0	24	20	26	34	46	39
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0

Room Depth: 17.1 ft **Overall Area:** 108.9 ft²
Volume: 1862 ft³

Number of Impacted Walls: 2

Windows Open		
Interior Noise Level:	48.1	CNEL
Windows Closed		
Interior Noise Level:	38.5	CNEL

125 Hz	250 Hz	500 Hz	1KHz	2KHz	4KHz	
62.2	55.7	62.1	62.3	61.5	58.3	: Exterior Wall Noise Exposure
8.6	8.6	8.6	8.6	8.6	8.6	: Transmission Loss
0.0	0.0	0.0	0.0	0.0	0.0	: Noise Reduction
20.5	20.5	20.5	20.5	21.5	21.5	: Absorption
41.7	35.2	41.6	41.8	40.1	36.9	: Noise Level
48.0	CNEL	WINDOWS OPEN				
125 Hz	250 Hz	500 Hz	1KHz	2KHz	4KHz	
62.2	55.7	62.1	62.3	61.5	58.3	: Exterior Wall Noise Exposure
26.9	25.8	31.1	39.3	44.5	44.1	: Transmission Loss
6.5	5.5	10.7	19.0	24.1	23.8	: Noise Reduction
20.5	20.5	20.5	20.5	21.5	21.5	: Absorption
35.2	29.8	30.9	22.9	16.0	13.1	: Noise Level
37.6	CNEL	WINDOWS CLOSED				

EXTERIOR TO INTERIOR NOISE REDUCTION ANALYSIS

Project Name: E Crowther Avenue Project
 Project # : IPQ-23
 Room Name: Unit B2-A Master Bedroom (Ground Floor)

Wall 2 of 2

	<u>Noise Level</u>	<u>125 Hz</u>	<u>250 Hz</u>	<u>500 Hz</u>	<u>1KHz</u>	<u>2KHz</u>	<u>4KHz</u>	
Source 1: Train	66.0 CNEL	59.4	52.9	59.3	59.5	58.7	55.5	: Train Spectrum
Source 2: <N/A>	0.0 CNEL	0.0	0.0	0.0	0.0	0.0	0.0	
Source 3: <N/A>	0.0 CNEL	0.0	0.0	0.0	0.0	0.0	0.0	
Source 4: <N/A>	0.0 CNEL	0.0	0.0	0.0	0.0	0.0	0.0	
Overall:	66.0 CNEL	59.4	52.9	59.3	59.5	58.7	55.5	: Effective Noise Spectrum

<u>Assembly Type</u>	<u>Open</u>	<u>Width</u>	<u>Height</u>	<u>Qty</u>	<u>Total Area</u>	<u>125 Hz</u>	<u>250 Hz</u>	<u>500 Hz</u>	<u>1KHz</u>	<u>2KHz</u>	<u>4KHz</u>
STC 46 Typical Exterior Wall	N	13.6	9	1	122.4	29	40	46	46	44	53
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0
<N/A>	N	0	0	0	0.0	0	0	0	0	0	0

Overall Area: 122.4 ft²

<u>125 Hz</u>	<u>250 Hz</u>	<u>500 Hz</u>	<u>1KHz</u>	<u>2KHz</u>	<u>4KHz</u>	
59.4	52.9	59.3	59.5	58.7	55.5	: Exterior Wall Noise Exposure
29.0	40.0	46.0	46.0	44.0	53.0	: Transmission Loss
8.1	19.1	25.1	25.1	23.1	32.1	: Noise Reduction
20.5	20.5	20.5	20.5	21.5	21.5	: Absorption
30.8	13.3	13.7	13.9	14.1	1.9	: Noise Level
31.1	CNEL	WINDOWS OPEN				
<u>125 Hz</u>	<u>250 Hz</u>	<u>500 Hz</u>	<u>1KHz</u>	<u>2KHz</u>	<u>4KHz</u>	
59.4	52.9	59.3	59.5	58.7	55.5	: Exterior Wall Noise Exposure
29.0	40.0	46.0	46.0	44.0	53.0	: Transmission Loss
8.1	19.1	25.1	25.1	23.1	32.1	: Noise Reduction
20.5	20.5	20.5	20.5	21.5	21.5	: Absorption
30.8	13.3	13.7	13.9	14.1	1.9	: Noise Level
31.1	CNEL	WINDOWS CLOSED				



Appendix C

EXISTING AND FUTURE
TRAFFIC NOISE LEVELS



Existing and Future Traffic

Roadway /Segment	Existing			Project			Project + Existing			2035 Buildout + Project			Posted Speed (mph)				
	Peak Hour Traffic	Traffic Breakdown			Peak Hour Traffic	Traffic Breakdown			Hour Traffic (PM)	Traffic Breakdown				Hour Traffic (PM)	Traffic Breakdown		
		Cars	MT	HT		Cars	MT	HT		Cars	MT	HT			Cars	MT	HT
Crowther Avenue		90.0%	10.0%	0.0%		90.0%	10%	0.0%		90.0%	10.0%	0.0%		90.0%	10.0%	0.0%	
Placentia Ave to Melrose Ave	474	427	47	0	28	25	3	0	502	452	50	0	661	595	66	0	45
Melrose Street to Kramer Blvd	509	458	51	0	28	25	3	0	537	483	54	0	1219	1097	122	0	45
Melrose Street																	
Orangethorpe Ave to Crowther Ave	892	803	89	0	28	25	3	0	920	828	92	0	1808	1627	181	0	40
Crowther Ave. to Chapman Ave.	709	638	71	0	28	25	3	0	737	663	74	0	1604	1444	160	0	30

Source: Fehr & Peers 2017, AGA 2016

Existing and Future Traffic Noise									
Roadway/Segment	Existing Conditions				Existing + Project				
	CNEL @ 50 ft. (dBA)	70 CNE L (ft.)	65 CNE L (ft.)	60 CNE L (ft.)	CNEL @ 50 ft. (dBA)	Δ at 50 ft. (dBA)	70 CNE L (ft.)	65 CNE L (ft.)	60 CNE L (ft.)
Crowth Ave									
Plac to Melrose	64.7	15	47	80	65.0	0.3	17	50	82
Melrose to Kraemer	65.1	17	50	83	65.3	0.2	17	52	86
Melrose									
Orange to Crowth	66.1	22	57	95	66.3	0.2	24	58	95
Crowth to Chapman	62.2	n/a	29	63	62.4	0.2	8	30	65

Source: Traffic Noise Model (TNM), version 2.5



Appendix D

CONSTRUCTION NOISE
MODELING OUTPUTS



Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 5/17/2017

Case Description:

--- Receptor #1 ---

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
	1 Residential	40	40	40

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	450	0
Excavator	No	40		80.7	450	0
Front End Loader	No	40		79.1	450	0
Grader	No	40	85		450	0
Scraper	No	40		83.6	450	0

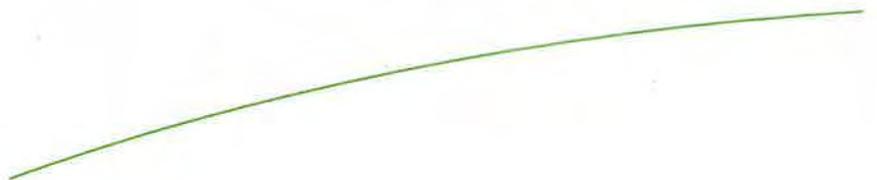
Equipment	Results													
	Calculated (dBA)				Noise Limits (dBA)				Noise Limit Exceedance (dBA)					
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Dozer	62.6	58.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	61.6	57.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	60	56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	65.9	61.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	64.5	60.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.9	66.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.



Appendix E

**GENERALIZED GROUND
SURFACE VIBRATION CURVES**



The curves in Figure 10-1 are based on measurements of ground-borne vibration at representative North American transit systems. The top curve applies to trains that are powered by diesel or electric locomotives. It includes intercity passenger trains and commuter rail trains. The curve for rapid transit rail cars covers both heavy and light-rail vehicles on at-grade and subway track. It is somewhat surprising that subway and at-grade track can be represented by the same curve since ground-borne vibration created by a train operating in a subway has very different characteristics than vibration from at-grade track. However, in spite of these differences, the overall vibration velocity levels are comparable. Subways tend to have more vibration problems than at-grade track. This is probably due to two factors: (1) subways are usually located in more densely developed areas, and (2) the airborne noise is usually a more serious problem for at-grade systems than the ground-borne vibration. Another difference between subway and at-grade track is that the ground-borne vibration from subways tends to be higher frequency than the vibration from at-grade track, which makes the ground-borne noise more noticeable.

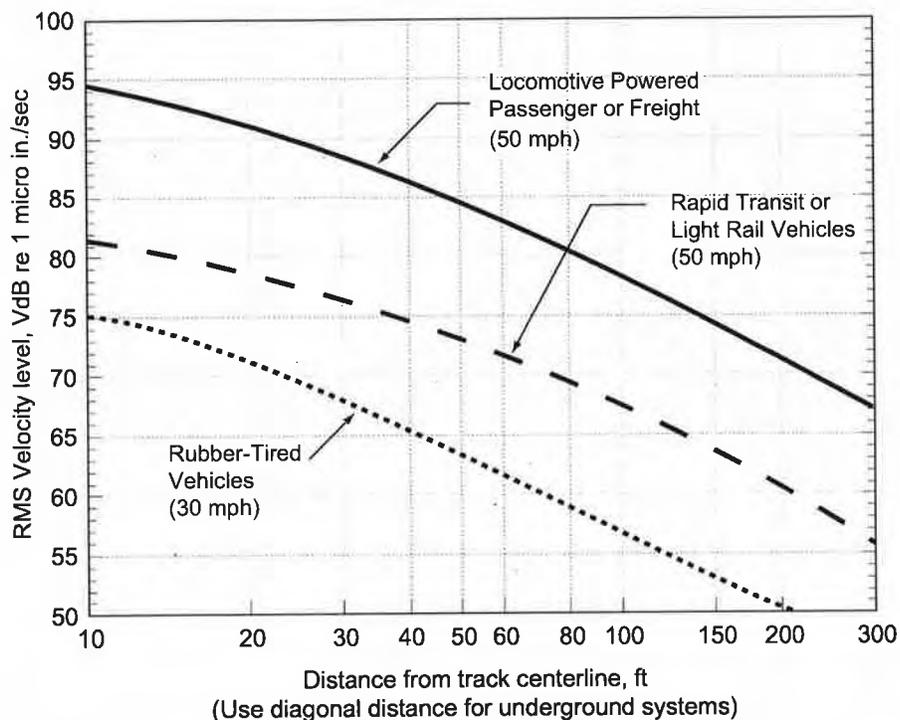


Figure 10-1. Generalized Ground Surface Vibration Curves

The curves in Figure 10-1 were developed from many measurements of ground-borne vibration. Experience with ground-borne vibration data is that, for any specific type of transit mode, a significant variation in vibration levels under apparently similar conditions is not uncommon. The curves in Figure

Attachment G

Traffic Analysis



MEMORANDUM

Date: May 18, 2017
To: Tammy Ching – Helix Environmental
From: Jason D. Pack, P.E.
Subject: **Placentia Crowther Avenue Project**

OC17-0501

Fehr & Peers has completed our review for the above referenced project. Specifically, we have reviewed both the Integral Communities proposed site plan for the project (dated January 17, 2017) and the *Traffic Impact Study for the Proposed Packing House Area Redevelopment* (Albert Grover & Associates, August 18, 2016) (hereby referred to as the AGA Study). Specifically, we compared trip generation associated with the proposed project to determine if the project is consistent with the assumptions in the AGA Study and to assist with phasing/implementation of the mitigation measures associated with the *Packing House District Transit Oriented Development Project Initial Study* (Tom Dodson & Associates) (hereby referred to as the Initial Study). The purpose of this memorandum is to document the results of our assessment.

The remainder of this memorandum is divided into the following sections:

- Project Background
- Trip Generation Comparison
- Site Access, On-Site Circulation, and Parking Review

Project Background

The Initial Study identifies the following mitigation measures related to transportation and traffic:

XVI-1 Each future TOD project shall pay fair share fees for the intersection improvement costs at the time of entitlement based on the percentage of trips contributed at each intersection. A high level "order of magnitude" cost estimate is also provided in subsequent mitigation identified in the Traffic Impact Study. These are rough estimate costs for engineering and construction and will need to be refined during future preliminary engineering phase. The



mitigation measures should be re-evaluated for any refinement of the Draft General Plan Update and/or additional development of the TOD project over and beyond 5,000 trips. All significantly impacted intersections require mitigation prior to Future Buildout. Mitigation for each intersection and estimated costs are listed below:

- *Placentia/Crowther Avenue: Upgrade left turn signal phasing for all movements from permissive left turns to protected/permissive left turn phasing. Estimated Cost - \$100,000;*
- *Orangethorpe Avenue/Placentia Avenue: Provide eastbound/westbound dual left-turn Lanes at Orangethorpe Avenue/Placentia Avenue. Estimated Cost - \$450,000;*
- *Orangethorpe Avenue/SR-57 Northbound Ramps: Restripe Northbound Off-Ramp middle lane as shared Left-Turn/Thru/Right-Turn Lane. Estimated Cost - \$50,000;*
- *Orangethorpe Avenue/SR-57 Northbound Ramps: The westbound right turn movement is expected to increase from 550 vehicles per hour (vph) to 800 vph during the PM period for year 2035. This movement should be closely monitored and may require additional improvements to reduce congestion and queuing. An additional improvement would be to modify the existing median on Orangethorpe Avenue to add an exclusive Westbound Right- Turn Lane. Estimated Cost - \$200,000;*
- *Orangethorpe Avenue/Melrose Street: Provide an exclusive southbound right-turn lane without overlap signal phasing and northbound dual left-turn lanes at Orangethorpe Avenue/Melrose Street. Estimated Cost - \$100,000;*
- *Kraemer Boulevard/Orangethorpe Avenue: Restripe Orangethorpe Avenue to provide eastbound dual left-turn lanes. Add additional north/south thru lane (three lanes each) by restriping the northbound and southbound right turn lanes to thru lanes. Consider modifying the north/south left-turn movements from protected-only left-turn phasing to protected- permissive left-turn phasing. Restripe the southbound left-turn approach to provide a positive offset for better sight distance between the north/south left turn movements. Estimated Cost - \$100,000.*

XVI-2 Truck access for the parcel on the southwest corner of Melrose Street and Crowther Avenue must be maintained to and from this site.



- XVI-3 *Construction hours should be five days a week, and in accordance with the City of Placentia Municipal Code, limited to the hours of 7 AM and 7 PM on working days (Monday through Friday).*
- XVI-4 *Construction truck and worker automobile traffic will utilize the proposed driveways along Melrose Street and Crowther Avenue for access to and from the project site.*
- XVI-5 *Trucks transporting materials to and from the project site must utilize the designated truck routes along Placentia Avenue, Crowther Avenue, Melrose Street, and Orangethorpe Avenue.*
- XVI-6 *Trucks entering or exiting the construction site will need to yield to public traffic at all times.*
- XVI-7 *It is unlikely that street traffic will be impacted by on-site construction activities; however, should it be necessary for temporary lane closures and/or detour routes for utility work or other such work in the public right-of-way those temporary traffic control activities are to be conducted in compliance with the requirements and guidelines outlined in the California Manual of Uniform Traffic Control Devices (MUTCD)*
- XVI-8 *Construction staging should be conducted on-site and under no circumstances will be allowed on local or residential streets.*
- XVI-9 *Construction work within the public right-of-way needs to be in compliance with City standards and the construction site shall be posted with the name, company and a phone number of a person to call for complaints.*
- XVI-10 *The applicant will be fully responsible for the repair of damages to any public facility due to the hauling or transporting of construction related materials.*
- XVI-11 *Parking for the construction trucks and worker trucks will be on-site, away from the adjacent public roadways and existing active businesses.*
- XVI-12 *The City shall coordinate with OCTA to ensure that one or more bus routes to the future Placentia Metrolink Station will serve the TOD project area.*

Tables 2-2a, 2-2b, and 2-2c summarize the trip generation assumptions from the AGA Study; however, the trip generation information summarized in Table 2-2a (which assumed 100%



residential development) was used in the impact assessment as it generated the most peak hour trips (and was considered more conservative from a trip generation perspective). Table 2-2c accounts for the net new trips after accounting for transit trip reductions and existing land uses on the project site. Exhibit 1 and Exhibit 2 present Tables 2-2a and 2-2c from the AGA Study.

Exhibit 1 – AGA Study Trip Generation

**Table 2-2a – 100% Residential Use Scenario
 Project Trip Generation**

Scenario	Quantity	Daily Trips	AM Peak Hour Trips	PM Peak Hour Trips	AM Peak Hour Trips		PM Peak Hour Trips	
					In	Out	In	Out
100% Residential: Single-Family (ITE 220) - 752 DU TOD Project, 5,000 Daily Trips								
Northwest Area (35%)		1,750	134	163	27	107	106	57
Southeast Area (35%)		1,750	134	163	27	107	106	57
Northeast Area (30%)		1,500	115	140	23	92	91	49
Total		5,000	383	466	77	306	303	163



Exhibit 2 – AGA Study Trip Generation

Table 2-2c – Net Project Trip Generation

Scenario	Quantity	Daily Trips	AM Peak Hour Trips	PM Peak Hour Trips	AM Peak Hour Trips		PM Peak Hour Trips	
					In	Out	In	Out
Existing Land Use								
Northwest Area								
Industrial: Warehousing (ITE 150)	87.94 KSF GFA	441	77	55	61	16	14	41
Residential: Single-Family (ITE 210)	13 DU	124	11	13	3	8	8	5
Residential: Apartment (ITE 220)	4 DU	27	2	2	0	2	1	1
Southeast Area								
Industrial: Warehousing (ITE 150)	139.22 KSF GFA	655	99	74	78	21	19	56
Total		1,247	189	144	142	47	42	103
100% Residential: Single-Family (ITE 220) - 752 DU TOD Project, 5,000 Daily Trips								
Northwest Area (35%)		1,750	134	163	27	107	106	57
Southeast Area (35%)		1,750	134	163	27	107	106	57
Northeast Area (30%)		1,500	115	140	23	92	91	49
Total		5,000	383	466	77	306	303	163
Net Trip Generation		3,753	194	322	-65	259	261	60

The proposed Integral Communities project is located on the southeast area of the project site. As currently proposed, the project would consist of 215 multifamily dwelling units (DUs) plus a leasing office and a club/fitness area for residents. The project also includes 394 parking spaces on-site.

Trip Generation Comparison

Fehr & Peers utilized the project information to estimate trip generation for the project site using rates from the Institute of Transportation Engineers' *Trip Generation* (9th Edition). The resulting trip generation information is summarized in Table 1.

Table 1 – Project Trip Generation Estimates

Land Use	Units ¹	ITE Code	Quantity	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Apartment (Peak Hour of Adjacent Streets, 7-9 AM, 4-6PM)	Dwelling Units	220 ²	215	1,430	22	88	110	86	47	133
Existing Uses ³				-655	-78	-21	-99	-19	-56	-74
Transit Reduction (35%) ⁴				-501	-8	-31	-39	-30	-16	-47
Net New Project Trips				275	-64	36	-28	37	-25	12

1. DU = dwelling units. KSF = 1000 square feet
2. ITE Trip Generation land use category (220) - Apartment (Adj Streets, 7-9A, 4-6P)
 - Daily: T = 6.65(X)
 - AM Peak Hour: T = 0.51(X) (20% in, 80% out)
 - PM Peak Hour: T = 0.62(X) (65% in, 35% out)
3. From Exhibit 2 above for the Southeast Area from the AGA Study.
4. From AGA Study to reflect mode share to transit due to the TOD nature of the site.
5. Sources:
 - ITE Trip Generation Manual, 9th Edition
 - Fehr and Peers, 2016



As shown in Table 1, the net new trips associated with the proposed project would be 275 daily trips, -28 AM peak hour trips (-64 inbound, 36 outbound), and 12 PM peak hour trips (37 inbound, -25 outbound).

Using information summarized in Table 2, the AGA Study assumed net new trips associated with the Southeast Area to be 1,599 daily trips, 121 AM peak hour trips (24 inbound, 97 outbound) and 148 PM peak hour trips (97 inbound, 51 outbound).

Comparing the proposed project trip generation to the assumptions from the AGA Study, we can conclude the following about the proposed project:

- It will generate 821 **fewer** daily trips than what was assumed in the AGA Study for the southeast area
- It will generate 63 **fewer** AM peak hour trips than what was assumed in the AGA Study for the southeast area
- It will generate 77 **fewer** PM peak hour trips than what was assumed in the AGA Study for the southeast area

Given that the proposed project will generate fewer trips than what was assumed in the AGA Study, the information and conclusions summarized in the AGA Study are relevant and applicable for the proposed project. As noted in the Initial Study Mitigation Measure XVI-1, the project would be responsible for a fair share contribution toward the noted improvements in that mitigation measure.

Site Access, On-Site Circulation, and Parking

Given that the project site will generate traffic volumes consistent (or less than) what was assumed in the AGA Study, the assessment completed in that study is still valid.

The peak hour trip generation after transit reduction indicates that the driveway approach will not exceed 100 peak hour trips, the minimum volume identified in the MUTCD warrant for traffic signal installation. As such, side street stop control should be adequate.

The site plan indicates that pedestrian facilities are provided along the project frontage with Crowther Avenue and from the parking garage to the apartment buildings.

It is recommended that the project sponsor work with the City to investigate the feasibility of enhanced pedestrian crossings from the northwest corner of the project site to the Metrolink Station such as high visibility crosswalk striping and advanced-stop bars.



The project site will provide 388 garaged spaces and six surface spaces; providing a total of 394 parking spaces. Best practice for providing parking in TOD developments is one parking space per unit. The project is proposing 1.83 spaces per unit, exceeding this typical TOD parking requirement. Additionally, based on the unit type breakdown, the required on-site parking (based on site plan information) would be a minimum of 316 spaces and a maximum of 445 spaces; or an average parking requirement of 381 spaces. The proposed 394 spaces exceed the average parking requirement.

Site access is simple, with one major access roadway providing access to the six surface spaces and the 388 garage spaces.

Based on our review, site access, on-site circulation, and parking are adequate for the project site; however, we do recommend that the site plan be reviewed by emergency services personal prior to approval of the site plan.

Should you have any questions or concerns about the above information, please contact Jason Pack at 714-941-8773.

Attachment H

Will Serve Letters



Golden State

Water Company

A Subsidiary of American States Water Company

June 22, 2017

Edward A. Galigher
888 San Clemente Drive, Suite 100
Newport Beach, CA 92660

Re: CAN AND WILL SERVE LETTER
Project: Crowther Avenue Development
Location: 110 & 132 East Crowther Avenue
Applicant: Edward A. Galigher

This letter is to inform you that water service is available to the above referenced Project from Golden State Water Company's (GSWC) Placentia water system. Service to the Project can be provided from GSWC's existing water facilities within Crowther Avenue.

Upon completion and execution of an agreement between GSWC and the Applicant that contains satisfactory financial arrangements and other provisions governing the extension of water service under the Water Service Agreement, GSWC will begin providing water service for the Project once all Applicant obligations have been satisfied. Analysis of more detailed development plans may require the Applicant to participate in the construction of special facilities prior to GSWC providing water service.

GSWC is committed to providing water service to all customers within its service area, consistent with the GSWC's obligations under rules, statutes and regulations of both the Department of Drinking Water and the California Public Utilities Commission.

If construction of the water system improvements has not started within one year from the date of this letter, this Can and Will Serve Letter shall terminate and be of no further force and effect, unless modified or extended by GSWC. Such modification or time extension will be subject to any governmental requirements in place at the time of the request.

If you have any questions concerning issues addressed in this letter, please call Mr. Robert Hanford, New Business Manager, at 714-535-8010 Extension 323.

Sincerely,


Stan Yarbrough,
Operations Engineer
Orange County District

Attachment I

Tribal Consultation

The People are the City



City Clerk:
PATRICK J. MELIA
City Treasurer
KEVIN A. LARSON
City Administrator
DAMIEN R. ARRULA

Mayor
CRAIG S. GREEN
Mayor Pro Tem
CHAD P. WANKE
Councilmembers:
RHONDA SHADER
WARD L. SMITH
JEREMY B. YAMAGUCHI

401 East Chapman Avenue – Placentia, California 92870

June 29, 2017

Juaneño Band of Mission Indians – Acjachemen Nation
Attn: Joyce Stanfield Perry, Tribal Manager
4955 Paseo Segovia
Irvine, CA 92603

SUBJECT: AB 52 Consultation - Development Plan Review (DPR) 2017-01, Vesting Tentative Map (VTM) 18118 and Development Agreement (DA) 2017-01

Dear Ms. Stanfield Perry:

The City of Placentia (City) received the Acjachemen Nation's request for formal notification of proposed projects within the Tribe's geographic area of traditional and cultural affiliation in accordance with AB 52. The Placentia TOD Project, LLC, will develop a 215-unit multi-family residential development, and a seven-level parking garage and related amenities on the 2.95-acre project site within the Transit Oriented Development Packing House District (TOD) Zone at 130-132 E. Crowther Avenue, Placentia CA 92870. A detailed project description with supporting graphics is included as an attachment to this letter for your review.

In accordance with Section 21080.3.1 (d), please consider this letter the City's formal notification that it intends to implement the referenced project. It is our understanding that the Acjachemen Nation has 30 days to request consultation regarding this project. I am the point of contact for the project and I can be contacted by phone at (714) 993-8124 or by e-mail at jlambert@placentia.org. However, I would appreciate formal notification of a request for consultation by letter, which should be sent to the City addresses provided at the top of this letter. If the City does not receive notification within the 30-day period, we will assume that the Acjachemen Nation has no tribal cultural resource concerns for The Placentia TOD Project, LLC, Project and we will proceed with the public review of a Mitigated Negative Declaration in accordance with California Environmental Quality Act procedures. Should you have any questions, please do not hesitate to contact me immediately.

Sincerely,

Joseph M. Lambert,
Director of Development Services

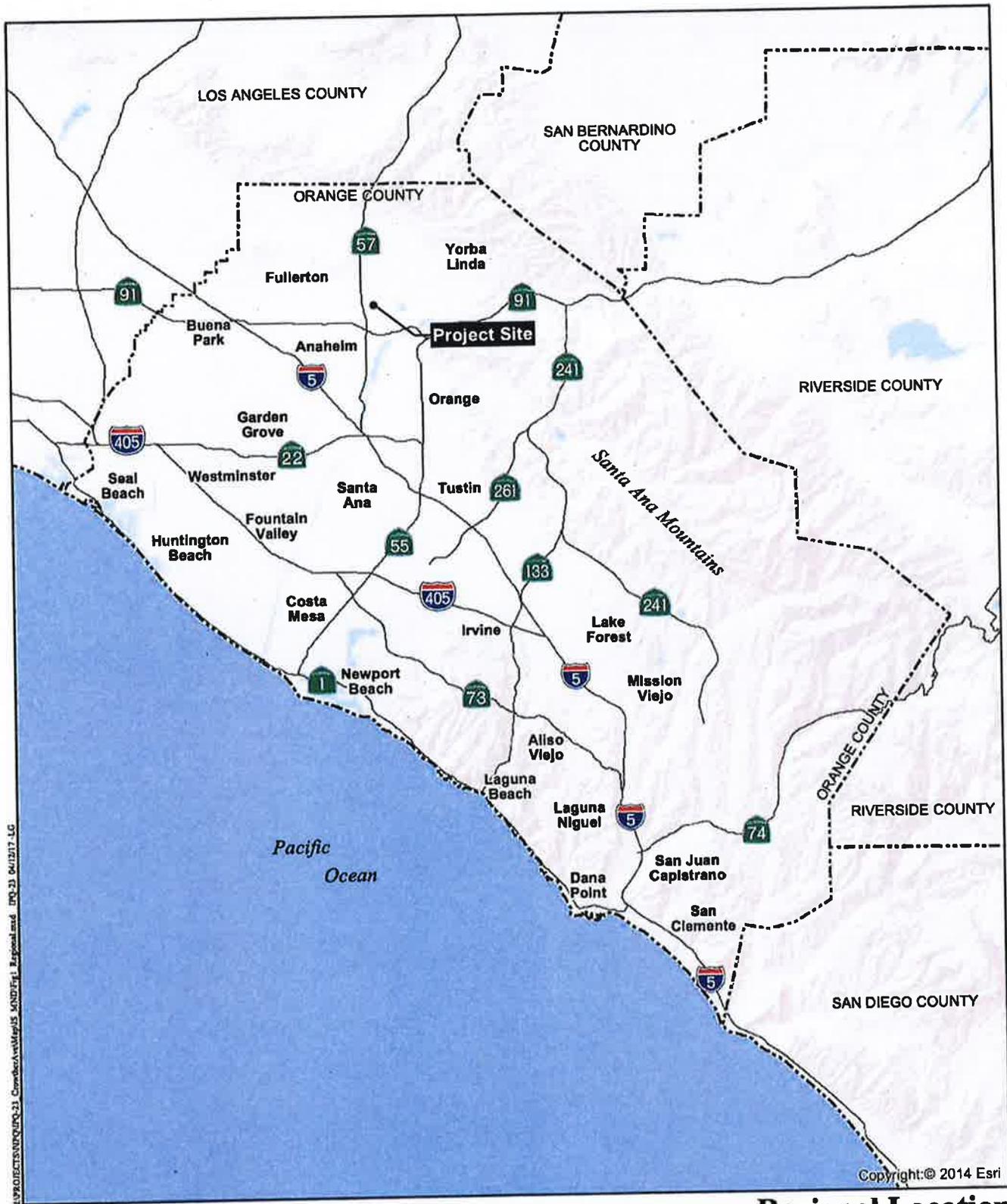
Attachments: Project Description
Site Exhibits

Placentia Crowther Project Description

The proposed project involves the demolition/removal of existing vacant industrial/warehouse buildings and associated facilities, and the construction of a 215-unit multi-family residential development and related amenities. The 2.95-acre project site is located in the City of Placentia (City), approximately 0.4 mile east of State Route (SR-) 57 and 1.3 miles north of SR-91 in northern Orange County, California (Figure 1, *Regional Location*). More specifically, the project site is located along the south side of East Crowther Avenue, across the street from a planned Metrolink station (opening in late 2017), and is approximately 0.12 mile east of South Melrose Street and 100 feet west of Cameron Street (Figure 2, *Project Vicinity*), and is within the City's Packing House Transit Oriented Development District.

The proposed residential facilities include 215 one- and two-bedroom units within 5-story structures, with an overall density of 72.9 dwelling units (DU) per acre (which is below the maximum allowable density of 95 DU per acre for the TOD District). The project also includes two landscaped courtyards, a 6-story/7-level parking structure, a pool/club house and fitness center located on the rooftop terrace of the parking structure, a tot lot, a dog run/spa, pedestrian walkways/corridors, and extensive landscaping (Figures 3a, *Project Site Plan*, and 3b, *Rooftop Terrace*). Structure heights, setbacks, common areas, and parking would conform to local requirements. A 2,400-SF leasing office would also be located on the ground floor residential level, near the northeastern corner of the development. While the proposed residential sites would initially be offered as rental units, the project approval would include an option for future conversion/sale as condominiums. Under this scenario, the rental office would also be converted to a residential (condominium) unit.

Access for residents and guests would be provided through the primary site entry located east of the leasing office, and would extend along the eastern site boundary to the proposed parking structure (Figure 3a). This proposed access road includes an automatic gate that would open via entry codes and/or remote control openers to be provided to on-site residents, as well as a fire turn-around/pullout located near the parking structure. An additional fire access corridor would be located along the northwestern site boundary, with associated use to be limited to emergency vehicles (Figure 3a). No other roadways are proposed on site; internal pedestrian walkways and corridors would accommodate resident/guest access to units and recreational amenities. The proposed parking structure would include 179,800 gross SF with 7 levels, including the previously described rooftop terrace and a basement level encompassing a maintenance shop and bicycle storage in addition to vehicle parking. A total of 394 parking spaces (1.8 parking spaces per unit) would be provided, which exceeds the minimum requirement of 316 parking spaces or approximately 1.5 spaces per unit (refer to Figure 3a). Proposed landscaping would include a mix of native and ornamental varieties along much of the site perimeter, the on-site courtyards, and rooftop terrace, as well as an enlarged planting area at the main site entry. The project site would be served by connections to existing local utilities including water, sewer, and gas/electric facilities.



Regional Location

EAST CROWTHER AVENUE

Figure 1

I:\PROJECTS\NORCOP-23_Combined\Map\ES_Maps\EPA_Regional_Land_100-23_04/12/17_LG

The People are the City

Mayor
CRAIG S. GREEN

Mayor Pro Tem
CHAD P. WANKE

Councilmembers:
RHONDA SHADER
WARD L. SMITH
JEREMY B. YAMAGUCHI



City Clerk:
PATRICK J. MELIA
City Treasurer
KEVIN A. LARSON
City Administrator
DAMIEN R. ARRULA

401 East Chapman Avenue – Placentia, California 92870

June 29, 2017

Gabrieleño Band of Mission Indians – Kizh Nation
Attn: Andrew Salas, Chairman
P.O. Box 393
Covina, CA 91723

SUBJECT: AB 52 Consultation - Development Plan Review (DPR) 2017-01, Vesting Tentative Map (VTM) 18118 and Development Agreement (DA) 2017-01

Dear Mr. Salas:

The City of Placentia (City) received the Kizh Nation's request for formal notification of proposed projects within the Tribe's geographic area of traditional and cultural affiliation in accordance with AB 52. The Placentia TOD Project, LLC, will develop a 215-unit multi-family residential development, and a seven-level parking garage and related amenities on the 2.95-acre project site within the Transit Oriented Development Packing House District (TOD) Zone at 130-132 E. Crowther Avenue, Placentia CA 92870. A detailed project description with supporting graphics is included as an attachment to this letter for your review.

In accordance with Section 21080.3.1 (d), please consider this letter the City's formal notification that it intends to implement the referenced project. It is our understanding that the Kizh Nation has 30 days to request consultation regarding this project. I am the point of contact for the project and I can be contacted by phone at (714) 993-8234 or by e-mail at jlambert@placentia.org. However, I would appreciate formal notification of a request for consultation by letter, which should be sent to the City addresses provided at the top of this letter. If the City does not receive notification within the 30-day period, we will assume that the Kizh Nation has no tribal cultural resource concerns for The Placentia TOD Project, LLC, Project and we will proceed with the public review of a Mitigated Negative Declaration in accordance with California Environmental Quality Act procedures. Should you have any questions, please do not hesitate to contact me immediately.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Joseph M. Lambert', is written over a faint circular stamp.

Joseph M. Lambert,
Director of Development Services

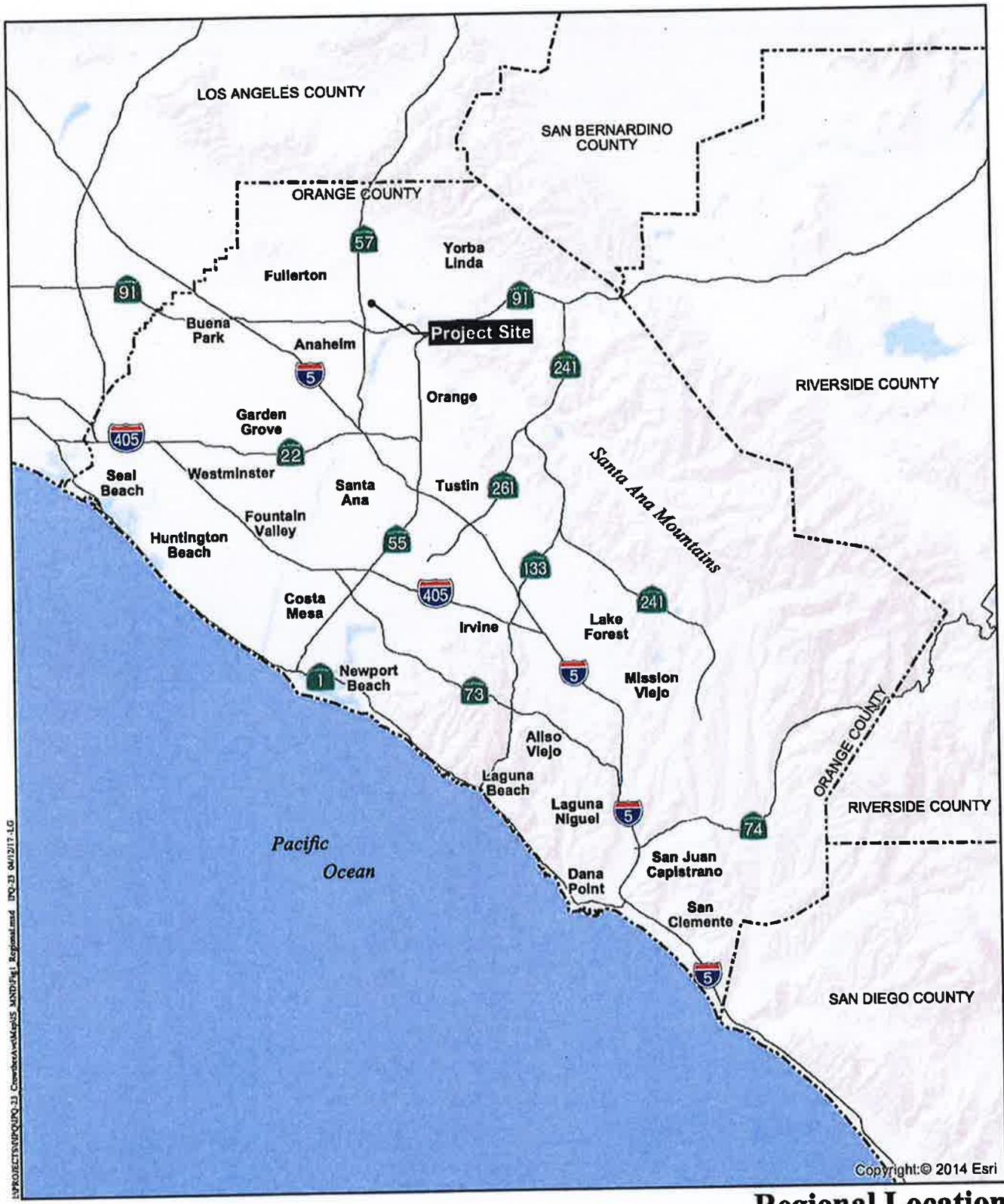
Attachments: Project Description
Site Exhibits (Fig. 1, 2, 3a and 3b)

Placentia Crowther Project Description

The proposed project involves the demolition/removal of existing vacant industrial/warehouse buildings and associated facilities, and the construction of a 215-unit multi-family residential development and related amenities. The 2.95-acre project site is located in the City of Placentia (City), approximately 0.4 mile east of State Route (SR-) 57 and 1.3 miles north of SR-91 in northern Orange County, California (Figure 1, *Regional Location*). More specifically, the project site is located along the south side of East Crowther Avenue, across the street from a planned Metrolink station (opening in late 2017), and is approximately 0.12 mile east of South Melrose Street and 100 feet west of Cameron Street (Figure 2, *Project Vicinity*), and is within the City's Packing House Transit Oriented Development District.

The proposed residential facilities include 215 one- and two-bedroom units within 5-story structures, with an overall density of 72.9 dwelling units (DU) per acre (which is below the maximum allowable density of 95 DU per acre for the TOD District). The project also includes two landscaped courtyards, a 6-story/7-level parking structure, a pool/club house and fitness center located on the rooftop terrace of the parking structure, a tot lot, a dog run/spa, pedestrian walkways/corridors, and extensive landscaping (Figures 3a, *Project Site Plan*, and 3b, *Rooftop Terrace*). Structure heights, setbacks, common areas, and parking would conform to local requirements. A 2,400-SF leasing office would also be located on the ground floor residential level, near the northeastern corner of the development. While the proposed residential sites would initially be offered as rental units, the project approval would include an option for future conversion/sale as condominiums. Under this scenario, the rental office would also be converted to a residential (condominium) unit.

Access for residents and guests would be provided through the primary site entry located east of the leasing office, and would extend along the eastern site boundary to the proposed parking structure (Figure 3a). This proposed access road includes an automatic gate that would open via entry codes and/or remote control openers to be provided to on-site residents, as well as a fire turn-around/pullout located near the parking structure. An additional fire access corridor would be located along the northwestern site boundary, with associated use to be limited to emergency vehicles (Figure 3a). No other roadways are proposed on site; internal pedestrian walkways and corridors would accommodate resident/guest access to units and recreational amenities. The proposed parking structure would include 179,800 gross SF with 7 levels, including the previously described rooftop terrace and a basement level encompassing a maintenance shop and bicycle storage in addition to vehicle parking. A total of 394 parking spaces (1.8 parking spaces per unit) would be provided, which exceeds the minimum requirement of 316 parking spaces or approximately 1.5 spaces per unit (refer to Figure 3a). Proposed landscaping would include a mix of native and ornamental varieties along much of the site perimeter, the on-site courtyards, and rooftop terrace, as well as an enlarged planting area at the main site entry. The project site would be served by connections to existing local utilities including water, sewer, and gas/electric facilities.



I:\PROJECTS\BPO\PO-33_CrowtherAve\Map\Map1_Regional.mxd IPQ-23 04/21/17-1.G

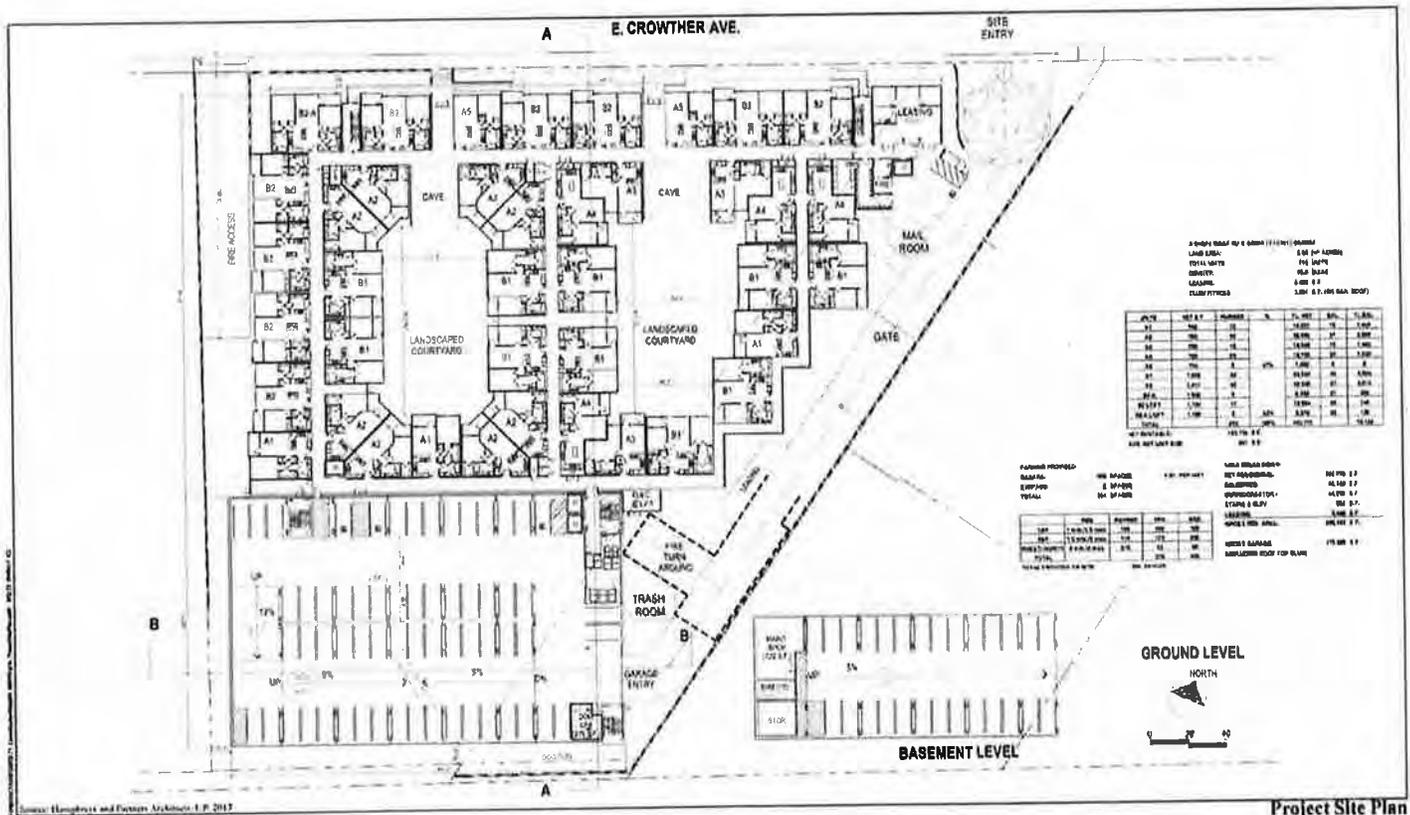
Copyright: © 2014 Esri

Regional Location

EAST CROWTHER AVENUE



Figure 1



2 STORY BLDG TO 6 STORY (11 FT) (2000)

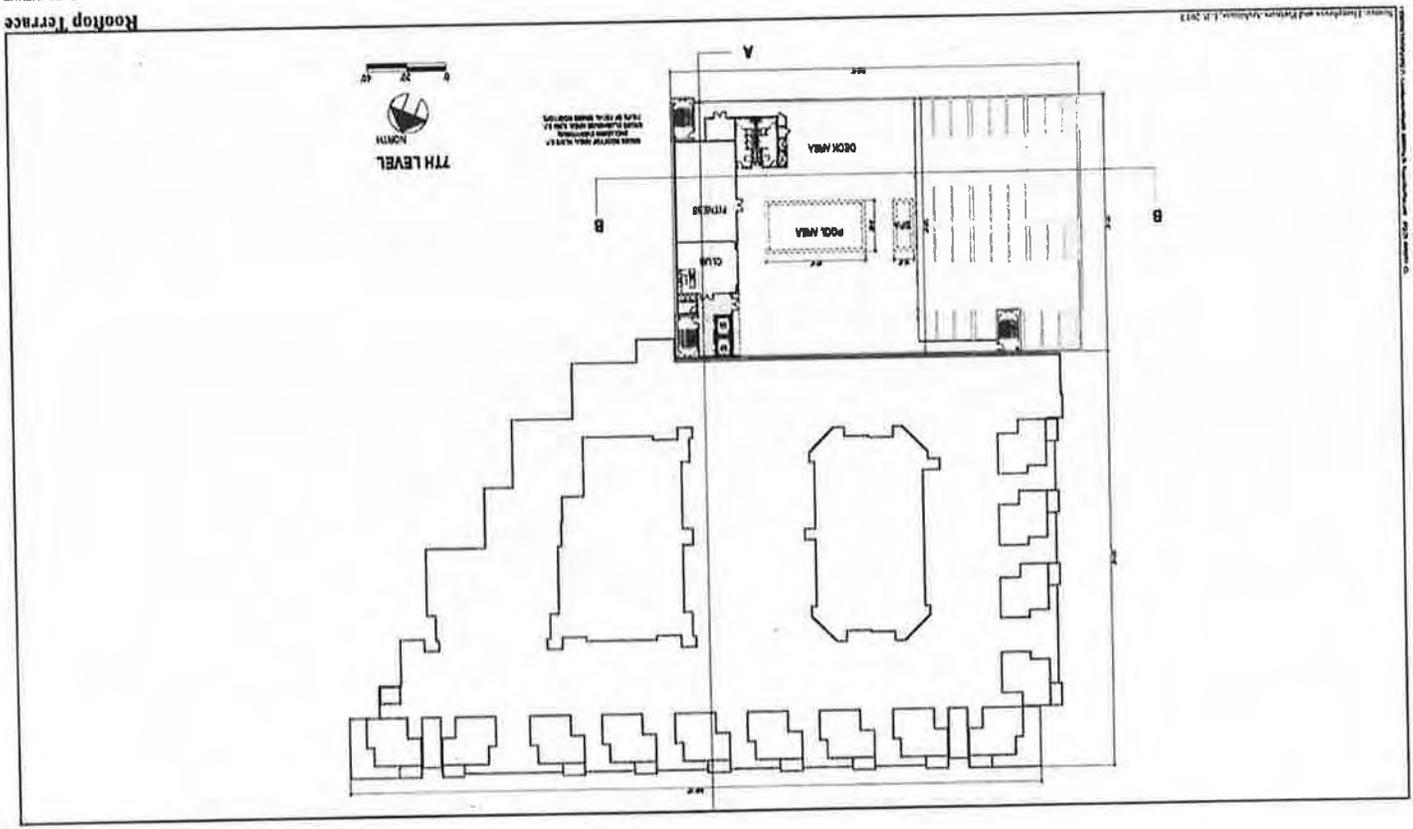
UNIT	NET SQ. FT.	NUMBER	%	TOTAL	AREA
A1	700	20	14.3%	14,000	14,000
A2	700	20	14.3%	14,000	14,000
A3	700	20	14.3%	14,000	14,000
A4	700	20	14.3%	14,000	14,000
A5	700	20	14.3%	14,000	14,000
B1	1,000	10	7.1%	10,000	10,000
B2	1,000	10	7.1%	10,000	10,000
B3	1,000	10	7.1%	10,000	10,000
B4	1,000	10	7.1%	10,000	10,000
B5	1,000	10	7.1%	10,000	10,000
TOTAL	7,000	100	100%	70,000	70,000

PARAMETER	PROPOSED	MIN. REQUIRED	MAX. ALLOWED	STATUS
AREA	14,000 SQ. FT.	14,000 SQ. FT.	14,000 SQ. FT.	COMPLIES
HEIGHT	20 FT	20 FT	20 FT	COMPLIES
TOTAL	14,000 SQ. FT.	14,000 SQ. FT.	14,000 SQ. FT.	COMPLIES



Project Site Plan
EAST CROWTHER AVENUE
Figure 3a

Figure 2b
EAST GROWTH AVENUE
Rooftop Terrace



From: Lambert, Joseph
To: [Tammy Ching](mailto:Tammy.Ching)
Subject: FW: AB 52 Consultation for DPR 2017-01 VTM 18118 DA 2017-01 TOD Project LLC
Date: Wednesday, July 05, 2017 8:40:51 AM
Attachments: [image001.jpg](#)

From: Joyce Perry [mailto:kaamalam@gmail.com]
Sent: Wednesday, July 5, 2017 8:34 AM
To: Lambert, Joseph <jlambert@placentia.org>
Subject: Re: AB 52 Consultation for DPR 2017-01 VTM 18118 DA 2017-01 TOD Project LLC

Good Morning Joseph,

We have no comments regarding the proposed General Plan Amendment. Thank You.

Joyce Stanfield Perry
Payomkawichum Kaamalam - President
Juaneño Band of Mission Indians, Acjachemen Nation
Tribal Manager, Cultural Resource Director

On Thu, Jun 29, 2017 at 9:58 AM, Lambert, Joseph <jlambert@placentia.org> wrote:

Good morning,
Please find the attached AB52 Consultation letter. A hard copy has been mailed to Joyce Stanfield Perry, Tribal Manager. If I can answer any questions for you, please do not hesitate to contact me at your earliest convenience.
Thank You

Joseph M. Lambert | Director of Development Services
City of Placentia | 401 E. Chapman Ave. Placentia, CA 92870
☎ (714) 993-8124 | 📠 (714) 528-4640 | ✉ jlambert@placentia.org
cid:image002.jpg@01D11BE6.CF725660



CONFIDENTIALITY NOTICE

This e-mail transmission, and any documents, files or previous e-mail messages attached to it may contain information that is confidential. If you are not the intended recipient, or a person responsible for delivering it to the intended recipient, you are hereby notified that you must not read this transmission and that any disclosure, copying, printing, distribution or use of any of the information contained in or attached to this transmission is STRICTLY PROHIBITED. If you have received this transmission in error, please immediately notify the sender by telephone at (714) 993-8118 or return e-mail and delete the original transmission and its attachments without reading or saving in any manner. Thank you.



GABRIELEÑO BAND OF MISSION INDIANS - KIZH NATION

Historically known as The San Gabriel Band of Mission Indians
recognized by the State of California as the aboriginal tribe of the Los Angeles basin

City of Placentia
401 East Chapman Ave
Placentia, CA 92870

July 11, 2017

Re: AB52 Consultation request for Vesting Tentative Map 18118 and Development Agreement
130-132 E. Crowther Ave Placentia CA 92870

Dear Joseph M. Lambert,

Please find this letter as a written request for consultation regarding the above-mentioned project pursuant to Public Resources Code § 21080.3.1, subd. (d). Your project lies within our ancestral tribal territory, meaning descending from, or a higher degree of kinship than traditional or cultural affiliation. Your project is located within a sensitive area and may cause a substantial adverse change in the significance of our tribal cultural resources. Most often, a records search for our tribal cultural resources will result in a "no records found" for the project area. The Native American Heritage Commission, ethnographers, historians, and professional archaeologists can only provide limited information that has been previously documented about California Native Tribes. This is the reason the Native American Heritage Commission (NAHC) will always refer the lead agency to the respective Native American Tribe of the area because the NAHC is only aware of general information and are not the experts on each California Tribe. Our Elder Committee & tribal historians are the experts for our Tribe and are able to provide a more complete history (both written and oral) regarding the location of historic villages, trade routes, cemeteries and sacred/religious sites in the project area. Therefore, to avoid adverse effects to our tribal cultural resources, we would like to consult with you and your staff to provide you with a more complete understanding of the prehistoric use(s) of the project area and the potential risks for causing a substantial adverse change to the significance of our tribal cultural resources.

Consultation appointments are available on Wednesdays and Thursdays at our offices at 901 N. Citrus Ave. Covina, CA 91722 or over the phone. Please call toll free 1-844-390-0787 or email gabrielenoindians@yahoo.com to schedule an appointment.

** Prior to the first consultation with our Tribe, we ask all those individuals participating in the consultation to view a video produced and provided by CalEPA and the NAHC for sensitivity and understanding of AB52. You can view the video at: <http://nahc.ca.gov/2015/12/ab-52-tribal-training/>

With Respect,

Andrew Salas, Chairman

Andrew Salas, Chairman

Albert Perez, treasurer |

PO Box 393, Covina, CA 91723

Nadine Salas, Vice-Chairman

Martha Gonzalez Lemos, treasurer ||

www.gabrielenoindians.org

Christina Swindall Martinez, secretary

Richard Gradias, Chairman of the Council of Elders

gabrielenoindians@yahoo.com

Attachment J

Notice of Intent



Hugh Nguyen

Orange County Clerk - Recorder

P.O. Box 238 Santa Ana, CA 92702
12 Civic Center Plaza, Room 106 Santa Ana, CA 92701
Phone: (714) 834-2500
www.ocrecorder.com

CITY OF PLACENTIA
401 E CHAPMAN AVE
PLACENTIA, CA 92870

Office of the Orange County Clerk-Recorder
Memorandum

SUBJECT: NOTICE OF INTENT

The attached notice was received, filed and a copy was posted on 07/06/2017

It remained posted for 30 (thirty) days.

Hugh Nguyen
Clerk - Recorder
In and for the County of Orange

By: Eve Lee Deputy

Public Resource Code 21092.3

The notice required pursuant to Sections 21080.4 and 21092 for an environmental impact report shall be posted in the office of the County Clerk of each county *** in which the project will be located and shall remain posted for a period of 30 days. The notice required pursuant to Section 21092 for a negative declaration shall be so posted for a period of 20 days, unless otherwise required by law to be posted for 30 days. The County Clerk shall post notices within 24 hours of receipt.

Public Resource Code 21152

All notices filed pursuant to this section shall be available for public inspection, and shall be posted ***** within 24 hours of receipt** in the office of the County Clerk. Each notice shall remain posted for a period of 30 days.

*** Thereafter, the clerk shall return the notice to the local lead agency *** within a notation of the period it was posted. The local lead agency shall retain the notice for not less than nine months.

Additions or changes by underline; deletions by ***

POSTED

JUL 06 2017

HUGH NGUYEN, CLERK-RECORDER

NOTICE OF INTENT TO

BY:



DEAD

ADOPT A MITIGATED NEGATIVE DECLARATION

To: Orange County Clerk-Recorder From: City of Placentia
 12 Civic Center Plaza, Room 101 401 E. Chapman Avenue
 Santa Ana, CA 92701 Placentia, CA 92870

Subject: Filing of Notice of Intent to Adopt a Mitigated Negative Declaration in compliance with Section 21092.3 of the Public Resources Code.

Development Plan Review (DPR) 2017-01, Vesting Tentative Map (VTM) 18118 and Development Agreement (DA) 2017-01 for the construction of a 215 unit five-story residential development and a seven-level parking garage on the 2.95 acre site.

Project Title

CITY OF PLACENTIA

N/A Joseph M. Lambert, Director of Development Services (714) 993-8234
State Clearinghouse Number Lead Agency Contact Person Telephone Number

Project Location

130-132 E. Crowther Avenue, Placentia CA 92870; APNs: 339-091-08, 09.

Project Description

The proposed project involves the demolition/removal of existing vacant industrial/warehouse buildings and associated facilities, and the construction of a 215-unit multi-family residential development, and a seven-level parking garage and related amenities on the 2.95-acre project site within the Transit Oriented Development Packing House District (TOD) Zone. The project involves a Vesting Tentative Tract Map for lot consolidation and condominium purposes and consideration of a Development Agreement between the City of Placentia and The Placentia TOD Project, LLC for the subject project pursuant to the procedures described in California Government Code § 65867. This project area is not included on lists of hazardous waste facilities identified by Section 65962.5 of the Government Code.

Public Review and Comment Process

The entitlements involved with the proposed project (Development Plan Review (DPR) 2017-01, Vesting Tentative Map (VTM) 18118 and Development Agreement (DA) 2017-01) are a discretionary decision or "project" that requires evaluation under the California Environmental Quality Act (CEQA). A Mitigated Negative Declaration is the proposed CEQA determination for this project. The City of Placentia acting as the CEQA lead agency for this project will consider adoption of this Mitigated Negative Declaration at a future scheduled public meeting. After public review of the Initial Study is completed, the City of Placentia proposes to adopt a Mitigated Negative Declaration in accordance with CEQA and the State CEQA Guidelines. Any parties that comment on this proposed Mitigated Negative Declaration will be notified of the meeting date where adoption of the Mitigated Negative Declaration will be considered. Copies of the Mitigated Negative Declaration/Initial Study are available for review at the City's office located at 401 E. Chapman Avenue, Placentia, CA 92870. The proposed Mitigated Negative Declaration and supporting documents will be available for public review and comment from July 10, 2017 to July 31, 2017. Any comments you have must be submitted in writing no later than 6:00 p.m. on July 31, 2017.



Signature-Joseph M. Lambert

Director of Development Services, City of Placentia July 6, 2017

Title

Date

Attachment K

Mitigation Monitoring and Reporting Program

**CITY OF PLACENTIA
PLACENTIA CROWTHER PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measure	Implementation Schedule/Responsibility	Verification				
Aesthetics Aes-1 Nighttime construction or security lighting, if required, shall be shielded, selectively placed, and directed toward the project site, so that light will not spill beyond the boundary of the project site onto off-site sensitive receptors, such as drivers, residents, or train operators.	This measure shall be included as a condition of approval and implemented by the Developer and Construction Contractor during construction.	The placement and direction of nighttime construction or security lighting shall be verified by City inspectors.				
				Source	Responsible Party	Status / Date / Initials
				Initial Study	City of Placentia	

Mitigation Measure	Implementation Schedule/Responsibility	Verification				
Aesthetics Aes-2 Building design and/or lighting features shall be incorporated into the final project design to minimize glare, in conformance with the TOD District, such as: (1) overhangs and recessed windows to reduce potential glare from reflective windows; (2) landscaping near the buildings, such as trees along the street frontage, which would shade the building and reduce the potential for drivers to be affected by glare from reflective windows; and/or (3) non-reflective building materials.	This measure shall be included as a condition of approval and will be incorporated into the final project design by the Developer for City review prior to issuance of a building permit. The Developer/Construction Contractor will implement the approved anti-glare features during construction.	Anti-glare features within the project plans shall be approved by the City Planning Director or their designee and documentation of the approved features shall be retained in the project file and at the construction site. Verification of implementation of the approved anti-glare features shall be conducted by City inspectors during and upon completion of construction.				
				Source	Responsible Party	Status / Date / Initials
				Initial Study	City of Placentia	

**CITY OF PLACENTIA
PLACENTIA CROWTHER PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measure	Implementation Schedule/Responsibility	Verification
<p>Aesthetics Aes-3 Permanent lighting associated with the proposed development shall conform to the TOD District development standards and applicable City Municipal Code requirements. Examples of standard requirements include: (1) lighting along walkways, on exterior signage, within landscaped areas and in parking areas must be appropriately directed and shielded to reflect light away from the public right-of-way and from any adjoining residential premises; (2) lighting is not to blink, flash, flutter, or change light intensity, brightness, or color; and (3) neither direct nor reflected light from primary light sources shall create hazards for pedestrians or operators of motor vehicles. The developer shall submit a detailed lighting plan to the City for approval, prior to issuance of a building permit.</p>	<p>This measure shall be included as a condition of approval and will be incorporated into the final project design by the Developer for City review prior to issuance of a building permit.</p> <p>The Developer/Construction Contractor will implement the approved lighting plan during construction.</p>	<p>Lighting plan shall be approved by the City Planning Director or their designee and copies of the approved plans shall be retained in the project file and at the construction site. Verification of implementation of the approved lighting plan to reduce light and glare impacts shall be conducted by the assigned Building Inspector during and upon completion of construction.</p>
	Source	Responsible Party
	Initial Study	City of Placentia
		Status / Date / Initials

Mitigation Measure	Implementation Schedule/Responsibility	Verification
<p>Cultural Resources Cul-1 Construction monitoring and reporting shall be conducted by a qualified Archaeologist and a Native American monitor in all areas proposed for excavation/disturbance. At the monitors' discretion, monitoring may be reduced or eliminated if there is no indication that cultural resources are present. In the event that an unanticipated discovery of cultural material is made during project construction, all earth-disturbing work within the vicinity of the find must be temporarily suspended or redirected until the monitor has evaluated the nature and significance of the find. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted. The treatment and disposition of archaeological materials that might be discovered during site development shall be in accordance with all applicable laws and regulations.</p>	<p>This measure shall be included as a condition of approval and implemented during by the Developer and Construction Contractor during all ground-disturbing activities during demolition, grading and construction.</p>	<p>The presence of a monitor during excavation/disturbance shall be verified by City inspectors.</p>
	Source	Responsible Party
		City of Placentia
		Status / Date / Initials

**CITY OF PLACENTIA
PLACENTIA CROWTHER PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measure	Implementation Schedule/Responsibility	Verification
	Initial Study	City of Placentia
Mitigation Measure	Implementation Schedule/Responsibility	Verification
<p><i>Hazards and Hazardous Materials</i> Haz-1 If hazardous substances are encountered during project grading, work shall cease and an immediate evaluation shall be conducted and appropriate remediation actions undertaken. The associated assessment and remediation/removal activities shall be conducted by trained, licensed/certified personnel, and in accordance with pertinent local, state, and federal regulatory guidelines, under the oversight of the OCHCA. If additional contamination is identified, an application would be submitted to OCHCA for review and comment under the OCHCA's Voluntary Industrial Cleanup Program (VICP). A mitigation plan would be prepared detailing the mitigation of on-site soils impacted by PCE and/or other contaminants, as applicable. The plan would be submitted to the OCHCA with the VICP application. Once approved, the mitigation plan would be implemented to the satisfaction of the OCHCA. Potential feasible measures could include, but are not limited to, on-site treatment or stabilization or removal of contaminated soil and disposal at an approved off-site location.</p>	<p>This measure shall be included as a condition of approval and implemented during construction by the Developer and the Construction Contractor.</p>	<p>Verification of implementation shall be based on field inspections by City inspectors during construction. Field notes documenting verification shall be retained in the project file.</p>
	Source	Responsible Party
	Initial Study	City of Placentia
		Status / Date / Initials

Mitigation Measure	Implementation Schedule/Responsibility	Verification
<p><i>Hazards and Hazardous Materials</i> Haz-2 Prior to renovating and/or demolishing the on-site structures, the developer shall conduct a survey at the site to evaluate the extent of LBP and ACM within those structures. All associated remediation and removal activities shall be conducted by trained, licensed/certified personnel, and in accordance with pertinent local, state, and federal regulatory guidelines, under</p>	<p>This measure shall be included as a condition of approval. A copy of the LBP and ACM surveys shall be submitted to the City by the Developer prior to authorization of demolition permits. If LBP and/or ACM is present, proof of remediation per local, state, and federal regulatory guidelines</p>	<p>A copy of the survey shall be retained in the project file. Verification of implementation shall be based on field inspections by City inspection personnel that verify that any recognized environmental conditions have been remediated as required in this measure. Field notes</p>

**CITY OF PLACENTIA
PLACENTIA CROWTHER PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measure	Implementation Schedule/Responsibility	Verification
the oversight of the appropriate regulatory agency.	shall be submitted to the City by the Developer prior to occupancy.	documenting verification shall be retained in the project file.

Source	Responsible Party	Status / Date / Initials
Initial Study	City of Placentia	

Mitigation Measure	Implementation Schedule/Responsibility	Verification
<p>Noise Noi-1 Interior noise levels shall not exceed the Title 24 interior noise standard of 45 CNEL for residences. The following building materials shall be used in the construction of all units facing East Crowther Avenue and the railway to reduce interior noise to acceptable levels:</p> <ul style="list-style-type: none"> • Exterior walls shall have a Sound Transmission Class (STC) 46 rating • Windows shall have an STC 31 rating • Exterior doors shall have an STC 28 rating • Glass doors shall be at least 0.5 inch thick 	This measure shall be included as a condition of approval and reflected by the Developer on final project plans for City Engineer approval prior to issuance of a building permit. The approved interior noise control features on the plans shall be implemented by the Developer and Construction Contractor during construction.	Interior noise control features within the project plans shall be approved by the City Engineer or their designee and documentation of the approved features shall be retained in the project file and at the construction site. City inspectors shall verify and document that construction noise measures are implemented during construction.

Source	Responsible Party	Status / Date / Initials
Initial Study	City of Placentia	

Mitigation Measure	Implementation Schedule/Responsibility	Verification
<p>Noise Noi-2 The following measures shall be implemented during construction:</p> <ul style="list-style-type: none"> • Contractor shall establish a noise complaint response program and shall respond to my noise complaints received for future specific project by measuring noise levels at the affected receptor site. If the noise level exceeds an CNEL of 60 dBA exterior or a CNEL of 45 dBA interior at the sensitive receptor, the applicant will implement adequate measures (which may include portable sound attenuation walls, use of quieter equipment, shift of construction schedule to avoid the presence 	This measure shall be included as a condition of approval and implemented by the Developer and Construction Contractor during construction.	City inspectors shall verify and document that construction noise measures are implemented during construction.

**CITY OF PLACENTIA
PLACENTIA CROWTHER PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measure	Implementation Schedule/Responsibility	Verification
<p>of sensitive receptors, etc.) to reduce noise levels to the greatest extent feasible.</p> <ul style="list-style-type: none"> • All construction equipment shall be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by applicant personnel during construction activities. Equipment not in use for five minutes shall be shut off. • Equipment shall be maintained and operated such that loads are secured from rattling or banging. • Where available, electric-powered equipment shall be used rather than diesel equipment and hydraulic-powered equipment shall be used instead of pneumatic power. • Construction employees shall be trained in the proper operation and use of equipment consistent with these mitigation measures, including no unnecessary revving of equipment. • No radios or other sound equipment shall be used at this site unless required for emergency response by the contractor. • Public notice shall be given 10 days prior to initiating construction. This notice shall be provided to all property owners and residents within 300 feet of the project site and shall be provided to property owners/residents at least one week prior to initiating construction. The notice shall identify the dates of construction and the name and phone number of a construction supervisor (contact person) in case of complaints. One contact person shall be assigned to the project. The public notice shall encourage the adjacent residents to contact the supervisor in the case of a complaint. Residents would be informed if there is a change in the construction schedule. The supervisor shall be available 24/7 throughout construction by mobile phone. If a complaint is received, the contact person shall take all feasible steps to remove or attenuate the sound source causing the complaint. 		
	Source	Responsible Party
	Initial Study	City of Placentia
		Status / Date / Initials

**CITY OF PLACENTIA
PLACENTIA CROWTHER PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measure	Implementation Schedule/Responsibility	Verification	
<p>Transportation / Traffic</p> <p>Tra-1 The project contractor would be required to prepare and implement a construction traffic control plan to the satisfaction of the City Traffic Engineer and in compliance with the Manual of Uniform Traffic Control Devices (MUTCD) guidelines. The traffic control plan should include ingress and egress to and from the project site, as well as designated haul routes and construction staging areas, and must address the applicable construction traffic control measures listed in the adopted IS/MND for the approved TOD District, as listed below:</p> <ul style="list-style-type: none"> • Construction hours will be in accordance with the City Municipal Code. • Construction traffic will utilize designated driveways along Crowther Avenue and will yield to public traffic when entering and exiting the project site. • Parking for construction equipment and vehicles will be on the project site or within an approved nearby temporary use site. Such equipment and vehicles will utilize approved driveways to enter the site(s). Construction staging will also be on the site or another approved property, and not within the public streets. • Trucks transporting equipment and materials to and from the site will use the designated truck routes along Placentia Avenue, Crowther Avenue, Melrose Street, and Orangethorpe Avenue, and will yield to public traffic at all times. • All construction work within the public right-of-way, will be conducted in compliance with City standards and the construction site shall be posted with the name, company, and a phone number of a person to call for complaints. • The developer will be responsible for repair of damages to public facilities caused by the hauling or transporting of construction related materials. 	<p>This measure shall be included as a condition of approval. The Developer shall submit the proposed traffic control plan to the City Engineer or their designee for approval prior to authorization of demolition permits. The plan will be implemented by the Developer and Construction Contractor during construction.</p>	<p>The City Engineer or their designee shall review/approve the traffic control plan prior to authorization of demolition permits. The plan shall be kept on file at the City and at the construction site. City inspectors shall verify and document that construction traffic control measures are implemented during construction.</p>	
	Source	Responsible Party	Status / Date / Initials
	Initial Study	City of Placentia	

**CITY OF PLACENTIA
PLACENTIA CROWTHER PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM**

Mitigation Measure	Implementation Schedule/Responsibility	Verification	
<p>Utilities and Service Systems</p> <p>Uti-1 The project shall incorporate relatively small areas of low water use landscaping, as well as water-conserving features/measures to meet or exceed the current building code requirements. The project applicant shall also consult with the City and local water purveyor to determine project design measures that would provide an adequate level of water conservation. Specifically, these may include the following types of standard industry efforts: (1) use of low-flow/water efficient fixtures and appliances; (2) use of native/drought-tolerant landscaping varieties and/or artificial turf, wherever feasible, and using mulch in landscaped areas; (3) use of drip, micro-spray and/or other water-efficient irrigation systems, as well as capture/reuse systems and devices such as rain barrels; (4) use of "smart irrigation" technology where appropriate, such as pertinent watering schedules to reflect local plant/soil/climate conditions, moisture/precipitation and leak/pressure sensors, and automatic shut-off valves for applicable associated events/conditions such as precipitation and leaks; (5) use of recycling/closed water systems for features such as fountains and pools, and regular inspection/maintenance for all water-related features such as irrigation systems and water lines; and (6) provision of educational materials to residents/employees regarding reduction of water use for household and other applications (e.g., limiting washing machine use to full loads, reducing shower time, turning off water while brushing teeth, and using dry methods [sweeping] rather than a hose to clean paved areas).</p>	<p>Water-conserving features shall be incorporated into the final project plans by the Developer and submitted to the City Engineer or their designee for approval prior to the issuance of a building permit. The approved features shall also be implemented during construction by the Developer and Construction Contractor.</p>	<p>Water-conserving features shall be approved by the City Engineer or their designee, prior to the issuance of a building permit. A copy of the approved project plans/documentation showing the approved water conserving features shall be retained in the project file. City inspectors shall verify and document that the approved features are installed and operational.</p>	
	Source	Responsible Party	Status / Date / Initials
	Initial Study	City of Placentia	

**CITY OF PLACENTIA
PLACENTIA CROWTHER PROJECT
MITIGATION MONITORING AND REPORTING PROGRAM**

Design Measure	Implementation Schedule/Responsibility	Verification	
<p>Air Quality</p> <p>DM-1 Compliance with Rule 403 would be required during active operations capable of generating fugitive dust emissions. Rule 403 would require best available control measures (BACMs) such as the following:</p> <ul style="list-style-type: none"> • Water or a stabilizing agent shall be applied to exposed surfaces to prevent generation of dust plumes. • The construction contractor shall utilize at least one of the following measures at each vehicle egress from the project site to a paved public road: <ul style="list-style-type: none"> - Install a pad consisting of washed gravel maintained in clean condition to a depth of at least 6 inches and extending at least 30 feet wide and at least 50 feet long; - Pave the surface extending at least 100 feet and at least 20 feet wide; - Utilize a wheel shaker/wheel spreading device consisting of raised dividers at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages; and/or - Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site. • All trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions). • Construction activity on unpaved surfaces shall be suspended when wind speed exceeds 25 miles per hour (mph; such as instantaneous gusts). • Heavy-duty equipment operations shall be suspended during first and second stage smog alerts. • Ground cover in disturbed areas shall be replaced as quickly as possible). 	<p>This required design measure shall be implemented by the Developer and Construction Contractor during construction.</p>	<p>City inspectors shall verify and document that air pollution control measures are implemented during construction.</p>	
	Source	Responsible Party	Status / Date / Initials
	Initial Study	City of Placentia	