APPENDIX B-5: Cultural Resources

ALISO CREEK MAINSTEM
ECOSYSTEM RESTORATION STUDY
Orange County, California

September 2017

US Army Corps
of Engineers

Orange County Public Works
Environmental Resources
Department

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DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CALIFORNIA 90017

August 01, 2017

Environmental Resources Branch

Ms. Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, California 95816

Dear Ms. Polanco:

The U.S. Army Corps of Engineers, Los Angeles District (Corps) has partnered with the County of Orange, Public Works Department, Environmental Resources (OCPW) to study and evaluate opportunities for restoring degraded aquatic and riparian ecosystem structure and function, riverine and floodplain system connectivity along lower Aliso Creek in Orange County, California. The Corps in cooperation with the County, is currently evaluating four separate alternatives that would all involve raising the greatly incised stream bed. The Feasibility Study is occurring under the authority of the Corps' General Investigations program. The study will culminate in the completion of an Integrated Feasibility Report which will also serve as the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and will include a feasibility level design of the preferred alternative. Construction level designs and additional environmental compliance activities will be completed in future design phases if the project is approved. This letter provides a brief discussion of the proposed alternatives and documents the area of potential effect (APE) for your review and comment. Secondly, because this is a feasibility study and by necessity identification and evaluation efforts will be phased, the Corps is seeking your participation in the development of a programmatic agreement (PA) pursuant to 36 CFR 800.14(b) in order to fulfill its responsibilities under Section 106 of the National Historic Preservation Act (NHPA). The PA would guide the process of identifying and evaluating historic properties and resolving adverse effects.

Project Location

The project area largely lies within the Aliso and Wood Canyons Wilderness Park, a significant undeveloped coastal canyon resource in Southern California, comprising a unique and biodiverse natural landscape, and supporting many plant and wildlife species, including many special status species. Specifically, the project would focus on the 5-mile stretch of Aliso Creek Mainstem from the Pacific Park Drive area downstream to the South Orange County Wastewater Authority (SOCWA) Coastal Treatment Plant Bridge, located about 1.2 miles upstream of the ocean outlet. The project also includes the lower 1,000 feet of Wood Canyon Creek tributary at its confluence with Aliso Creek.

Project Description

The Corps and OCPW are currently evaluating four action alternatives (3.3, 3.6. 3.7, and 3.8). All four action alternatives share the same base action of raising the incised streambed elevation to approach the pre-incised streambed elevation and re-contouring the channel to have a compound trapezoidal configuration with a top width of 100 feet for the two-year flow channel, and a 200 feet wide for the ten year flow channel, from the Aliso Water Management Agency (AWMA) Road Bridge to the SOCWA CTP Bridge. The Aliso Creek Wildlife Habitat Enhancement Project, known as ACWHEP, would be removed and rock riffle grade control structures would be added. Upstream of AWMA Road Bridge, the two large drop structures will also be removed, and portions of Aliso Creek will be re-contoured to Pacific Park Drive. The amount of excavation varies by alternative. The edges of the creek would be excavated and reengineered to have a stable 3H:1V side slope

Area of Potential Effect (APE)

Based on the current project description, the Corps has defined the APE for the Aliso Creek Ecosystem Restoration Project as a 1/4 of a mile swath (1/8 mile on either side of the creek) that begins at Pacific Park Drive and ends a quarter mile south of the SOCWA Bridge (Enclosures 1 and 2). This area covers the anticipated footprint of the altered streambed under all four alternatives, the disposal areas, all access roads, a construction zone outside of the project footprint, and includes a small buffer for visual, auditory and atmospheric impacts, as well as downstream changes in water velocity and flood risk.

Known Cultural Resources

A records and literature search was conducted at the South Central Coastal Information Center in May of 2009. An updated literature search has been requested. Forty-six cultural resources studies of varying types have been conducted within ¼ mile radius of the Aliso Creek study area (1/4 mile on either side of the creek). That includes records searches, field surveys, subsurface significance evaluations, and data recovery. A total of 24 cultural resources have been recorded within the record search area. Twenty-three of these are prehistoric archeological sites. These include aboriginal camps, resources procurement areas, and village sites. The remaining resource is the Aliso Creek Bridge which carriers the Pacific Coast Highway over Aliso Creek. The bridge was determined to be eligible for the National Register of Historic Places (NRHP) under Criterion A.

Of these 24 resources, 14 are located within the APE. Twelve of these sites are located along the banks of Aliso Creek and would be directly impacted by any of the action alternatives. According to previous cultural resource reports, six of these have previously been determined to be eligible for the National Register although documentation showing formal Section 106 determinations of eligibility and concurrence from the State Historic Preservation Office have not been located. The consultation record for all 14 of these sites are incomplete. Furthermore, the archaeological sites were mostly recorded in the early 1970s and their current condition are unknown. For the most part, the sites cover a larger surface area and only those portions of the site immediately adjacent to the creek would be directly impacted by the four action alternatives.

The alternatives vary in the amount of impact that would occur to each site. A brief discussion of the sites is provided below.

CA-ORA-1072- The site is situated at the confluence of Sulphur and Aliso Creeks, along AWMA Road. Data recovery was conducted at the site in 1986 and resulted in the recovery of more than one thousand artifacts, including a wide range of groundstone, flakes, stone tools and faunal remains consisting of shellfish as well as mammal, bird and fish bone. The site was excavated in anticipation of the construction of the Church of Jesus Christ of Latter Day Saints. Some small pockets of the site may still exist between the edge of the construction for the church and the Creek.

CA-ORA-509- This site was originally recorded in 1975 as a chert flake scatter spread over a knoll overlooking the creek. Two complete projectile points and five projectile point fragments were recorded at the site. The site form also notes the presence of a potential house pit on the southwest edge of the site. In 1977 the site was reported as being disturbed but no further information was provided. The current state of the site is unknown. This site is located outside of the direct impact corridor.

CA-ORA-423- This site is probably a semi sedentary village based on the diversity of artifacts that have previously been recovered. Radiocarbon dates recovered from the site range from 1665 to 335 BP. CA-ORA-1072 is located just north of site CA-ORA-423 and they are typically treated as one site. In 1993, erosion along the banks of Aliso Creek exposed three human burials (Burial I contained two individuals), two on the west bank and one on the east bank, within the CA-ORA-423 site boundaries. The burials were hand excavated in 1994 and then reinterred by representatives of the Juaneño Band of Mission Indians. The burials consisted of two males and two females; Students from Saddleback and Cypress Colleges have conducted data recovery excavations in the small wedge of ground created by the confluence of Aliso and Sulphur Creeks. This portion of the site is not within the direct impact corridor.

CA-ORA-581- This site was originally recorded in 1975 as a light scatter of flakes and shell in an area covering 200 feet x 150 feet. One small unidentified project point was noted in the site record. Its current condition is unknown.

CA-ORA-19- Located southwest of CA-ORA-423 on the west side of Aliso Creek, CA-ORA-19 has been recorded as a semi sedentary village. The site was tested in 1979 and revealed a wide range of artifacts including beads, ceramics, lithics, groundstone, and ecofacts. The site has mostly been destroyed by the construction of the lower AWMA road and a large engineered slope. Cultural resource mitigation associated with the construction of the engineered slope has not been discovered. Despite the large amount of disturbance, remnants of the site may exist between the lower AWMA road and the creek.

CA-ORA-126- This site lies about 150 meters south of CA-ORA-19 and is very similar to it. The site was tested in 1979 and resulted in the recovery of 292 artifacts. Two burials were also discovered at this time. They were documented in situ and reburied in place. The site was tested again in 1988, and over 1200 artifacts were recovered. Like CA-ORA-19, it appears as if construction of the AWMA road and a large engineered slope leading up to a house development

have destroyed most of the site. Archaeological materials may still exist along the road and next to Aliso Creek.

CA-ORA-403- The site is considered a base camp settlement, probably not permanently occupied and is composed of a series of discontiguous concentrations of midden with a sparse scattering of cultural debris between the concentrations. Radiocarbon dates range from A.D. 250 to A.D. 1800

CA-ORA-582- The site was recorded in 1975 as a rockshelter with a midden deposit in front of the mouth of the rock shelter. The rockshelter itself is very small measuring only two meters high, three meters wide and four meters deep. There were no cultural remains located within the rockshelter but the midden extended from the mouth of the rockshelter for approximately 25 X 50 feet. It is believed that the midden was likely destroyed by the construction of the AWMA pipeline that runs to the SOCWA plant.

CA-ORG-399- The site was recorded in 1973 as a buried shell midden that was exposed by a stream cut. The site was tested via 16 backhoe trenches in 1979. They located a sparse scatter of fragmented shellfish interspaced between natural silts. No other cultural material was recovered. Researchers concluded that the site was created by natural runoff that redeposited shellfish remains originating at CA-ORA-400, some 200 meters up the tributary drainage to the northwest.

CA-ORA-400- Originally recorded in 1973 as a large shell midden covering a 300 meter x 100 meter area and having three to four meters of depth. The site was reported as "intact" in 1977 and was examined again in 1986 at which time it was estimated to be about 39,000 square meters and that it extended further up the drainage than originally recorded. Portions of the shell midden have been buried suggesting that the site is of greater age than others located along the creek. The site is eroding downslope as evidenced by the re-deposition of materials that were recorded as CA-ORA-399. This site is located outside of the direct impact corridor.

CA-ORG-398- The site was recorded in 1973 as a scattered shell midden on the east bank of Aliso Creek wash measuring approximately 30meters X 50 meters. In 1976, archaeologists attempted to relocate the site as part of a survey for the AWMA project. They were unable to relocate the site

CA-ORG-395- This site was originally recorded in 1973 as two small rockshelters and a 30m X 90m shell midden on the west bank of Aliso Creek. The site form notes that it has been "mostly destroyed by the construction of a dirt road." The site was rerecorded in 2000 and was found to be in the same condition. It was noted that the construction of the AWMA Road had damaged the Apron and covered the deposit. Construction of the Aliso Creek Emergency Sewer likely destroyed much of the site along the western edge of the AWMA road.

CA-ORA-396 and CA-ORA-397- Both of these sites were recorded in 1973. CA-ORA-396 was recorded as a 20 X 50 meter shell midden on the east bank of Aliso Creek and CA ORA 397 was recorded directly across the Creek as a 40 X 80 meter shell midden. Shell was the only artifact type recorded at both sites. Both of the sites were tested in 1992 as part of the Aliso

Creek Wildlife Habitat Enrichment Project. No cultural materials were located within the boundary of CA-ORA-396 and the consultants believed that the site had eroded. Testing at CA-ORA-396 consisted of 10 auger holes. CA-ORA-397 did reveal a large amount of shell and a few lithics.

Summary

As evidenced in the discussion above, the Aliso Creek area is rich in cultural resources and there is a high probability that some of these sites are still intact within the APE. Due to the nature of the study, the Corps is proposing to use a phased process to identify and evaluate historic properties. This process would be codified in a PA. We anticipate that the PA would layout a clear process for evaluating the known resources within the APE, completing cultural resource inventories for any un-surveyed or under-surveyed portions of the APE and would list preferred strategies to avoid, minimize or mitigate adverse effects to historic properties.

The Corps is concurrently notifying the Juaneño Band of Mission Indians, Juaneño Band of Mission Indians Acjachemen Nation, and the Pauma Band of Luiseño Indians. If you are aware of any issues or if you know of other interested parties please let us know. The Corps is also notifying the Advisory Council on Historic Preservation (ACHP) as required at 36 CFR 800.6(a)(l)(i)(c) and inviting them to participate. While not a Section 106 document, a draft EIS that details all the considered alternatives is being prepared and will also be sent to you for your review and comment.

We look forward to collaborating with you on the development of this PA and we appreciate any information that you can provide us regarding cultural resources within the Aliso Creek area. Please provide us any comments on the appropriateness of the APE at your earliest convenience or within the next 30 days. If you have any questions, please contact Danielle Storey, Archaeologist via phone at (213) 452-3855 or via email at Danielle.L.Storey@usace.army.mil.

Sincerely,

Eduardo T. De Mesa
Chief, Planning Division

Enclosure(s)

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CALIFORNIA 90017

August 01, 2017

Environmental Resources Branch

Ms. Teresa Romero
Chairperson
Juaneno Band of Mission Indians
Acjachemen Nation
31411-A La Matanza Street
San Juan Capistrano, California 92675

Dear Ms. Romero:

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Project Location

The project area largely lies within the Aliso and Wood Canyons Wilderness Park, a significant undeveloped coastal canyon resource in Southern California, comprising a unique and biodiverse natural landscape, and supporting many plant and wildlife species, including many special status species. Specifically, the project would focus on the 5-mile stretch of Aliso Creek Mainstem from the Pacific Park Drive area downstream to the South Orange County Wastewater Authority (SOCWA) Coastal Treatment Plant Bridge, located about 1.2 miles upstream of the ocean outlet. The project also includes the lower 1,000 feet of Wood Canyon Creek tributary at its confluence with Aliso Creek.

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Of these 24 resources, 14 are located within the APE. Twelve of these sites are located along the banks of Aliso Creek and would be directly impacted by any of the action alternatives. According to previous cultural resource reports, six of these have previously been determined to be eligible for the National Register although documentation showing formal Section 106 determinations of eligibility and concurrence from the State Historic Preservation Office have not been located. The consultation record for all 14 of these sites are incomplete. Furthermore, the archaeological sites were mostly recorded in the early 1970s and their current condition are unknown. For the most part, the sites cover a larger surface area and only those portions of the site immediately adjacent to the creek would be directly impacted by the four action alternatives.

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Summary

As evidenced in the discussion above, the Aliso Creek APE is rich in cultural resources and there is a high probability that some of these sites still exist within the APE. As part of our planning efforts, the Corps is proposing to conduct some preliminary evaluative testing at up to five of these locations in order to ascertain the current condition of the sites and if they are still present to determine the site boundaries. This information will be used in the selection of a recommended alternative and will guide further development of that alternative.

Due to the nature of the study, the Corps is proposing to use a phased process to identify and evaluate historic properties. This process would be codified in a PA. We anticipate that the PA would layout a clear process for evaluating the known resources within the APE, completing cultural resource inventories for any un-surveyed or under-surveyed portions of the APE and would list preferred strategies to avoid, minimize or mitigate adverse effects to historic properties. We would appreciate a response from you, if you wish to participate in the development of a PA.

The Corps is concurrently notifying the State Historic Preservation Office and other Affected Tribes in the area. If you are aware of any issues or if you know of other interested parties please let us know. This will not be your only opportunity to comment on this project. A draft EIS that details all the considered alternatives is being prepared and will also be sent to you for your review and comment.

We look forward to collaborating with you on the development of this PA and we appreciate any information that you can provide us regarding properties of cultural and religious importance that may be affected by our project. Please be assured that the Corps will treat any information you decide to share with us with the degree of confidentiality that is required at 36 CFR 800.11(c), or with any other special restrictions you may require. The Corps would appreciate any comments you may have on the project and/or your decision if you would like to participate in the development of a PA within the next 60 days. If you have any questions, please contact Danielle Storey, Archaeologist via phone at (213) 452-3855 or via email at Danielle.L.Storey@usace.army.mil.

Sincerely,

Eduardo T. De Mesa
Chief, Planning Division

Enclosure(s)

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915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CALIFORNIA 90017

August 01, 2017

Environmental Resources Branch

Ms. Temet Aguilar
Chairperson
Pauma Band of Luiseno Indians
Pauma & Yuima Reservation
P.O. Box 369, Ext. 303
Pauma Valley, California 92061

Dear Ms. Aguilar:

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CA-ORG-395- This site was originally recorded in 1973 as two small rockshelters and a 30m X 90m shell midden on the west bank of Aliso Creek. The site form notes that it has been "mostly destroyed by the construction of a dirt road." The site was rerecorded in 2000 and was found to be in the same condition. It was noted that the construction of the AWMA Road had damaged the Apron and covered the deposit. Construction of the Aliso Creek Emergency Sewer likely destroyed much of the site along the western edge of the AWMA road.

CA-ORA-396 and CA-ORA-397- Both of these sites were recorded in 1973. CA-ORA-396 was recorded as a 20 X 50 meter shell midden on the east bank of Aliso Creek and CA ORA 397 was recorded directly across the Creek as a 40 X 80 meter shell midden. Shell was the only artifact type recorded at both sites. Both of the sites were tested in 1992 as part of the Aliso

Creek Wildlife Habitat Enrichment Project. No cultural materials were located within the boundary of CA-ORA-396 and the consultants believed that the site had eroded. Testing at CA-ORA-396 consisted of 10 auger holes. CA-ORA-397 did reveal a large amount of shell and a few lithics.

Summary

As evidenced in the discussion above, the Aliso Creek APE is rich in cultural resources and there is a high probability that some of these sites still exist within the APE. As part of our planning efforts, the Corps is proposing to conduct some preliminary evaluative testing at up to five of these locations in order to ascertain the current condition of the sites and if they are still present to determine the site boundaries. This information will be used in the selection of a recommended alternative and will guide further development of that alternative.

Due to the nature of the study, the Corps is proposing to use a phased process to identify and evaluate historic properties. This process would be codified in a PA. We anticipate that the PA would layout a clear process for evaluating the known resources within the APE, completing cultural resource inventories for any un-surveyed or under-surveyed portions of the APE and would list preferred strategies to avoid, minimize or mitigate adverse effects to historic properties. We would appreciate a response from you, if you wish to participate in the development of a PA.

The Corps is concurrently notifying the State Historic Preservation Office and other Affected Tribes in the area. If you are aware of any issues or if you know of other interested parties please let us know. This will not be your only opportunity to comment on this project. A draft EIS that details all the considered alternatives is being prepared and will also be sent to you for your review and comment.

We look forward to collaborating with you on the development of this PA and we appreciate any information that you can provide us regarding properties of cultural and religious importance that may be affected by our project. Please be assured that the Corps will treat any information you decide to share with us with the degree of confidentiality that is required at 36 CFR 800.11(c), or with any other special restrictions you may require. The Corps would appreciate any comments you may have on the project and/or your decision if you would like to participate in the development of a PA within the next 60 days. If you have any questions, please contact Danielle Storey, Archaeologist via phone at (213) 452-3855 or via email at Danielle.L.Storey@usace.army.mil.

Sincerely,

Eduardo T. De Mesa
Chief, Planning Division

Enclosure(s)

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CALIFORNIA 90017

August 01, 2017

Environmental Resources Branch

Ms. Sonia Johnston
Tribal Chairperson
Juaneno Band of Mission Indians
P.O. Box 25628
Santa Ana, California 92799

Dear Ms. Johnston:

The U.S. Army Corps of Engineers, Los Angeles District (Corps) has partnered with the County of Orange, Public Works Department, Environmental Resources (OCPW) to study and evaluate opportunities for restoring degraded aquatic and riparian ecosystem structure and function, riverine and floodplain system connectivity along lower Aliso Creek in Orange County, California. The Corps in cooperation with the County, is currently evaluating four separate alternatives that would all involve raising the greatly incised stream bed. The Feasibility Study is occurring under the authority of the Corps' General Investigations program. The study will culminate in the completion of an Integrated Feasibility Report which will also serve as the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and will include a feasibility level design of the preferred alternative. Construction level designs and additional environmental compliance activities will be completed in future design phases if the project is approved. There are two major purposes of this letter. First, the Corps is notifying you of the study and seeks your assistance in identifying properties that may be of religious or cultural significance to the Tribe (see 36 CFR 800.4(a)(4)). And second, because this is a feasibility study and by necessity identification and evaluation efforts have to be phased, the Corps is seeking your participation in the development of a programmatic agreement (PA) pursuant to 36 CFR 800.14(b) in order to fulfill its responsibilities under Section 106 of the National Historic Preservation Act (NHPA). The PA would guide the process of identifying and evaluating historic properties and resolving adverse effects.

Project Location

The project area largely lies within the Aliso and Wood Canyons Wilderness Park, a significant undeveloped coastal canyon resource in Southern California, comprising a unique and biodiverse natural landscape, and supporting many plant and wildlife species, including many special status species. Specifically, the project would focus on the 5-mile stretch of Aliso Creek Mainstem from the Pacific Park Drive area downstream to the South Orange County Wastewater Authority (SOCWA) Coastal Treatment Plant Bridge, located about 1.2 miles upstream of the ocean outlet. The project also includes the lower 1,000 feet of Wood Canyon Creek tributary at its confluence with Aliso Creek.

Project Description

The Corps and OCPW are currently evaluating four action alternatives (3.3, 3.6. 3.7, and 3.8). All four action alternatives share the same base action of raising the incised streambed elevation to approach the pre-incised streambed elevation and re-contouring the channel to have a compound trapezoidal configuration with a top width of 100 feet for the two-year flow channel, and a 200 feet wide for the ten year flow channel, from the Aliso Water Management Agency (AWMA) Road Bridge to the SOCWA CTP Bridge. The Aliso Creek Wildlife Habitat Enhancement Project, known as ACWHEP, would be removed and rock riffle grade control structures would be added. Upstream of AWMA Road Bridge, the two large drop structures will also be removed, and portions of Aliso Creek will be re-contoured to Pacific Park Drive. The amount of excavation varies by alternative. The edges of the creek would be excavated and reengineered to have a stable 3H:1V side slope

Area of Potential Effect (APE)

Based on the current project description, the Corps has defined the APE for the Aliso Creek Ecosystem Restoration Project as a 1/4 of a mile swath (1/8 mile on either side of the creek) that begins at Pacific Park Drive and ends a quarter mile south of the SOCWA Bridge (Enclosures 1 and 2). This area covers the anticipated footprint of the altered streambed under all four alternatives, the disposal areas, all access roads, a construction zone outside of the project footprint, and includes a small buffer for visual, auditory and atmospheric impacts, as well as downstream changes in water velocity and flood risk.

Known Cultural Resources

A records and literature search was conducted at the South Central Coastal Information Center in May of 2009. An updated literature search has been requested. Forty-six cultural resources studies of varying types have been conducted within ¼ mile radius of the Aliso Creek study area (1/4 mile on either side of the creek). That includes records searches, field surveys, subsurface significance evaluations, and data recovery. A total of 24 cultural resources have been recorded within the record search area. Twenty-three of these are prehistoric archeological sites. These include aboriginal camps, resources procurement areas, and village sites. The remaining resource is the Aliso Creek Bridge which carriers the Pacific Coast Highway over Aliso Creek. The bridge was determined to be eligible for the National Register of Historic Places (NRHP) under Criterion A.

Of these 24 resources, 14 are located within the APE. Twelve of these sites are located along the banks of Aliso Creek and would be directly impacted by any of the action alternatives. According to previous cultural resource reports, six of these have previously been determined to be eligible for the National Register although documentation showing formal Section 106 determinations of eligibility and concurrence from the State Historic Preservation Office have not been located. The consultation record for all 14 of these sites are incomplete. Furthermore, the archaeological sites were mostly recorded in the early 1970s and their current condition are unknown. For the most part, the sites cover a larger surface area and only those portions of the site immediately adjacent to the creek would be directly impacted by the four action alternatives.

The alternatives vary in the amount of impact that would occur to each site. A brief discussion of the sites is provided below.

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Enclosure(s)

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CALIFORNIA 90017

August 01, 2017

Environmental Resources Branch

Ms. Joyce Perry
Tribal Manager
Juaneno Band of Mission Indians
Acjachemen Nation
4955 Paseo Segovia
Irvine, California 92612

Dear Ms. Perry:

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CA-ORG-398- The site was recorded in 1973 as a scattered shell midden on the east bank of Aliso Creek wash measuring approximately 30meters X 50 meters. In 1976, archaeologists attempted to relocate the site as part of a survey for the AWMA project. They were unable to relocate the site

CA-ORG-395- This site was originally recorded in 1973 as two small rockshelters and a 30m X 90m shell midden on the west bank of Aliso Creek. The site form notes that it has been "mostly destroyed by the construction of a dirt road." The site was rerecorded in 2000 and was found to be in the same condition. It was noted that the construction of the AWMA Road had damaged the Apron and covered the deposit. Construction of the Aliso Creek Emergency Sewer likely destroyed much of the site along the western edge of the AWMA road.

CA-ORA-396 and CA-ORA-397- Both of these sites were recorded in 1973. CA-ORA-396 was recorded as a 20 X 50 meter shell midden on the east bank of Aliso Creek and CA ORA 397 was recorded directly across the Creek as a 40 X 80 meter shell midden. Shell was the only artifact type recorded at both sites. Both of the sites were tested in 1992 as part of the Aliso

Creek Wildlife Habitat Enrichment Project. No cultural materials were located within the boundary of CA-ORA-396 and the consultants believed that the site had eroded. Testing at CA-ORA-396 consisted of 10 auger holes. CA-ORA-397 did reveal a large amount of shell and a few lithics.

Summary

As evidenced in the discussion above, the Aliso Creek APE is rich in cultural resources and there is a high probability that some of these sites still exist within the APE. As part of our planning efforts, the Corps is proposing to conduct some preliminary evaluative testing at up to five of these locations in order to ascertain the current condition of the sites and if they are still present to determine the site boundaries. This information will be used in the selection of a recommended alternative and will guide further development of that alternative.

Due to the nature of the study, the Corps is proposing to use a phased process to identify and evaluate historic properties. This process would be codified in a PA. We anticipate that the PA would layout a clear process for evaluating the known resources within the APE, completing cultural resource inventories for any un-surveyed or under-surveyed portions of the APE and would list preferred strategies to avoid, minimize or mitigate adverse effects to historic properties. We would appreciate a response from you, if you wish to participate in the development of a PA.

The Corps is concurrently notifying the State Historic Preservation Office and other Affected Tribes in the area. If you are aware of any issues or if you know of other interested parties please let us know. This will not be your only opportunity to comment on this project. A draft EIS that details all the considered alternatives is being prepared and will also be sent to you for your review and comment.

We look forward to collaborating with you on the development of this PA and we appreciate any information that you can provide us regarding properties of cultural and religious importance that may be affected by our project. Please be assured that the Corps will treat any information you decide to share with us with the degree of confidentiality that is required at 36 CFR 800.11(c), or with any other special restrictions you may require. The Corps would appreciate any comments you may have on the project and/or your decision if you would like to participate in the development of a PA within the next 60 days. If you have any questions, please contact Danielle Storey, Archaeologist via phone at (213) 452-3855 or via email at Danielle.L.Storey@usace.army.mil.

Sincerely,

Eduardo T. De Mesa
Chief, Planning Division

Enclosure(s)

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CALIFORNIA 90017

August 01, 2017

Environmental Resources Branch

Ms. Matias Belardes
Chairperson
Juaneno Band of Mission Indians
Acjachemen Nation
32161 Avenida Los Amigos
San Juan Capistrano, California 92675

Dear Ms. Belardes:

The U.S. Army Corps of Engineers, Los Angeles District (Corps) has partnered with the County of Orange, Public Works Department, Environmental Resources (OCPW) to study and evaluate opportunities for restoring degraded aquatic and riparian ecosystem structure and function, riverine and floodplain system connectivity along lower Aliso Creek in Orange County, California. The Corps in cooperation with the County, is currently evaluating four separate alternatives that would all involve raising the greatly incised stream bed. The Feasibility Study is occurring under the authority of the Corps' General Investigations program. The study will culminate in the completion of an Integrated Feasibility Report which will also serve as the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and will include a feasibility level design of the preferred alternative. Construction level designs and additional environmental compliance activities will be completed in future design phases if the project is approved. There are two major purposes of this letter. First, the Corps is notifying you of the study and seeks your assistance in identifying properties that may be of religious or cultural significance to the Tribe (see 36 CFR 800.4(a)(4)). And second, because this is a feasibility study and by necessity identification and evaluation efforts have to be phased, the Corps is seeking your participation in the development of a programmatic agreement (PA) pursuant to 36 CFR 800.14(b) in order to fulfill its responsibilities under Section 106 of the National Historic Preservation Act (NHPA). The PA would guide the process of identifying and evaluating historic properties and resolving adverse effects.

Project Location

The project area largely lies within the Aliso and Wood Canyons Wilderness Park, a significant undeveloped coastal canyon resource in Southern California, comprising a unique and biodiverse natural landscape, and supporting many plant and wildlife species, including many special status species. Specifically, the project would focus on the 5-mile stretch of Aliso Creek Mainstem from the Pacific Park Drive area downstream to the South Orange County Wastewater Authority (SOCWA) Coastal Treatment Plant Bridge, located about 1.2 miles upstream of the ocean outlet. The project also includes the lower 1,000 feet of Wood Canyon Creek tributary at its confluence with Aliso Creek.

Project Description

The Corps and OCPW are currently evaluating four action alternatives (3.3, 3.6. 3.7, and 3.8). All four action alternatives share the same base action of raising the incised streambed elevation to approach the pre-incised streambed elevation and re-contouring the channel to have a compound trapezoidal configuration with a top width of 100 feet for the two-year flow channel, and a 200 feet wide for the ten year flow channel, from the Aliso Water Management Agency (AWMA) Road Bridge to the SOCWA CTP Bridge. The Aliso Creek Wildlife Habitat Enhancement Project, known as ACWHEP, would be removed and rock riffle grade control structures would be added. Upstream of AWMA Road Bridge, the two large drop structures will also be removed, and portions of Aliso Creek will be re-contoured to Pacific Park Drive. The amount of excavation varies by alternative. The edges of the creek would be excavated and reengineered to have a stable 3H:1V side slope

Area of Potential Effect (APE)

Based on the current project description, the Corps has defined the APE for the Aliso Creek Ecosystem Restoration Project as a 1/4 of a mile swath (1/8 mile on either side of the creek) that begins at Pacific Park Drive and ends a quarter mile south of the SOCWA Bridge (Enclosures 1 and 2). This area covers the anticipated footprint of the altered streambed under all four alternatives, the disposal areas, all access roads, a construction zone outside of the project footprint, and includes a small buffer for visual, auditory and atmospheric impacts, as well as downstream changes in water velocity and flood risk.

Known Cultural Resources

A records and literature search was conducted at the South Central Coastal Information Center in May of 2009. An updated literature search has been requested. Forty-six cultural resources studies of varying types have been conducted within ¼ mile radius of the Aliso Creek study area (1/4 mile on either side of the creek). That includes records searches, field surveys, subsurface significance evaluations, and data recovery. A total of 24 cultural resources have been recorded within the record search area. Twenty-three of these are prehistoric archeological sites. These include aboriginal camps, resources procurement areas, and village sites. The remaining resource is the Aliso Creek Bridge which carriers the Pacific Coast Highway over Aliso Creek. The bridge was determined to be eligible for the National Register of Historic Places (NRHP) under Criterion A.

Of these 24 resources, 14 are located within the APE. Twelve of these sites are located along the banks of Aliso Creek and would be directly impacted by any of the action alternatives. According to previous cultural resource reports, six of these have previously been determined to be eligible for the National Register although documentation showing formal Section 106 determinations of eligibility and concurrence from the State Historic Preservation Office have not been located. The consultation record for all 14 of these sites are incomplete. Furthermore, the archaeological sites were mostly recorded in the early 1970s and their current condition are unknown. For the most part, the sites cover a larger surface area and only those portions of the site immediately adjacent to the creek would be directly impacted by the four action alternatives.

The alternatives vary in the amount of impact that would occur to each site. A brief discussion of the sites is provided below.

CA-ORA-1072- The site is situated at the confluence of Sulphur and Aliso Creeks, along AWMA Road. Data recovery was conducted at the site in 1986 and resulted in the recovery of more than one thousand artifacts, including a wide range of groundstone, flakes, stone tools and faunal remains consisting of shellfish as well as mammal, bird and fish bone. The site was excavated in anticipation of the construction of the Church of Jesus Christ of Latter Day Saints. Some small pockets of the site may still exist between the edge of the construction for the church and the Creek.

CA-ORA-509- This site was originally recorded in 1975 as a chert flake scatter spread over a knoll overlooking the creek. Two complete projectile points and five projectile point fragments were recorded at the site. The site form also notes the presence of a potential house pit on the southwest edge of the site. In 1977 the site was reported as being disturbed but no further information was provided. The current state of the site is unknown. This site is located outside of the direct impact corridor.

CA-ORA-423- This site is probably a semi sedentary village based on the diversity of artifacts that have previously been recovered. Radiocarbon dates recovered from the site range from 1665 to 335 BP. CA-ORA-1072 is located just north of site CA-ORA-423 and they are typically treated as one site. In 1993, erosion along the banks of Aliso Creek exposed three human burials (Burial I contained two individuals), two on the west bank and one on the east bank, within the CA-ORA-423 site boundaries. The burials were hand excavated in 1994 and then reinterred by representatives of the Juaneño Band of Mission Indians. The burials consisted of two males and two females; Students from Saddleback and Cypress Colleges have conducted data recovery excavations in the small wedge of ground created by the confluence of Aliso and Sulphur Creeks. This portion of the site is not within the direct impact corridor.

CA-ORA-581- This site was originally recorded in 1975 as a light scatter of flakes and shell in an area covering 200 feet x 150 feet. One small unidentified project point was noted in the site record. Its current condition is unknown.

CA-ORA-19- Located southwest of CA-ORA-423 on the west side of Aliso Creek, CA-ORA-19 has been recorded as a semi sedentary village. The site was tested in 1979 and revealed a wide range of artifacts including beads, ceramics, lithics, groundstone, and ecofacts. The site has mostly been destroyed by the construction of the lower AWMA road and a large engineered slope. Cultural resource mitigation associated with the construction of the engineered slope has not been discovered. Despite the large amount of disturbance, remnants of the site may exist between the lower AWMA road and the creek.

CA-ORA-126- This site lies about 150 meters south of CA-ORA-19 and is very similar to it. The site was tested in 1979 and resulted in the recovery of 292 artifacts. Two burials were also discovered at this time. They were documented in situ and reburied in place. The site was tested again in 1988, and over 1200 artifacts were recovered. Like CA-ORA-19, it appears as if construction of the AWMA road and a large engineered slope leading up to a house development

have destroyed most of the site. Archaeological materials may still exist along the road and next to Aliso Creek.

CA-ORA-403- The site is considered a base camp settlement, probably not permanently occupied and is composed of a series of discontiguous concentrations of midden with a sparse scattering of cultural debris between the concentrations. Radiocarbon dates range from A.D. 250 to A.D. 1800

CA-ORA-582- The site was recorded in 1975 as a rockshelter with a midden deposit in front of the mouth of the rock shelter. The rockshelter itself is very small measuring only two meters high, three meters wide and four meters deep. There were no cultural remains located within the rockshelter but the midden extended from the mouth of the rockshelter for approximately 25 X 50 feet. It is believed that the midden was likely destroyed by the construction of the AWMA pipeline that runs to the SOCWA plant.

CA-ORG-399- The site was recorded in 1973 as a buried shell midden that was exposed by a stream cut. The site was tested via 16 backhoe trenches in 1979. They located a sparse scatter of fragmented shellfish interspaced between natural silts. No other cultural material was recovered. Researchers concluded that the site was created by natural runoff that redeposited shellfish remains originating at CA-ORA-400, some 200 meters up the tributary drainage to the northwest.

CA-ORA-400- Originally recorded in 1973 as a large shell midden covering a 300 meter x 100 meter area and having three to four meters of depth. The site was reported as "intact" in 1977 and was examined again in 1986 at which time it was estimated to be about 39,000 square meters and that it extended further up the drainage than originally recorded. Portions of the shell midden have been buried suggesting that the site is of greater age than others located along the creek. The site is eroding downslope as evidenced by the re-deposition of materials that were recorded as CA-ORA-399. This site is located outside of the direct impact corridor.

CA-ORG-398- The site was recorded in 1973 as a scattered shell midden on the east bank of Aliso Creek wash measuring approximately 30meters X 50 meters. In 1976, archaeologists attempted to relocate the site as part of a survey for the AWMA project. They were unable to relocate the site

CA-ORG-395- This site was originally recorded in 1973 as two small rockshelters and a 30m X 90m shell midden on the west bank of Aliso Creek. The site form notes that it has been "mostly destroyed by the construction of a dirt road." The site was rerecorded in 2000 and was found to be in the same condition. It was noted that the construction of the AWMA Road had damaged the Apron and covered the deposit. Construction of the Aliso Creek Emergency Sewer likely destroyed much of the site along the western edge of the AWMA road.

CA-ORA-396 and CA-ORA-397- Both of these sites were recorded in 1973. CA-ORA-396 was recorded as a 20 X 50 meter shell midden on the east bank of Aliso Creek and CA ORA 397 was recorded directly across the Creek as a 40 X 80 meter shell midden. Shell was the only artifact type recorded at both sites. Both of the sites were tested in 1992 as part of the Aliso

Creek Wildlife Habitat Enrichment Project. No cultural materials were located within the boundary of CA-ORA-396 and the consultants believed that the site had eroded. Testing at CA-ORA-396 consisted of 10 auger holes. CA-ORA-397 did reveal a large amount of shell and a few lithics.

Summary

As evidenced in the discussion above, the Aliso Creek APE is rich in cultural resources and there is a high probability that some of these sites still exist within the APE. As part of our planning efforts, the Corps is proposing to conduct some preliminary evaluative testing at up to five of these locations in order to ascertain the current condition of the sites and if they are still present to determine the site boundaries. This information will be used in the selection of a recommended alternative and will guide further development of that alternative.

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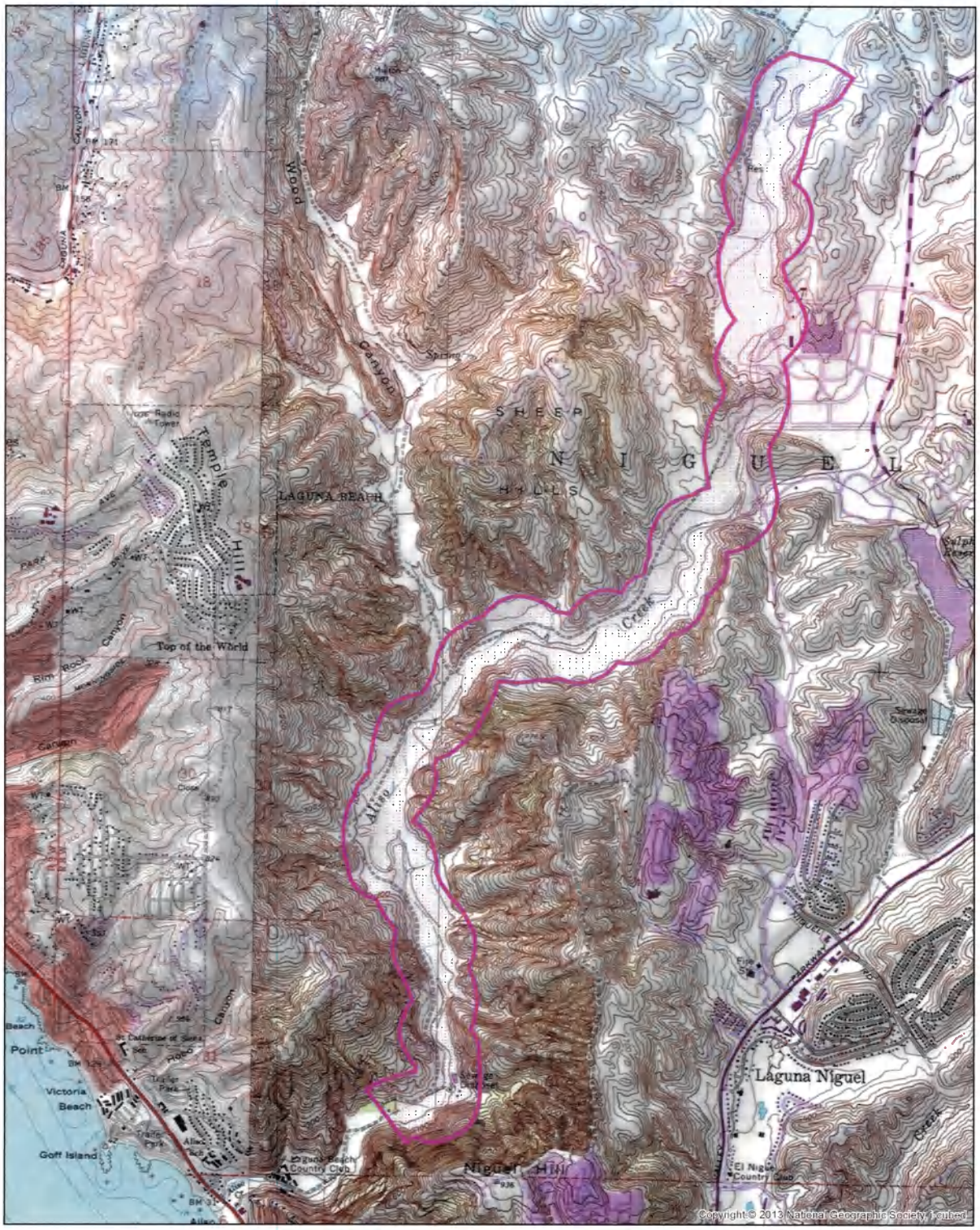
Sincerely,

Eduardo T. De Mesa
Chief, Planning Division

Enclosure(s)

Aliso Creek Ecosystem Restoration Project
Area of Potential Effect
T. 07 S, R. 08 W
San Juan Capistrano, 7.5 minute series



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NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710

July 28, 2017

Danielle L. Storey
U. S. Army Corps of Engineers

Sent by E-mail: Danielle.l.storey@usace.army.mil

RE: Proposed Aliso Creek Ecosystem Restoration Project, near the Community of Laguna Niguel; San Juan Capistrano USGS Quadrangle, Orange County, California

Dear Ms. Storey:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results however the area is sensitive for cultural resources. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.

Attached is a list of tribes culturally affiliated to the project area. I suggest you contact all of the listed Tribes. If they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

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Native American Heritage Commission
Native American Contact List
Orange County
7/28/2017

Juaneno Band of Mission Indians
Sonia Johnston, Chairperson
P.O. Box 25628 Juaneno
Santa Ana, CA, 92799
sonia.johnston@sbcglobal.net

Juaneno Band of Mission Indians Acjachemen Nation - Belardes
Matias Belardes, Chairperson
32161 Avenida Los Amigos Juaneno
San Juan Capisttrano, CA, 92675
Phone: (949) 293 - 8522

Juaneno Band of Mission Indians Acjachemen Nation - Belardes
Joyce Perry, Tribal Manager
4955 Paseo Segovia Juaneno
Irvine, CA, 92603
Phone: (949) 293 - 8522
kaamalam@gmail.com

Juaneno Band of Mission Indians Acjachemen Nation - Romero
Teresa Romero, Chairperson
31411-A La Matanza Street Juaneno
San Juan Capistrano, CA, 92675
Phone: (949) 488 - 3484
Fax: (949) 488-3294
tromero@juaneno.com

Pauma Band of Luiseno Indians - Pauma & Yuima Reservation
Temet Aguilar, Chairperson
P.O. Box 369, Ext. 303 Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 1289
Fax: (760) 742-3422

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Aliso Creek Ecosystem Restoration Project, Orange County.

APPENDIX B-6: HTRW

ALISO CREEK MAINSTEM
ECOSYSTEM RESTORATION STUDY
Orange County, California

September 2017

US Army Corps
of Engineers

Orange County Public Works
Environmental Resources
Department

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Appendix B-6
Hazardous, Toxic Waste and/or Radioactive Waste (HTRW)

This appendix mainly considers potential known and/or recognized HTRW as well as known and/or recognized hazardous substances (defined by the Comprehensive Environmental Response, Compensation and Liability Act [CERCLA][1]) and hazardous waste (defined by the Resource Conservation and Recovery Act [RCRA][2]) that exists within the study area or on

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[1] CERCLA otherwise known as "Superfund": a major federal environmental law entitled Comprehensive Environmental Response, Compensation and Liability Act. Superfund's definition of a hazardous substance includes the following:

Any element, compound, mixture, solution, or substance designated as hazardous under section 102 of CERCLA. The term "pollutant or contaminant" shall include, but not be limited to, any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring; except that the term pollutant or contaminant shall not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance... and shall not include natural gas, liquefied natural gas, or synthetic gas of pipeline quality (or mixtures of natural gas and such synthetic gas). The terms "hazardous substance" and "pollutant or contaminant" do not include petroleum or natural gas. EPA conducts emergency responses to incidents involving petroleum and non-petroleum oils separately from its responses to hazardous substance incidents. Throughout the Emergency Response Program, the term "hazardous substance" includes pollutants and contaminants. In addition to the hazardous substances identified under the Superfund law, the Title III amendments to Superfund, also known as the Emergency Planning and Community Right-to-Know Act (EPCRA), identify several hundred hazardous substances for their extremely toxic properties. EPA designated them as "extremely hazardous substances" to help focus initial chemical emergency response planning effort.

A CERCLA hazardous substance is also any hazardous substance designated under section 311(b)(2)(a) of the Clean Water Act (CWA), or any toxic pollutant listed under section 307(a) of the CWA. There are over 400 substances designated as either hazardous or toxic under the CWA. Any hazardous waste having the characteristics identified or listed under section 3001 of RCRA. Any hazardous air pollutant listed under section 112 of the Clean Air Act (CAA), as amended. There are over 200 substances listed as hazardous air pollutants under the CAA. Any imminently hazardous chemical substance or mixture which the EPA Administrator has "taken action under" section 7 of the Toxic Substances Control Act (TSCA).

In all, the Superfund law designates more than 800 substances as hazardous, and identifies many more as potentially hazardous due to their characteristics and the circumstances of their release.

[2] RCRA otherwise known as "hazardous waste": a major federal environmental law entitled Resource Conservation and Recovery Act. The RCRA definition of hazardous waste is as follows:

Hazardous wastes are usually generated by commercial or industrial activities and may be classified as "listed" hazardous wastes or "characteristic" hazardous wastes by the EPA. In regulatory terms, a RCRA hazardous waste is a waste that either a "characteristic waste" or a "listed waste".

Characteristic Waste - exhibits at least one of the four "characteristics" of hazardous waste (ignitability, corrosivity, reactivity, or toxicity)

Listed Waste - appears on one of the four hazardous wastes lists (F-list, K-list, P-list, or U-list), or Individual states may regulate particular wastes more stringently than mandated by federal regulation. This is because the EPA is authorized to delegate primary rulemaking authorization to individual states. Most states take advantage of this authority, implementing their own hazardous waste programs that are at least as stringent as the federal program.

Under RCRA all hazardous waste is supposed to be properly accounted for, managed and disposed of. The majority of the U.S. generation of hazardous waste is properly disposed of. However, there is some RCRA hazardous waste

adjacent lands with the potential to have HTRW impacts to the study area. There may be unknown HTRW impacts to the study area which were not fully disclosed (historical or current reports) at the time of this writing, i.e. newly discovered HTRW or buried HTRW that is not observed on the land surface, but could be discovered later during other phases of work for this project, such as construction.

The most common way HTRW can impact the study area is if it were released into the surrounding environment and remained there. The most persistent HTRW is often found in the soils and ground waters of the surrounding land near the release. The analysis of HTRW for this study focused on these types of releases into the environment within and adjacent to the study area. The analysis also included mention of hazardous materials stored or used at or near the study area. Generally, hazardous materials are not considered part of HTRW, unless or until they have been released to the environment, at which point, they would be considered a hazardous substance or waste, according to CERCLA and RCRA (see footnotes below). Hazardous materials are the common chemicals that are used for all types of use in the workplace. This use is specifically regulated by the Occupational Safety and Health Act (OSHA). The transportation of hazardous materials in commerce is also regulated, but by the U.S. Department of Transportation (USDOT).

HTRW hazardous substances consist of many commonly used substances which are harmless in their normal uses, but are quite dangerous when released. Hazardous substances are defined in terms of those substances either specifically designated in a listed form as hazardous under CERCLA, or those substances identified under the other major federal environmental laws of RCRA and the Toxic Substances Control Act (TSCA), Clean Water Act (CWA), and Clean Air Act (CAA). Hazardous waste is defined under RCRA as a solid waste (or combination of solid wastes) which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may: (1) cause or contribute to an increase in mortality or an increase in serious irreversible, or incapacitating illness; or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. In addition, under RCRA, the U.S. Environmental Protection Agency (EPA) establishes four characteristics that will determine whether a substance is considered hazardous, including ignitability, corrosiveness, reactivity, and toxicity. Any solid waste that exhibits one or more of these characteristics is classified as a hazardous waste under RCRA and Superfund. In addition to the characteristic definition, a hazardous waste is also defined as found in the hazardous waste list. This list is prepared by the EPA where the hazardous wastes are found by common name, chemical name, etc. Any hazardous waste not found on this list could still be a hazardous waste according to its characteristics. Indeed most of the hazardous wastes disposed of in the U.S. are characteristic type wastes.

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that is not disposed of properly is found in abandoned or defunct industrial sites that were operation before the law was enacted or some of this waste is disposed of by uncontrolled and illegal means, i.e., open dumping. The CERCLA superfund program is designed to take care of the improper disposal and/or release of hazardous waste.

HTRW has implications across all programs within the Corps of Engineers and affects the Civil Works program differently than other Corps programs. Because this study is under Civil Works, the HTRW is dealt with in a special manner, as outlined in Engineering Regulation (ER 1165-2-132). This regulation basically requires a survey of all Civil Works related projects for general compliance with the Federal law, CERCLA, and it is this federal law that drives the requirement for HTRW studies. The Corps considers HTRW as being synonymous mainly with CERCLA. However, complying with CERCLA also requires compliance with RCRA, since both of these laws overlap. The overlap is found in the two definitions of hazardous waste and substance and the inherent intent of these laws to provide protection of the human health and the environment. The details of which are explained in the footnotes[1, 2]. In summary, HTRW is a programmatic term used by the Corps to describe both a CERCLA substance and a RCRA hazardous waste and to undertake measures to be in compliance with both of these laws for Corps of Engineers projects. The ER requires that the Corps make an effort to accurately recognize and identify HTRW associated with its Civil Works projects. The Corps has done this for the majority of its Civil Works projects by following the procedures found in the American Society for Testing and Materials (ASTM) environmental site assessment standards. These are commercial standards of which the detailed assessment procedures can be found in ASTM E-1527, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process"; and the EPA "Standards and Practices for All Appropriate Inquiries" (AAI, 40 CFR Part 312); and in ASTM E- 1528, "Practice for Environmental Site Assessments: Transaction Screen Process".

The purpose of ASTM standard E-1527 is to define good commercial and customary practice for performing environmental site assessments (ESA) of parcels of real estate. The original purpose of an ESA was to satisfy the "Innocent Landowner" provisions of the CERCLA, thereby reducing the liability associated with taking ownership of property where hazardous substances or wastes are present. The ASTM standard has been revised periodically since first published in 1993 in response to changes in good customary practices and in response to changes or amendments the CERCLA in the form of Superfund Amendments and Reauthorization Act of 1986 (SARA); the Asset Conservation, Lender Liability, and Deposit Insurance Protection Act of 1996 (Lender Liability Amendments); and Small Business Liability Relief and Brownfields Revitalization Act of 2001 (Brownfields Amendments). The recent changes in the 2005 standard are a result of the AAI requirements. The goal of the ASTM Standard is to determine if "Recognized Environmental Conditions" are present on the property being assessed. The term "recognized environmental condition" (REC) is defined in the standard as: "...the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions." The AAI Regulations were developed to establish

specific standards and requirements for investigating the prior ownership and historical use of a property in order to qualify for certain landowner liability protections to property owners under CERCLA. The AAI increased the search distances over those included in the 2000 revision of the ASTM Standard, and requires searches for engineering and institutional controls, and requires review of local government and tribal records. The AAI records review also requires a search of reasonable ascertainable land title and lien records to identify environmental liens or activity and use limitations, if any, which are recorded against the property. The AAI historical ownership/use review requires that ownership and/or use of the property be traced back as far as it can be shown that the property contained structures or was first used for residential, agricultural, commercial, industrial, or governmental purposes. Data gaps identified for the property should be identified and their significance reported. The AAI Rule also requires taking into account commonly known or reasonably ascertainable information within a local community. AAI also requires that inquiries be conducted by an environmental professional, which is specifically defined within the Rule. According to the rule, a Phase I ESA will remain valid for 180 days. After one year, an existing Phase I ESA can be used as a reference, but all components must be performed as if no previous investigation existed.

Transaction Screening Process

A full Phase I environmental site assessment (Phase I ESA) of the study area, according to the ASTM standards, was not conducted at this time because the land use history of the study area indicated that HTRW impacts would be low, i.e. it was inherently used for pasture type agriculture and natural recreation. This was corroborated by the initial review of aerial photographs of the study area from 1946, 1952, 1972, 1981, 2003, and 2005. Those photos indicate historic land uses in much of the study area has consisted of protected natural habitat within the Aliso and Wood Canyons Wilderness Park (the Wilderness Park). From the 1900s or turn of the 20th century to the 1970s, parts of the study area were used for grazing cattle and sheep. Limited construction within the Wilderness Park has included development of roads in some areas as early as between 1946 and 1952, with paved roads built between 1952 and 1981. Construction of the Coastal Treatment Plant began around 1972.

Roads and residential development near the mouth of Aliso Creek are evident on the 1946 aerial photograph, and construction of the Aliso Creek Golf Course began between 1946 and 1952. Upstream of Wilderness Park, large scale residential development in the vicinity of the study area began in the 1960s. This development is considered a non-point source of contamination to Aliso Creek. Evidence of historic operations involving HTRW or hazardous substances or waste within the study area was not observed from the aerial photographs.

After the initial review of aerial photos, the HTRW database for the study area and land approximately 1/4 miles from it was obtained from Environmental Data Resources (EDR), one of several clearinghouse retailers that sell HTRW information for use in preparing Environmental Site Assessments according to ASTM standards. This database search forms the bulk of the HTRW information used in the screening process presented here. The EDR search reported all sites that are listed on agency files for the documented use, storage, or release of

hazardous materials or petroleum products, and involved a search of more than 60 different Federal, state, tribal, and EDR proprietary environmental databases. The EDR report identifies historically contaminated properties, businesses that use, generate, or dispose of hazardous materials or petroleum products in their operations, and active contaminated sites that are currently under assessment and/or remediation. The following table identifies the databases that were searched, a brief database description, and the total number of known sites that were found for each database within 1/4 miles of the study area. There are an additional known sites that were found in the database search as well, but were simply not mapped because the address or location was unclear. These are "orphan sites," which is terminology used by EDR to differentiate between mapped and unmapped sites.

Results of the Hazardous Materials Database Search		
Database	**Brief Database Description**	**Records Found**
Federal Records		
NPL	National Priority List Database	0
Proposed NPL	Proposed National Priority List Sites Database	0
Delisted NPL	National Priority List Deletions Database	0
NPL Liens	Federal Superfund Leans Database	0
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System Database	0
CERC-NFRAP	CERCLIS No Further Remedial Action Planned Database	0
CORRACTS	Corrective Action Report Database	0
RCRA TSD	Resource Conservation and Recovery Act Information Database	0
RCRA-LQG	RCRA Large Quantity Generator Database	0
RCRA-SQG	RCRA Small Quantity Generator Database	6
RCRA-NonGen	RCRA Sites Not Generating Hazardous Waste Database	0
ERNS	Emergency Response Notification System Database	0
HMIRS	Hazardous Materials Information Reporting System Database	0
US ENG CONTROLS	Engineering Controls Sites List Database	0
US INST CONTROL	Sites with Institutional Controls Database	0
DOD	Department of Defense Sites Database	0
DOT OPS	Department of Transportation, Office of Pipeline Safety and Accident data	1
FUDS	Formerly Used Defense Sites Database	0
US BROWNFIELDS	A Listing of Brownfields Sites Database	0
CONSENT	Superfund (CERCLA) Consent Decrees Database	0
ROD	Record of Decision Database	0
UMTRA	Uranium Mill Tailings Sites Database	0
ODI	Open Dump Inventory Database	0
TRIS	Toxic Chemical Release Inventory System Database	0
TSCA	Toxic Substance Control Act Database	0
FTTS	Toxics/Pesticides Data System Database	0
SSTS	Section Seven Tracking System Database	0
PADS	PCB Activity Database	0
MLTS	Material Licensing Tracking System Database	0

MINES	Mines Master Index File Database	0
FINDS	Facility Index System Database	10
RAATS	RCRA Administrative Action Tracking System Database	0
State Records		
AWP	Annual Workplan Sites Database	0
Cal-Sites	Calsites Database	0
Toxic Pits	Toxic Pits Cleanup Act Site Database	0
CA Bond Exp. Plan	Bond Expenditure Plan Database	0
NFA	No Further Remedial Action Determination Database	0
NFE	Properties Needing Further Evaluation Database	0
REF	DTSC Site Mitigation Program Referral Database	0
SCH	School Sites Evaluated by DTSC Database	0
SWF/LF	Solid Waste Facilities/Landfill Sites Database	0
CA-WDS	California Water Resources Control Board Waste Discharge System Database	0
WMUDS/SWAT	Waste Management Unit Database	0
Cortese	Contaminated Water Wells Database	0
LUST	Leaking Underground Storage Tank Database	3
SLIC	Spills, Leaks, Investigations, and Cleanups Section Database	0
UST	Underground Storage Tank Database	9
CA FID UST	Facility Inventory Database	3
HIST UST	Historic Underground Storage Tank Database	3
SWRCY	Recycling Facilities in California Database	1
AST	Aboveground Storage Tank Database	1
SWEEPS UST	Statewide Environmental Evaluation and Planning System Database	4
CHMIRS	California Hazardous Materials Incident Report System Database	4
Notify 65	State Water Resources Control Board's Proposition 65 Database	0
DEED	Deed Restriction Listing Database	0
VCP	Voluntary Cleanup Program Properties Database	0
CLEANERS	Drycleaner Database	0
WIP	Well Investigation Program Case List Database	0
HAZNET	Hazardous Waste Manifests Database	34
EMI	Emissions Inventory Database	5
ENVIROSTOR	DTSC Site Mitigation and Brownfields Reuse Database	0
Tribal Records		
INDIAN RESERV	Indian Reservations Database	0
INDIAN LUST	Leaking Underground Storage Tank Database on Indian Land Database	0
INDIAN UST	Underground Storage Tank on Indian Land Database	0
EDR Proprietary Records		
COAL GAS	Coal Gas Database	0
	Total Records Found	**84**

Source: EDR 2009

The database search results include facilities that handle hazardous materials but have not necessarily had a release to the environment. These include the RCRA small-generator lists (RCRA-SQG), the Facility Index System Database (FINDS), the Facility Inventory Database

(CA FID UST), the Underground Storage Tank Database (UST), the Recycling Facilities in California Database (SWRCY), the Aboveground Storage Tank Database (AST), the Hazardous Waste Manifests Database (HAZNET), and the Emissions Inventory Database (EID). Such facilities do not pose a demonstrated threat to human health or the environment. Along with this, several of the listed sites are documented as closed cases, where remediation has occurred and the remediation effort has satisfied the regulatory agency overseeing the effort. These include listings from the Department of Transportation Office of Pipeline Safety and Accident (DOT OPS) data, the Leaking Underground Storage Tank (LUST) database and the California Hazardous Materials Incident Report System (CHMIRS) Database. Additionally, some databases, such as the Historic Underground Storage Tank Database (HIST UST), are no longer updated and may not provide accurate information on the existing conditions with respect to hazardous materials.

Known HTRW hazards have not been identified within the immediate study area, other than the ongoing surface water pollution that is related primarily to nonpoint sources from land usage adjacent to and more than ¼ miles from the study area. The EDR environmental database search report as part of the screening assessment identified 84 records of sites within or adjacent to the study area where regulated materials have been used or regulated wastes have been generated. These records appear to be for routine issues with little if any impact on the project. A complete Phase I ESA will clarify the status of those sites. Any future HTRW hazard surveys should also address the non-point sources of contamination and their effects to the study area, especially as it relates to surface water.

Applicable Policies and Regulations

Federal and state governments regulate the generation, use, transport, and disposal of hazardous materials. This section identifies applicable Federal and state regulations.

Federal Regulations

As discussed at the beginning of this section, hazardous materials, hazardous substances, and hazardous wastes are regulated under various Federal laws including:

- Resource Conservation and Recovery Act (RCRA, 42 United States Code 692);
- Hazardous Material Transportation Act (HMTA);
- Clean Water Act (CWA);
- Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (43 United States Code 9601);
- Superfund Amendment Reauthorization Act (SARA) Title 3;
- 40 CFR 260-279 Federal Regulations on hazardous waste management;
- 40 CFR, Section 301 et seq. Emergency Planning and Community Right to Know Act; and
- Toxic Substances Control Act (15 United States Code 2601).

Under RCRA, the USEPA regulates the generation, transportation, and disposal of hazardous wastes. The USEPA requires permits for the treatment, storage, or disposal of hazardous wastes and tracks the wastes from generation through to disposal. The USEPA delegates some of this authority, such as permitting, to individual states.

The Department of Transportation through the HMTA regulates transportation of hazardous materials. Transporting hazardous materials requires special handling, packaging, placarding, and manifesting of cargoes. Various laws, including the SARA and HMTA, govern day-to-day management of hazardous materials. These laws define the requirements for storage of hazardous materials, safe handling practices, and employee training.

State Regulations
California state laws that regulate activities involving hazardous materials, hazardous substances, or hazardous waste include:

- Hazardous Waste Control Law (California Health and Safety Code section 25100);
- Title 17, Public Health (California Code of Regulations [CCR]);
- Title 19, Public Safety (CCR);
- Title 22, Division 4.5 - Environmental Health Standards for the Management of Hazardous Waste (CCR);
- Title 26, Toxics (CCR);
- California Department of Motor Vehicles, Hazardous Waste and Materials Transportation Requirements (Vehicle Code Section 31303); and
- Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The California Department of Toxic Substances Control (DTSC) administers the Federal RCRA for the state, and enforces the California Health and Safety Code. California Health and Safety Code, Division 20, Chapter 6.8 authorizes DTSC and the Regional Water Quality Control Board to require, oversee, and recover costs for the remediation of sites where contamination of soil and water present a hazard to human health or the environment.

Under the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program, designated local agencies called Certified Unified Program Agencies (CUPA) have jurisdiction to manage hazardous substances and oversee the remediation of certain hazardous materials releases, including from underground storage tanks. The Orange County Environmental Health Division, along with County and City Fire Agencies, are the CUPA agencies responsible for local jurisdiction for the proposed project.

Alison Creek Ecosystem Restoration Project
Laguna Beach, CA 92651

Inquiry Number: 02460985.1r
April 09, 2009

EDR DataMap™ Corridor Study

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Thank you for your business.
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EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

LAGUNA BEACH, CA 92651
LAGUNA BEACH, CA 92651

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records within the requested search area for the following databases:

FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
LIENS 2	CERCLA Lien Information
CORRACTS	Corrective Action Report
RCRA-TSDF	RCRA - Transporters, Storage and Disposal
RCRA-LQG	RCRA - Large Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator
RCRA-NonGen	RCRA - Non Generators
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
US CDL	Clandestine Drug Labs
US BROWNFIELDS	A Listing of Brownfields Sites
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
LUCIS	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
ODI	Open Dump Inventory
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System

EXECUTIVE SUMMARY

MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
RAATS	RCRA Administrative Action Tracking System
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing

STATE AND LOCAL RECORDS

HIST Cal-Sites	Historical Calsites Database
CA BOND EXP. PLAN	Bond Expenditure Plan
SCH	School Property Evaluation Program
Toxic Pits	Toxic Pits Cleanup Act Sites
SWF/LF	Solid Waste Information System
WMUDS/SWAT	Waste Management Unit Database
Cortese	"Cortese" Hazardous Waste & Substances Sites List
SLIC	Statewide SLIC Cases
LIENS	Environmental Liens Listing
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
Notify 65	Proposition 65 Records
Orange Co. Industrial Site	List of Industrial Site Cleanups
DEED	Deed Restriction Listing
VCP	Voluntary Cleanup Program Properties
DRYCLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
CDL	Clandestine Drug Labs
RESPONSE	State Response Sites
HAULERS	Registered Waste Tire Haulers Listing
ENVIROSTOR	EnviroStor Database

TRIBAL RECORDS

INDIAN RESERV	Indian Reservations
INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
INDIAN LUST	Leaking Underground Storage Tanks on Indian Land
INDIAN UST	Underground Storage Tanks on Indian Land
INDIAN VCP	Voluntary Cleanup Priority Listing

EDR PROPRIETARY RECORDS

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

FEDERAL RECORDS

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 11/12/2008 has revealed that there are 6 RCRA-SQG sites within the searched area.

Site	Address	Map ID	Page
VONS NO 508	***27320 ALICIA PKWY***	***3***	***6***
OSSUR NORTH AMERICA	27412 ALISO VIEJO PKWY	3	10
USGSA CHET HOLIFIELD FEDERAL B	***24000 AVILA RD***	***4***	***11***
ALISO VIEJO FOREIGN CAR SPEC	***27802 ALISO CREEK RD***	***6***	***36***
ALISO BEACH ANIMAL CLINIC	***30816 COAST HWY***	***12***	***52***
GENERAL TELEPHONE OF CA	***31092 PACIFIC COAST HWY***	***13***	***62***

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

A review of the DOT OPS list, as provided by EDR, and dated 05/14/2008 has revealed that there is 1 DOT OPS site within the searched area.

Site	Address	Map ID	Page
Not reported	31121 BROOKS STREET	14	65

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 10/30/2008 has revealed that there are 10 FINDS sites within the searched area.

Site	Address	Map ID	Page
FOXBOROUGH ELEMENTARY	27102 FOXBOROUGH ST.	2	3
VONS NO 508	***27320 ALICIA PKWY***	***3***	***6***
OSSUR NORTH AMERICA	27412 ALISO VIEJO PKWY	3	9
USGSA CHET HOLIFIELD FEDERAL B	***24000 AVILA RD***	***4***	***11***
JIFFY LUBE #1339	27832 ALISO CREEK RD	6	27
ALISO VIEJO FOREIGN CAR SPEC	***27802 ALISO CREEK RD***	***6***	***36***
JOURNEY	23431 KNOLLWOOD	8	50
WOOD CANYON ELEMENTARY	23431 KNOLLWOOD	8	50
ALISO BEACH ANIMAL CLINIC	***30816 COAST HWY***	***12***	***52***
GENERAL TELEPHONE OF CA	***31092 PACIFIC COAST HWY***	***13***	***62***

EXECUTIVE SUMMARY

STATE AND LOCAL RECORDS

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 01/05/2009 has revealed that there is 1 SWRCY site within the searched area.

Site	Address	Map ID	Page
TOMRA PACIFIC INC	30922 PACIFIC COAST HWY	12	54

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 01/06/2009 has revealed that there are 3 LUST sites within the searched area.

Site	Address	Map ID	Page
USGSA CHET HOLIFIELD FEDERAL B	***24000 AVILA RD***	***4***	***11***
Status: Completed - Case Closed			
PEPSI COLA BOTTLING COMPANY	***27717 ALISO CREEK RD***	***6***	***43***
PEPSI COLA FACILITY	27717 ALISO CREEK RD	6	44
Status: Completed - Case Closed			

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 3 CA FID UST sites within the searched area.

Site	Address	Map ID	Page
USGSA CHET HOLIFIELD FEDERAL B	***24000 AVILA RD***	***4***	***11***
PEPSI CO	27717 ALISO CREEK RD	6	45
REGIONAL LIFT ST (M N W D)	***28386 ALICIA PY***	***9***	***50***

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 01/06/2009 has revealed that there are 9 UST sites within the searched area.

Site	Address	Map ID	Page
CHET HOLIFIELD FEDERAL BLDG	24000 AVILA RD	1	3
WAL MART # 2206	27470 ALICIA PKWY	6	21
MOBIL #18-CDC	27430 ALICIA PKWY	6	21
SHELL SERVICE STATION	27882 ALISO CREEK RD	6	27

EXECUTIVE SUMMARY

Site	Address	Map ID	Page
PEPSI CO	***27717 ALISO CREEK RD***	***6***	***43***
REGIONAL LIFT ST (M N W D)	***28386 ALICIA PKWY***	***9***	***51***
MAIN LIFT/SANITARY GARAGE (SCW	31104 PACIFIC COAST HWY	13	59
VERIZON CALIFORNIA INC	31092 S COAST HWY	13	62
GTE-ALISO CO	31092 PACIFIC COAST HWY	13	65

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 3 HIST UST sites within the searched area.

Site	Address	Map ID	Page
USGSA CHET HOLIFIELD FEDERAL B	***24000 AVILA RD***	***4***	***11***
REGIONAL LIFT ST (M N W D)	***28386 ALICIA PKWY***	***9***	***51***
SANITARY MAINTENANCE	31104 PACIFIC COAST HIG	13	59

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 4 SWEEPS UST sites within the searched area.

Site	Address	Map ID	Page
PEPSI CO	***27717 ALISO CREEK RD***	***6***	***43***
REGIONAL LIFT ST (M N W D)	***28386 ALICIA PY***	***9***	***50***
SANITARY GARAGE (SCWD)	31104 S PACIFIC COAST H	13	60
GTE-ALISO CO	31092 PACIFIC COAST HWY	13	65

CHMIRS: The California Hazardous Material Incident Report System contains information on reported hazardous material incidents, i.e., accidental releases or spills. The source is the California Office of Emergency Services.

A review of the CHMIRS list, as provided by EDR, and dated 12/31/2007 has revealed that there are 4 CHMIRS sites within the searched area.

Site	Address	Map ID	Page
Not reported	27430 ALICIA PARKWAY	3	8
Not reported	27430 ALICIA PARKWAY	6	22
EXXONMOBIL OIL CORP 17875	***27430 ALICIA PKWY***	***6***	***23***
Not reported	31092 SOUTH COAST HWY	13	61

EXECUTIVE SUMMARY

AST: The Aboveground Storage Tank database contains registered ASTs. The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the AST list, as provided by EDR, and dated 11/01/2007 has revealed that there is 1 AST site within the searched area.

Site	Address	Map ID	Page
CHET HOLIFIELD FEDERAL BLDG.	24000 AVILA RD.	3	4

HAZNET: 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 from non-California manifests & continuation sheets are not included at the present time. 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, & disposal method. The source is the Department of Toxic Substance Control is the agency

A review of the HAZNET list, as provided by EDR, and dated 12/31/2007 has revealed that there are 34 HAZNET sites within the searched area.

Site	Address	Map ID	Page
INTERNAL REVENUE SERVICE	24000 AVILA RD, WAREHOU	3	3
U S GENERAL SERVICES ADMINISTR	24000 AVILA RD	3	4
ISS ENERGY SERVICES, INC.	24000 AVILA RD	3	5
#508 VONS	27320 ALICIA PKWY	3	5
OSSUR NORTH AMERICA	27412 ALISO VIEJO PKWY	3	9
USGSA CHET HOLIFIELD FEDERAL B	***24000 AVILA RD***	***4***	***11***
CUSD/ALISO-NIGUEL HIGH SCHOOL	28000 WOLVERINE WAY	5	18
CUSD/ALISO-NIGUEL HIGH SCHOOL	28000 TERRACE VIEW DRIV	5	18
WAL-MART STORE #2206	27470 ALICIA PARKWAY	6	20
EXXONMOBIL OIL CORP 17875	***27430 ALICIA PKWY***	***6***	***23***
ALISO CREEK SHELL	27822 ALISO CREEK RD	6	28
LA PAZ SVC CENTER	27812 ALISO CREEK #E120	6	29
PACIFIC AUTOMOTIVE	27802 ALISO CREEK RD UN	6	30
EXTREME MUSTANG PERFORMANCE	27802 ALISO CREEK RD ST	6	32
THE ABBEY COMPANY	27802 ALISO CREEK RD	6	33
GOLDEN WRENCH AUTOMOTIVE	27802 ALISO CREEK RD	6	35
ALISO VIEJO FOREIGN CAR SPEC	***27802 ALISO CREEK RD***	***6***	***36***
ALISO FOREIGN CAR	27802 ALISO CREEK RD	6	38
US AUTOMOTIVE	27802 ALISO CREEK RD #1	6	38
WINDROSE PACIFIC ASSOCIATES II	27802 ALISO CREEK RD	6	40
WINDROSE PLAZA	27802 ALISO CREEK RD.	6	41
PEPSI COLA BOTTLING COMPANY	***27717 ALISO CREEK RD***	***6***	***43***
PEPSI COLA COMPANY	27717 ALISO CREEK ROAD	6	45
KELLY FLEET SERVICES	27717 ALISO CREEK RD	6	46
ALISO CREEK PRINTING INC	23862 ALISO CREEK RD	7	48
WOOD CANYON APTS	28520 WOOD CANYON DR	8	49
S&S CONSTRUCTION	28821 DRAKES BAY	10	52
JAMES SADLER	30871 DRIFTWOOD DRIVE	11	52
LUCKY STORES #575	30922 PACIFIC COAST HWY	12	54
ORANGE COUNTY - FACILITIES DEP	31131 S COAST HWY	13	55
SOUTH COAST WATER DISTRICT	31104 S COAST HWY	13	55
SOUTH COAST WATER DISTRICT	31104 S COAST HWY	13	57
GENERAL TELEPHONE OF CA	***31092 PACIFIC COAST HWY***	***13***	***62***
GTE CALIFORNIA INCORPORATE	31092 S PACIFIC COAST H	13	64

EXECUTIVE SUMMARY

EMI: Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies

A review of the EMI list, as provided by EDR, and dated 12/31/2006 has revealed that there are 5 EMI sites within the searched area.

Site	Address	Map ID	Page
USGSA CHET HOLIFIELD FEDERAL B	***24000 AVILA RD***	***4***	***11***
MOULTON NIGUEL WATER DISTRICT	27613 ALISO CREEK RD.	6	47
SOUTH COAST WATER DISTRICT	31104 COAST HWY	13	57
SOUTH COAST WATER DISTRICT	31104 PACIFIC COAST HWY	13	59
SOUTH COAST CO. WATER DIST	31104 PACIFIC COAST HWY	13	60

EXECUTIVE SUMMARY

Please refer to the end of the findings report for unmapped orphan sites due to poor or inadequate address information.

MAP FINDINGS SUMMARY

Database	Total Plotted
FEDERAL RECORDS	
NPL	0
Proposed NPL	0
Delisted NPL	0
NPL LIENS	0
CERCLIS	0
CERC-NFRAP	0
LIENS 2	0
CORRACTS	0
RCRA-TSDF	0
RCRA-LQG	0
RCRA-SQG	6
RCRA-CESQG	0
RCRA-NonGen	0
US ENG CONTROLS	0
US INST CONTROL	0
ERNS	0
HMIRS	0
DOT OPS	1
US CDL	0
US BROWNFIELDS	0
DOD	0
FUDS	0
LUCIS	0
CONSENT	0
ROD	0
UMTRA	0
DEBRIS REGION 9	0
ODI	0
MINES	0
TRIS	0
TSCA	0
FTTS	0
HIST FTTS	0
SSTS	0
ICIS	0
PADS	0
MLTS	0
RADINFO	0
FINDS	10
RAATS	0
SCRD DRYCLEANERS	0
STATE AND LOCAL RECORDS	
HIST Cal-Sites	0
CA BOND EXP. PLAN	0
SCH	0
Toxic Pits	0

MAP FINDINGS SUMMARY

Database	Total Plotted
SWF/LF	0
WMUDS/SWAT	0
Cortese	0
SWRCY	1
LUST	3
CA FID UST	3
SLIC	0
UST	9
HIST UST	3
LIENS	0
SWEEPS UST	4
CHMIRS	4
LDS	0
AST	1
MCS	0
Notify 65	0
Orange Co. Industrial Site	0
DEED	0
VCP	0
DRYCLEANERS	0
WIP	0
CDL	0
RESPONSE	0
HAZNET	34
EMI	5
HAULERS	0
ENVIROSTOR	0

TRIBAL RECORDS

INDIAN RESERV	0
INDIAN ODI	0
INDIAN LUST	0
INDIAN UST	0
INDIAN VCP	0

EDR PROPRIETARY RECORDS

Manufactured Gas Plants	0

NOTES:

Sites may be listed in more than one database

Map ID Direction Distance Distance (ft.)	Site	Database(s)	EDR ID Number EPA ID Number
1	**CHET HOLIFIELD FEDERAL BLDG** **24000 AVILA RD** **LAGUNA NIGUEL, CA 92677**	**UST**	**U003432848** **N/A**

UST:
Global ID: 3513
Latitude: 33.56257
Longitude: -117.71308

UST:
Facility ID: FA0023992

2	**FOXBOROUGH ELEMENTARY** **27102 FOXBOROUGH ST.** **ALISO VIEJO, CA 92656**	**FINDS**	**1008281152** **N/A**

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110037017304

NCES (National Center for Education Statistics) is the primary federal entity for collecting and analyzing data related to education in the United States and other nations and the institute of education sciences.

3	**INTERNAL REVENUE SERVICE** **24000 AVILA RD, WAREHOUSE** **LAGUNA NIGUEL, CA 92656**	**HAZNET**	**S102793616** **N/A**

HAZNET:
Gepaid: CAC000738496
Contact: INTERNAL REVENUE SERVICE
Telephone: 0000000000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 24000 AVILA RD, RM:FM:FS
Mailing City,St,Zip: LAGUNA NIGUEL, CA 926560000
Gen County: Orange
TSD EPA ID: CAT080011059
TSD County: Los Angeles
Waste Category: Off-specification, aged, or surplus organics
Disposal Method: Disposal, Other
Tons: .1100
Facility County: Orange

Gepaid: CAC000738496
Contact: INTERNAL REVENUE SERVICE
Telephone: 0000000000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 24000 AVILA RD, RM:FM:FS
Mailing City,St,Zip: LAGUNA NIGUEL, CA 926560000
Gen County: Orange
TSD EPA ID: CAT080011059
TSD County: Los Angeles
Waste Category: Off-specification, aged, or surplus organics

INTERNAL REVENUE SERVICE (Continued) **S102793616**

Disposal Method: Recycler
Tons: 1.8105
Facility County: Orange

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3 **CHET HOLIFIELD FEDERAL BLDG.** **AST** **A100150476**
24000 AVILA RD. **N/A**
LAGUNA NIGUEL, CA 92677

AST:
Owner: LAGUNA NIGUEL PROPERTY
Total Gallons: 3000

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3 **U S GENERAL SERVICES ADMINISTRATION** **HAZNET** **S104564876**
24000 AVILA RD **N/A**
LAGUNA NIGUEL, CA 92677

HAZNET:
Gepaid: CA7470090203
Contact: U S GENERAL SERVICES ADMIN
Telephone: 9493602014
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 24000 AVILA RD
Mailing City,St,Zip: LAGUNA NIGUEL, CA 926770000
Gen County: Orange
TSD EPA ID: CAD009007626
TSD County: Los Angeles
Waste Category: Asbestos-containing waste
Disposal Method: Disposal, Land Fill
Tons: 16.8560
Facility County: Orange

Gepaid: CA7470090203
Contact: U S GENERAL SERVICES ADMIN
Telephone: 9493602014
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 24000 AVILA RD
Mailing City,St,Zip: LAGUNA NIGUEL, CA 926770000
Gen County: Orange
TSD EPA ID: AZD983473539
TSD County: 99
Waste Category: Polychlorinated biphenyls and material containing PCB's
Disposal Method: Treatment, Incineration
Tons: 21.2388
Facility County: Orange

Gepaid: CA7470090203
Contact: U S GENERAL SERVICES ADMIN
Telephone: 9493602014
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 24000 AVILA RD

U S GENERAL SERVICES ADMINISTRATION (Continued) **S104564876**

Mailing City,St,Zip: LAGUNA NIGUEL, CA 926770000
Gen County: Orange
TSD EPA ID: AZD983473539
TSD County: 99
Waste Category: Polychlorinated biphenyls and material containing PCB's
Disposal Method: Recycler
Tons: 8.4148
Facility County: Orange

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3 **ISS ENERGY SERVICES, INC.** **HAZNET** **S103971161**
24000 AVILA RD **N/A**
LAGUNA NIGUEL, CA 92656

HAZNET:
Gepaid: CAC001084400
Contact: CERTIFIED BACKFLOW, INC.
Telephone: 2126341184
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 24000 AVILA RD
Mailing City,St,Zip: LAGUNA NIGUEL, CA 926560000
Gen County: Orange
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Waste Category: Waste oil and mixed oil
Disposal Method: Recycler
Tons: 2.0850
Facility County: Orange

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3 **#508 VONS** **HAZNET** **S103648619**
27320 ALICIA PKWY **N/A**
LAGUNA NIGUEL, CA 92677

HAZNET:
Gepaid: CAR000000638
Contact: THE VONS COMPANIES, INC.
Telephone: 6268215608
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: M/S 6516 PO BOX 29096
Mailing City,St,Zip: PHOENIX, AZ 850389096
Gen County: Orange
TSD EPA ID: CAD981402522
TSD County: Kern
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Tons: 2.4725
Facility County: Orange

Gepaid: CAR000000638
Contact: THE VONS COMPANIES, INC.
Telephone: 6268215608
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: M/S 6516 PO BOX 29096
Mailing City,St,Zip: PHOENIX, AZ 850389096

#508 VONS (Continued) **S103648619**

Gen County: Orange
TSD EPA ID: CAD981402522
TSD County: Kern
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Tons: 2.5517
Facility County: Orange

Gepaid: CAR000000638
Contact: THE VONS COMPANIES, INC.
Telephone: 6268215608
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: M/S 6516 PO BOX 29096
Mailing City,St,Zip: PHOENIX, AZ 850389096
Gen County: Orange
TSD EPA ID: CAD981402522
TSD County: Kern
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Tons: 2.5101
Facility County: Orange

Gepaid: CAR000000638
Contact: THE VONS COMPANIES, INC.
Telephone: 6268215608
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: M/S 6516 PO BOX 29096
Mailing City,St,Zip: PHOENIX, AZ 850389096
Gen County: Orange
TSD EPA ID: CAD981402522
TSD County: Kern
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Tons: .9356
Facility County: Orange

Click this hyperlink while viewing on your computer to access
-1 additional CA_HAZNET: record(s) in the EDR Site Report.

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3 **VONS NO 508** **RCRA-SQG** **1000984954**
27320 ALICIA PKWY **FINDS** **CAR000000638**
LAGUNA NIGUEL, CA 92677

RCRA-SQG:
Date form received by agency: 02/28/1995
Facility name: VONS NO 508
Facility address: 27320 ALICIA PKWY
LAGUNA NIGUEL, CA 92677
EPA ID: CAR000000638
Mailing address: ALICIA PKWY
LAGUNA NIGUEL, CA 92677
Contact: DAVID KOXX
Contact address: 27320 ALICIA PKWY
LAGUNA NIGUEL, CA 92677
Contact country: US
Contact telephone: (714) 448-9244

VONS NO 508 (Continued) **1000984954**

Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: VONS COMPANIES
Owner/operator address: PO BOX 3338
LOS ANGELES, CA 90051
Owner/operator country: Not reported
Owner/operator telephone: (818) 821-7741
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: Unknown
Mixed waste (haz. and radioactive): Unknown
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: Unknown
Furnace exemption: Unknown
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110002904493

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

3 **CHMIRS** **S108401988**
N/A

27430 ALICIA PARKWAY
LAGUNA NIGEL, CA

CHMIRS:

OES Incident Number:	05-1388
OES notification:	3/1/200511:59:47 AM
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	attendant
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2005
Agency:	Vedder-Root
Incident Date:	3/1/200512:00:00 AM
Admin Agency:	Orange County Emergency Management Division
Amount:	Not reported
Contained:	Yes
Site Type:	Merchant/Business

(Continued) **S108401988**

E Date:	Not reported
Substance:	Gas
Quantity Released:	Not reported
BBLS:	0
Cups:	0
CUFT:	0
Gallons:	.50
Grams:	0
Pounds:	0
Liters:	0
Ounces:	0
Pints:	0
Quarts:	0
Sheen:	0
Tons:	0
Unknown:	0
Description:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
Description:	Unknown what caused the release.

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3 **OSSUR NORTH AMERICA** **FINDS** **1010436585**
27412 ALISO VIEJO PKWY **N/A**
ALISO VIEJO, CA 92656

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110031311275

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

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3 **OSSUR NORTH AMERICA** **HAZNET** **S108752063**
27412 ALISO VIEJO PKWY **N/A**
ALISO VIEJO, CA 92656

HAZNET:

Gepaid:	CAR000178616
Contact:	JOE LOGUIDICE
Telephone:	9493603748
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27412 ALISO VIEJO PKWY
Mailing City,St,Zip:	ALISO VIEJO, CA 926560000
Gen County:	Orange
TSD EPA ID:	AZD982441263
TSD County:	99
Waste Category:	Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)

OSSUR NORTH AMERICA (Continued) **S108752063**

Disposal Method: Not reported
Tons: Not reported
Facility County: Orange

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3 OSSUR NORTH AMERICA **RCRA-SQG** **1010313837**
27412 ALISO VIEJO PKWY **CAR000178616**
ALISO VIEJO, CA 92656

RCRA-SQG:

Date form received by agency:	10/20/2006
Facility name:	OSSUR NORTH AMERICA
Facility address:	27412 ALISO VIEJO PKWY ALISO VIEJO, CA 92656
EPA ID:	CAR000178616
Contact:	JOE LOGUIDICE
Contact address:	27412 ALISO VIEJO PKWY ALISO VIEJO, CA 92656
Contact country:	US
Contact telephone:	949-360-3748
Contact email:	JLOGUIDICE@OSSUR.COM
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	OSSUR NORTH AMERICA
Owner/operator address:	27412 ALISO VIEJO PKWY ALISO VIEJO, CA 92656
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	04/02/2000
Owner/Op end date:	Not reported

Owner/operator name:	OSSUR NORTH AMERICA
Owner/operator address:	Not reported Not reported
Owner/operator country:	Not reported
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	04/02/2000
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No

OSSUR NORTH AMERICA (Continued) **1010313837**

Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No
Off-site waste receiver:	Commercial status unknown

Hazardous Waste Summary:

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: U002
Waste name: ACETONE (I)

Violation Status: No violations found

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4 **USGSA CHET HOLIFIELD FEDERAL BLDG**
24000 AVILA RD
LAGUNA NIGUEL, CA 92677

RCRA-SQG **1000392262**
FINDS **CA7470090203**
HAZNET
LUST
CA FID UST
HIST UST
EMI

RCRA-SQG:
Date form received by agency: 07/11/1986

USGSA CHET HOLIFIELD FEDERAL BLDG (Continued) **1000392262**

Facility name:	USGSA CHET HOLIFIELD FEDERAL BLDG
Facility address:	24000 AVILA RD LAGUNA NIGUEL, CA 92677
EPA ID:	CA7470090203
Mailing address:	PO BOX 12310 SANTA ANA, CA 92712
Contact:	ENVIRONMENTAL MANAGER
Contact address:	24000 AVILA RD LAGUNA NIGUEL, CA 92677
Contact country:	US
Contact telephone:	(714) 836-2632
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	US GOVERNMENT
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Federal
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Federal
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	Unknown
Mixed waste (haz. and radioactive):	Unknown
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	Unknown
Furnace exemption:	Unknown
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No

USGSA CHET HOLIFIELD FEDERAL BLDG (Continued) **1000392262**

Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110002625730

California - Hazardous Waste Tracking System - Datamart

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZNET:

Gepaid:	CA7470090203
Contact:	JOYCE PANDO, PROPERTY MANAGER
Telephone:	9493602033
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	24000 AVILA RD
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926770000
Gen County:	Orange
TSD EPA ID:	AZR000501510
TSD County:	Not reported
Waste Category:	Asbestos-containing waste
Disposal Method:	H14
Tons:	0.03
Facility County:	Orange

Gepaid:	CA7470090203
Contact:	JOYCE PANDO, PROPERTY MANAGER
Telephone:	9493602033
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	24000 AVILA RD SUITE 4100
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926770000
Gen County:	Orange
TSD EPA ID:	CAD982444481
TSD County:	San Bernardino
Waste Category:	Unspecified oil-containing waste
Disposal Method:	H141
Tons:	0.2
Facility County:	Orange

Gepaid:	CA7470090203
Contact:	JOYCE PANDO, PROPERTY MANAGER
Telephone:	9493602033
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	24000 AVILA RD SUITE 4100

USGSA CHET HOLIFIELD FEDERAL BLDG (Continued) **1000392262**

Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926770000
Gen County:	Orange
TSD EPA ID:	CAT000646117
TSD County:	Kings
Waste Category:	Other inorganic solid waste
Disposal Method:	H132
Tons:	134.84
Facility County:	Orange

Gepaid:	CA7470090203
Contact:	JOYCE PANDO, PROPERTY MANAGER
Telephone:	9493602033
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	24000 AVILA RD SUITE 4100
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926770000
Gen County:	Orange
TSD EPA ID:	Not reported
TSD County:	Not reported
Waste Category:	Unspecified solvent mixture Waste
Disposal Method:	H061
Tons:	0.18
Facility County:	Orange

Gepaid:	CA7470090203
Contact:	JOYCE PANDO, PROPERTY MANAGER
Telephone:	9493602033
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	24000 AVILA RD SUITE 4100
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926770000
Gen County:	Orange
TSD EPA ID:	AZR000005454
TSD County:	99
Waste Category:	Polychlorinated biphenyls and material containing PCB's
Disposal Method:	Not reported
Tons:	0.01
Facility County:	Orange

Click this hyperlink while viewing on your computer to access
11 additional CA_HAZNET: record(s) in the EDR Site Report.

LUST:

Region:	STATE
Global Id:	T0605902473
Latitude:	33.5633057
Longitude:	-117.7101558
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	1995-02-09 00:00:00
Lead Agency:	ORANGE COUNTY LOP
Case Worker:	Not reported
Local Agency:	ORANGE COUNTY LOP
RB Case Number:	9UT2386
LOC Case Number:	93UT009
File Location:	Local Agency
Potential Media Affect:	Not reported

USGSA CHET HOLIFIELD FEDERAL BLDG (Continued) **1000392262**

Potential Contaminats of Concern: Diesel, Gasoline
Site History: Not reported

LUST:
Region: ORANGE
Facility Id: 93UT009
Current Status: Certification (Case Closed)
Released Substance: Diesel fuel oil and additives, Nos.1-D, 2-D,2-4
Date Closed: 02/09/1995
Case Type: Soil Only
Record ID: RO0002001

Region: ORANGE
Facility Id: 93UT009
Current Status: Certification (Case Closed)
Released Substance: Gasoline-Automotive (motor gasoline and additives), leaded & unleaded
Date Closed: 02/09/1995
Case Type: Soil Only
Record ID: RO0002001

LUST REG 9:
Region: 9
Status: Case Closed
Case Number: 9UT2386
Local Case: 93UT9
Substance: Gasoline
Qty Leaked: Not reported
Abate Method: Not reported
Local Agency: Orange
How Found: Not reported
How Stopped: Not reported
Source: Not reported
Cause: Not reported
Lead Agency: Local Agency
Case Type: Soil only
Date Found: / /
Date Stopped: / /
Confirm Date: / /
Submit Workplan: Not reported
Prelim Assess: / /
Desc Pollution: Not reported
Remed Plan: 02/22/1993
Remed Action: Not reported
Began Monitor: Not reported
Release Date: 02/11/1993
Enforce Date: Not reported
Closed Date: 2/2/95
Enforce Type: Not reported
Pilot Program: LOP
Basin Number: 901.13
GW Depth: 15’
Beneficial Use: Municipal groundwater use
NPDES Number: Not reported
Priority: Not reported
File Dispn: File discarded, case closed
Interim Remedial Actions: No

USGSA CHET HOLIFIELD FEDERAL BLDG (Continued) **1000392262**

Cleanup and Abatement order Number: Not reported
Waste Discharge Requirement Number: Not reported

CA FID UST:

Facility ID:	30001477
Regulated By:	UTNKA
Regulated ID:	Not reported
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	7146434260
Mail To:	Not reported
Mailing Address:	24000 AVILA RD
Mailing Address 2:	Not reported
Mailing City,St,Zip:	LAGUNA NIGUEL 92677
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

HIST UST:

Region:	STATE
Facility ID:	00000060652
Facility Type:	Other
Other Type:	GOVERNMENT
Total Tanks:	0007
Contact Name:	JOE GOSNELL
Telephone:	7148314260
Owner Name:	G.S.A. US GOVERNMENT
Owner Address:	24000 AVILA ROAD
Owner City,St,Zip:	LAGUNA NIGUEL, CA 92667
Tank Num:	001
Container Num:	7
Year Installed:	1969
Tank Capacity:	00129000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Tank Construction:	12 inches
Leak Detection:	Visual
Tank Num:	002
Container Num:	3
Year Installed:	1969
Tank Capacity:	00000550
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Tank Construction:	Not reported
Leak Detection:	None
Tank Num:	003
Container Num:	1
Year Installed:	1969
Tank Capacity:	00010000

USGSA CHET HOLIFIELD FEDERAL BLDG (Continued) **1000392262**

Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: Not reported
Leak Detection: None

Tank Num: 004
Container Num: 6
Year Installed: 1969
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: 1/4 inches
Leak Detection: Visual, Stock Inventor

Tank Num: 005
Container Num: 5
Year Installed: 1969
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: 1/4 inches
Leak Detection: Visual, Stock Inventor

Tank Num: 006
Container Num: 4
Year Installed: 1969
Tank Capacity: 00000350
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: 12 gauge
Leak Detection: Stock Inventor

Tank Num: 007
Container Num: 2
Year Installed: 1969
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Tank Construction: Not reported
Leak Detection: Visual, Stock Inventor

EMI:

Year:	1990
County Code:	30
Air Basin:	SC
Facility ID:	36756
Air District Name:	SC
SIC Code:	0
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0

USGSA CHET HOLIFIELD FEDERAL BLDG (Continued) **1000392262**

Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

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5 **CUSD/ALISO-NIGUEL HIGH SCHOOL** **HAZNET** **S109425483**
28000 WOLVERINE WAY **N/A**
ALISO VIEJO, CA 92656

HAZNET:

Gepaid:	CAL000116838
Contact:	KITTY ROSS-RISK MGT LEAD
Telephone:	9492349403
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	28000 WOLVERINE WAY
Mailing City,St,Zip:	ALISO VIEJO, CA 926560000
Gen County:	Orange
TSD EPA ID:	CAD008364432
TSD County:	Los Angeles
Waste Category:	Laboratory waste chemicals
Disposal Method:	H061
Tons:	0.6
Facility County:	Orange

Gepaid:	CAL000116838
Contact:	KITTY ROSS-RISK MGT LEAD
Telephone:	9492349403
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	28000 WOLVERINE WAY
Mailing City,St,Zip:	ALISO VIEJO, CA 926560000
Gen County:	Orange
TSD EPA ID:	CAD008364432
TSD County:	Los Angeles
Waste Category:	Laboratory waste chemicals
Disposal Method:	H141
Tons:	0.24
Facility County:	Orange

---

5 **CUSD/ALISO-NIGUEL HIGH SCHOOL** **HAZNET** **S104578343**
28000 TERRACE VIEW DRIVE **N/A**
ALISO VIEJO, CA 92656

HAZNET:

Gepaid:	CAL000116838
Contact:	KITTY ROSS-RISK MGT. TECH
Telephone:	9492349403
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	32972 CALLE PERFECTO
Mailing City,St,Zip:	SAN JUAN CAPISTRANO, CA 926754706
Gen County:	Orange
TSD EPA ID:	CAD008364432
TSD County:	Los Angeles
Waste Category:	Laboratory waste chemicals
Disposal Method:	Not reported
Tons:	Not reported
Facility County:	Orange

CUSD/ALISO-NIGUEL HIGH SCHOOL (Continued) **S104578343**

Gepaid: CAL000116838
Contact: CAPISTRANO UNIFIED SCHOOL DIST
Telephone: 7144897000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 32972 CALLE PERFECTO
Mailing City,St,Zip: SAN JUAN CAPISTRANO, CA 926754706
Gen County: Orange
TSD EPA ID: CAD028409019
TSD County: Los Angeles
Waste Category: Laboratory waste chemicals
Disposal Method: Transfer Station
Tons: .0630
Facility County: Orange

Gepaid: CAL000116838
Contact: JAN CANNON MGR INSURANCE PROG
Telephone: 9494897291
Facility Addr2: Not reported
Mailing Name: KITTY SMITH
Mailing Address: 32972 CALLE PERFECTO
Mailing City,St,Zip: SAN JUAN CAPISTRANO, CA 926754706
Gen County: Orange
TSD EPA ID: CAD008364432
TSD County: Orange
Waste Category: Laboratory waste chemicals
Disposal Method: Transfer Station
Tons: 0
Facility County: Orange

Gepaid: CAL000116838
Contact: JAN CANNON MGR INSURANCE PROG
Telephone: 9494897291
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 32972 CALLE PERFECTO
Mailing City,St,Zip: SAN JUAN CAPISTRANO, CA 926754706
Gen County: Orange
TSD EPA ID: CAD008364432
TSD County: Los Angeles
Waste Category: Laboratory waste chemicals
Disposal Method: Transfer Station
Tons: 0.39
Facility County: Not reported

Gepaid: CAL000116838
Contact: CAPISTRANO UNIFIED SCHOOL DIST
Telephone: 7144897000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 32972 CALLE PERFECTO
Mailing City,St,Zip: SAN JUAN CAPISTRANO, CA 926754706
Gen County: Orange
TSD EPA ID: CAD028409019
TSD County: Los Angeles
Waste Category: Laboratory waste chemicals
Disposal Method: Transfer Station

CUSD/ALISO-NIGUEL HIGH SCHOOL (Continued) **S104578343**

Tons: 0.03
Facility County: Orange

Click this hyperlink while viewing on your computer to access
3 additional CA_HAZNET: record(s) in the EDR Site Report.

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6 WAL-MART STORE #2206 **HAZNET** **S103994856**
27470 ALICIA PARKWAY **N/A**
LAGUNA NIGUEL, CA 92677

HAZNET:

Gepaid: CAL000157016
Contact: JAMIE HUENS/SENIOR ENVT'L MGR
Telephone: 4792048453
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 508 SW 8TH STREET
Mailing City,St,Zip: Bentonville, AR 727120505
Gen County: Orange
TSD EPA ID: CAD008364432
TSD County: Los Angeles
Waste Category: Not reported
Disposal Method: H14
Tons: Not reported
Facility County: Orange

Gepaid: CAL000157016
Contact: RICH DAILEY/DIR ENVT'L SVCS
Telephone: 4792049914
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 508 SW 8TH STREET
Mailing City,St,Zip: Bentonville, AR 727120505
Gen County: Orange
TSD EPA ID: CAD008364432
TSD County: Los Angeles
Waste Category: Off-specification, aged, or surplus organics
Disposal Method: Not reported
Tons: Not reported
Facility County: Orange

Gepaid: CAL000157016
Contact: WAL-MART STORES INC
Telephone: 5012731949
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: DEPT 8013
Mailing City,St,Zip: BENTONVILLE, AR 727168013
Gen County: Orange
TSD EPA ID: CAD003963592
TSD County: Santa Clara
Waste Category: Other inorganic solid waste
Disposal Method: Recycler
Tons: .0100
Facility County: Orange

Gepaid: CAL000157016
Contact: WAL-MART STORES INC

WAL-MART STORE #2206 (Continued) **S103994856**

Telephone:	5012731949
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	DEPT 8013
Mailing City,St,Zip:	BENTONVILLE, AR 727168013
Gen County:	Orange
TSD EPA ID:	CAD003963592
TSD County:	Santa Clara
Waste Category:	Photochemicals/photoprocessing waste
Disposal Method:	Recycler
Tons:	13.7609
Facility County:	Orange

Gepaid:	CAL000157016
Contact:	WAL-MART STORES INC
Telephone:	5012731949
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	DEPT 8013
Mailing City,St,Zip:	BENTONVILLE, AR 727168013
Gen County:	Orange
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Aqueous solution with 10% or more total organic residues
Disposal Method:	Recycler
Tons:	.9591
Facility County:	Orange

Click this hyperlink while viewing on your computer to access
49 additional CA_HAZNET: record(s) in the EDR Site Report.

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6 **WAL MART # 2206** **UST** **U003942960**
27470 ALICIA PKWY **N/A**
LAGUNA NIGUEL, CA 92677

UST:

Global ID:	4573
Latitude:	33.5636
Longitude:	-117.71554

---

6 **MOBIL #18-CDC** **UST** **U003433205**
27430 ALICIA PKWY **N/A**
LAGUNA NIGUEL, CA 92677

UST:

Global ID:	4716
Latitude:	33.56444
Longitude:	-117.71558

UST:

Facility ID:	FA0025070

6 **CHMIRS** **S106397410**
N/A

27430 ALICIA PARKWAY
LAGUNA NIGUEL, CA

CHMIRS:

OES Incident Number:	03-0467
OES notification:	1/24/200312:13:37 PM
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2003
Agency:	Veeder Root
Incident Date:	1/24/200312:00:00 AM
Admin Agency:	Orange County Emergency Managment Div
Amount:	Not reported
Contained:	Yes
Site Type:	Service Station

(Continued) **S106397410**

E Date:	Not reported
Substance:	gasoline
Quantity Released:	Not reported
BBLS:	0
Cups:	0
CUFT:	0
Gallons:	5
Grams:	0
Pounds:	0
Liters:	0
Ounces:	0
Pints:	0
Quarts:	0
Sheen:	0
Tons:	0
Unknown:	0
Description:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
Description:	Customer drove off with hose still attached to car.

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6 **EXXONMOBIL OIL CORP 17875** **HAZNET** **S103978105**
27430 ALICIA PKWY **CHMIRS** **N/A**
LAGUNA NIGUEL, CA 92656

HAZNET:

Gepaid:	CAL000125658
Contact:	DALE VIATOR, ENVT'L ADVISOR
Telephone:	2816548470
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	16945 NORTHCHASE DRIVE ROOM 538
Mailing City,St,Zip:	HOUSTON, TX 770600000
Gen County:	Orange
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Waste Category:	Aqueous solution with 10% or more total organic residues
Disposal Method:	Treatment, Tank
Tons:	0.22
Facility County:	Orange

Gepaid:	CAL000125658
Contact:	MOBIL
Telephone:	3102124668
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 142667
Mailing City,St,Zip:	AUSTIN, TX 787142667
Gen County:	Orange
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Recycler
Tons:	.0041
Facility County:	Orange

Gepaid:	CAL000125658

EXXONMOBIL OIL CORP 17875 (Continued) **S103978105**

Contact:	MOBIL
Telephone:	3102124668
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 142667
Mailing City,St,Zip:	AUSTIN, TX 787142667
Gen County:	Orange
TSD EPA ID:	CAT08001335
TSD County:	0
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Not reported
Tons:	.0041
Facility County:	Orange

Gepaid:	CAL000125658
Contact:	MOBIL
Telephone:	3102124668
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 142667
Mailing City,St,Zip:	AUSTIN, TX 787142667
Gen County:	Orange
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Treatment, Tank
Tons:	.0333
Facility County:	Orange

Gepaid:	CAL000125658
Contact:	DALE VIATOR, ENVT'L ADVISOR
Telephone:	2816548470
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	16945 NORTHCHASE DRIVE ROOM 538
Mailing City,St,Zip:	HOUSTON, TX 770600000
Gen County:	Orange
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Waste Category:	Hydrocarbon solvents (benzene, hexane, Stoddard, etc.)
Disposal Method:	H135
Tons:	0.03
Facility County:	Orange

Click this hyperlink while viewing on your computer to access
19 additional CA_HAZNET: record(s) in the EDR Site Report.

CHMIRS:

OES Incident Number:	05-0903
OES notification:	2/10/200508:15:10 AM
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported

EXXONMOBIL OIL CORP 17875 (Continued) **S103978105**

Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Unknown
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2005
Agency:	Veeder Root
Incident Date:	2/10/200512:00:00 AM
Admin Agency:	Orange County Emergency Managment Div
Amount:	Not reported
Contained:	Yes
Site Type:	Service Station
E Date:	Not reported
Substance:	Gasoline
Quantity Released:	Not reported
BBLS:	0
Cups:	0
CUFT:	0
Gallons:	1
Grams:	0
Pounds:	0
Liters:	0
Ounces:	0
Pints:	0

EXXONMOBIL OIL CORP 17875 (Continued) **S103978105**

Quarts:	0
Sheen:	0
Tons:	0
Unknown:	0
Description:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
Description:	The auto shut off failed and gasoline spilled to concrete.A customer drove off and broke hose.
OES Incident Number:	02-2303
OES notification:	4/27/200203:35:35 PM
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Contractor
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported

EXXONMOBIL OIL CORP 17875 (Continued) **S103978105**

Date/Time:	Not reported
Year:	2002
Agency:	Veeder Root
Incident Date:	4/27/200212:00:00 AM
Admin Agency:	Orange County Emergency Managment Div
Amount:	Not reported
Contained:	Yes
Site Type:	Service Station
E Date:	Not reported
Substance:	Gasoline
Quantity Released:	Not reported
BBLS:	0
Cups:	0
CUFT:	0
Gallons:	i
Grams:	0
Pounds:	0
Liters:	0
Ounces:	0
Pints:	0
Quarts:	0
Sheen:	0
Tons:	0
Unknown:	0
Description:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
Description:	The auto shut off failed and gasoline spilled to concrete.A customer drove off and broke hose.

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6 **SHELL SERVICE STATION** **UST** **U003949075**
27882 ALISO CREEK RD **N/A**
ALISO VIEJO, CA 92656

UST:

Global ID:	5441
Latitude:	33.5578
Longitude:	-117.72404

UST:

Facility ID:	FA0025079

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6 **JIFFY LUBE #1339** **FINDS** **1007650330**
27832 ALISO CREEK RD **N/A**
ALISO VIEJO, CA 92656

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110017959299

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA

JIFFY LUBE #1339 (Continued) **1007650330**

program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

UORS (California - Used Oil Recycling System). California Integrated Waste Management Board (CIWMB) helps communities establish and promote convenient collection opportunities for used oil and used oil filters.

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6 ALISO CREEK SHELL **HAZNET** **S106094034**
27822 ALISO CREEK RD **N/A**
ALISO VIEJO, CA 92656

HAZNET:

Gepaid:	CAL000262128
Contact:	SAM OLAK
Telephone:	5106579150
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	41805 ALBRAE ST 2ND FLOOR
Mailing City,St,Zip:	FREMONT, CA 945380000
Gen County:	Orange
TSD EPA ID:	CAD982444481
TSD County:	San Bernardino
Waste Category:	Aqueous solution with less than 10% total organic residues
Disposal Method:	Treatment, Tank
Tons:	0.2
Facility County:	Orange

Gepaid:	CAL000262128
Contact:	SAM OLAK
Telephone:	5102939150
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	28456 CENTURY ST
Mailing City,St,Zip:	HAYWARD, CA 94545
Gen County:	Orange
TSD EPA ID:	Not reported
TSD County:	Los Angeles
Waste Category:	Aqueous solution with less than 10% total organic residues
Disposal Method:	Treatment, Tank
Tons:	0.08
Facility County:	Not reported

Gepaid:	CAL000262128
Contact:	SAM OLAK
Telephone:	5102939150
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	28456 CENTURY ST
Mailing City,St,Zip:	HAYWARD, CA 94545
Gen County:	Orange
TSD EPA ID:	IND000646943
TSD County:	99
Waste Category:	Other organic solids
Disposal Method:	Recycler
Tons:	Not reported
Facility County:	Not reported

6 LA PAZ SVC CENTER **HAZNET** **S103974027**
27812 ALISO CREEK #E120 **N/A**
ALISO VIEJO, CA 92656

HAZNET:

Gepaid:	CAL922045866
Contact:	LA PAZ SVC CENTER
Telephone:	7143628955
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27812 ALISO CREEK RD STE E120
Mailing City,St,Zip:	ALISO VIEJO, CA 926563845
Gen County:	Orange
TSD EPA ID:	CAD093459485
TSD County:	Fresno
Waste Category:	Unspecified solvent mixture Waste
Disposal Method:	Transfer Station
Tons:	.0166
Facility County:	Orange

Gepaid:	CAL922045866
Contact:	--
Telephone:	--
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27812 ALISO CREEK RD STE E120
Mailing City,St,Zip:	ALISO VIEJO, CA 926563845
Gen County:	Orange
TSD EPA ID:	NVR000037432
TSD County:	99
Waste Category:	Unspecified aqueous solution
Disposal Method:	Recycler
Tons:	0.02
Facility County:	Orange

Gepaid:	CAL922045866
Contact:	LA PAZ SVC CENTER
Telephone:	7143628955
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27812 ALISO CREEK RD STE E120
Mailing City,St,Zip:	ALISO VIEJO, CA 926563845
Gen County:	Orange
TSD EPA ID:	CAT000613893
TSD County:	Los Angeles
Waste Category:	Aqueous solution with less than 10% total organic residues
Disposal Method:	Transfer Station
Tons:	.1251
Facility County:	Orange

Gepaid:	CAL922045866
Contact:	LA PAZ SVC CENTER
Telephone:	7143628955
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27812 ALISO CREEK RD STE E120
Mailing City,St,Zip:	ALISO VIEJO, CA 926563845
Gen County:	Orange
TSD EPA ID:	CAT000613893

LA PAZ SVC CENTER (Continued) **S103974027**

TSD County: Los Angeles
Waste Category: Not reported
Disposal Method: Not reported
Tons: .0166
Facility County: Orange

Gepaid: CAL922045866
Contact: --
Telephone: --
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 27812 ALISO CREEK RD STE E120
Mailing City,St,Zip: ALISO VIEJO, CA 926563845
Gen County: Orange
TSD EPA ID: Not reported
TSD County: Los Angeles
Waste Category: Unspecified aqueous solution
Disposal Method: Recycler
Tons: 0.2
Facility County: Not reported

Click this hyperlink while viewing on your computer to access
5 additional CA_HAZNET: record(s) in the EDR Site Report.

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6 **PACIFIC AUTOMOTIVE** **HAZNET** **S105092296**
27802 ALISO CREEK RD UNIT D130 **N/A**
ALISO VIEJO, CA 92656

HAZNET:
Gepaid: CAL000208151
Contact: KEITH ROMEO
Telephone: 0000000000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 27802 ALISO CREEK RD UNIT D130
Mailing City,St,Zip: ALISO VIEJO, CA 926560000
Gen County: Orange
TSD EPA ID: CAD099452708
TSD County: Los Angeles
Waste Category: Unspecified aqueous solution
Disposal Method: Recycler
Tons: 1.1465
Facility County: Orange

Gepaid: CAL000208151
Contact: KEITH ROMEO
Telephone: 0000000000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 27802 ALISO CREEK RD UNIT D130
Mailing City,St,Zip: ALISO VIEJO, CA 926560000
Gen County: Orange
TSD EPA ID: NRV000001925
TSD County: 0
Waste Category: Unspecified aqueous solution
Disposal Method: Not reported
Tons: .4586
Facility County: Orange

PACIFIC AUTOMOTIVE (Continued) **S105092296**

Gepaid:	CAL000208151
Contact:	KEITH ROMEO
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27802 ALISO CREEK RD UNIT D130
Mailing City,St,Zip:	ALISO VIEJO, CA 926560000
Gen County:	Orange
TSD EPA ID:	NRV000001925
TSD County:	0
Waste Category:	Unspecified aqueous solution
Disposal Method:	Recycler
Tons:	.2293
Facility County:	Orange

Gepaid:	CAL000208151
Contact:	KEITH ROMEO/OWNER
Telephone:	9493628212
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27802 ALISO CREEK RD UNIT D130
Mailing City,St,Zip:	ALISO VIEJO, CA 926560000
Gen County:	Orange
TSD EPA ID:	Not reported
TSD County:	99
Waste Category:	Unspecified aqueous solution
Disposal Method:	Recycler
Tons:	0.47
Facility County:	Not reported

Gepaid:	CAL000208151
Contact:	KEITH ROMEO/OWNER
Telephone:	9493628212
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27802 ALISO CREEK RD UNIT D130
Mailing City,St,Zip:	ALISO VIEJO, CA 926560000
Gen County:	Orange
TSD EPA ID:	Not reported
TSD County:	Los Angeles
Waste Category:	Unspecified aqueous solution
Disposal Method:	Recycler
Tons:	0.45
Facility County:	Not reported

Click this hyperlink while viewing on your computer to access
2 additional CA_HAZNET: record(s) in the EDR Site Report.

6 EXTREME MUSTANG PERFORMANCE **HAZNET** **S105726049**
27802 ALISO CREEK RD STE D190 **N/A**
ALISO VIEJO, CA 92656

HAZNET:

Gepaid:	CAL000237974
Contact:	ERIC CHENEY, OWNER
Telephone:	9493056550
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27802 ALISO CREEK RD STE D190
Mailing City,St,Zip:	ALISO VIEJO, CA 926560000
Gen County:	Orange
TSD EPA ID:	NVR000037432
TSD County:	99
Waste Category:	Unspecified aqueous solution
Disposal Method:	Recycler
Tons:	0.1
Facility County:	Orange

Gepaid:	CAL000237974
Contact:	ROBIN CHENEY
Telephone:	9493056550
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27802 ALISO CREEK RD STE D190
Mailing City,St,Zip:	ALISO VIEJO, CA 926560000
Gen County:	Orange
TSD EPA ID:	Not reported
TSD County:	99
Waste Category:	Unspecified aqueous solution
Disposal Method:	Recycler
Tons:	0.1
Facility County:	Not reported

Gepaid:	CAL000237974
Contact:	ROBIN CHENEY
Telephone:	9493056550
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27802 ALISO CREEK RD STE D190
Mailing City,St,Zip:	ALISO VIEJO, CA 926560000
Gen County:	Orange
TSD EPA ID:	Not reported
TSD County:	99
Waste Category:	Not reported
Disposal Method:	Recycler
Tons:	Not reported
Facility County:	Not reported

Gepaid:	CAL000237974
Contact:	ROBIN CHENEY
Telephone:	9493056550
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27802 ALISO CREEK RD STE D190
Mailing City,St,Zip:	ALISO VIEJO, CA 926560000
Gen County:	Orange
TSD EPA ID:	Not reported

EXTREME MUSTANG PERFORMANCE (Continued) **S105726049**

TSD County: 99
Waste Category: Unspecified aqueous solution
Disposal Method: Not reported
Tons: 0.10
Facility County: Not reported

Gepaid: CAL000237974
Contact: ROBIN CHENEY
Telephone: 9493056550
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 27802 ALISO CREEK RD STE D190
Mailing City,St,Zip: ALISO VIEJO, CA 926560000
Gen County: Orange
TSD EPA ID: Not reported
TSD County: 99
Waste Category: Unspecified aqueous solution
Disposal Method: Recycler
Tons: 0.40
Facility County: Not reported

Click this hyperlink while viewing on your computer to access
4 additional CA_HAZNET: record(s) in the EDR Site Report.

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6 **THE ABBEY COMPANY** **HAZNET** **S104566901**
27802 ALISO CREEK RD **N/A**
ALISO VIEJO, CA 92656

HAZNET:
Gepaid: CAC001385344
Contact: SHERRY CORDET-SR MGR
Telephone: 7147408800
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 12383 LEWIS ST STE 200
Mailing City,St,Zip: GARDEN GROVE, CA 928400000
Gen County: Orange
TSD EPA ID: CAD099452708
TSD County: Los Angeles
Waste Category: Waste oil and mixed oil
Disposal Method: Recycler
Tons: 3.29
Facility County: Orange

Gepaid: CAC001385344
Contact: THE ABBEY COMPANY CORP
Telephone: 7147408800
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 12383 LEWIS ST STE 200
Mailing City,St,Zip: GARDEN GROVE, CA 928400000
Gen County: Orange
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Waste Category: Oil/water separation sludge
Disposal Method: Recycler
Tons: 5.838
Facility County: Orange

THE ABBEY COMPANY (Continued) **S104566901**

Gepaid:	CAC001385344
Contact:	SHERRY CORDET-SR MGR
Telephone:	7147408800
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	12383 LEWIS ST STE 200
Mailing City,St,Zip:	GARDEN GROVE, CA 928400000
Gen County:	Orange
TSD EPA ID:	CAD099452708
TSD County:	Los Angeles
Waste Category:	Unspecified aqueous solution
Disposal Method:	H039
Tons:	0.09
Facility County:	Orange

Gepaid:	CAC001385344
Contact:	SHERRY CORDET-SR MGR
Telephone:	7147408800
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	12383 LEWIS ST STE 200
Mailing City,St,Zip:	GARDEN GROVE, CA 928400000
Gen County:	Orange
TSD EPA ID:	CAD099452708
TSD County:	Los Angeles
Waste Category:	Waste oil and mixed oil
Disposal Method:	H039
Tons:	3.7
Facility County:	Orange

Gepaid:	CAC001385344
Contact:	THE ABBEY COMPANY CORP
Telephone:	7147408800
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	12383 LEWIS ST STE 200
Mailing City,St,Zip:	GARDEN GROVE, CA 928400000
Gen County:	Orange
TSD EPA ID:	CAD099452708
TSD County:	Los Angeles
Waste Category:	Waste oil and mixed oil
Disposal Method:	Recycler
Tons:	7.1307
Facility County:	Orange

Click this hyperlink while viewing on your computer to access
2 additional CA_HAZNET: record(s) in the EDR Site Report.

6 GOLDEN WRENCH AUTOMOTIVE **HAZNET** **S103966348**
27802 ALISO CREEK RD **N/A**
ALISO VIEJO, CA 92656

HAZNET:

Gepaid:	CAL921124630
Contact:	BEHROUZ AND PARVIZ HORRIAT
Telephone:	7143621188
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27802 ALISO CREEK RD STE 130
Mailing City,St,Zip:	ALISO VIEJO, CA 926563844
Gen County:	Orange
TSD EPA ID:	CAD093459485
TSD County:	Fresno
Waste Category:	Unspecified solvent mixture Waste
Disposal Method:	Transfer Station
Tons:	.0664
Facility County:	Orange

Gepaid:	CAL921124630
Contact:	BEHROUZ AND PARVIZ HORRIAT
Telephone:	7143621188
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27802 ALISO CREEK RD STE 130
Mailing City,St,Zip:	ALISO VIEJO, CA 926563844
Gen County:	Orange
TSD EPA ID:	CAD099452708
TSD County:	Los Angeles
Waste Category:	Unspecified aqueous solution
Disposal Method:	Recycler
Tons:	.2293
Facility County:	Orange

Gepaid:	CAL921124630
Contact:	BEHROUZ AND PARVIZ HORRIAT
Telephone:	7143621188
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27802 ALISO CREEK RD STE 130
Mailing City,St,Zip:	ALISO VIEJO, CA 926563844
Gen County:	Orange
TSD EPA ID:	CAD093459485
TSD County:	Fresno
Waste Category:	Unspecified solvent mixture Waste
Disposal Method:	Transfer Station
Tons:	.0166
Facility County:	Orange

Gepaid:	CAL921124630
Contact:	JIMMY HORRIAT
Telephone:	7148551188
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27802 ALISO CREEK RD STE 130
Mailing City,St,Zip:	ALISO VIEJO, CA 926563844
Gen County:	Orange
TSD EPA ID:	Not reported

GOLDEN WRENCH AUTOMOTIVE (Continued) **S103966348**

TSD County:	99
Waste Category:	Unspecified aqueous solution
Disposal Method:	Recycler
Tons:	0.68
Facility County:	Not reported

Gepaid:	CAL921124630
Contact:	JIMMY HORRIAT
Telephone:	7148551188
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27802 ALISO CREEK RD STE 130
Mailing City,St,Zip:	ALISO VIEJO, CA 926563844
Gen County:	Orange
TSD EPA ID:	Not reported
TSD County:	Los Angeles
Waste Category:	Unspecified aqueous solution
Disposal Method:	Recycler
Tons:	0.45
Facility County:	Not reported

Click this hyperlink while viewing on your computer to access
6 additional CA_HAZNET: record(s) in the EDR Site Report.

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6 **ALISO VIEJO FOREIGN CAR SPEC** **RCRA-SQG** **1000818616**
27802 ALISO CREEK RD **FINDS** **CAD983645201**
ALISO VIEJO, CA 92656 **HAZNET**

RCRA-SQG:

Date form received by agency:	08/10/1992
Facility name:	ALISO VIEJO FOREIGN CAR SPEC
Facility address:	27802 ALISO CREEK RD ALISO VIEJO, CA 92656
EPA ID:	CAD983645201
Mailing address:	ALISO CREEK RD ALISO VIEJO, CA 92656
Contact:	RITCHIE JULIAN
Contact address:	27802 ALISO CREEK RD ALISO VIEJO, CA 92656
Contact country:	US
Contact telephone:	(714) 495-5545
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	RITCHIE JULIAN
Owner/operator address:	27802 ALISO VIEJO CA D140 ALISO VIEJO, CA 92646
Owner/operator country:	Not reported
Owner/operator telephone:	(714) 495-5545
Legal status:	Private

ALISO VIEJO FOREIGN CAR SPEC (Continued) **1000818616**

Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: Unknown
Mixed waste (haz. and radioactive): Unknown
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: Unknown
Furnace exemption: Unknown
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110002882426

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZNET:
Gepaid: CAD983645201
Contact: RITCHIE JULIAN
Telephone: 7144955545
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 27802 ALISO CREEK RD
Mailing City,St,Zip: ALISO VIEJO, CA 926560000
Gen County: Orange
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Waste Category: Unspecified aqueous solution
Disposal Method: Recycler
Tons: 1.2510
Facility County: Orange

Gepaid: CAD983645201
Contact: RITCHIE JULIAN
Telephone: 7144955545
Facility Addr2: Not reported

ALISO VIEJO FOREIGN CAR SPEC (Continued) **1000818616**

Mailing Name: Not reported
Mailing Address: 27802 ALISO CREEK RD
Mailing City,St,Zip: ALISO VIEJO, CA 926560000
Gen County: Orange
TSD EPA ID: CAD093459485
TSD County: Fresno
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Transfer Station
Tons: .0166
Facility County: Orange

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6 **ALISO FOREIGN CAR** **HAZNET** **S103949354**
27802 ALISO CREEK RD **N/A**
ALISO VIEJO, CA 92656

HAZNET:
Gepaid: CAL000177219
Contact: KENT DEBORD
Telephone: 0000000000
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 27802 ALISO CREEK RD
Mailing City,St,Zip: ALISO VIEJO, CA 926560000
Gen County: Orange
TSD EPA ID: CAD093459485
TSD County: Fresno
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Transfer Station
Tons: .0166
Facility County: Orange

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6 **US AUTOMOTIVE** **HAZNET** **S105724508**
27802 ALISO CREEK RD #100 **N/A**
ALISO VIEJO, CA 92659

HAZNET:
Gepaid: CAL000211801
Contact: MOHAMMAD MOHSENI
Telephone: 9494251795
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 27802 ALISO CREEK RD #100
Mailing City,St,Zip: ALISO VIEJO, CA 926590000
Gen County: Orange
TSD EPA ID: Not reported
TSD County: Los Angeles
Waste Category: Unspecified aqueous solution
Disposal Method: Recycler
Tons: 0.39
Facility County: Not reported

Gepaid: CAL000211801
Contact: MOHAMMAD MOHSENI
Telephone: 9494251795
Facility Addr2: Not reported
Mailing Name: Not reported

US AUTOMOTIVE (Continued) **S105724508**

Mailing Address: 27802 ALISO CREEK RD #100
Mailing City,St,Zip: ALISO VIEJO, CA 926590000
Gen County: Orange
TSD EPA ID: Not reported
TSD County: 99
Waste Category: Unspecified aqueous solution
Disposal Method: Recycler
Tons: 0.66
Facility County: Not reported

Gepaid: CAL000211801
Contact: MOHAMMAD MOHSENI
Telephone: 9494251795
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 27802 ALISO CREEK RD #100
Mailing City,St,Zip: ALISO VIEJO, CA 926590000
Gen County: Orange
TSD EPA ID: NVR000037432
TSD County: Orange
Waste Category: Unspecified aqueous solution
Disposal Method: Recycler
Tons: 0.22
Facility County: Orange

Gepaid: CAL000211801
Contact: MOHAMMAD MOHSENI
Telephone: 9494251795
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 27802 ALISO CREEK RD #100
Mailing City,St,Zip: ALISO VIEJO, CA 926590000
Gen County: Orange
TSD EPA ID: NVR000037432
TSD County: 99
Waste Category: Unspecified aqueous solution
Disposal Method: Not reported
Tons: 0.45
Facility County: Not reported

Gepaid: CAL000211801
Contact: MOHAMMAD MOHSENI
Telephone: 9494251795
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 27802 ALISO CREEK RD #100
Mailing City,St,Zip: ALISO VIEJO, CA 926590000
Gen County: Orange
TSD EPA ID: NVR000037432
TSD County: 99
Waste Category: Unspecified aqueous solution
Disposal Method: Not reported
Tons: 0.45
Facility County: Not reported

US AUTOMOTIVE (Continued) **S105724508**

Click this hyperlink while viewing on your computer to access additional CA_HAZNET: detail in the EDR Site Report.

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6 **WINDROSE PACIFIC ASSOCIATES II** **HAZNET** **S103996118**
27802 ALISO CREEK RD **N/A**
ALISO VIEJO, CA 92656

HAZNET:

Gepaid:	CAC001106360
Contact:	PARTNERSHIP DENNIS SMITH PRES
Telephone:	7144742216
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PARTNERS REALTY GROUP
Mailing City,St,Zip:	IRVINE, CA 927140000
Gen County:	Orange
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Oil/water separation sludge
Disposal Method:	Recycler
Tons:	14.3865
Facility County:	Orange

Gepaid:	CAC001106360
Contact:	PARTNERSHIP DENNIS SMITH PRES
Telephone:	7144742216
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PARTNERS REALTY GROUP
Mailing City,St,Zip:	IRVINE, CA 927140000
Gen County:	Orange
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Oil/water separation sludge
Disposal Method:	Recycler
Tons:	13.7610
Facility County:	Orange

Gepaid:	CAC001106360
Contact:	PARTNERSHIP DENNIS SMITH PRES
Telephone:	7144742216
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PARTNERS REALTY GROUP
Mailing City,St,Zip:	IRVINE, CA 927140000
Gen County:	Orange
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Oil/water separation sludge
Disposal Method:	Recycler
Tons:	7.3392
Facility County:	Orange

Gepaid:	CAC001106360
Contact:	PARTNERSHIP DENNIS SMITH PRES
Telephone:	7144742216
Facility Addr2:	Not reported
Mailing Name:	Not reported

WINDROSE PACIFIC ASSOCIATES II (Continued) **S103996118**

Mailing Address: PARTNERS REALTY GROUP
Mailing City,St,Zip: IRVINE, CA 927140000
Gen County: Orange
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Waste Category: Waste oil and mixed oil
Disposal Method: Recycler
Tons: .5421
Facility County: Orange

Gepaid: CAC001106360
Contact: PARTNERSHIP DENNIS SMITH PRES
Telephone: 7144742216
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PARTNERS REALTY GROUP
Mailing City,St,Zip: IRVINE, CA 927140000
Gen County: Orange
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Waste Category: Not reported
Disposal Method: Recycler
Tons: .0000
Facility County: Orange

Click this hyperlink while viewing on your computer to access additional CA_HAZNET: detail in the EDR Site Report.

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6 **WINDROSE PLAZA** **HAZNET** **S100878386**
27802 ALISO CREEK RD. **N/A**
ALISO VIEJO, CA 92656

HAZNET:
Gepaid: CAL000107690
Contact: WINDROSE PACIFIC ASSO II
Telephone: 7144742216
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 5405 ALTON PKWY # 631
Mailing City,St,Zip: IRVINE, CA 926043717
Gen County: Orange
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Waste Category: Oil/water separation sludge
Disposal Method: Not reported
Tons: 6.2550
Facility County: Orange

Gepaid: CAL000107690
Contact: WINDROSE PACIFIC ASSO II
Telephone: 7144742216
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 5405 ALTON PKWY # 631
Mailing City,St,Zip: IRVINE, CA 926043717
Gen County: Orange
TSD EPA ID: CAT080013352
TSD County: Los Angeles

WINDROSE PLAZA (Continued) **S100878386**

Waste Category: Waste oil and mixed oil
Disposal Method: Recycler
Tons: 17.0970
Facility County: Orange

Gepaid: CAL000107690
Contact: WINDROSE PACIFIC ASSO II
Telephone: 7144742216
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 5405 ALTON PKWY # 631
Mailing City,St,Zip: IRVINE, CA 926043717
Gen County: Orange
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Waste Category: Oil/water separation sludge
Disposal Method: Recycler
Tons: 5.421
Facility County: Orange

Gepaid: CAL000107690
Contact: WINDROSE PACIFIC ASSO II
Telephone: 7144742216
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 5405 ALTON PKWY # 631
Mailing City,St,Zip: IRVINE, CA 926043717
Gen County: Orange
TSD EPA ID: CAD099452708
TSD County: Los Angeles
Waste Category: Oil/water separation sludge
Disposal Method: Recycler
Tons: 1.5429
Facility County: Orange

Gepaid: CAL000107690
Contact: WINDROSE PACIFIC ASSO II
Telephone: 7144742216
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 5405 ALTON PKWY # 631
Mailing City,St,Zip: IRVINE, CA 926043717
Gen County: Orange
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Waste Category: Oil/water separation sludge
Disposal Method: Not reported
Tons: 5.4210
Facility County: Orange

Click this hyperlink while viewing on your computer to access
10 additional CA_HAZNET: record(s) in the EDR Site Report.

6 PEPSI CO — **UST** — **U003913287**
27717 ALISO CREEK RD — **SWEEPS UST** — **N/A**
ALISO VIEJO, CA 92656

UST:

Global ID:	3716
Latitude:	33.56119
Longitude:	-117.72591

UST:

Facility ID:	FA0023994

SWEEPS UST:

Status:	A
Comp Number:	10921
Number:	9
Board Of Equalization:	Not reported
Ref Date:	09-30-92
Act Date:	09-15-92
Created Date:	02-29-88
Tank Status:	Not reported
Owner Tank Id:	Not reported
Swrcb Tank Id:	Not reported
Actv Date:	Not reported
Capacity:	Not reported
Tank Use:	Not reported
Stg:	Not reported
Content:	Not reported
Number Of Tanks:	Not reported

---

6 PEPSI COLA BOTTLING COMPANY — **HAZNET** — **S103981483**
27717 ALISO CREEK RD — **LUST** — **N/A**
ALISO VIEJO, CA 92656

HAZNET:

Gepaid:	CAC001395944
Contact:	PEPSI COLA BOTTLING COMPANY
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27717 ALISO CREEK RD
Mailing City,St,Zip:	ALISO VIEJO, CA 926560000
Gen County:	Orange
TSD EPA ID:	CAT080025711
TSD County:	San Bernardino
Waste Category:	Aqueous solution with less than 10% total organic residues
Disposal Method:	Not reported
Tons:	.1459
Facility County:	Orange

LUST:

Region:	ORANGE
Facility Id:	98UT100
Current Status:	Certification (Case Closed)
Released Substance:	Diesel fuel oil and additives, Nos.1-D, 2-D, 2-4
Date Closed:	12/17/1999
Case Type:	Soil Only
Record ID:	RO0001154

6 PEPSI COLA FACILITY **LUST** **S103472030**
27717 ALISO CREEK RD **N/A**
ALISO VIEJO, CA 92656

LUST:

Region:	STATE
Global Id:	T0605902566
Latitude:	33.555537
Longitude:	-117.7123419
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	1999-12-17 00:00:00
Lead Agency:	ORANGE COUNTY LOP
Case Worker:	Not reported
Local Agency:	ORANGE COUNTY LOP
RB Case Number:	9UT3772
LOC Case Number:	98UT100
File Location:	Local Agency
Potential Media Affect:	Not reported
Potential Contaminats of Concern:	Diesel
Site History:	Not reported

LUST REG 9:

Region:	9
Status:	Case Closed
Case Number:	9UT3772
Local Case:	98UT100
Substance:	Diesel
Qty Leaked:	Not reported
Abate Method:	Not reported
Local Agency:	Orange
How Found:	Not reported
How Stopped:	Not reported
Source:	Unknown
Cause:	Unknown
Lead Agency:	Local Agency
Case Type:	Soil only
Date Found:	10/15/1998
Date Stopped:	10/15/1998
Confirm Date:	/ /
Submit Workplan:	12/15/98
Prelim Assess:	/ /
Desc Pollution:	Not reported
Remed Plan:	/ /
Remed Action:	Not reported
Began Monitor:	Not reported
Release Date:	10/15/1998
Enforce Date:	Not reported
Closed Date:	12/17/99
Enforce Type:	Not reported
Pilot Program:	LOP
Basin Number:	901.13
GW Depth:	Not reported
Beneficial Use:	No Beneficial groundwater use
NPDES Number:	Not reported
Priority:	Low priority. Priority ranking can change over time.
File Dispn:	Administratively opened on database, however no file physically exists
Interim Remedial Actions:	Not reported
Cleanup and Abatement order Number:	Not reported

PEPSI COLA FACILITY (Continued) **S103472030**

Waste Discharge Requirement Number: Not reported

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6 **PEPSI COLA COMPANY** **HAZNET** **S103981484**
27717 ALISO CREEK ROAD **N/A**
ALISO VIEJO, CA 92656

HAZNET:

Gepaid:	CAC001143760
Contact:	PEPSI COLA COMPANY INC
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27717 ALISO CREEK ROAD
Mailing City,St,Zip:	ALISO VIEJO, CA 926560000
Gen County:	Orange
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Tank bottom waste
Disposal Method:	Recycler
Tons:	.0625
Facility County:	Orange

Gepaid:	CAC000732168
Contact:	PEPSI COLA COMPANY INC
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	27717 ALISO CREEK ROAD
Mailing City,St,Zip:	ALISO VIEJO, CA 926560000
Gen County:	Orange
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Tank bottom waste
Disposal Method:	Recycler
Tons:	.1668
Facility County:	Orange

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6 **PEPSI CO** **CA FID UST** **S101631266**
27717 ALISO CREEK RD **N/A**
ALISO VIEJO, CA 92656

CA FID UST:

Facility ID:	30010433
Regulated By:	UTNKA
Regulated ID:	Not reported
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	7146435711
Mail To:	Not reported
Mailing Address:	27717 ALISO CREEK RD
Mailing Address 2:	Not reported
Mailing City,St,Zip:	ALISO VIEJO 92656
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported

PEPSI CO (Continued) **S101631266**

EPA ID: Not reported
Comments: Not reported
Status: Active

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6 **KELLY FLEET SERVICES** **HAZNET** **S104574940**
27717 ALISO CREEK RD **N/A**
ALISO VIEJO, CA 92656

HAZNET:

Gepaid: CAD983613977
Contact: KELLY FLEET SERVICES
Telephone: 9495515335
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4000 BARRANCA PKWY STE 250
Mailing City,St,Zip: IRVINE, CA 926040000
Gen County: Orange
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Waste Category: Aqueous solution with 10% or more total organic residues
Disposal Method: Recycler
Tons: .2085
Facility County: Orange

Gepaid: CAD983613977
Contact: KELLY FLEET SERVICES
Telephone: 9495515335
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4000 BARRANCA PKWY STE 250
Mailing City,St,Zip: IRVINE, CA 926040000
Gen County: Orange
TSD EPA ID: CAD981696420
TSD County: Los Angeles
Waste Category: Oil/water separation sludge
Disposal Method: Transfer Station
Tons: 10.4250
Facility County: Orange

Gepaid: CAD983613977
Contact: RICK THOMPSON/FLEET MGR
Telephone: 9495954400
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 23832 ROCKFIELD BLVD STE 165
Mailing City,St,Zip: LAKE FOREST, CA 926300000
Gen County: Orange
TSD EPA ID: Not reported
TSD County: Sacramento
Waste Category: Aqueous solution with less than 10% total organic residues
Disposal Method: Disposal, Other
Tons: 0.91
Facility County: Not reported

Gepaid: CAD983613977
Contact: RICK THOMPSON/FLEET MGR
Telephone: 9495954400
Facility Addr2: Not reported

KELLY FLEET SERVICES (Continued) **S104574940**

Mailing Name:	Not reported
Mailing Address:	23832 ROCKFIELD BLVD STE 165
Mailing City,St,Zip:	LAKE FOREST, CA 926300000
Gen County:	Orange
TSD EPA ID:	Not reported
TSD County:	Sacramento
Waste Category:	Other inorganic solid waste
Disposal Method:	Disposal, Other
Tons:	0.25
Facility County:	Not reported

Gepaid:	CAD983613977
Contact:	RICK THOMPSON/FLEET MGR
Telephone:	9495954400
Facility Addr2:	Not reported
Mailing Name:	RICK THOMPSON
Mailing Address:	25950 ACERO STE 220
Mailing City,St,Zip:	MISSION VIEJO, CA 926910000
Gen County:	Orange
TSD EPA ID:	CAT080033681
TSD County:	Orange
Waste Category:	Other organic solids
Disposal Method:	Disposal, Land Fill
Tons:	0.13
Facility County:	Orange

Click this hyperlink while viewing on your computer to access additional CA_HAZNET: detail in the EDR Site Report.

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6 **MOULTON NIGUEL WATER DISTRICT** **EMI** **S106835969**
27613 ALISO CREEK RD. **N/A**
LAGUNA HILLS, CA 92656

EMI:

Year:	1995
County Code:	30
Air Basin:	SC
Facility ID:	68143
Air District Name:	SC
SIC Code:	4941
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

7 ALISO CREEK PRINTING INC **HAZNET** **S100929181**
23862 ALISO CREEK RD **N/A**
LAGUNA NIGUEL, CA 92677

HAZNET:

Gepaid:	CAL000082411
Contact:	MICHAEL MCCUTCHAN
Telephone:	9498318211
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	23862 ALISO CREEK RD
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926773907
Gen County:	Orange
TSD EPA ID:	CAD981402522
TSD County:	Kern
Waste Category:	Not reported
Disposal Method:	Transfer Station
Tons:	0.45
Facility County:	Orange

Gepaid:	CAL000082411
Contact:	MICHAEL MCCUTCHAN
Telephone:	9498318211
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	23862 ALISO CREEK RD
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926773907
Gen County:	Orange
TSD EPA ID:	CAD981402522
TSD County:	Kern
Waste Category:	Not reported
Disposal Method:	H010
Tons:	0.25
Facility County:	Orange

Gepaid:	CAL000082411
Contact:	MICHAEL MCCUTCHAN
Telephone:	9498318211
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	23862 ALISO CREEK RD
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926773907
Gen County:	Orange
TSD EPA ID:	CAT000613976
TSD County:	Orange
Waste Category:	Photochemicals/photoprocessing waste
Disposal Method:	Transfer Station
Tons:	.1876
Facility County:	Orange

Gepaid:	CAL000082411
Contact:	MICHAEL MCCUTCHAN
Telephone:	9498318211
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	23862 ALISO CREEK RD
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926773907
Gen County:	Orange
TSD EPA ID:	CAT000613976

ALISO CREEK PRINTING INC (Continued) **S100929181**

TSD County: Orange
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Tons: .1251
Facility County: Orange

Gepaid: CAL000082411
Contact: MICHAEL MCCUTCHAN
Telephone: 9498318211
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 23862 ALISO CREEK RD
Mailing City,St,Zip: LAGUNA NIGUEL, CA 926773907
Gen County: Orange
TSD EPA ID: CAD982524613
TSD County: Orange
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Tons: .1251
Facility County: Orange

Click this hyperlink while viewing on your computer to access
4 additional CA_HAZNET: record(s) in the EDR Site Report.

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8 **WOOD CANYON APTS** **HAZNET** **S108225629**
28520 WOOD CANYON DR **N/A**
ALISO VIEJO, CA 92656

HAZNET:
Gepaid: CAL000299175
Contact: JAMES VERNON
Telephone: 9498626240
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 19528
Mailing City,St,Zip: IRVINE, CA 926140000
Gen County: Orange
TSD EPA ID: CAD008252405
TSD County: Los Angeles
Waste Category: Off-specification, aged, or surplus organics
Disposal Method: Transfer Station
Tons: 0.02
Facility County: Not reported

Gepaid: CAL000299175
Contact: LUIS HEREDIA, EHS MANAGER
Telephone: 9498626200
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 19528
Mailing City,St,Zip: IRVINE, CA 926140000
Gen County: Orange
TSD EPA ID: CAT080013352
TSD County: Los Angeles
Waste Category: Unspecified solvent mixture Waste
Disposal Method: Recycler
Tons: 1.25
Facility County: Orange

8 **JOURNEY** **FINDS** **1011485116**
23431 KNOLLWOOD **N/A**
ALISO VIEJO, CA 92656

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110037018777

NCES (National Center for Education Statistics) is the primary federal entity for collecting and analyzing data related to education in the United States and other nations and the institute of education sciences.

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8 **WOOD CANYON ELEMENTARY** **FINDS** **1008273358**
23431 KNOLLWOOD **N/A**
ALISO VIEJO, CA 92656

FINDS:
Other Pertinent Environmental Activity Identified at Site

Registry ID: 110037016608

NCES (National Center for Education Statistics) is the primary federal entity for collecting and analyzing data related to education in the United States and other nations and the institute of education sciences.

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9 **REGIONAL LIFT ST (M N W D)** **CA FID UST** **S101619714**
28386 ALICIA PY **SWEEPS UST** **N/A**
LAGUNA NIGUEL, CA 92677

CA FID UST:

Facility ID:	30017589
Regulated By:	UTNKA
Regulated ID:	Not reported
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	7148311070
Mail To:	Not reported
Mailing Address:	27500 LA PAZ RD
Mailing Address 2:	Not reported
Mailing City,St,Zip:	LAGUNA NIGUEL 92677
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

SWEEPS UST:

Status:	A
Comp Number:	7851
Number:	9
Board Of Equalization:	44-016643

REGIONAL LIFT ST (M N W D) (Continued) **S101619714**

Ref Date:	09-30-92
Act Date:	09-15-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	30-000-007851-000001
Actv Date:	Not reported
Capacity:	1000
Tank Use:	M.V. FUEL
Stg:	P
Content:	DIESEL
Number Of Tanks:	1

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9 **REGIONAL LIFT ST (M N W D)** **UST** **U001577860**
28386 ALICIA PKWY **HIST UST** **N/A**
LAGUNA NIGUEL, CA 92677

UST:

Global ID:	14144
Latitude:	33.54515
Longitude:	-117.7162

HIST UST:

Region:	STATE
Facility ID:	00000011723
Facility Type:	Other
Other Type:	PUBLIC AGENCY
Total Tanks:	0001
Contact Name:	KEN KRIEGER
Telephone:	7148311070
Owner Name:	MOULTON NIGUEL WATER DISTRICT
Owner Address:	27500 LA PAZ ROAD
Owner City,St,Zip:	LAGUNA NIGUEL, CA 92677
Tank Num:	001
Container Num:	3
Year Installed:	1979
Tank Capacity:	00001000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Tank Construction:	Not reported
Leak Detection:	Visual, None
Tank Num:	001
Container Num:	4
Year Installed:	1979
Tank Capacity:	00001000
Tank Used for:	WASTE
Type of Fuel:	4
Tank Construction:	Unkown inches
Leak Detection:	Stock Inventor

10 **S&S CONSTRUCTION** **HAZNET** **S108219100**
28821 DRAKES BAY **N/A**
LAGUNA NIGUEL, CA 92677

HAZNET:

Gepaid:	CAC002592134
Contact:	PAULINE MACLEAN
Telephone:	6264427700
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	2548 STROZIER AVE
Mailing City,St,Zip:	SOUTH EL MONTE, CA 91733
Gen County:	Orange
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Transfer Station
Tons:	0.12
Facility County:	Not reported

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11 **JAMES SADLER** **HAZNET** **S103971671**
30871 DRIFTWOOD DRIVE **N/A**
SOUTH LAGUNA, CA 92677

HAZNET:

Gepaid:	CAC001206416
Contact:	Not reported
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	30871 DRIFTWOOD DRIVE
Mailing City,St,Zip:	SOUTH LAGUNA, CA 926770000
Gen County:	Orange
TSD EPA ID:	CAD000088252
TSD County:	Los Angeles
Waste Category:	Contaminated soil from site clean-ups
Disposal Method:	Transfer Station
Tons:	.2000
Facility County:	Orange

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12 **ALISO BEACH ANIMAL CLINIC** **RCRA-SQG** **1000819880**
30816 COAST HWY **FINDS** **CAD983658931**
LAGUNA BEACH, CA 92651

RCRA-SQG:

Date form received by agency:	02/01/1993
Facility name:	ALISO BEACH ANIMAL CLINIC
Facility address:	30816 COAST HWY SOUTH LAGUNA, CA 92677
EPA ID:	CAD983658931
Contact:	SUSAN DAVIS
Contact address:	24991 DANAFIR DANA POINT, CA 92629
Contact country:	US
Contact telephone:	(714) 240-1458
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator

ALISO BEACH ANIMAL CLINIC (Continued) **1000819880**

Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	SUSAN DAVIS DVM
Owner/operator address:	30816 COAST HWY SOUTH LAGUNA, CA 92677
Owner/operator country:	Not reported
Owner/operator telephone:	(714) 499-4190
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	Unknown
Mixed waste (haz. and radioactive):	Unknown
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	Unknown
Furnace exemption:	Unknown
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No
Off-site waste receiver:	Commercial status unknown

Violation Status: No violations found

FINDS:

Other Pertinent Environmental Activity Identified at Site

Registry ID: 110002892308

California - Hazardous Waste Tracking System - Datamart

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

12 **TOMRA PACIFIC INC** **SWRCY** **S107137940**
30922 PACIFIC COAST HWY **N/A**
LAGUNA BEACH, CA 92677

SWRCY:

Certification Status:	O
Facility Phone Number:	Not reported
Date facility became certified:	2/4/2003
Date facility began operating:	3/20/2003
Date facility ceased operating:	Still operating
Whether The Facility Is Grandfathered:	Not reported
Convenience Zone Where Faciltiy Located:	1469
Convenience Zone Where Faciltiy Located 2:	Not Accepted
Convenience Zone Where Faciltiy Located 3:	Not Accepted
Convenience Zone Where Faciltiy Located 4:	Not Accepted
Convenience Zone Where Faciltiy Located 5:	Not Accepted
Convenience Zone Where Faciltiy Located 6:	Not Accepted
Convenience Zone Where Faciltiy Located 7:	Not Accepted
Aluminum Beverage Containers Redeemed:	AL
Glass Beverage Containers Redeemed:	GL
Plastic Beverage Containers Redeemed:	PL
Other mat beverage containers redeemed:	Not reported
Refillable Beverage Containers Redeemed:	Not reported

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12 **LUCKY STORES #575** **HAZNET** **S103975591**
30922 PACIFIC COAST HWY **N/A**
SOUTH LAGUNA, CA 92651

HAZNET:

Gepaid:	CAC000879912
Contact:	LUCKY STORES
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	6565 KNOTT AVE
Mailing City,St,Zip:	BUENA PARK, CA 906210000
Gen County:	Orange
TSD EPA ID:	CAT080010101
TSD County:	San Diego
Waste Category:	Liquids with pH <UN-> 2
Disposal Method:	Treatment, Tank
Tons:	.0125
Facility County:	Orange

Gepaid:	CAC001212336
Contact:	LUCKY STORES
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	6565 KNOTT AVE
Mailing City,St,Zip:	BUENA PARK, CA 906200000
Gen County:	Orange
TSD EPA ID:	CAD008302903
TSD County:	Los Angeles
Waste Category:	Other organic solids
Disposal Method:	Recycler
Tons:	.0400
Facility County:	Orange

Gepaid:	CAC001212336

LUCKY STORES #575 (Continued) **S103975591**

Contact:	LUCKY STORES
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	6565 KNOTT AVE
Mailing City,St,Zip:	BUENA PARK, CA 906200000
Gen County:	Orange
TSD EPA ID:	CAD008302903
TSD County:	Los Angeles
Waste Category:	Waste oil and mixed oil
Disposal Method:	Recycler
Tons:	.0150
Facility County:	Orange

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13 **ORANGE COUNTY - FACILITIES DEPARTMENT** **HAZNET** **S109429677**
31131 S COAST HWY **N/A**
LAGUNA BEACH, CA 92651

HAZNET:

Gepaid:	CAC002624177
Contact:	DON JOHNSON
Telephone:	7145677867
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	1152 E FRUIT ST
Mailing City,St,Zip:	SANTA ANA, CA 92701
Gen County:	Orange
TSD EPA ID:	CAD009007626
TSD County:	Los Angeles
Waste Category:	Asbestos-containing waste
Disposal Method:	H132
Tons:	16
Facility County:	Orange

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13 **SOUTH COAST WATER DISTRICT** **HAZNET** **S100874598**
31104 S COAST HWY **N/A**
S LAGUNA, CA 92677

HAZNET:

Gepaid:	CAL000000764
Contact:	SOUTH COAST WATER DISTRICT
Telephone:	9494994555
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 30205
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926070000
Gen County:	Orange
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Waste Category:	Aqueous solution with metals (restricted levels and Alkaline solution (pH <UN-> 12.5) with metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc))
Disposal Method:	Transfer Station
Tons:	.0166
Facility County:	Orange

SOUTH COAST WATER DISTRICT (Continued) **S100874598**

Gepaid:	CAL000000764
Contact:	SOUTH COAST WATER DISTRICT
Telephone:	9494994555
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 30205
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926070000
Gen County:	Orange
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Waste Category:	Off-specification, aged, or surplus organics
Disposal Method:	Transfer Station
Tons:	.3753
Facility County:	Orange

Gepaid:	CAL000000764
Contact:	SOUTH COAST WATER DISTRICT
Telephone:	9494994555
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 30205
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926070000
Gen County:	Orange
TSD EPA ID:	CAD099452708
TSD County:	Los Angeles
Waste Category:	Waste oil and mixed oil
Disposal Method:	Recycler
Tons:	.0000
Facility County:	Orange

Gepaid:	CAL000000764
Contact:	SOUTH COAST WATER DISTRICT
Telephone:	9494994555
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 30205
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926070000
Gen County:	Orange
TSD EPA ID:	CAD981696420
TSD County:	Los Angeles
Waste Category:	Aqueous solution with less than 10% total organic residues
Disposal Method:	Transfer Station
Tons:	.2293
Facility County:	Orange

Gepaid:	CAL000000764
Contact:	SOUTH COAST WATER DISTRICT
Telephone:	9494994555
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 30205
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926070000
Gen County:	Orange
TSD EPA ID:	CAD982444481
TSD County:	San Bernardino
Waste Category:	Off-specification, aged, or surplus organics
Disposal Method:	Transfer Station

SOUTH COAST WATER DISTRICT (Continued) **S100874598**

Tons: .0725
Facility County: Orange

Click this hyperlink while viewing on your computer to access
6 additional CA_HAZNET: record(s) in the EDR Site Report.

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13 **SOUTH COAST WATER DISTRICT** **EMI** **S106839730**
31104 COAST HWY **N/A**
LAGUNA BEACH, CA 92677

EMI:

Year:	1995
County Code:	30
Air Basin:	SC
Facility ID:	13335
Air District Name:	SC
SIC Code:	4941
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

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13 **SOUTH COAST WATER DISTRICT** **HAZNET** **S108220840**
31104 S COAST HWY **N/A**
SOUTH LAGUNA, CA 92677

HAZNET:

Gepaid:	CAL000000764
Contact:	STEVE SANCHEZ-MGR/SUPPORT SVCS
Telephone:	9494994555
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 30205
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926070000
Gen County:	Orange
TSD EPA ID:	CAD028409019
TSD County:	Los Angeles
Waste Category:	Off-specification, aged, or surplus organics
Disposal Method:	H141
Tons:	0.05
Facility County:	Orange

Gepaid:	CAL000000764
Contact:	STEVE SANCHEZ-MGR/SUPPORT SVCS
Telephone:	9494994555
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 30205
Mailing City,St,Zip:	LAGUNA NIGUEL, CA 926070000
Gen County:	Orange

SOUTH COAST WATER DISTRICT (Continued) **S108220840**

TSD EPA ID: CAD028409019
TSD County: Los Angeles
Waste Category: Off-specification, aged, or surplus inorganics
Disposal Method: H141
Tons: 0
Facility County: Orange

Gepaid: CAL000000764
Contact: STEVE SANCHEZ-MGR/SUPPORT SVCS
Telephone: 9494994555
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 30205
Mailing City,St,Zip: LAGUNA NIGUEL, CA 926070000
Gen County: Orange
TSD EPA ID: CAD028409019
TSD County: Los Angeles
Waste Category: Off-specification, aged, or surplus organics
Disposal Method: H061
Tons: 0.23
Facility County: Orange

Gepaid: CAL000000764
Contact: STEVE SANCHEZ-MGR/SUPPORT SVCS
Telephone: 9494994555
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 30205
Mailing City,St,Zip: LAGUNA NIGUEL, CA 926070000
Gen County: Orange
TSD EPA ID: Not reported
TSD County: Not reported
Waste Category: Off-specification, aged, or surplus inorganics
Disposal Method: H141
Tons: 0
Facility County: Orange

Gepaid: CAL000000764
Contact: STEVE SANCHEZ-MGR/SUPPORT SVCS
Telephone: 9494994555
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 30205
Mailing City,St,Zip: LAGUNA NIGUEL, CA 926070000
Gen County: Orange
TSD EPA ID: AZR000501510
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: H141
Tons: 0.35
Facility County: Orange

Click this hyperlink while viewing on your computer to access
1 additional CA_HAZNET: record(s) in the EDR Site Report.

13 **MAIN LIFT/SANITARY GARAGE (SCWD)** **UST** **U003784253**
31104 PACIFIC COAST HWY **N/A**
LAGUNA BEACH, CA 92651

UST:
Global ID: 13890
Latitude: 33.51156
Longitude: -117.75302

UST:
Facility ID: FA0025083

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13 **SOUTH COAST WATER DISTRICT** **EMI** **S106839731**
31104 PACIFIC COAST HWY **N/A**
LAGUNA BEACH, CA 92677

EMI:

Year:	1990
County Code:	30
Air Basin:	SC
Facility ID:	13335
Air District Name:	SC
SIC Code:	4941
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	2
NOX - Oxides of Nitrogen Tons/Yr:	2
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

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13 **SANITARY MAINTENANCE** **HIST UST** **U001577863**
31104 PACIFIC COAST HIGHWAY **N/A**
SOUTH LAGUNA, CA 92677

HIST UST:

Region:	STATE
Facility ID:	00000032099
Facility Type:	Other
Other Type:	PUBLIC UTILITY
Total Tanks:	0002
Contact Name:	ROBERT A. KREG
Telephone:	7144994555
Owner Name:	SOUTH COAST COUNTY WATER DISTR
Owner Address:	31592 WEST STREET
Owner City,St,Zip:	SOUTH LAGUNA, CA 92677
Tank Num:	001
Container Num:	5
Year Installed:	1978
Tank Capacity:	00001000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Tank Construction:	Not reported
Leak Detection:	None

SANITARY MAINTENANCE (Continued) **U001577863**

Tank Num:	002
Container Num:	6
Year Installed:	1976
Tank Capacity:	00000500
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Tank Construction:	Not reported
Leak Detection:	None

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13 **SOUTH COAST CO. WATER DIST** **EMI** **S106839732**
31104 PACIFIC COAST HWY **N/A**
SOUTH LAGUNA, CA 92677

EMI:

Year:	1987
County Code:	30
Air Basin:	SC
Facility ID:	13335
Air District Name:	SC
SIC Code:	8221
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

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13 **SANITARY GARAGE (SCWD)** **SWEEPS UST** **S106931861**
31104 S PACIFIC COAST HWY **N/A**
SOUTH LAGUNA, CA 92677

SWEEPS UST:

Status:	A
Comp Number:	7642
Number:	9
Board Of Equalization:	44-016619
Ref Date:	09-30-92
Act Date:	09-15-92
Created Date:	02-29-88
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	30-000-007642-000003
Actv Date:	Not reported
Capacity:	500
Tank Use:	M.V. FUEL
Stg:	P
Content:	DIESEL
Number Of Tanks:	1

13 **CHMIRS** **S105659743**
N/A

31092 SOUTH COAST HWY
LAGUNA BEACH, CA

CHMIRS:

OES Incident Number:	99-4118
OES notification:	9/29/199909:33:58 AM
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Comments:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Fire Dept.
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1999
Agency:	Laguna beach FD
Incident Date:	9/29/199912:00:00 AM
Admin Agency:	Orange County Emergency Managment Div
Amount:	Not reported
Contained:	Yes
Site Type:	Other

(Continued) **S105659743**

E Date:	Not reported
Substance:	Battery Acid
Quantity Released:	Not reported
BBLS:	0
Cups:	0
CUFT:	0
Gallons:	20
Grams:	0
Pounds:	0
Liters:	0
Ounces:	0
Pints:	0
Quarts:	0
Sheen:	0
Tons:	0
Unknown:	0
Description:	Not reported
Evacuations:	0
Number of Injuries:	2
Number of Fatalities:	0
Description:	Battery acid confined in a building. Worker cleaning and they said static electricity set of batteries causing explosion. Two workers hurt not traqnsported. RP's cell phone 949-329-2040 (see also Spill #99-4132)

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13 **VERIZON CALIFORNIA INC** **UST** **U003933328**
31092 S COAST HWY **N/A**
LAGUNA BEACH, CA 92651

UST:
Facility ID: FA0024662

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13 **GENERAL TELEPHONE OF CA** **RCRA-SQG** **1000213840**
31092 PACIFIC COAST HWY **FINDS** **CAD980889596**
LAGUNA BEACH, CA 92677 **HAZNET**

RCRA-SQG:

Date form received by agency:	09/01/1996
Facility name:	GENERAL TELEPHONE OF CA
Facility address:	31092 PACIFIC COAST HWY LAGUNA BEACH, CA 92677
EPA ID:	CAD980889596
Mailing address:	P O BOX 725 CHINO, CA 91708
Contact:	Not reported
Contact address:	Not reported Not reported
Contact country:	Not reported
Contact telephone:	Not reported
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous

GENERAL TELEPHONE OF CA (Continued) **1000213840**

waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	Unknown
Mixed waste (haz. and radioactive):	Unknown
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	Unknown
Furnace exemption:	Unknown
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No
Off-site waste receiver:	Commercial status unknown

Historical Generators:

Date form received by agency:	10/07/1985
Facility name:	GENERAL TELEPHONE OF CA
Classification:	Large Quantity Generator
Violation Status:	No violations found

FINDS:

Other Pertinent Environmental Activity Identified at Site

Registry ID: 110002675579

GENERAL TELEPHONE OF CA (Continued) **1000213840**

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZNET:

Gepaid:	CAC001431612
Contact:	GTE OF CA
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 725
Mailing City,St,Zip:	CHINO, CA 917080000
Gen County:	Orange
TSD EPA ID:	CAD009007626
TSD County:	Los Angeles
Waste Category:	Asbestos-containing waste
Disposal Method:	Not reported
Tons:	0.8428
Facility County:	Orange

Gepaid:	CAC002470447
Contact:	KIM BRAY
Telephone:	9096131554
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 725
Mailing City,St,Zip:	CHINO, CA 917080000
Gen County:	Orange
TSD EPA ID:	Not reported
TSD County:	99
Waste Category:	Polychlorinated biphenyls and material containing PCB's
Disposal Method:	Recycler
Tons:	0.74
Facility County:	Not reported

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13 **GTE CALIFORNIA INCORPORATE** **HAZNET** **S104573139**
31092 S PACIFIC COAST HWY **N/A**
LAGUNA BEACH, CA 92651

HAZNET:

Gepaid:	CAC002231721
Contact:	GTE CALIFORNIA INCORPORATE
Telephone:	8003318891
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 725
Mailing City,St,Zip:	CHINO, CA 917080000
Gen County:	Orange
TSD EPA ID:	CAD044429835
TSD County:	Los Angeles
Waste Category:	Other organic solids
Disposal Method:	Disposal, Other
Tons:	0.021

GTE CALIFORNIA INCORPORATE (Continued) **S104573139**

Facility County: Orange

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13 **GTE-ALISO CO** **UST** **U003782767**
31092 PACIFIC COAST HWY **N/A**
LAGUNA BEACH, CA 92651

UST:
Global ID: 10156
Latitude: 33.51169
Longitude: -117.7532

---

13 **GTE-ALISO CO** **SWEEPS UST** **S106926946**
31092 PACIFIC COAST HWY **N/A**
SOUTH LAGUNA, CA 92677

SWEEPS UST:
Status: A
Comp Number: 4256
Number: 9
Board Of Equalization: Not reported
Ref Date: 09-30-92
Act Date: 09-15-92
Created Date: 02-29-88
Tank Status: A
Owner Tank Id: Not reported
Swrcb Tank Id: 30-000-004256-000001
Actv Date: Not reported
Capacity: 4000
Tank Use: M.V. FUEL
Stg: P
Content: DIESEL
Number Of Tanks: 1

---

14 **DOT OPS** **1009648756**
31121 BROOKS STREET **N/A**
SOUTH LAGUNA, CA 92677

DOT OPS:
Report ID: 1821218
Facility name: Not reported
Address: 31121 BROOKS STREET
SOUTH LAGUNA, CA 92677
Latitude: Not reported
Longitude: Not reported

EDR type: NATURAL GAS DISTRIBUTION
Cause of incident: DAMAGE BY OUTSIDE FORCES
Operator code: 18484
Operator name: SOUTHERN CALIFORNIA GAS CO
Incident address: 31121 BROOKS STREET
SOUTH LAGUNA, CA 92677
Incident county: ORANGE
Incident congressional district: Not reported
Incident date: 19820719
Detection time: 1035

(Continued) **1009648756**

Stoppage hours:	2
Stoppage minutes:	17
Estimated pressure at incident time:	45.00
Max. allowable operating preassure:	60.00
Part of operation that failed:	MAIN
Part of operation other comment:	Not reported
Part of system that failed:	PIPE
Part of system other comment:	Not reported
Year oart installed:	1980
Where leak originated:	BASE MATERIAL FRACTURE
Leak other comment:	Not reported
Real nominal pipe diameter:	2.000
Pipe wall thickness (inches):	0.206
Pipe specifications:	ASTM D 2513
Pipe grade:	PE 2306
Type of repair done:	REPLACE PIPE
Type other comment:	Not reported
Length of replaced pipe:	2.00
Component replaced/reconditioned:	NO DATA
Component other comment:	Not reported
Employee fatalities:	0
Employees injured:	0
Non-empl. fatalities:	0
Non-empl. inured:	0
Did a rupture occur:	YES
Did gas ignite:	NO
Did an explosion occur:	NO
Secondary fires/explosions:	NO
Operator property damage:	700
Structure adjacent to leak:	RESIDENTIAL SINGLE-STORY
Structure other comment:	Not reported
Dist. to nearest structure:	30
Underground facility involved:	NO
Underground facility other comment:	Not reported
Any utilities affected:	NO
Dist. of other gas fac. contributing:	0
Dist. of other gas fac. impaired:	0
Dist. of telephone fac. contributing:	0
Dist. of telephone fac. impaired:	0
Dist. of electric fac. contributing:	0
Dist. of electric fac. impaired:	0
Dist. of storm sewer fac. contributing:	0
Dist. of storm sewer fac. impaired:	0
Dist. of other sewer fac. contributing:	0
Dist. of other sewer fac. impaired:	0
Dist. of water fac. contributing:	0
Dist. of water fac. impaired:	0
Dist. of other fac. contributing:	0
Other fac. contributing:	Not reported
Dist. of other fac. impaired:	0
Other facility impaired:	Not reported
Location of leak or failure:	BELOW ROAD (PAVED)
Location other comment:	Not reported
Cover depth:	28
Soil at pipe depth:	SOIL
Soil temperature at soil leak:	065
Report by:	AGENCY CAUSING DAMAGE

(Continued) **1009648756**

Report other comment: Not reported

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ALISO VIEJO	S106086080	GRANITE CONSTRUCTION COMPANY	HWY 73 / PACIFIC PARK	92656	HAZNET
ALISO VIEJO	1001486867	ALISO VIEJO AUTO CTR	27802 ALISO CREEK RD D110	92656	RCRA-SQG, HAZNET
ALISO VIEJO	1008152474	EQUILON ENTERPRISES	27055 ALISO CREOLE	92656	FINDS, HAZNET
ALISO VIEJO	S105725726	ALISO VIEJO ADVANCED AUTOMOTIVE	27802 ALISO CREEK RD D120	92656	HAZNET
ALISO VIEJO	S106094342	EQUILON ENTERPRISES	27055 ALISO CREOLE	92656	HAZNET
ALISO VIEJO	S108199680	BREWER & ASSOCIATES, INC.	27131 ALISO CREEK RD STE 140	92656	HAZNET
ALISO VIEJO	S108218403	RITZ CAMERA #1749	26601 ALISO CREEK RD STE D-E	92656	HAZNET
ALISO VIEJO	S108745557	CSB & TUCKER LLC DBA BIG O TIRES	27812 ALISO CREEK RD UNIT E100	92656	HAZNET
ALISO VIEJO	S108749997	LA PAZ SERVICE CENTER INC	27812 ALISO CREEK RD STE E-120	92656	HAZNET
ALISO VIEJO	S108753962	RITZ CAMERA NO 1749	26601 ALISO CREEK RD STE D THROUGH	92656	HAZNET
ALISO VIEJO	S109422867	ALISO HILL CLEANERS	27792 ALISO CREEK RD STE B180	92656	HAZNET
ALISO VIEJO	S109432971	US AUTOMOTIVE	27802 ALISO CREEK RD # 100	92656	HAZNET
ALISO VIEJO	S103964567	FLEX FOOT	27412 A LAGUNA HILLS DRIVE	92656	HAZNET
ALISO VIEJO	S107146012	FLEX FOOT	27412 LAGUNA HILLS DR STE A	92656	HAZNET
ALISO VIEJO	S108215650	OSSUR NORTH AMERICA	27412 LAGUNA HILLS DR STE A	92656	HAZNET
ALISO VIEJO	S104572219	SHAY HOMES	LAGUNA HILLS DR UNDERANTH OVERPASS RT 73	92656	HAZNET
DANA POINT	U001576910	BEAR BRAND PUMP ST (M N W D)	32644 ST OF GOLDEN LANTERN	92677	UST, HIST UST, SWEEPS UST
LAGUNA BEACH	S105086854	BOAT CANYON CENTER INC	668, 680 / 682 N COAST HWY	92651	HAZNET
LAGUNA BEACH	S103668615	JOHN F. GILBERT	666 / 670 NORTH COAST HWY	92651	HAZNET
LAGUNA BEACH	S109287021	LAGUNA BEACH CITY DUMP	20000 BLOCK OF LAGUNA CANYON ROAD	92651	LDS
LAGUNA BEACH	S107141918	VERIZON CALIFORNIA INC	BROADWAY PACIFIC COAST HWY	92651	HAZNET
LAGUNA BEACH	S103652350	W BECK, A ROSENSTEIN, D ASHKENAZE , MDS	31862 COAST HWY SUITE 302	92677	HAZNET
LAGUNA BEACH	S106829976	DESERT PETROLEUM #514	890 COAST HIGHWAY	92651	EMI
LAGUNA BEACH	S107143590	LAGUNA ROYALE	31423 S COAST HWY STE P5	92651	HAZNET
LAGUNA BEACH	S108209114	HOTEL LAGUNA	425 COAST HIGHWAY	92651	HAZNET
LAGUNA BEACH	U003938997	CHEVRON STATION #9-9476	590 S COAST HWY # 9-9476	92651	UST
LAGUNA BEACH	U003942027	THRIFTY STATION #388	590 S COAST HWY # 388	92651	UST
LAGUNA BEACH	U003982266	UNOCAL #3669	1369 N COAST HWY # 3669	92651	UST
LAGUNA BEACH	S104566457	SOUTHERN CALIFORNIA GAS CO	INTSCT OF EMERALD BAY / N COAST HWY	92651	HAZNET
LAGUNA BEACH	S105085908	SOUTHERN CALIF EDISON	22501 LAGUNA CANYON RD	92651	HAZNET
LAGUNA BEACH	1003878993	LAGUNA BEACH	LAGUNA BEACH	92651	CERC-NFRAP
LAGUNA BEACH	1003878995	LAGUNA BEACH 2	LAGUNA BEACH	92651	CERC-NFRAP
LAGUNA BEACH	S107149233	SAV-ON #9591	30842 S PACIFIC COAST	92651	HAZNET
LAGUNA BEACH	1000819653	EXCELLENT CLEANERS	1100 S PACIFIC COAST HWY	92651	RCRA-SQG, FINDS, HAZNET
LAGUNA BEACH	S101307801	FORMER IFFY GAS STATION #514*	890 PACIFIC COAST HWY S	92651	LUST
LAGUNA BEACH	S105696132	CHEVRON	1251 PACIFIC COAST	92651	LUST
LAGUNA BEACH	S105696133	UNOCAL	1369 PACIFIC COAST	92651	LUST
LAGUNA BEACH	S106116084	LA PAZ RESTAURANT	1133 S PACIFIC COAST HWY	92651	Orange Co. Industrial Site
LAGUNA BEACH	S106840863	THE COTTAGE RESTAURANT	308 N PACIFIC COAST HWY	92651	EMI
LAGUNA BEACH	S108207847	GILBERT F BROWN	31616 PACIFIC COAST HWY	92651	HAZNET
LAGUNA BEACH	S108214594	NABIL RAYER/COAST LIQUOR	1391 PACIFIC COAST HWY	92651	HAZNET
LAGUNA BEACH	U002096048	EL MORRO BEACH MOBILEHOME PK	8811 N PACIFIC COAST HWY HWY	92651	CA FID UST, SWEEPS UST
LAGUNA BEACH	U003783030	HIWAY MOTORS	890 PACIFIC COAST HWY	92651	UST

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
LAGUNA BEACH	U003785385	LAGUNA BMW SERVICE	1009 PACIFIC COAST HWY	92651	UST
LAGUNA BEACH	U003937331	7-ELEVEN FOOD STORES #25801	31702 PACIFIC COAST HWY # 25801	92651	UST
LAGUNA BEACH	U003942699	UNOCAL #5603 (CIRCLE K #5603)	120 PACIFIC COAST HWY # 5603	92651	UST
LAGUNA BEACH	U003981923	UNOCAL #0807	120 PACIFIC COAST HWY # 0807	92651	UST
LAGUNA BEACH	S104567025	NEAL AMSDEN	31678 S PACIFIC COAST HWY		HAZNET
LAGUNA BEACH	S104735652	FORMER ARCO STATION	105 PACIFIC COAST HWY N		LUST
LAGUNA BEACH	1009630819	SOUTHERN CALIFORNIA GAS CO	1585 PACIFIC COAST HWY		DOT OPS
LAGUNA BEACH	S109424188	CALTRANS DIST 12/CONSTR/12-EA0C5504	STATE RTE 133 PM 0.00-0.3	92651	HAZNET
LAGUNA BEACH	S103678653	SOUTHERN CALIFORNIA EDISON - BORREGO SUB	EL TORO RD 1MI E OF LAGUNA CANYON	92651	HAZNET
LAGUNA BEACH	S104568050	SO CALIF EDISON/BORREGO SUB	EL TORO RD 1 MI E OF LAGUNA CANYON RD	92651	HAZNET
LAGUNA HILLS	S106825592	ALISO WATER MGT AGENCY	28386 ALICIA PKWY.	92677	EMI
LAGUNA HILLS	91234521	ALISO CREEK, I-5 AT ALISO PARKWAY	ALISO CREEK, I-5 AT ALISO PARKWAY	92677	ERNS
LAGUNA HILLS	S106835964	MOULTON NIGUEL WATER DISTRICT	21933 ALISO CREEK RD.	92656	EMI
LAGUNA NIGUEL	S107147397	SOUTH ORANGE COUNTY WASTE WATER AUTHORI	283031 ALICIA PKWY	92677	HAZNET
LAGUNA NIGUEL	S105790934	MOBIL	30661 ALICIA	92677	LUST
LAGUNA NIGUEL	S103645627	MOULTON NIGUEL WATER DIST	24457 AVILA	92677	HAZNET
LAGUNA NIGUEL	S104565951	GENERAL SERVICES ADMINISTRATION	2400 AVILA RD	92677	HAZNET
LAGUNA NIGUEL	S106924278	CHET HOLLIFIELD FEDERAL BLDG	24000 AVILA RD 4100	92677	SWEEPS UST
LAGUNA NIGUEL	U001577862	SALT CREEK LIFT STATION	33109 BEACH CLUB DRIVE	92677	HIST UST
LAGUNA NIGUEL	S103649030	INTERNATIONAL GENERAL TRANSMISSIONS	27912 FORBES_RD_STE C	92677	HAZNET
LAGUNA NIGUEL	1005415591	COSTCO WHOLESALE NO 690	27220 HEATHER RIDGE RD	92677	RCRA-SQG, FINDS, HAZNET, UST
LAGUNA NIGUEL	S105085668	SOUTHERN CALIFORNIA EDISON	27482 EL LAZO RD	92677	HAZNET
LAGUNA NIGUEL	S108755498	SOUTHERN CALIFORNIA EDISON (NIGUEL SUBSTATION)	27482 LEL LAZO RD	92677	HAZNET
LAGUNA NIGUEL	S106077087	SPARKLING CLEANERS	27261 LA PAZ RD STE C	92677	HAZNET, DRYCLEANERS
LONG BEACH	1003878988	LONG BEACH DRUM	LONG BEACH	92651	CERC-NFRAP
LOS ANGELES	S105089908	UNOCAL SERVICE STATION #3669	1369 NO. PACIFIC COAST HIGHWAY	92651	HAZNET
ORANGE COUNTY	S105637080		OFFSHORE SEAL BEACH		CHMIRS, EMI
SOUTH LAGUNA	U001577845	COAST HIGHWAY SEWAGE LIFT STAT	33101 COAST HIGHWAY	92677	HIST UST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 02/02/2009
Date Data Arrived at EDR: 02/12/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 46

Source: EPA
Telephone: N/A
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
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: 02/02/2009
Date Data Arrived at EDR: 02/12/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 46

Source: EPA
Telephone: N/A
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 02/02/2009
Date Data Arrived at EDR: 02/12/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 46

Source: EPA
Telephone: N/A
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/07/2008
Date Data Arrived at EDR: 10/16/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 53

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 01/30/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/03/2007
Date Data Arrived at EDR: 12/06/2007
Date Made Active in Reports: 02/20/2008
Number of Days to Update: 76

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Quarterly

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: 11/20/2008
Date Data Arrived at EDR: 12/23/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 03/03/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/17/2008
Date Data Arrived at EDR: 12/22/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 98

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/03/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Quarterly

RCRA-TSDF: RCRA - Transporters, 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: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/25/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

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: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/25/2009
Next Scheduled EDR Contact: 05/18/2009
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: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/25/2009
Next Scheduled EDR Contact: 05/18/2009
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: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/25/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/25/2009
Next Scheduled EDR Contact: 05/18/2009
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: 10/06/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
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: 10/06/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Varies

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 01/23/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 54

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 01/30/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/30/2008
Date Data Arrived at EDR: 10/16/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 34

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 01/30/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Annually

DOT OPS: Incident and Accident Data

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

Date of Government Version: 05/14/2008
Date Data Arrived at EDR: 05/28/2008
Date Made Active in Reports: 08/08/2008
Number of Days to Update: 72

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 02/24/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Varies

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: 07/01/2008
Date Data Arrived at EDR: 10/31/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 53

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/26/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 10/01/2008
Date Data Arrived at EDR: 11/14/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 02/10/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Semi-Annually

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
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 02/06/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 09/05/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 18

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 03/09/2009
Next Scheduled EDR Contact: 06/08/2009
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: 11/03/2008
Date Data Arrived at EDR: 01/06/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 83

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/21/2008
Date Data Arrived at EDR: 10/29/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 55

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

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

Date of Government Version: 07/13/2007
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
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

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: 03/25/2008
Date Data Arrived at EDR: 04/17/2008
Date Made Active in Reports: 05/15/2008
Number of Days to Update: 28

Source: EPA, Region 9
Telephone: 415-972-3336
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 10/31/2008
Date Data Arrived at EDR: 12/23/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 97

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/24/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 03/17/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 02/18/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/08/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
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: 10/08/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
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
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
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
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 12/04/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/31/2008
Date Data Arrived at EDR: 08/13/2008
Date Made Active in Reports: 09/09/2008
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
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: 12/04/2007
Date Data Arrived at EDR: 02/07/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 39

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 02/02/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/07/2009
Date Data Arrived at EDR: 01/15/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 74

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/28/2008
Date Data Arrived at EDR: 10/29/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/30/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

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

Date of Government Version: 10/30/2008
Date Data Arrived at EDR: 10/31/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 53

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/06/2007
Date Made Active in Reports: 04/13/2007
Number of Days to Update: 38

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/19/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Biennially

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: 12/08/2008
Date Data Arrived at EDR: 12/09/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 97

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 05/11/2009
Data Release Frequency: Varies

STATE AND LOCAL RECORDS

HIST CAL-SITES: Calsites Database

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

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 02/23/2009
Date Data Arrived at EDR: 02/24/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 43

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/24/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

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

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

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

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 03/09/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Integrated Waste Management Board
Telephone: 916-341-6320
Last EDR Contact: 03/10/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Quarterly

WMUDS/SWAT: Waste Management Unit Database

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

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

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 03/04/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 01/21/2009
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 01/05/2009
Date Data Arrived at EDR: 01/08/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 19

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 04/08/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Quarterly

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: 01/06/2009
Date Data Arrived at EDR: 01/08/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 19

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 04/08/2009
Next Scheduled EDR Contact: 07/06/2009
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: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
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: 04/07/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Quarterly

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: 02/09/2009
Next Scheduled EDR Contact: 05/11/2009
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
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Quarterly

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 03/03/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: No Update Planned

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: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
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: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

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

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

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

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 02/02/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases

The 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: 01/06/2009
Date Data Arrived at EDR: 01/08/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 19

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 04/08/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2008
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 02/09/2009
Next Scheduled EDR Contact: 05/11/2009
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: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
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: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
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: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
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: 03/03/2009
Next Scheduled EDR Contact: 06/01/2009
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: 03/03/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
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: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 01/06/2009
Date Data Arrived at EDR: 01/08/2009
Date Made Active in Reports: 01/30/2009
Number of Days to Update: 22

Source: SWRCB
Telephone: 916-480-1028
Last EDR Contact: 04/08/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Semi-Annually

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 12/29/2008
Date Data Arrived at EDR: 12/29/2008
Date Made Active in Reports: 01/30/2009
Number of Days to Update: 32

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Varies

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

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 02/13/2009
Date Data Arrived at EDR: 02/17/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 50

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/02/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: Varies

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

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 05/09/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 42

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
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: 01/06/2009
Date Data Arrived at EDR: 01/08/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 19

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 04/08/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Quarterly

AST: Aboveground Petroleum Storage Tank Facilities
Registered Aboveground Storage Tanks.

Date of Government Version: 11/01/2007
Date Data Arrived at EDR: 11/27/2007
Date Made Active in Reports: 02/14/2008
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 02/09/2009
Next Scheduled EDR Contact: 04/27/2009
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: 01/06/2009
Date Data Arrived at EDR: 01/08/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 19

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 04/08/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: No Update Planned

DEED: Deed Restriction Listing
Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 8

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Semi-Annually

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 02/23/2009
Date Data Arrived at EDR: 02/24/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 43

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/24/2009
Next Scheduled EDR Contact: 05/25/2009
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: 09/23/2008
Date Data Arrived at EDR: 09/24/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 5

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 10/31/2008
Date Data Arrived at EDR: 11/03/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 23

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 01/23/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Varies

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: 09/30/2008
Date Data Arrived at EDR: 10/06/2008
Date Made Active in Reports: 10/13/2008
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 04/03/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Varies

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 02/23/2009
Date Data Arrived at EDR: 02/24/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 43

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/24/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Quarterly

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 02/17/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 50

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 02/17/2009
Next Scheduled EDR Contact: 05/04/2008
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: 12/31/2006
Date Data Arrived at EDR: 10/16/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 41

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 01/16/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Varies

ENVIROSTOR: EnviroStor Database
The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 02/23/2009
Date Data Arrived at EDR: 02/24/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 43

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/24/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 12/22/2008
Date Data Arrived at EDR: 12/22/2008
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 36

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Varies

TRIBAL RECORDS

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

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 02/06/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: Semi-Annually

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: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
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: 03/13/2009
Date Data Arrived at EDR: 03/17/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 13

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/01/2008
Date Data Arrived at EDR: 12/03/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 20

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 02/20/2009
Next Scheduled EDR Contact: 05/18/2009
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: 06/06/2008
Date Data Arrived at EDR: 10/09/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 41

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

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: 12/15/2008
Date Data Arrived at EDR: 12/16/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
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: 03/03/2009
Date Data Arrived at EDR: 03/04/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 26

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 02/15/2009
Date Data Arrived at EDR: 02/27/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 17

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
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: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
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: 06/06/2008
Date Data Arrived at EDR: 10/09/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 41

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 09/08/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 27

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/25/2008
Date Data Arrived at EDR: 11/26/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 27

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Semi-Annually

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: 04/01/2008
Date Data Arrived at EDR: 12/30/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 76

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 02/20/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Varies

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: 03/13/2009
Date Data Arrived at EDR: 03/17/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 13

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
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).

Date of Government Version: 12/15/2008
Date Data Arrived at EDR: 12/16/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 90

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
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: 03/03/2009
Date Data Arrived at EDR: 03/04/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 26

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

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: 04/02/2008
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 1
Telephone: 617-918-1102
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

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: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/23/2009
Date Data Arrived at EDR: 01/23/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 75

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Semi-Annually

Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 01/23/2009
Date Data Arrived at EDR: 01/23/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 76

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

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

Date of Government Version: 02/24/2009
Date Data Arrived at EDR: 02/25/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 42

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Semi-Annually

FRESNO COUNTY:

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

Date of Government Version: 01/14/2009
Date Data Arrived at EDR: 01/15/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 12

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 02/02/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 9

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 07/07/1999
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 02/20/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/26/2008
Date Data Arrived at EDR: 01/27/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 71

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 02/09/2009
Next Scheduled EDR Contact: 05/11/2009
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 11/10/2008
Date Data Arrived at EDR: 11/25/2008
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 63

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 02/11/2009
Next Scheduled EDR Contact: 05/11/2009
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 03/10/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Varies

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

Date of Government Version: 02/14/2008
Date Data Arrived at EDR: 04/10/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 26

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 02/09/2009
Next Scheduled EDR Contact: 05/11/2009
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 02/09/2009
Date Data Arrived at EDR: 02/17/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 51

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 02/09/2009
Next Scheduled EDR Contact: 05/11/2009
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 02/20/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 02/23/2009
Date Data Arrived at EDR: 02/24/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 44

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/11/2009
Data Release Frequency: Semi-Annually

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 02/05/2009
Date Data Arrived at EDR: 02/17/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 51

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 07/09/2008
Date Data Arrived at EDR: 07/09/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 22

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Semi-Annually

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Annually

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 03/02/2009
Date Data Arrived at EDR: 03/18/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 03/05/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 03/02/2009
Date Data Arrived at EDR: 03/27/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 12

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 03/05/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 03/02/2009
Date Data Arrived at EDR: 03/18/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 22

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 01/26/2009
Date Data Arrived at EDR: 02/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 57

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 04/03/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 11/06/2008
Date Data Arrived at EDR: 11/17/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 9

Source: Department of Public Health
Telephone: 951-358-5055
Last EDR Contact: 03/03/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/20/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 48

Source: Health Services Agency
Telephone: 951-358-5055
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

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

Date of Government Version: 01/30/2009
Date Data Arrived at EDR: 02/03/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 64

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 01/30/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: Quarterly

ML - Regulatory Compliance Master List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 01/30/2009
Date Data Arrived at EDR: 02/03/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 64

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 01/30/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 01/07/2009
Date Data Arrived at EDR: 01/09/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 18

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 03/03/2009
Next Scheduled EDR Contact: 06/01/2009
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: 07/16/2008
Date Data Arrived at EDR: 10/29/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 28

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 04/03/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 11/01/2008
Date Data Arrived at EDR: 12/23/2008
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 35

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 11/17/2008
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: 01/22/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 8

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 03/31/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Varies

SAN FRANCISCO COUNTY:

Local Oversite 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: 03/30/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Quarterly

Underground Storage Tank Information

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: 10/01/2008
Number of Days to Update: 12

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

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

Date of Government Version: 02/10/2009
Date Data Arrived at EDR: 02/25/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 43

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Semi-Annually

SAN MATEO COUNTY:

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

Date of Government Version: 01/29/2009
Date Data Arrived at EDR: 01/30/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 68

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Annually

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

Date of Government Version: 01/05/2009
Date Data Arrived at EDR: 01/06/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 21

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Semi-Annually

SANTA CLARA COUNTY:

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 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: 12/29/2008
Date Data Arrived at EDR: 12/29/2008
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 29

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Varies

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 03/03/2009
Date Data Arrived at EDR: 03/03/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 36

Source: City of San Jose Fire Department
Telephone: 408-277-4659
Last EDR Contact: 03/03/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 01/09/2009
Date Data Arrived at EDR: 01/30/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 01/09/2009
Date Data Arrived at EDR: 02/03/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 65

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/20/2009
Date Data Arrived at EDR: 01/21/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 01/19/2009
Next Scheduled EDR Contact: 04/19/2009
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 04/01/2009
Date Data Arrived at EDR: 04/02/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 7

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 02/26/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 8

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/10/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 08/01/2008
Date Data Arrived at EDR: 09/04/2008
Date Made Active in Reports: 09/18/2008
Number of Days to Update: 14

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
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
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/09/2009
Next Scheduled EDR Contact: 06/08/2009
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: 12/29/2008
Date Data Arrived at EDR: 01/08/2009
Date Made Active in Reports: 01/30/2009
Number of Days to Update: 22

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/08/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 01/14/2009
Date Data Arrived at EDR: 02/06/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 62

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 12/11/2008
Date Made Active in Reports: 03/19/2009
Number of Days to Update: 98

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 03/13/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 09/30/2007
Date Data Arrived at EDR: 12/04/2007
Date Made Active in Reports: 12/31/2007
Number of Days to Update: 27

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 02/20/2009
Next Scheduled EDR Contact: 05/04/2009
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: 01/27/2009
Date Data Arrived at EDR: 02/25/2009
Date Made Active in Reports: 03/12/2009
Number of Days to Update: 15

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 02/25/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 09/11/2008
Date Made Active in Reports: 10/02/2008
Number of Days to Update: 21

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 03/09/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 02/12/2009
Date Made Active in Reports: 03/11/2009
Number of Days to Update: 27

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 08/22/2008
Date Made Active in Reports: 09/08/2008
Number of Days to Update: 17

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

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

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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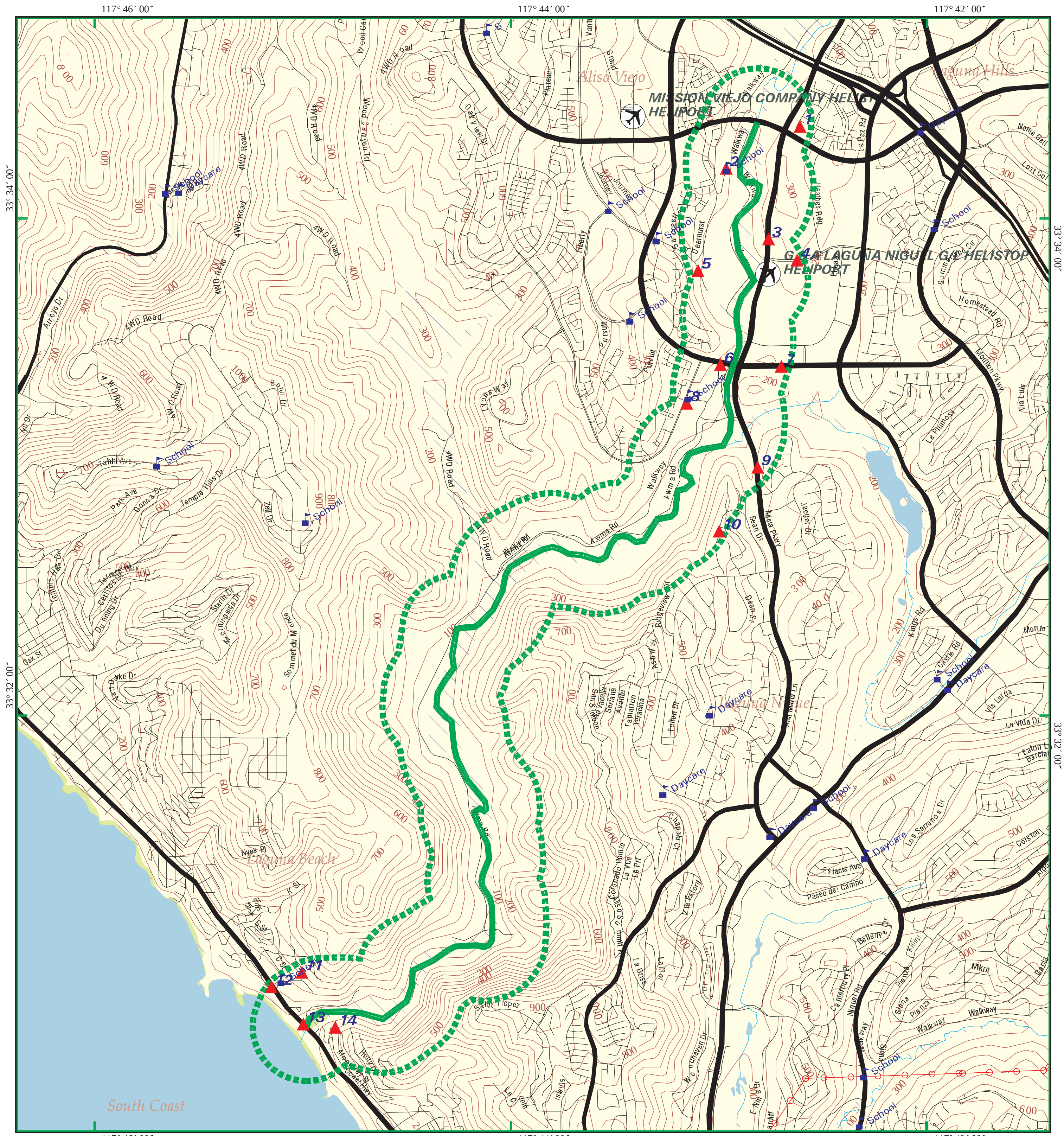

EDR DataMap ® - Corridor Study

EDR® Environmental Data Resources Inc

Alison Creek Ecosystem Restoration Project

Laguna Beach, CA

- Listed Sites
- Earthquake Epicenters (Richter 5 or greater)
- Search Boundary
- Roads
- Major Roads
- Waterways
- Railroads
- Contour Lines
- Pipelines
- Powerlines
- Fault Lines
- Water
- Superfund Sites
- Federal DOD Sites
- Indian Reservations BIA
- 100-Yr Flood Zones
- National Wetland Inventory

N

0 1/4 1/2

Scale in Miles

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APPENDIX B-7: 404(b)(1)

ALISO CREEK MAINSTEM
ECOSYSTEM RESTORATION STUDY
Orange County, California

September 2017

US Army Corps
of Engineers

Orange County Public Works
Environmental Resources
Department

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US Army Corps
Of Engineers®
Los Angeles District

Aliso Creek Ecosystem Restoration
Integrated Feasibility Study

Draft Clean Water Section 404(b)(1) Evaluation

1.0 CLEAN WATER ACT SECTION 404(B)(1) REGULATORY BACKGROUND

Section 404 of the Clean Water Act (CWA) governs the discharge of dredged or fill material into Waters of the U.S. Although the Corps does not process and issue permits for its own activities, the Corps authorizes its own discharges of dredged or fill material by applying all applicable substantive legal requirements, including application of the Section 404(b)(1) Guidelines, 33 Code of Federal Regulations (C.F.R.) 336.1(a).

Under the Section 404(b)(1) Guidelines, an analysis of practicable alternatives is the primary tool used to determine whether a proposed discharge is prohibited. The Section 404(b)(1) Guidelines prohibit discharges of dredged or fill material into Waters of the U.S. if a practicable alternative to the proposed discharge exists that would have less adverse impacts on the aquatic ecosystem, including wetlands, as long as the alternative does not have other significant adverse environmental impacts (40 C.F.R. 230.10(a)). An alternative is considered practicable if it is available and capable of being implemented after considering cost, existing technology, and logistics in light of overall project purpose (40 C.F.R. 230.10(a)(2)). The Section 404(b)(1) Guidelines follow a sequential approach to project planning that considers mitigation measures only after the project proponent shows no practicable alternatives are available to achieve the overall project purpose with less environmental impacts. Once it is determined that no practicable alternatives are available, the guidelines then require that appropriate and practicable steps be taken to minimize potential adverse effects on the aquatic ecosystem (40 C.F.R. 230.10(d)). Such steps may include actions controlling discharge location, material to be discharged, the fate of material after discharge or method of dispersion, and actions related to technology, plant and animal populations, or human use (40 C.F.R. 230.70-230.77).

Beyond the requirement for demonstrating that no practicable alternatives to the proposed discharge exist, the Section 404(b)(1) Guidelines also require the Corps to compile findings related to the environmental impacts of discharge of dredged or fill material. The Corps must make findings concerning the anticipated changes caused by the discharge to the physical and chemical substrate and to the biological and human use characteristics of the discharge site.

These guidelines also indicate that the level of effort associated with the preparation of the alternatives analysis be commensurate with the significance of the impact and/or discharge activity (40 C.F.R. 230.6(b)).

2.0 BASIC AND OVERALL PROJECT PURPOSE

Basic Project Purpose

The basic project purpose comprises the fundamental, essential, or irreducible purpose of the proposed project, and is used by the Corps to determine whether a project is water dependent. The Section 404(b)(1) Guidelines state that if an activity associated with the discharge proposed for a special aquatic site does not require access or proximity to, or siting within, the special aquatic site in question to fulfill its basic purpose, the activity is not water-dependent.

The basic project purpose is aquatic ecosystem restoration. The activity is water dependent.

Overall Project Purpose

The overall project purpose serves as the basis for the Corps' section 404(b)(1) alternatives analysis and is determined by further defining the basic project purpose in a manner that more specifically describes the goals and accounts for logistical considerations for the project, and which allows a reasonable range of alternatives to be analyzed. It is critical that the overall project purpose be defined to provide for a meaningful evaluation of alternatives. It should not be so narrowly defined as to give undue deference to the preferred alternative, thereby unreasonably limiting the consideration of alternatives. Conversely, it should not be so broadly defined as to render the evaluation unreasonable and meaningless.

The Proposed Project analyzed in the IFR is the implementation of an ecosystem restoration project within lower Aliso Creek in Orange County, California. The Proposed Project area includes an approximately five (5) mile reach of Aliso Creek from Pacific Park Drive to the South Orange County Wastewater Authority (SOCWA) Coastal Treatment Plant (CTP) Bridge including approximately 1,000 ft. of the Wood Canyon tributary and the confluence with Sulphur Creek.

As indicated in Section 1.5.1 of the IFR, the overall project purpose is to improve degraded aquatic and riparian ecosystem structure and function, riverine and floodplain connectivity, and stream channel stability along five (5) miles of lower Aliso Creek.

The Proposed Project also includes opportunities to enhance passive recreational experience for the lower Aliso Creek watershed consistent with the restored ecosystem, which is considered incidental to the overall project purpose and therefore not part of the overall project purpose under the CWA. There are no impacts to Waters of the U.S. associated with recreation features corresponding to the restoration alternatives.

Study Area Description

The Study Area is the Aliso Creek watershed which is located in southern Orange County, California and encompasses an area of approximately 35 square miles. Aliso Creek flows nearly 19.5 miles from its headwaters at approximately 2,400 feet (ft.) above sea level in the Santiago Hills within the Cleveland National Forest to its outlet at the Pacific Ocean at Aliso Beach in south Laguna Beach, California. The Aliso Creek watershed is largely urbanized with residential developments throughout, interspersed with commercial, retail, government, educational, and recreation land uses. A complex drainage system of storm drains and improved channels convey storm flows and urban runoff to Aliso Creek.

Seventeen reaches were delineated along Aliso Creek and are numbered from downstream to upstream through the Proposed Project area and vicinity. The goal of the delineations was to establish reaches, each with similar hydraulics within itself, that adequately represent the geomorphic conditions along the Creek. Slope, existing hydraulic and bed controls, geologic features, sediment supply, and hydraulic parameters were considered. Some reaches were divided into sub-reaches to further differentiate localized geomorphic conditions.

Reach 1: Pacific Ocean outlet to the first pedestrian bridge of the golf course at the Ranch at Laguna

Reach 1 extends from the Pacific Ocean outlet to the first pedestrian bridge of the golf course at the Ranch at Laguna Beach property. Due to the outlet collecting littoral sediment drift and from tidal influence, the bridge crossing at Pacific Coast Highway (PCH) was used as a downstream boundary for modeling purposes. Above the PCH Bridge, the reach is an improved earthen channel 1,570 ft. long with concrete side slopes through the Ranch at Laguna Beach. The overall slope is 0.12 percent , and the bottom width varies from 25 to 65 ft. Bank heights range from approximately 10 to 15 ft. Man-made and geologic constraints limit the ability of the Creek to self-adjust in this reach.

Reach 2: 2,620 feet of Creek through the golf course

Reach 2 encompasses 2,620 ft. of Creek through the golf course property, which includes some riprap-protected banks. The main channel is at a slope of 0.35 percent, and is 10 to 50 ft. wide, shallow and sandy, and includes some exposed gravel bars. Bank heights range from 10 to 15 ft. Man-made constraints and channelization through this reach limit the ability of the Creek to self-adjust.

Reach 3: Upper end of the golf course to the SOCWA CTP Bridge.

Reach 3 extends from the upper end of the golf course property to the SOCWA CTP Bridge. The 1,150 ft. of Creek in this reach is natural and unmaintained. It passes through a narrow portion of Aliso Canyon that separates the Wilderness Park from the Ranch at Laguna Beach and has a slope of 0.46 percent. The bottom is 23 to 60 ft. wide and overbanks are well vegetated. Bank heights are 9 ft. on average and consistent within the reach. This reach has achieved a quasi-equilibrium state.

Reach 4A: 2,720 feet upstream from the CTP Bridge to the downstream end of the S-bend.

Reach 4A extends 2,720 ft. upstream from the SOCWA CTP Bridge to the downstream end of the S-bend. The SOCWA CTP is located at the lower end of this reach on the east side. Buried utility lines are routed upstream from the SOCWA CTP through Reach 9 (after which pipeline easement is routed eastward away from Aliso Creek) and include a 36-inch raw effluent transmission pipeline, two 4-inch force main sludge pipelines and a Moulton Niguel Water District 18-inch raw effluent pipeline. Within Reach 4A, some riprap is present on the east overbank from past efforts to protect the adjacent utility lines from erosion. The reach has a slope of 0.30 percent and includes some natural grade control structures such as gravel/cobble plugs and exposed bedrock. The bottom width ranges from 8 to 46 ft. and consists of sandy bed material in pools upstream of coarse material plugs. Bank heights range from 8 to 20 ft. This reach is vertically stable but erosion and slumping of bank material continues as the Creek attempts to achieve equilibrium.

Reach 4B: S-bend upstream to a weathered sandstone outcrop that acts as grade control near the upstream end of the abandoned oxbow

The 3,260 ft. reach has a slope of 0.35 percent with bottom widths ranging from 5 to 40 ft. Some sandy material is present in the reach while the majority of the substrate is coarse gravel and cobble. Bank heights from the S-bend to the downstream end of the oxbow are approximately 15 ft. followed by a noticeable increase to 20 ft. at the oxbow site. A clay-rich and relatively erosion resistant deposit is prevalent in the lower elevations of the overlying very steep channel slopes of valley fill, and also makes up some of the streambed substrate materials. Existing banks are high enough and steep enough that they are in a state of unstable equilibrium. This condition results in episodic erosion and bank slope failure. This reach is vertically stable (with respect to streambed incision) but erosion and slumping of geotechnically unstable banks continue as the channel attempts to achieve equilibrium.

Reach 5A: Upstream from the weathered sandstone boundary of Reach 4B to a thick clay-layer and lower banks of the Creek

Reach 5A extends upstream from the weathered sandstone boundary of Reach 4B to a thick clay-layer in the streambed and lower banks of the Creek. This 1,480-ft. long reach, which ranges from 11 to 45 ft. in width, is slowly incising into the clayey substrate material. The valley fill bank materials are of higher cohesion with heights of 20 to 25 ft. Streambed materials are predominately coarse gravels and cobbles, though sand-rich wedges are also found. The average Creek slope is 0.30 percent. This reach is expected to continue some further vertical incision, accompanied by additional Creek widening due to erosion and slumping of bank materials. Existing Creek banks are high enough and steep enough that they are in a state of unstable equilibrium. This condition results in episodic erosion and bank slope failure that typically occurs during periods of prolonged and heavy rainfall.

Reach 5B: 1,810 feet upstream to exposed bedrock, a geologic grade control

Reach 5B extends for 1,810 ft. to exposed bedrock, a geologic grade control. The reach is densely vegetated with an average slope of 0.46 percent, and is associated with several

riffle areas. Creek widths range from 8 to 60 ft. Bank heights range from 20 to 25 ft. and include some riprap to provide localized protection of Aliso Creek Trail to the west and adjacent buried utility lines to the east. This reach is vertically stable, however localized slumping of steepened and high Creek banks will continue, especially where flows impinge and erode side slopes.

Reach 5C: 1,080 feet upstream to the confluence of Wood Canyon Creek

Reach 5C extends 1,080 ft. upstream to the confluence of Wood Canyon Creek. This reach contains an abundance of sandy bed material, and is the flattest of all reaches with an average slope of 0.04 percent. Creek bottom widths range from 17 to 37 ft. and bank heights are relatively consistent at 25 ft. Bank slopes are less steep than downstream reaches with more established vegetation. This reach is stable both vertically and horizontally. Localized erosion is expected where the Creek impinges on the toe of the disconnected floodplain terrace.

Reach 6: upstream from the Wood Canyon Creek confluence 1,300 feet to the do wnstream end of the ACHWEP drop structure

Reach 6 continues upstream from the Wood Canyon Creek confluence 1,300 ft. to the downstream end of the Aliso Creek Wildlife Habitat Enhancement Project (ACWHEP) drop structure. The channel slope of the reach is 0.55 percent, and the bottom widths vary from 16 to 26 ft. The scoured area downstream of the structure is approximately 175 ft. wide. The ACWHEP drop structure is approximately 25 ft. high. Bank heights in the reach range from 25 to 30 ft. and include some areas of riprap stone to protect adjacent utility lines within the east bank. Multiple cobble-boulder riffles occur in this reach, and riprap, likely displaced from the ACWHEP structure or failed bank protection are present at various streambed locations. The bed elevation in this reach appears to be relatively stabilized. Channel banks are generally vegetated and appear to have stabilized except in the immediate vicinity of the drop structure, where flood flows are directed at the unstable banks.

Reach 7: Crest of the ACWHEP structure 2,750 feet upstream to a Creek bend wh ere the bank height transitions to 15 feet

Reach 7 extends from the crest of the ACWHEP structure 2,750 ft. upstream to a Creek bend where the bank height transitions to 15 ft. Throughout this reach, the grade control appears to arrest the down-cutting, except at its upper end. The average Creek slope is 0.25 percent. The banks at the lower end of the reach are comprised of alluvium and generally 4 ft. high; gradually increasing to 10 ft. high as the banks transition to valley fill materials. The Creek bottom is generally 12 to 37 ft. wide. This reach exhibits higher sinuosity than other reaches of the Creek. The ACWHEP structure at the downstream end of the reach acts as a sediment trap which provides vertical stability. The bed material is primarily depositional sand and small gravel although coarse gravel and cobble riffles are also present. This reach is both vertically and laterally stable.

Reach 8: 3,110 feet upstream to the confluence with Sulphur Creek

Reach 8 extends 3,110 ft. upstream to the confluence with Sulphur Creek. The Creek slope is 0.27 percent, and the bottom width varies from 10 to 28 ft. The incision is well pronounced with bank heights of valley fill materials in excess of 30 feet at the upstream end. A thick clay layer lies at the toe of the banks. Reach 8 exhibits sinuosity, the greatest in the watershed, with the bed material switching between gravel and cobble riffles to sand and small gravel in the intervening pools. The outside of a bend has moved laterally and is threatening Aliso Creek Trail. Sections of pavement have been lost, and concrete barriers were placed to prevent vehicles from going over the edge. This reach is vertically stable but additional Creek widening is expected.

Reach 9: 360 feet upstream of the Sulphur Creek confluence to the Awma Road Bridge crossing which marks a transition to an engineered channel

This reach includes the Wilderness Park Ranger Station, and access to the Wilderness Park from Alicia Parkway. The Creek has a bottom width that varies from 8 to 18 ft. The area under the wma Road Bridge is protected by concrete and includes a sloped grouted stone 3-foot drop. The overall Creek slope is 1.00 percent with bank heights of 25 to 30 ft. Though the creek bed is vertically stable, erosion and slumping of bank material continues to widen the Creek through this reach.

Reach 10: 3,240 feet of engineered channel from Awma Road Bridge, under the Aliso Creek Road Bridge and continuing upstream past the Laguna Niguel Skateboard and Soccer Park

Reach 10 is a 3,240-ft. stretch of engineered channel from Awma Road Bridge, under the Aliso Creek Road Bridge, and continuing upstream past the Laguna Niguel Skateboard and Soccer Park. The realignment was completed in 1969 to accommodate the construction of the Chet Holifield Federal Building and Alicia Parkway. Due to the Creek straightening and steepness of the grade, two 10-foot high concrete drop structures were constructed. The side slopes of the Creek are laid back at 2H:1V, and are protected with riprap for a distance of about 700 feet downstream of Aliso Creek Road Bridge. The overall average channel slope is 1.00 percent, although the bed slope between the two drop structures is 0.31 percent. The bottom width ranges from 25 to 60 ft. and bank heights range from 10 to 15 ft. The engineered channel design precludes assessment of equilibrium within the reach.

Reach 11: 2,670 feet upstream of the engineered channel to the major riprap grade control structure where the JRWSS pipeline crosses the Creek

Reach 11 is the upstream end of the Study Area and extends 2,670 ft. upstream of the engineered channel to the major riprap grade control structure where the Joint Regional Water Supply System (JRWSS) pipeline crosses the Creek. Several segments of the west bank are subject to scour and protected with riprap. One segment is fortified with steel piling to protect a portion of the JRWSS alignment. The Creek slope is roughly 0.38 percent. The low-flow thalweg shows a consistent bottom width of 30 ft. but the entire bottom width, which is heavily overgrown with giant reed (*Arundo donax)* and varies in

width up to 150 ft. A thick clay layer is present in the bed and toe of the banks. A series of cattail covered coarse gravel plugs are present along the reach, with interspaced sandy pools. The reach exhibits higher sinuosity relative to other reaches. The west overbank is occupied by the Aliso Niguel High School and athletic grounds and the east overbank is a broad paved area that is a remnant of a previous road and development. Bank heights range from 10 to 20 ft. The reach is expected to further incise and widen.

Reach 12: From the riprap drop structure upstream 1,270 feet to the downstream end of the Pacific Park Drive outlet structure

Reach 12 extends from the riprap drop structure upstream 1,270 ft. to the downstream end of the Pacific Park Drive outlet structure (triple barrel concrete box culverts, 8 ft. high x 10 ft. wide). The reach has a slope of 0.51 percent and a bottom width of 27 to 55 ft. The uppermost 250 ft. of the reach is engineered and lined with riprap protection. The bank heights are no greater than 10 ft. The left and right overbanks in this reach are up to 500 ft. wide, but are no longer inundated except during extreme events (>500-year) due to the peak discharge reduction at the Pacific Park basin. Coarse gravel plugs/riffles are present along the creek bed with intervening stretches of sandy substrate. With a mix of some engineered Creek sections and natural grade control provided by plugs, this reach presents a quasi-equilibrium state.

Reach 13: Pacific Park Detention Basin upstream under the San Joaquin Hills Transportation Corridor Bridge, upstream about 4,150 feet

Reach 13 includes the Pacific Park Detention Basin (Basin) and extends upstream, passing under the San Joaquin Hills Transportation Corridor Bridge, up to a tributary inlet about 4,150 ft. upstream across from the Aliso Viejo Middle School. The Pacific Park culvert reduces the flow conveyance under the Pacific Park Drive roadway, creating a backwater upstream in the Basin. The reach has a slope of 0.5 percent, with a bottom width up to 150 ft. wide and a consistent low flow thalweg of about 30 ft. up to the San Joaquin Hills Transportation Corridor Bridge. Upstream of the Bridge, the Creek width varies between 25 and 35 ft.

Reach 14: From the tributary inlet in Reach 13 to the start of the channel bend 1,800 feet downstream of Moulton Parkway Bridge crossing

Reach 14 extends from the tributary inlet in Reach 13 to the start of the Creek bend at about 1,800 ft. downstream of Moulton Parkway Bridge crossing. The 3,180-ft. long reach has a slope of 0.77 percent. The low flow channel is incised 3 to 10 ft. within a floodplain that is up to 300 ft. wide.

Reach 15: A length of 2,700 feet from 1,870 feet downstream of Moulton Parkway Bridge to a 3-foot concrete drop structure just downstream of Laguna Hills Drive Bridge

Reach 15 extends from 1,870 ft. downstream of Moulton Parkway Bridge to a 3-ft. concrete drop structure just downstream of Laguna Hills Drive Bridge for a total length of 2,700 ft. The channel slope is 1.0 percent. In the portion of the reach downstream of Moulton Parkway Bridge, the Creek is much like the previous reach, and is incised about

10 ft. within a floodplain of up to 400 ft. wide. In the 830-ft. section between Moulton Parkway Bridge and Laguna Hills Drive, the Creek has a width of about 50 ft. within a floodplain of about 160 ft.

Reach 16: 3,200 feet from just downstream of Laguna Hills Drive to just upstream of the Avenida Sevilla Bridge

Reach 16 extends for 3,200 ft. from Laguna Hills Drive to just upstream of the Avenida Sevilla Bridge. This reach has been modified with graded side slopes of 2.5H:1V and some riprap stone protection; the Creek bottom varies between 20 and 65 ft. wide. The Creek is soft-bottom with an overall slope of 0.86 percent. The lower 1,200-ft. of the reach is County-owned and maintained for flood control. Marsh vegetation is currently cleared twice a year. The upstream 2,000 ft. of the reach is within the City of Laguna Woods which has a 16-acre conservation easement within the Laguna Woods Community preserving Aliso Creek as a natural riparian stream and freshwater marsh habitat.

Reach 17: 5,370 feet from just upstream of Avenida Sevilla to the San Diego Freeway

Reach 17 extends about 5,370 ft. from just upstream of Avenida Sevilla to the San Diego Freeway. It crosses under a bridge at Paseo De Valencia, and has an overall slope of 0.98 percent. In the 2,000 ft. between Avenida Sevilla and Paseo de Valencia, a 15 to 30-ft. wide modified Creek splits a narrow floodplain. The Creek bottom is sandy and the side slopes are protected in stretches by riprap. This stretch of the reach is within the Laguna Woods Community conservation easement. Between Paseo de Valencia and the San Diego Freeway, the Creek is within County–owned land and natural, with a meandering low-flow thalweg from 10 to 20 ft. wide within a 160 to 260-ft. wide floodplain. The banks and overbanks are largely vegetated, but include riprap and concrete protection near the San Diego Freeway.

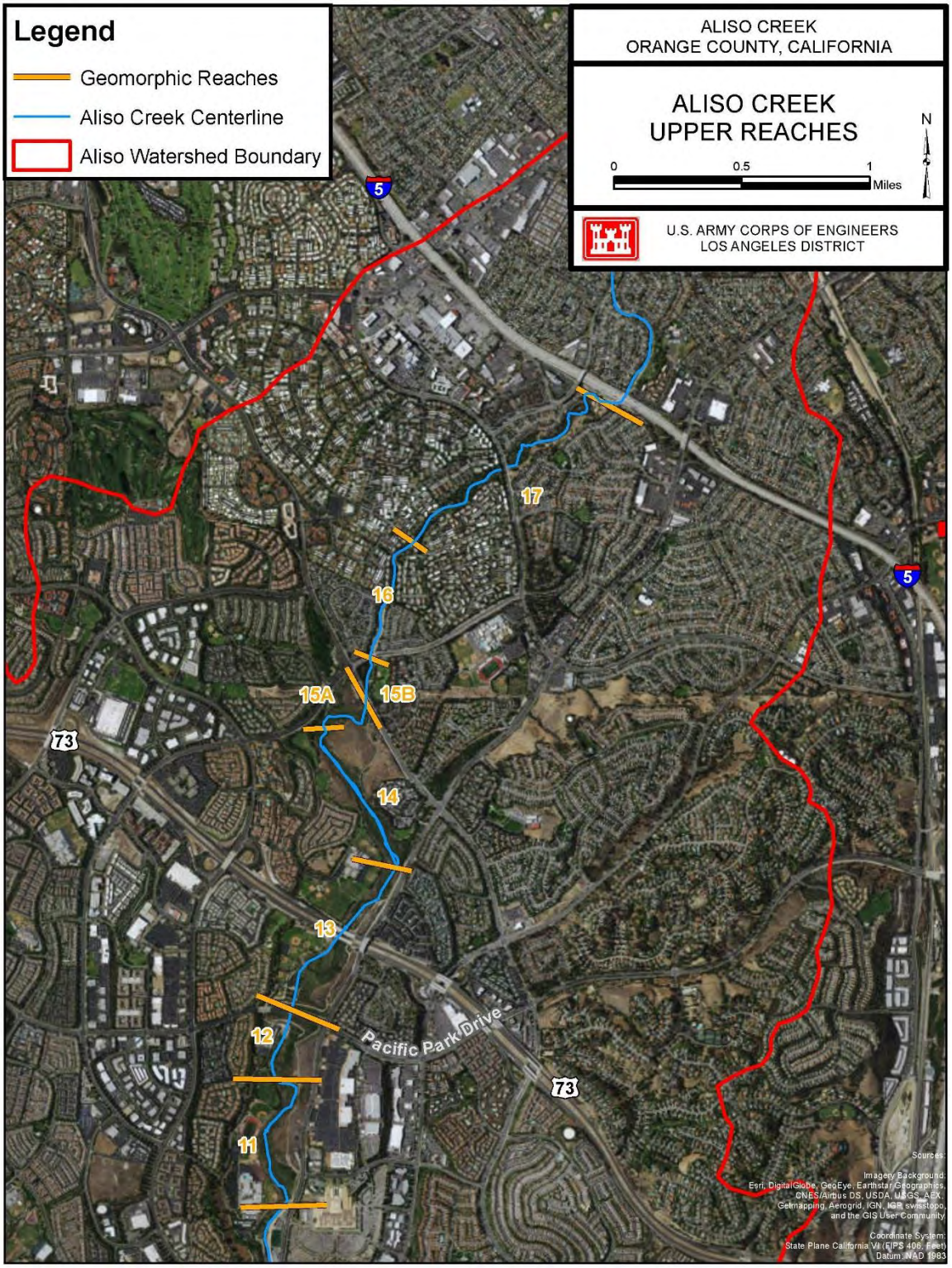

Figure 1: **Study Area Reaches**

Pacific Park Drive
Wood Canyon Creek
ACWHEP Structure
SOCWA
12
11
10
9
8
7
6
5c
5b
5a
4b
4a
3
2
1
I
II
IIa
III
IV
V
VI

Jurisdictional Determination of Waters of the U.S.

The study area encompasses five (5) miles of Aliso Creek, approximately 1,000 ft. of the Wood Canyon Creek, and the confluence with Sulphur Creek.

In the absence of adjacent wetlands, jurisdictional limits in non-tidal Waters of the U.S. extend to the ordinary high water mark (OHWM). When adjacent wetlands are present, jurisdiction extends beyond the OHWM to the limit of the adjacent wetlands. Wetlands within the Creek are variable, prone to changes in size and location depending on the severity of storm flows.

Per the 2008 joint U.S. Environmental Protection Agency-Department of the Army guidance implementing the Supreme Court's decision in the consolidated cases Rapanos v. United States and Carabell v. United States which address the jurisdiction over Waters of the U.S. under the CWA, the agencies will assert jurisdiction over relatively permanent non-navigable tributaries of Traditional Navigable Waters (TNW). A non-navigable tributary of a TNW is a non-navigable water body whose waters flow into a TNW either directly or indirectly by means of other tributaries. Non-navigable tributaries of TNWs are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months). Relatively permanent waters do not include ephemeral tributaries which flow only in response to precipitation and intermittent streams which do not typically flow year-round or have continuous flow at least seasonally.

Aliso Creek is a direct tributary to the Pacific Ocean, a TNW. Once an intermittent stream before the region became heavily urbanized, the creek now flows year-round. The 2-year storm flow ranges from 1,590 cubic feet per second (cfs) at the ACWHEP structure to 1,680 cfs at PCH. Aliso Creek is a relatively permanent non-navigable tributary of a TNW, and a jurisdictional Water of the U.S. No adjacent wetlands were identified within the Proposed Project area.

Sulphur Creek is a non-navigable tributary that flows into the Pacific Ocean, a TNW, indirectly through Aliso Creek. The average base flow is approximately 2.46 cfs. Flows are continuous for at least three months. Sulphur Creek is therefore a relatively permanent non-navigable tributary of a TNW, and a jurisdictional water of the U.S. No adjacent wetlands were identified within the Proposed Project area.

Wood Canyon Creek is a non-navigable tributary that flows into the Pacific Ocean indirectly through Aliso Creek. The average base flow is approximately 1.87 cfs. Flows are continuous for at least three months. Wood Canyon Creek is therefore a relatively permanent non-navigable tributary of a TNW, and a jurisdictional water of the U.S. No adjacent wetlands were identified within the Proposed Project area.

The OHWM in Aliso Creek, Sulphur Creek, and Wood Canyon Creek encompasses the 10-year floodplain.

3.0 ALTERNATIVES CONSIDERED

Alternatives were formulated from a combination of structural and non-structural measures. See Chapter 3 of the IFR for additional information. This section describes the measures and qualitatively characterizes the anticipated discharges of dredged or fill material associated with each.

3.1 Measures

Structural

Remove ACWHEP Structure– The ACWHEP structure has created a 25-ft. longitudinal (up- or downstream) grade discontinuity along the Aliso Creek impairing aquatic, amphibious, and terrestrial passage through the riverine and aquatic corridor, and disconnected refuge. This measure would remove the ACWHEP structure., after which the streambed would be raised incrementally from downstream to upstream using a series of 47 sloped rock riffle structures spaced 600 to 800 feet apart, and transverse to the channel alignment, between the SOCWA Coastal Treatment Plant and Pacific Park Drive.

Removal of the structure would involve discharges of dredged material (excavation) within Waters of the U.S. and reestablishing a stable channel planform would involve discharges of fill material into Waters of the U.S. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams. Impacts from grade control stabilizers are described below.

Wood Canyon Landscape Reconnection – The presence of small culverts under the Aliso Creek Trail on the west side of the Creek crossing at the Wood Canyon Creek tributary reduce flow rates at the confluence and back up flows in the tributary. Growth of dense vegetation results. A small vehicular bridge (Wood Canyon Bridge) would replace the culverts to improve flow conveyance, eliminate the overgrowth, and improve aquatic wildlife access between Wood Canyon and Aliso Creeks. The lower 700 feet of Wood Canyon Creek would be re-graded to a limited extent to transition naturally into Aliso Creek.

Grading and realignment at the confluence would discharge sidecast material and temporary stockpiles within Waters of the U.S. Native earthen substrate would also be discharged as backfill during construction. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams. Due to the narrow width of the creek at this location, the proposed bridge would span the creek. The abutments would be located outside Waters of the U.S.

Wood Canyon Trailhead Realignment – Approximately 800 ft. length of Wood Canyon trailhead would be realigned to the southwest to create more riparian habitat area upstream of the confluence and the Aliso Creek Trail crossing. The trail is located in the uplands, outside of Waters of the U.S. Realignment would entail earthwork in the uplands and would not result in discharges of dredged or fill material within Waters of the U.S.

Raise Streambed to Reconnect with Historic Floodplain – This measure would reestablish of the hydrologic connection of the Aliso Creek channel with the historic floodplain. The existing elevation of the creek bed, which has been lowered due to scour bed would be raised. The raised creek bed would allow storm flows to reconnect with the historic floodplain.

Construction would require excavation and redeposition of native soils within Waters of the U.S. Raising the creek bed would require discharge of native soils within Waters of the U.S. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams.

Reconnect Abandoned Oxbow –This measure would provide hydraulic reconnection to abandoned oxbow. The oxbow is currently about 18 ft. above the active channel.

Once the creek bed is raised to match the elevation of the oxbow, reconnection would require minor earthwork at the points where the oxbow connects to the creek. Earthwork would require excavation and redeposition of native soils within Waters of the U.S. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams.

Bypass Channel at Pacific Park Drive – Provide a low flow bypass channel to allow aquatic wildlife habitat passage up- and downstream of Pacific Park Drive. Pacific Park Drive across Aliso Creek is located atop an embankment with a culvert underneath. However, there is a gap in the embankment which allows a maintenance road to pass through. This measure would entail excavation of a channel along this gap to reconnect the upstream and downstream reaches of the creek. Riparian vegetation would be planted along the bypass. A pump would be utilized on the upstream end to feed the low flow channel.

Excavation within Waters of the U.S. would result in discharges of dredged material.

Streambank Recontouring –Banks deemed to be unstable would be graded to construct stable slopes.

Construction would require earthwork that would result in the discharge of native substrate within Waters of the U.S. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams.

Grade Control Stabilizers – These structures would be implemented where the streambed needs to be stabilized to prevent further incision, or to maintain a specific gradient. To prevent undermining by flows, the structures would span the channel width and be keyed into the streambanks. The number of structures required would be dictated by the projected equilibrium slope. The structures would be designed with the intent to appear as natural as possible, using natural materials consistent with the Wilderness Park setting, such as large boulders (i.e. rock riffle structures); and allow fish passage.

Design considerations for the grade control stabilizers include:

- Incorporate a low flow notch at grade control structures to control thalweg alignment.
- Do not incorporate a low flow notch at grade control structures to allow unrestricted migration of the stream channel across the active channel width.
- Use grouted stone as needed to accommodate high flow velocities at longer grade control structures. For these longer structures, placement of transverse ridge rocks perpendicular to the flow direction would be added to provide zones of low flow velocity and short pool sections. This would mimic natural stream flow conditions and would create deep enough pools for fish migration along the larger grade control structures. Ungrouted stone would also be placed over the grouted stone in this situation.
- Installation of sheet piles as a fail-safe protection for the grade control stabilizers. A single sheet pile would be embedded at each stabilizer location and would maintain the integrity of the grade change in case of loss of the control structure in a very high flow event and ensuing risk of loss of channel bed in the upstream or downstream direction. The stabilizer would then be rebuilt.

Construction would require excavation and redeposition of native soils within Waters of the U.S. In addition, construction would require discharge of boulders, riprap, and sheet piles. Concrete would be discharged at three grade control structures where grouting is required. During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails, coffer dams or pipes; these structures would be removed upon completion of construction. Thus, materials to be permanently discharged into Waters of the U.S. mostly entail native soils and natural substances such as rocks and boulders. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams.

Stream Lengthening (Sinuosity) – Bends would be constructed along the general alignment to decreases the gradient, reduces flow velocities, and erosion potential. This measure may require setbacks for utility alignments and/or maintenance roads to allow the Creek more lateral space to promote the development of sinuosity.

Adding sinuosity would require excavation in the uplands as well as Waters of the U.S. Excavation would result in discharge of dredged material. Minor earthwork at points where the newly excavated channel connects to the creek would require excavation and redeposition of native soils within Waters of the U.S. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams.

Armoring Channel (Invert and/or Sideslopes) – Where required unstable slopes and critical infrastructure would be armored with riprap.

Construction of slopes would require earthwork which would result in discharge of dredged material. Riprap would be discharged for slope protection. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams.

Terracing Floodplain – Establish a new floodplain terrace adjacent to the active channel. Terracing promotes vertical structure of restored riparian habitat, with multi-layers in mature willows and cottonwoods in the less frequently inundated higher channel slopes and overbanks, and lower ecotonal edges created by riparian shrubs in the lower channel slopes and terraces.

Construction would require earthwork within the active channel and the 10-year flood plain, the limits of Waters of the U.S, which would result in discharge of dredged material. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams.

Sulphur Creek Tributary Connection - Sulphur Creek joins Aliso Creek at Reach 9. Connection to the tributary would be limited to the confluence area. Sulphur Creek Reservoir is currently managed for recreation fishing and stocked with non-native fish. Management measures would include placing screens on upstream side of the Alicia Parkway culvert to minimize exotic species expansion downstream to Aliso Creek. The confluence area (side slopes and stream bottom) would be lined with riprap to dissipate flow energies from Sulphur Creek and to protect adjacent infrastructure and cultural resources. Side slope stone would be buried under compacted fill in combination with a geosynthetic mat to allow riparian vegetation to establish.

Construction of slopes would require earthwork which would result in discharge of dredged material and redeposition of native soils. Riprap would be discharged for slope protection. Geosynthetic mats would also be discharged. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams.

Non-Structural

Create Freshwater Marsh – Areas that are seasonally flooded areas would be allowed to naturally transform into marsh habitat through an adaptive habitat management program. No discharges of dredged or fill material within waters of the U.S. would occur.

Exotic Plant Species/Invasive Eradication – Removal of exotic invasive plant species within the Study Area. No discharges of dredged or fill material within waters of the U.S. would occur.

Revegetation – Restoration efforts would include revegetation of native California species, including riparian and coastal scrub consistent with the Wilderness Park. No discharges of dredged or fill material within waters of the U.S. would occur.

3.2 Alternatives and Impacts to Waters of the U.S.

The IFR evaluated an array of alternatives in Chapter 3. An initial array of alternatives was developed and screened, and subsequently a final array was developed. Chapter 3 of the IFR provides complete descriptions of these alternatives as well as discussion of alternatives considered but not carried forward for further analysis.

Subsequent to the application of measures to screen alternatives, four action alternatives (Alternatives 3.3, 3.6, 3.7, and 3.8) as well as the No Federal Action Alternative were further evaluated in the IFR, constituting a reasonable range of alternatives.

3.2.1 Alternative 1: No Federal Action

Under this alternative, the Federal government would take no action to restore ecosystem function or services within the Study Area. The Creek invert and banks would continue to erode (vertically and horizontally) until a more stable geomorphic equilibrium condition (channel size and pattern) and new very limited inset floodplain is developed. The Creek evolution sequence for this system could require 50 to 100 years. The incision of the creek bed is expected to continue an additional 3 to 4 ft. over the next 10 years in some reaches upstream and downstream of the ACWHEP structure. The incised Creek would be of sufficient depth to continue to preclude most overbanking from occurring, except for less frequent, very large storm events. Without overbanking, the opportunity for flood flow infiltration (aquifer recharge) to the historic floodplain and abatement of floodwater energy is repressed, resulting in a changed floodplain habitat. The “S” bend (Reach 4B), offering channel complexity and associated habitat biodiversity (including freshwater marsh), would likely be cutoff within the period of analysis (estimation: after year 25), a fate similar to the abandoned oxbow in the upper portion of the same reach.

The riparian vegetation corridor on the historic floodplains would likely continue to degrade in quality and become narrower, due to an increasing upland composition as the connection to the water table is reduced below the maximum rooting depth of the predominate riparian habitat. Currently, the riparian vegetation is transitioning from a dense willow tree and shrub canopy to a more open canopy, mostly late successional, riparian community. Invasive species would outcompete native riparian species as unstable conditions, including higher flow velocities and erosive power from confined flows uproot the native vegetation, favoring reestablishment of faster growing invasives. A riverine habitat of degraded function and structure, less suitable to support wildlife diversity, including species of special status would result. Physical barriers such as the ACWHEP structure and the perched tributary at Wood Canyon Creek would remain, promoting isolation of aquatic resources and degradation of aquatic habitat function and value.

Flood flows would continue to pose an imminent threat to public water supply, wastewater infrastructure and public safety, with impacts to the environment and local economy which relies on the recreational use and high aesthetic value of the coastal region. SOCWA emergency efforts to protect pipelines at risk would be piecemeal and provide only short-term solutions.

3.2.2 Alternative 3.3

This alternative includes the following measures: 1) Remove ACWHEP structure, 2) Raise Streambed to Reconnect with Historic Floodplain, 3) Terracing Floodplain, 4) Grade Control Stabilizers, 5) Channel Armoring, 6) Bypass Channel at Pacific Park Drive, 7) Sulphur Creek Tributary Connection, 8) Wood Canyon Landscape Reconnection, 9) Wood Canyon Trailhead Realignment, 10) Removal of two 10-foot Concrete Drop Structures, and 11) Vegetation Restoration and Swale Construction. This alternative would increase the 100-year floodplain area by 60 percent over the without-project condition.

Clearing and Grubbing

Approximately 4,000 to 5,000 linear ft. of vegetation would be cleared and grubbed each year over the four year construction period via earthmoving equipment resulting in the discharge of sidecast **material** and temporary stockpiles within Waters of U.S.

Remove ACWHEP Structure and two 10-ft Drop Structures

Removal of the structures would involve discharges of dredged material (excavation) within Waters of the U.S. and reestablishing a stable channel planform would involve discharges of fill material into Waters of the U.S. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams.

Streambank Recontouring, Terracing Floodplain, and Grade Control Stabilizers

With the exception of Reach 10, the Creek between Reaches 4A and 12 would be re-contoured to extend the existing 10-year level floodplain width by over 90 percent, while incorporating an inset floodplain terrace on one or both sides of the active low flow channel. Specifically, the existing Creek would be widened to a 100-ft. width to contain a low flow channel capable of conveying all flows less than a 2-year level flood event. Inset floodplain terracing adjacent to the low flow channel would convey flows up to the 10-year flow event, and would extend the overall top width of the re-contoured Creek to 200 ft. wide. All Creek side slopes would be a stable 3H:1V. For Reach 10 only (upstream of Awma Road Bridge to just north of the Skate Park), the Creek along the east bank would be widened to accommodate a riparian corridor planted on top of a 4-ft. high floodplain bench ranging in width from 3 to 56- ft. wide. A sheetpile wall would be utilized at the east bank for a total distance of 2,000 ft.

The creek bed would be raised incrementally from downstream to upstream using a series of 47 grade stabilizers spaced 600 to 800 feet apart, and transverse to the channel alignment, between the SOCWA CTP and Pacific Park Drive (Reach 4A to 12). The largest gain in streambed elevation would be between Reaches 4B and 6 with a range from 7 to 21 feet. Streambed elevation raising upstream of the ACWHEP structure to Awma Road Bridge would range from approximately 2 to 9 ft. Streambed raising upstream of Awma Road Bridge (Reach 9) would be much less than downstream, i.e. ranging between 0 and 5 ft. Recontouring and raising the creek bed would result in discharge of native soils into Waters of the U.S. The stabilization of streambed would

also require discharge of sheet piles. Temporary discharges of fill material during construction would include placement of dewatering structures within the incised Creek.

The grade control stabilizers would act both as riffles and as grade control stabilizers, and would consist of buried large boulders below creek bed grade. Riffle structures would be placed in a series transverse to the channel and spaced at intervals required to support a projected equilibrium slope along the Creek alignment. The sequencing of riffle structures would allow the formation of intermittent pools between the structures. The slope of the creek bed between the riffles would be a stable 0.25%. Sheet piling would be included to ensure streambed grade integrity is maintained in case of damage or loss of the riffle structure during a significant storm event. The riffle structures would promote pool and riffle habitat and allow aquatic wildlife passage. The riffle structures would promote pool and riffle habitat and allow fish passage. With a geomorphically stable channel, the "S" bend would remain intact.

Discharges of fill material into Waters of the U.S. for all rock riffle construction would include sheet piles, boulders, and rock from a clean source. Temporary discharges of fill material during construction would include placement of dewatering structures within the incised Creek.

Pacific Park Drive Bypass

At the existing embankment crossing at Pacific Park Drive (Reach 12), a low flow stream diversion channel would be constructed to pass through the bikeway underpass. A pump system installed on the upstream side would provide a continuous low flow water supply from the Creek. Excavation within Waters of the U.S. would result in discharges of dredged material.

Sulphur Creek Tributary Connection

At Sulphur Creek confluence, screens would be placed on the upstream side of the culvert at Alicia Parkway to prevent the entry of exotic aquatic wildlife from upstream Sulphur Creek and reservoir into Aliso Creek. The confluence area (side slopes and stream bottom) would be lined with riprap to dissipate flow energies from Sulphur Creek and to protect adjacent infrastructure and cultural resources. Side slope stone would be buried under compacted fill in combination with a geosynthetic mat to allow riparian vegetation to establish.

Construction of slopes would require earthwork which would result in discharge of dredged material and redeposition of native soils. Riprap would be discharged for slope protection. Geosynthetic mats would also be discharged. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams.

Wood Canyon Landscape Reconnection and Wood Canyon Trailhead Realignment

At the Wood Canyon Creek confluence, aquatic habitat passage with Aliso Creek would also be restored. The Aliso Creek Trail culvert crossing at Wood Canyon Creek would be replaced with a small bridge to span the tributary crossing and accommodate vehicular and park visitor use (cycling, pedestrian). The lower 700 feet of Wood Canyon Creek would be re-graded to a limited extent to transition naturally into Aliso Creek. Additionally, the initial 800 feet of Wood Canyon Trail would be realigned westward by about 75 feet to remove it from the riparian vegetation habitat along Wood Canyon Creek.

Grading and realignment at the confluence would discharge sidecast material and temporary stockpiles. Native earthen substrate would also be discharged as backfill during construction. Temporary discharges of fill material would include placement of dewatering structures within the incised Creek.

Channel Armoring

To minimize threat to critical infrastructure from streambed erosion, the SOCWA wastewater utility corridor and the SOCWA maintenance road (also referred to as Aliso Creek Trail East) would be protected with buried riprap stone at critical locations between the SOCWA CTP Bridge and Sulphur Creek confluence (Reaches 4A through 9). Discharges of fill include placement of riprap and backfill of native earthen substrate.

Vegetation Restoration

Vegetation type restoration would occur in a manner that would promote riparian structural habitat within 12 to 18 months. Phase 1 restoration would be planted with larger plants in order to achieve a more diverse riparian structural condition in a shorter period of time. Existing vegetation removal would be concurrent with the incremental phasing. As a minimization measure for affects to least Bell's vireo occupied habitat within Phase 4 reaches, suitable temporary vireo riparian habitat would be created in an adjacent area to the Phase 4 reach east of the east road within a 9-acre area. A shallow swale would be excavated and planted with vireo structural riparian habitat. The creation of this habitat would be implemented during the Preconstruction, Engineering, and Design phase one year prior to construction of Phase 1 with the emphasis on creating the structural conditions of the habitat for the species to use for nesting. A three year period is needed for structural habitat establishment.

The activity would require discharge of native substrate associated with creating a shallow swale.

The riparian corridor along the re-contoured Creek banks and terraces would be restored with appropriate riverine vegetation types (*Salix-Populus* Forest/Woodland Alliance, *Salix-Baccharis* Forest Alliance, *and Baccharis* Shrubland Alliance). Freshwater marsh (*Typha* Herbaceous Alliance) habitat would establish naturally, and once established could be maintained in preferred areas through an adaptive habitat management program. The riparian corridor within Reach 10 would also be planted with appropriate vegetation

types. All exotic/invasive plants would be eradicated over time where present within the project area, as necessary, specifically, giant reed and salt cedar.

Schedule/Phasing

Construction would be sequenced over four years starting from the SOCWA CTP Bridge.

- Year 1, Phase 1: SOCWA CTP Bridge to lower end of oxbow area (4,600 ft).
- Year 2, Phase 2: Lower end of oxbow area mid-canyon (3,600 ft).
- Year 3, Phase 3: Mid-canyon to juncture of Aliso Creek Trail and Aliso Canyon Road (4,700 ft).
- Year 4, Phase 4: Juncture of Aliso Creek Trail and Aliso Canyon Road to Awma Rd Br. (4,800 ft).

The segment from Awma Road Bridge to Pacific Park Drive (7,300 ft) would occur concurrently with Phases 1-4 as feasibility permits.

Maintenance

Maintenance of ecosystem restoration features would be conducted under this alternative by Orange County Parks. Maintenance in general would include removal of invasive species throughout the Proposed Project footprint; maintenance of constructed trails and viewing areas; trimming of native vegetation; removal of trash and accumulated sediment; vector control; and like-for-like structural repair. Project areas subject to invasive removal include Creek invert and terraces and tributary confluences as well as constructed bank stabilization features.

Maintenance activities within Waters of the U.S. may require use of excavators, backhoes, or grapple trucks for removal of trash, debris, and sediment. Maintaining design grades, elevations, contours, and conveyance may require limited earthmoving activities on a periodic basis. In such cases, there may be discharges of fill material associated with the use of earthmoving equipment, such as bulldozers, within newly established Waters of the U.S. Impacts would be temporary in nature. In other cases, like-for-like structural repair could result in permanent discharges of fill material into Waters of the U.S. However, temporary or permanent discharges of fill material would not decrease the amount of newly established Waters of U.S. Invasive species in the Creek and tributaries within the project area are typically removed through proven eradication methods. Thus, the activity would not result in discharges of fill material in most instances. In cases where limited earthmoving may be required, there would be discharges of earthen fill. However, impacts would be temporary and there would be no loss of Waters of the U.S.

3.2.3 Alternative 3.6

Alternative 3.6 incorporates the same features as Alternative 3.3 and includes the Reconnect Abandoned Oxbow measure. Once the creek bed is raised to match the elevation of the oxbow, reconnection would require minor earthwork at the points where the oxbow connects to the creek. Earthwork would require excavation and redeposition of native soils within Waters of the U.S. Construction within the active channel would also

require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams. Reconnection of an abandoned oxbow would add approximately 850 feet of channel. The inclusion of the reconnected oxbow eliminates the need for one grade stabilizer, as the additional stream lengthening reduces the longitudinal grade in the reach. The total number of grade stabilizers needed for Alternative 3.6 is 46.

Maintenance activities for Alternative 3.6 would be similar to those described for Alternative 3.3.

3.2.4 Alternative 3.7

Alternative 3.7 incorporates the same features as Alternative 3.6 and includes the Stream Lengthening (Sinuosity) measure. Bends would be constructed along the general alignment to decreases the gradient, reduces flow velocities, and erosion potential. This measure may require setbacks for utility alignments and/or maintenance roads to allow the Creek more lateral space to promote the development of sinuosity.

Adding sinuosity would require excavation in the uplands as well as Waters of the U.S. Excavation would result in discharge of dredged material. Minor earthwork at points where the newly excavated channel connects to the creek would require excavation and redeposition of native soils within Waters of the U.S. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams.

This measure would provide an additional 32 feet of channel sinuosity downstream of Pacific Park Drive.

Maintenance activities for Alternative 3.7 would be similar to those described for Alternative 3.3.

3.2.5 Alternative 3.8

Alternative 3.8 incorporates the same features as Alternative 3.7 and includes the Stream Lengthening (Sinuosity) measure. Bends would be constructed along the general alignment to decreases the gradient, reduces flow velocities, and erosion potential. This measure may require setbacks for utility alignments and/or maintenance roads to allow the Creek more lateral space to promote the development of sinuosity.

Adding sinuosity would require excavation in the uplands as well as Waters of the U.S. Excavation would result in discharge of dredged material. Minor earthwork at points where the newly excavated channel connects to the creek would require excavation and redeposition of native soils within Waters of the U.S. Construction within the active channel would also require temporary discharges of dewatering structures such as K-rails, pipes, or cofferdams.

This measure would provide an additional 59 feet of channel downstream of the confluence with Wood Canyon Creek.

Maintenance activities for Alternative 3.8 would be similar to those described for Alternative 3.3.

3.3 Impacts to Waters of the U.S.

All action alternatives would entail both temporary and permanent discharges of fill material into Waters of the U.S.

All action alternatives mostly share the same management measures but would incrementally increase the scope of restoration. However, the incremental differences between the alternatives are relatively small relative to the overall construction footprint common to all action alternatives. For example, Alternative 3.3 would require 47 grade control stabilizers; Alternatives 3.6 thru 3.8 would require 46 grade control stabilizers. Likewise, incremental difference in the length of construction are relatively small. Relative to Alternative 3.3, Alternative 3.6 would reconnect Aliso Creek to an abandoned oxbow, adding approximately 850 feet of channel. Alternative 3.7 adds approximately 32 feet of channel to the restoration area relative to Alternative 3.6. Likewise, Alternative 3.8 adds approximately 59 feet of channel relative to Alternative 3.7. Thus, the scope of impacts to Waters of the U.S. would not be notably different. Likewise, the creation of additional Waters of the U.S. would not be notably different.

Comparison of Impacts to Waters of the U.S.

	Waters of the U.S. [1]				
Alternative	Existing[2] (Acres)	Estimated Area Post Construction[2] (Acres)	Net Increase (Acres)	Permanent Impacts[3] (Acres)	Permanent Loss[4] (Acres)
1 (No Action)	78	78	0	0	0
3.3	78	151	73	15	0.96
3.6 (TSP)	78	157.3	79.3	14.7	0.96
3.7	78	157.5	79.5	14.7	0.96
3.8	78	157.9	79.9	14.7	0.96

Notes:
[1] The 10-year flood plain is assumed to be equivalent to the lateral extent of Waters of the U.S.
[2] Per Table 4-2 of the IFR, the existing 10 year flood plain is 78 acres. Estimated area of 10 year flood plain post construction for Alternative 3.6 is 151 acres. See Section 2.4 above.
[3] Discharges of fill due to placement of 46 or 47 rock riffle and pool structures. Each rock riffle and pool structure assumed to be 200 feet wide (matching the width of the 10 year flood plain) and approximately 70 feet long (per Figure 3.6 of the design appendix. Thus, 70 ft. x 200 ft. ~ 0.32 acre per structure. Alternative 3.3 incorporates 47 structures. Alternatives 3.6 thru 3.8 incorporates 46 structures.
[4] Three of the rock riffle structures in the upstream reaches of the study area would be grouted which would result in impermeable surfaces within Waters of the U.S.

4.0 ALTERNATIVES ANALYSIS

Restrictions on Discharge

The 404(b)(1) Guidelines prohibit the discharge of dredged or fill material into Waters of the U.S. if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem[1], so long as the alternative does not have other significant adverse environmental consequences (40 C.F.R. 230.10(a)). To be "practicable," an alternative must be "… available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." (40 C.F.R. 230.10(a)(2)).

Overall Project Purpose

With the exception of the No Federal Action Alternative all alternatives meet the overall project purpose. The No Federal Action Alternative has been dropped from consideration in the 404(b)(1) evaluation since it does not meet the overall project purpose.

Practicability (Technology)

All action alternatives can be constructed with existing technology. All action alternatives would utilize conventional construction techniques and conventional construction equipment including a combination of common vehicles, equipment, tools, and methods.

Practicability (Logistics)

All action alternatives would be practicable to implement, operate, and maintain. No governmental or other impediments would preclude its implementation. The Proposed Project area is within the ownership or control of the parties necessary to restore, construct, operate, maintain, and monitor the proposed work.

Practicability (Cost)

Per Engineer Regulation (ER) 1105-2-100 the economic analysis associated with the IFR is required to identify the alternative that reasonably maximizes benefits, the NER. Under ER 1105-2-100, the NER plan is the recommended plan unless a waiver is granted to consider an alternative plan as the Locally Preferred Plan. Though not bound to do so, the U.S. Congress may select the recommended plan for authorization and appropriation. Alternatively, the U.S. Congress may select another plan from the final array of

[1]In this instance, the terms *aquatic environment* and *aquatic ecosystem* mean waters of the U.S., including wetlands that serve as habitat for interrelated and interacting communities and populations of plants and animals. 40 C.F.R. 230.3.

alternatives for authorization and appropriation. All alternatives are considered practicable in terms of cost.

The cost comparison discussion is a summary of a detailed cost analysis prepared for the action alternatives in Chapters 4 of the IFR. All action alternatives would incrementally increase the scope of ecosystem restoration activities. Likewise, there is an incremental increase in total construction costs from Alternative 3.3 through 3.8. Alternative 3.3 would entail the smallest scope of restoration activities and would cost the least. In contrast, Alternative 3.8 would entail the largest scope of restoration activities and would cost the most. With respect to habitat output, Alternative 3.6 would result in the largest incremental output while Alternative 3.8 would result in the smallest incremental output. In sum, Alternative 3.6 maximizes incremental habitat output and minimizes total construction costs. Therefore, Alternative 3.6 is identified as the plan that maximizes NER benefits (See Section 6.6 of the IFR).

Comparison of 404(b)(1) Evaluation Criteria

Alternatives	Practicability Test			Significant Environmental Impacts to Non-Aquatic Resources?	Meets Overall Project Purpose?
	Cost (Amount)	Logistics	Technology		
Alternative 3.3	Yes ($94,258,213)	Yes	Yes	Yes	Yes
Alternative 3.6	Yes ($99,466,089)	Yes	Yes	Yes	Yes
Alternative 3.7	Yes ($101,384,432)	Yes	Yes	Yes	Yes
Alternative 3.8	Yes ($101,816,379)	Yes	Yes	Yes	Yes
No Federal Action Alternative	N/A	N/A	N/A	No	No

5.0 Environmental Effects

Effects on Aquatic Resources

The potential impacts of the construction associated with all action alternatives have been analyzed in the IFR.

The purpose of the Section 404(b)(1) Guidelines is to restore and maintain the chemical, physical, and biological integrity of the Waters of the U.S. through the control of discharges of dredged or fill material. Except as provided under CWA Section 404(b)(2),

no discharge of dredged or fill material will be authorized if there is a practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem, as long as the alternative does not have other significant adverse environmental consequences. In accordance with the Section 404(b)(1) Guidelines, the potential short-term or long-term effects of a proposed discharge of dredged or fill material on the physical, chemical, and biological components of the aquatic environment must be determined.

All action alternatives would entail the discharge of fill material into Waters of the U.S. The following discussion evaluates impacts of all action alternatives on environmental resources identified in Subpart C through Subpart F of the Section 404(b)(1) Guidelines.

Effects on Non-Aquatic Resources

All action alternatives would result in significant impacts to cultural resources and earth resources. Based on the mapping from previous surveys, there are 12 sites located within the construction footprint of all action alternatives. Six of the 12 sites have previously been determined to be eligible for the National Register of Historic Places. All of the action alternatives would likely result in adverse effects to existing cultural resources and significant impacts under NEPA. Onsite placement of excavated sediment in the uplands would create sediment mounds that would result in permanent changes to local topography resulting in significant impacts under NEPA.

Potential Direct and Secondary Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C)

Substrate

As detailed in Section 2.1.2 of the IFR, subsurface soils encountered generally consists of silty sands, clayey sands, silts and clays. The upper 30 feet of the soil strata is characterized as loose to medium dense. Below 30 feet, the soils were generally dense to very dense. A hard bedrock layer is present in depth from 27 to 46 ft. below ground surface.

Construction: Alternative 3.3 would improve channel gradient and stability throughout Aliso Creek. Raising the creek elevation would require excavation and redeposition of native soils within Waters of the U.S. Construction of grade control stabilizers would require discharge of boulders, riprap, and sheet piles. Concrete would be discharged at three grade control structures where grouting is required resulting in the loss of 0.96 acre of Waters of the U.S.[2] Stabilization of the Sulphur Creek confluence would discharge native soils, riprap and geosynthetic mats. Removal of culverts at Wood Canyon Creek

[2] Discharges of fill due to placement of 46 or 47 rock riffle structures. Each rock riffle structure assumed to be 200 feet wide (matching the width of the 10 year flood plain) and approximately 70 feet long (per Figure 3.6 of the design appendix. Thus, 70 ft. x 200 ft. ~ 0.32 acre per structure. Alternative 3.3 incorporates 47 structures. Alternatives 3.6 thru 3.8 incorporates 46 structures. Three of the rock riffle structures in the upstream reaches of the study area would be grouted which would result in impermeable surfaces resulting in the loss of approximately 0.96 acre of Waters of the U.S.

would result in the discharge of dredged material. Riprap would also be discharged for the stabilization of banks and infrastructure protection. During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails, coffer dams or pipes; these structures would be removed upon completion of construction. Thus, materials to be permanently discharged into Waters of the U.S. mostly entail native soils and natural substances such as rocks and boulders. Overall, the discharges would result in permanent loss of 0.96 acre of Waters of the U.S.

Alternatives 3.6 through 3.8 share the same management measures with Alternative 3.3 but would incrementally increase the scope of restoration. Thus, the nature of the substrate to be discharged would remain unchanged. Changes in quantities of fill material would not be notable. Alternative 3.6 would reconnect Aliso Creek to an abandoned oxbow, adding approximately 850 feet of channel to the restoration area relative to Alternative 3.3. Alternative 3.6 would eliminates the need for one grade control structure. Alternative 3.7 incorporates the same features as Alternative 3.6 and adds stream lengthening (sinuosity) to Aliso Creek downstream of Pacific Park Drive, adding approximately 32 feet of channel to the restoration area relative to Alternative 3.6. Likewise, Alternative 3.8 incorporates the same features as Alternative 3.7 and adds more stream lengthening (sinuosity) to Aliso Creek downstream of the confluence with Wood Canyon Creek, adding approximately 59 feet of channel to the restoration area relative to Alternative 3.7.

Typical secondary impacts associated with substrates is the potential for introduction of contaminants into the water column. With the use of native substrates and natural substances such as rocks and boulders there would be little to no potential for introduction of contaminants not already present within the water column. Boulders and rocks would not leach contaminants into the water column. Because concrete is alkaline in nature, freshly cured concrete will likely elevate the pH of water due to carbonates enter the water column. However, given the volume of water flowing across concrete surfaces, concentrations of carbonates would immediately be diluted to a level that would not be notable. Furthermore, incoming flows from developed area are expected to contain trace amounts of carbonates due to the presence of concrete in these areas. The native soils could resuspend contaminants that were previously absorbed from water column. There would be no long-term introduction of contaminants not previously with water column.

Operation: Maintenance activities within Waters of the U.S. may require use of excavators, backhoes, or grapple trucks for removal of trash, debris, and sediment. Invasive species removal throughout the project footprint would typically be performed by hand tools and herbicide application. Thus, maintenance would not result in discharges of fill in most instances. In cases where limited earthmoving may be required, there would be discharges of fill. However, the fill would be identical to the existing native substrate. Maintaining design grades, elevations, contours, and conveyance may require discharge of rocks, riprap, and sheet piles are as needed. Most structural repairs would be like-for-like. Thus, materials to be permanently discharged into Waters of the U.S. mostly entail native soils and natural substances such as rocks and boulders.

Secondary effects of the fill associated with maintenance activities would be similar to those characterized for secondary impacts associated with construction.

Suspended particulates and turbidity

Since Aliso Creek is a soft bottom channel, suspended particulates are expected within the water column. As detailed in Section 2.1.7 of the IFR, sediment transport throughout Aliso Creek is not consistent throughout. Reaches above the ACWHEP are thought to be generally stable. Reaches below the ACWHEP structure are prone to degradation. These areas are highly incised and devoid of vegetation. The lowest reach is prone to aggradation.

Construction: Alternative 3.3 would improve channel gradient and stability throughout Aliso Creek, promoting a more uniform sediment transport process throughout. Raising the creek elevation would require excavation and redeposition of native soils within Waters of the U.S. Construction of grade control stabilizers would require discharge of boulders, riprap, and sheet piles. Concrete would be discharged at three grade control structures where grouting is required resulting in the loss of 0.96 acre of Waters of the U.S. Stabilization of the Sulphur Creek confluence would discharge native soils, riprap and geosynthetic mats. Removal of culverts at Wood Canyon Creek would result in the discharge of dredged material. Riprap would also be discharged for the stabilization of banks and infrastructure protection. During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails, coffer dams or pipes; these structures would be removed upon completion of construction. Discharge fill material such as riprap, concrete, geosynthetic mats, and sheet piles would not increase turbidity. For the most part these materials would cover or stabilize soils such that turbidity would decrease. Due to the limited scale of these discharges, potential decreases in turbidity would not be notable. Native soils used to raise the elevation of the creek would be compacted which would minimize turbidity.

During construction, work areas within waters of US would be isolated from flows with water diversion structures such as K-rails or pipes. Movement of vehicles across earthen substrate during the placement and removal of dewatering structures would temporarily elevate turbidity in the water column. When fully isolated from surrounding flows, work within the Creek would result in minimal or no increases in turbidity.

A temporary increase in turbidity is expected when flows are restored throughout the constructed area due to transport of unconsolidated sediment downstream. However, the increase would be temporary because soils are expected to reconsolidate due to absorption of water. Furthermore, Alternative 3.3 would also entail revegetation of areas in and within the vicinity of Aliso Creek. Upon sufficient growth, vegetation (whether planted or naturally recruited) would further stabilize and trap loose soils over time.

Since Aliso Creek would remain a soft bottom channel, suspended particulates are expected within the water column. However, due to the increased stability of the channel and presence of vegetation along the riparian corridor, increases in turbidity is not expected in a long-term.

Alternatives 3.6 through 3.8 share the same management measures with Alternative 3.3 but would incrementally increase the scope of restoration. Thus, impacts to turbidity would not be notably different from impacts characterized for Alternative 3.3. Alternative 3.6 would reconnect Aliso Creek to an abandoned oxbow, adding approximately 850 feet of channel to the restoration area relative to Alternative 3.3. Alternative 3.6 would eliminates the need for one grade stablizer. Alternative 3.7 incorporates the same features as Alternative 3.6 and adds sinuosity to Aliso Creek downstream of Pacific Park Drive, adding approximately 32 feet of channel to the restoration area relative to Alternative 3.6. Likewise, Alternative 3.8 incorporates the same features as Alternative 3.7 and adds sinuosity to Aliso Creek downstream of the confluence with Wood Canyon Creek, adding approximately 59 feet of channel to the restoration area relative to Alternative 3.7.

Because Aliso Creek would remain a soft bottom channel, a baseline level of suspended particulates are expected within the water column for Alternatives 3.6 through 3.8. The increase in soft bottom Waters of the U.S. associated with Alternatives 3.6 through 3.8 would likely increase the potential for turbidity relative to Alternative 3.3. The potential increase would be commensurate with increased project footprints. However, any increase would not be notable since the additional areas would also be subject to management measures that would stabilize and revegetate the creek.

Typical secondary impacts associated with turbidity are aggregation or degradation of the channel due to changes in flow velocities, currents, and channel alignments. There would be minimal secondary impacts associated with the discharges of fill since the discharges would help stabilize the incised reaches of Aliso Creek. The ensuing stabilization of flow velocities and sediment transport, would likely not increase the potential for turbidity beyond existing baseline levels. The riparian vegetation would attenuate turbidity levels.

Operation: Maintenance activities within Waters of the U.S. may require use of excavators, backhoes, or grapple trucks for removal of trash, debris, and sediment. Invasive species removal throughout the project footprint would typically be performed by hand tools and herbicide application. Thus, maintenance would not result in discharges of fill in most instances. In cases where limited earthmoving may be required, there would be discharges of fill. However, the fill would be identical to the existing native substrate. Maintaining design grades, elevations, contours, and conveyance may require discharge of rocks, riprap, and sheet piles as needed. Most structural repairs would be like-for-like. Impacts to turbidity would be temporary. No long term increases in suspended particulates and turbidity are anticipated.

Secondary effects of the fill associated with maintenance activities would be similar to those characterized for secondary impacts associated with construction.

Contaminants

Aliso Creek receives storm runoff from the surrounding environment. Thus, pollutants associated with the urban environment are present within the water column within Aliso Creek. As detailed in Section 2.2.4 of the IFR, it is listed on the 2010 CWA Section 303(d) list for multiple water quality impairments including fecal bacteria; nutrients that

promote algae growth (e.g., phosphorus, nitrogen); heavy metals such as and selenium; and organic compounds such as the malathion, a pesticide.

Construction: Alternative 3.3 would improve channel gradient and stability throughout Aliso Creek. Raising the creek elevation would require excavation and redeposition of native soils within Waters of the U.S. Construction of grade control stabilizers would require discharge of boulders, riprap, and sheet piles. Concrete would be discharged at three grade control structures where grouting is required resulting in the loss of 0.96 acre of Waters of the U.S. Stabilization of the Sulphur Creek confluence would discharge native soils, riprap and geosynthetic mats. Removal of culverts at Wood Canyon Creek would result in the discharge of dredged material. Riprap would also be discharged for the stabilization of banks and infrastructure protection. During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails, coffer dams or pipes; these structures would be removed upon completion of construction.

Alternative 3.3 would improve channel gradient and stability throughout Aliso Creek. Raising the creek elevation would require excavation and redeposition of native soils within Waters of the U.S. Construction of grade control stabilizers would require discharge of boulders, riprap, and sheet piles. Concrete would be discharged at three grade control structures where grouting is required resulting in the loss of 0.96 acre of Waters of the U.S. Stabilization of the Sulphur Creek confluence would discharge native soils, riprap and geosynthetic mats. Removal of culverts at Wood Canyon Creek would result in the discharge of dredged material. Riprap would also be discharged for the stabilization of banks and infrastructure protection. During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails, coffer dams or pipes; these structures would be removed upon completion of construction. Discharge fill material such as riprap, concrete, geosynthetic mats, and sheet piles would not increase turbidity. For the most part these materials would cover or stabilize soils such that turbidity would decrease. Due to the limited scale of these discharges, potential decreases in turbidity would not be notable. Native soils used to raise the elevation of the creek would be compacted which would minimize turbidity.

With the use of native substrates and natural substances such as rocks and boulders there would be little to no potential for introduction of contaminants not already present within the water column. Boulders and rocks would not leach contaminants into the water column. Because concrete is alkaline in nature, freshly cured concrete will likely elevate the pH of water due to carbonates enter the water column. However, given the volume of water flowing across concrete surfaces, concentrations of carbonates would immediately be diluted to a level that would not be notable. Furthermore, incoming flows from developed area are expected to contain trace amounts of carbonates due to the presence of concrete in these areas. The native soils could resuspend contaminants that were previously absorbed from water column. There would be no long-term introduction of contaminants not previously with water column.

Use of construction vehicles increases the potential for accidental release of fuels, solvents, or other petroleum-based contaminants. Although releases of such substances in any part of the construction footprint could drain to Aliso Creek and thereby affect

aquatic resources, potential for releases would be minimized via implementation of best management practices (BMPs) listed in Section 5.2.5 of the IFR, such as establishment of designated refueling areas; on-site placement of spill kits; immediate containment and cleanup of spills.

Alternatives 3.6 through 3.8 share the same management measures with Alternative 3.3 but would incrementally increase the scope of restoration. Thus, the nature of the materials to be discharged and the potential for introduction of contaminants would remain unchanged. Alternative 3.6 would reconnect Aliso Creek to an abandoned oxbow, adding approximately 850 feet of channel to the restoration area relative to Alternative 3.3. Alternative 3.6 would eliminates the need for one grade control stabilizer. Alternative 3.7 incorporates the same features as Alternative 3.6 and adds sinuosity to Aliso Creek downstream of Pacific Park Drive, adding approximately 32 feet of channel to the restoration area relative to Alternative 3.6. Likewise, Alternative 3.8 incorporates the same features as Alternative 3.7 and adds sinuosity to Aliso Creek downstream of the confluence with Wood Canyon Creek, adding approximately 59 feet of channel to the restoration area relative to Alternative 3.7.

Typical secondary impacts associated with contaminants is the potential for contaminants released into the water column to affect aquatic biota downstream. Currently, water quality within Aliso Creek is impaired. Furthermore, there would be little to no potential for introduction of contaminants not already present within the water column associated with the proposed discharges of fill. Since upland runoff is the primary source of contaminants within the water column, the aquatic biota would not be exposed to new contaminants or higher concentrations of existing contaminants within the water column.

Operation: Maintenance activities within Waters of the U.S. may require use of excavators, backhoes, or grapple trucks for removal of trash, debris, and sediment. Invasive species removal throughout the project footprint would typically be performed by hand tools and herbicide application. Thus, maintenance would not result in discharges of fill in most instances. In cases where limited earthmoving may be required, there would be discharges of fill. However, materials to be discharged into Waters of the U.S. mostly entail native soils and natural substances such as rocks and boulders. Most structural repairs would be like-for-like. With the use of native substrates and natural substances such as rocks and boulders there would be little to no potential for introduction of contaminants not already present within the water column. Boulders and rocks would not leach contaminants into the water column. The native soils could resuspend contaminants that were previously absorbed from water column. There would be no long-term introduction of contaminants not previously within water column.

Secondary effects of the fill associated with maintenance activities would be similar to those characterized for secondary impacts associated with construction.

Water Flow

The reach of Aliso Creek within the Proposed Project Area drains a long, narrow canyon with steep hillsides. Once an intermittent stream before the region became heavily urbanized, the creek now flows year-round. The volume of flow has increased

commensurate with the increased development. One result is channel instability which has caused bank erosion and channel widening. Future channel incision is expected to be on the order of three to four feet (H&H Appendix, Section 1.2).

Construction: Alternative 3.3 would improve channel gradient and stability throughout Aliso Creek. Raising the creek elevation would require excavation and redeposition of native soils within Waters of the U.S. Construction of grade control stabilizers would require discharge of boulders, riprap, and sheet piles. Concrete would be discharged at three grade control structures where grouting is required resulting in the loss of 0.96 acre of Waters of the U.S. Stabilization of the Sulphur Creek confluence would discharge native soils, riprap and geosynthetic mats. Removal of culverts at Wood Canyon Creek would result in the discharge of dredged material. Riprap would also be discharged for the stabilization of banks and infrastructure protection. During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails, coffer dams or pipes; these structures would be removed upon completion of construction. Discharge fill material such as riprap, concrete, geosynthetic mats, and sheet piles would not increase turbidity. The discharges of fill would not impede water flow from the canyon to the ocean. The volume of inflow into the creek would remain unchanged. The widened channel in combination with improved channel gradient would decrease the velocity of flows.

During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails or pipes; these structures would be removed upon completion of construction. Flows would be constricted through the construction area but would flow unimpeded downstream of the construction area. All water diversion structures would be removed upon completion of construction and water would flow unimpeded throughout Aliso Creek.

Alternatives 3.6 through 3.8 share the same management measures with Alternative 3.3 but would incrementally increase the scope of restoration. Alternative 3.6 would reconnect Aliso Creek to an abandoned oxbow, adding approximately 850 feet of channel to the restoration area relative to Alternative 3.3. Alternative 3.6 would eliminates the need for one rock riffle. Alternative 3.7 incorporates the same features as Alternative 3.6 and adds sinuosity to Aliso Creek downstream of Pacific Park Drive, adding approximately 32 feet of channel to the restoration area relative to Alternative 3.6. Likewise, Alternative 3.8 incorporates the same features as Alternative 3.7 and adds sinuosity to Aliso Creek downstream of the confluence with Wood Canyon Creek, adding approximately 59 feet of channel to the restoration area relative to Alternative 3.7. Discharges associated with these alternatives would not impede water flow from the canyon to the ocean. The volume of inflow into the creek would also remain unchanged. The widened channel in combination with improved channel gradient would decrease the velocity of flows.

Typical secondary impacts associated with changes in water flows include erosion and sedimentation. As detailed in Section 2.1.7 of the IFR, sediment transport throughout Aliso Creek is not consistent throughout. Reaches above the ACWHEP are thought to be generally stable. Reaches below the ACWHEP structure are prone to degradation. These areas are highly incised and devoid of vegetation. The lowest reach is prone to

aggradation. All alternatives would improve channel gradient and stability throughout Aliso Creek. Thus, decrease in erosion throughout unstable reaches of the creek and decrease in downstream erosion is expected.

Operation: Maintaining design grades, elevations, contours, and conveyance may require limited earthmoving activities on a periodic basis. In such cases there may be discharge of fill associated with the use of earthmoving equipment such as bulldozers or temporary stockpiling within newly established Waters of the U.S. Impacts will be temporary in nature. In other cases, like-for-like structural repair below the OHWM could result in permanent discharges of fill material into Waters of the U.S. Most structural repairs would be like-for-like. However, temporary or permanent discharges of fill would not change the design elevations or contours. Invasive species removal throughout the project footprint would typically be performed by proven eradication methods. Thus, the activity would not result in discharges of fill in most instances. In cases where limited earthmoving may be required, there would be discharges of earthen fill. However, the fill would be identical to the existing native substrate. Removal of invasive vegetation from the project footprint would facilitate conveyance of flows and would not increase flood risks. Thus, changes in velocity and circulation are not expected.

Secondary effects of the fill associated with maintenance activities would be similar to those characterized for secondary impacts associated with construction.

Cumulative Impacts

Past and Present

Aliso Creek, Sulfur Creek, and Wood Canyon Creek drain a long, narrow coastal watershed from the Cleveland National Forest to the Pacific Ocean encompassing 34.6 square miles. About 75 percent of the Aliso Creek watershed has been developed and is at near-build out. The most intensive development has occurred in the middle portion of the watershed, encompassing the cities of Lake Forest, Aliso Viejo, Mission Viejo, Laguna Niguel, Laguna Hills, and Laguna Woods. Development has consisted of medium to high density residential areas interspersed with commercial and industrial developments.

Increased development within the middle portion of the Aliso Creek watershed has resulted in discharges of fill within the creek for various purposes: culverts, wing walls, and energy dissipation structures for road crossings; concrete abutments and piers for bridge crossings; hardened embankments for flood control; concrete for drop structures; and concrete outfalls for storm water conveyance. It is likely that structures within the creek traversing the developed area have had multiple modifications and repairs subsequent to construction.

The development pattern is reflected in the Corps' issuance of Section 404 Nationwide Permits (NWP). Between 1988 and 2012 the Corps issued eight NWP 26 verifications and one NWP 29 for residential and institutional development such as houses of worship.

Other NWPs issued were related to survey activities (NWP 6) and bank stabilization projects (NWP 13).

The remaining undeveloped 25 percent of the watershed includes the Cleveland National Forest in the upper watershed and the Aliso and Wood Canyons Wilderness Park in the lower portion of the watershed. Most of the lower reach within the Proposed Action Area is located within the approximately 3,875-acre Aliso and Wood Canyons Wilderness Park. A 2001 deed restriction placed on the land restricts the land use as a wilderness park in perpetuity. As a result, most of the lower reach traverses a relatively undeveloped landscape with steep hillsides surrounding a narrow canyon. The canyon is bordered by Laguna Beach to the west and Laguna Niguel to the east. Development from the two adjacent cities extend to the ridges of the hillsides.

Within the Proposed Action area, the reach of Aliso Creek through developed areas of the watershed (from Pacific Park Drive to Awma Road) display alternations similar to those mentioned above: culverts, wing walls, and armored embankments downstream of road crossings; armored embankments where the creek is close to roads and development; drop structures and other grade stabilization or energy dissipation structures; concrete outfalls; and bridge abutments and piers. It is likely that structures within the creek traversing the developed area have had multiple modifications and repairs subsequent to construction.

The lower reach of Aliso Creek from Awma Road through the Aliso and Wood Canyons Wilderness Park largely remains unaltered. The lone exception is the ACWHEP grade control structure. A culvert, wing wall, and riprap have been discharged at this location.

Prior to the encroachment of development, Aliso Creek was an intermittent stream. Increased development and impermeable surfaces in the reaches upstream of the Proposed Project Area resulted in more stormflows being conveyed into the creek. Thus, the creek now flows year-round conveying stormflows and nuisance flows from developed area in the uplands. During storms, the creek conveys high energy flows resulting in erosion and incision in reaches downstream of the ACWHEP grade control structure. Likewise, water quality increasing became impaired along with increasing development.

Foreseeable Future

For the reach of Aliso Creek traversing developed areas of the watershed, it is unlikely that future projects would entail major modifications of the channel. The existing maintenance practices are expected to remain. Whether or not the existing damages are repaired with earthen fill, riprap, or concrete, there will be a need to repair damages from future storms resulting in discharges of fill. For the reach of Aliso Creek traversing the Proposed Action area, the No Federal Action Alternative would result in no discharges of dredged or fill material into Waters of the U.S.. The Creek would continue to erode until equilibrium is reached. Water quality would remain impaired due to storm and nuisance flows into the channel from developed areas upstream.

All action alternative would result in additional discharges of fill within Waters of the U.S. The discharges of fill would mostly include native substrate and rocks. The proposed grade control structures would accelerate and improve channel gradient and stability throughout Aliso Creek. A slight decrease in turbidity is expected due to channel stabilization. However, water quality would remain impaired due to storm and nuisance flows into the channel from developed areas upstream.

Cumulatively, all action alternatives would result in additional discharges of fill within Waters of US. The discharges of fill would mostly include native substrate and rocks. The proposed grade control structures would accelerate and improve channel gradient and stability throughout Aliso Creek. The discharges of fill will be limited to native substrates with little to no potential long-term introduction of contaminants into the water column. A decrease in turbidity is expected due to channel stabilization. However, the volume of flow and water quality would largely remain unaltered since these two parameters are the result of urban development upstream.

Potential Direct and Indirect Impacts on Biological Characteristics of the Aquatic Ecosystem (Subpart D)

Threatened and Endangered Wildlife

As detailed in Sections 2.6.4 and 5.6 of the IFR three Federally threatened and endangered taxa with potential to occur in the Proposed Project area are:

- Least Bell's vireo (*Vireo bellii pusillus*): The Federally-endangered bird, associated with riparian areas, has been detected upstream and downstream of the ACWHEP structure per past surveys.
- Southwestern willow flycatcher *(Empidonax traillii extimus)* is a migrant bird through the Wilderness Park.
- Coastal California gnatcatcher (*Polioptila californica californica*): The Federally-endangered bird, associated with coastal sage scrub, has been detected in the downstream reaches of the Proposed Project Area.

As detailed in Section 2.6.4.2 of the IFR, native fish such as the tidewater goby and Steelhead trout (*Oncorhynchus mykiss*) and Tidewater goby (*Eucyclogobius newberryi*) are not present within the Proposed Project area.

There are no designated critical habitats in the Proposed Project area. However, critical habitat for the Tidewater goby is located at the downstream terminus of Aliso Creek. However, the critical habitat is not occupied and has been extirpated from the location since 1978. Based on the above, the analysis for threatened and endangered taxa is limited to the vireo.

Construction: Alternative 3.3 would improve channel gradient and stability throughout Aliso Creek. Raising the creek elevation would require excavation and redeposition of native soils within Waters of the U.S. Construction of grade control stabilizers would require discharge of boulders, riprap, and sheet piles. Concrete would be discharged at

three grade control structures where grouting is required resulting in the loss of 0.96 acre of Waters of the U.S. Stabilization of the Sulphur Creek confluence would discharge native soils, riprap and geosynthetic mats. Removal of culverts at Wood Canyon Creek would result in the discharge of dredged material. Riprap would also be discharged for the stabilization of banks and infrastructure protection. During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails, coffer dams or pipes; these structures would be removed upon completion of construction. Discharge fill material such as riprap, concrete, geosynthetic mats, and sheet piles would not increase turbidity. The discharges of fill would not impede water flow from the canyon to the ocean. The volume of inflow into the creek would remain unchanged. The widened channel in combination with improved channel gradient would decrease the velocity of flows.

Alternative 3.3 would entail clearing and grubbing followed by earthmoving activities within Aliso Creek including excavation, contouring, and discharges of fill materials. Clearing and grubbing activities would result in the temporary removal of habitat for the vireo. During construction, noise and presence of visual forms associated with an active construction site may discourage establishment of nests or foraging within the vicinity of the construction footprint. However, construction would not occur simultaneously within the entire project area. The construction footprint would migrate from one location to another over four years through the project area. As a result, vireo near the active construction zone should be able to relocate to and utilize unaffected areas. Upon completion of construction, presence of native vegetation within the restoration project footprint would indirectly benefit vireo by restoring regional connectivity within the Aliso Creek watershed. Minimization measures include construction phasing; avoidance of clearing and grubbing during nesting season; and establishment of suitable riparian habitat east of the current riparian habitat prior to construction in order to minimize habitat loss during construction. Upon completion of restoration activities, approximately 191 acres of aquatic and riparian habitat throughout the 5 miles of the Proposed Project Area would be restored (see Chapter 4 of the IFR). The Corps would initiate consultation with the US Fish and Wildlife Service to ensure compliance with Section 7 of the Endangered Species Act.

Alternatives 3.6 through 3.8 share the same management measures with Alternative 3.3 but would incrementally increase the scope of restoration. Alternative 3.6 would reconnect Aliso Creek to an abandoned oxbow, adding approximately 850 feet of channel to the restoration area relative to Alternative 3.3. Alternative 3.6 would eliminate the need for one grade control stabilizer. Alternative 3.7 incorporates the same features as Alternative 3.6 and adds sinuosity to Aliso Creek downstream of Pacific Park Drive, adding approximately 32 feet of channel to the restoration area relative to Alternative 3.6. Likewise, Alternative 3.8 incorporates the same features as Alternative 3.7 and adds sinuosity to Aliso Creek downstream of the confluence with Wood Canyon Creek, adding approximately 59 feet of channel to the restoration area relative to Alternative 3.7. Restoration activities associated with Alternatives 3.6 through 3.8 would result in similar impacts characterized for Alternative 3.3. Relative to the size of the approximately 5-mile long reach of Aliso Creek within the Proposed Project Area, incremental increases

in scope of the restoration would not result in impacts that would be notably different from Alternative 3.3.

Secondary impacts associated with temporary loss of habitat from Aliso Creek during construction would entail the need for the vireo to relocate to suitable habitat within the Proposed Project Area including the replacement riparian habitat that would be established east of the current riparian habitat prior to construction in order to minimize habitat loss during construction. . In general, secondary impacts to vireo are expected to be minimal.

Operation: Maintaining design grades, elevations, contours, and conveyance may require limited earthmoving activities on a periodic basis. In such cases there may be discharge of fill associated with the use of earthmoving equipment such as bulldozers or temporary stockpiling within newly established Waters of the U.S. Impacts will be temporary in nature. In other cases, like-for-like structural repair below the OHWM could result in permanent discharges of fill material into Waters of the U.S. Invasive species removal throughout the project footprint would typically be performed by proven eradication methods. Vegetation removal would likely occur outside of bird nesting season. Thus, impacts to vireo are expected to be minimal.

Other Wildlife

Most of the Proposed Project Area is located within the Aliso and Wood Canyons Wilderness Park. As detailed in Section 2.6-3 of the IFR, wildlife that may occur in the Proposed Project Area include:

- Birds: Cooper’s hawk, Northern harrier, Yellow-breasted chat, Yellow warbler, orange-throated whiptail, great egret and Coastal cactus wren, black-shouldered kite, northern harrier, sharp-shinned hawk, Cooper's hawk, ferruginous hawk,
- Mammals: Western bonneted (mastiff) bat, Pacific pocket mouse, coyotes and bobcats.
- Amphibians: Western spadefoot
- Reptiles: Orange-throated whiptail, Coast (San Diego) horned lizard, Two-striped garter snake

Construction: Alternative 3.3 would improve channel gradient and stability throughout Aliso Creek. Raising the creek elevation would require excavation and redeposition of native soils within Waters of the U.S. Construction of grade control stabilizers would require discharge of boulders, riprap, and sheet piles. Concrete would be discharged at three grade control structures where grouting is required resulting in the loss of 0.96 acre of Waters of the U.S. Stabilization of the Sulphur Creek confluence would discharge native soils, riprap and geosynthetic mats. Removal of culverts at Wood Canyon Creek would result in the discharge of dredged material. Riprap would also be discharged for the stabilization of banks and infrastructure protection. During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails, coffer dams or pipes; these structures would be removed upon completion of

construction. Discharge fill material such as riprap, concrete, geosynthetic mats, and sheet piles would not increase turbidity. The discharges of fill would not impede water flow from the canyon to the ocean. The volume of inflow into the creek would remain unchanged. The widened channel in combination with improved channel gradient would decrease the velocity of flows.

Alternative 3.3 would entail clearing and grubbing followed by earthmoving activities within Aliso Creek including excavation, contouring, and discharges of fill materials. During construction, noise and presence of visual forms associated with an active construction site may discourage establishment of nests or foraging within the vicinity of the construction footprint. However, construction would not occur simultaneously within the entire project area. The construction footprint would migrate from one location to another over four years through the project area. As a result, wildlife near the active construction zone should be able to relocate to and utilize unaffected areas. Upon completion of construction, presence of native vegetation within the restoration project footprint would indirectly benefit wildlife by restoring regional connectivity within the Aliso Creek watershed. Minimization measures, include construction phasing; avoidance of clearing and grubbing during nesting season; and establishment of suitable riparian habitat east of the current riparian habitat prior to construction in order to minimize habitat loss during construction. Upon completion of restoration activities, approximately 191 acres of aquatic and riparian habitat throughout the 5 miles of the Proposed Project Area would be restored (see Chapter 4 of the IFR).

Alternatives 3.6 through 3.8 share the same management measures with Alternative 3.3 but would incrementally increase the scope of restoration. Alternative 3.6 would reconnect Aliso Creek to an abandoned oxbow, adding approximately 850 feet of channel to the restoration area relative to Alternative 3.3. Alternative 3.6 would eliminates the need for one grade control stabilizer. Alternative 3.7 incorporates the same features as Alternative 3.6 and adds sinuosity to Aliso Creek downstream of Pacific Park Drive, adding approximately 32 feet of channel to the restoration area relative to Alternative 3.6. Likewise, Alternative 3.8 incorporates the same features as Alternative 3.7 and adds sinuosity to Aliso Creek downstream of the confluence with Wood Canyon Creek, adding approximately 59 feet of channel to the restoration area relative to Alternative 3.7.

Restoration activities associated with Alternatives 3.6 through 3.8 would result in similar impacts characterized for Alternative 3.3. All action alternatives will result in beneficial impacts to the aquatic ecosystem through the stabilization of the creek and restoration of riparian vegetation within the floodplain. Beneficial impacts would be commensurate with the footprint of restoration. Thus, long-term beneficial impacts will increase with Alternatives 3.3, 3.6, 3.7, and 3.8 with the greatest amount of beneficial impact occurring under Alternative 3.8.

Avoidance and minimization measures would be implemented under all action alternatives during construction. There would be no permanent loss of habitat or impacts to wildlife under any action alternatives.

Secondary impacts associated with construction would entail startle response during the outset of construction and the temporary abandonment of the immediate areas around the

construction footprint. In general, wildlife would be able to move to alternative locations throughout the Aliso and Wood Canyons Wilderness Park. Upon completion of restoration displaced wildlife are expected to inhabit the area.

Operation: Maintaining design grades, elevations, contours, and conveyance may require limited earthmoving activities on a periodic basis. Most structural repairs would be like-for-like. In such cases there may be discharge of fill associated with the use of earthmoving equipment such as bulldozers or temporary stockpiling within newly established Waters of the U.S. During maintenance activities, noise and presence of visual forms associated may trigger startle response during the outset of construction and the temporary abandonment of the immediate areas around the construction footprint. Wildlife are expected to reclaim affected areas upon completion of construction.

Aquatic Organisms

Southwestern pond turtle (*Actinemys marmorata pallida*) is present within the creek. Presence of common amphibians such as frogs or aquatic invertebrates is likely.

Construction: Alternative 3.3 would improve channel gradient and stability throughout Aliso Creek. Raising the creek elevation would require excavation and redeposition of native soils within Waters of the U.S. Construction of grade control stabilizers would require discharge of boulders, riprap, and sheet piles. Concrete would be discharged at three grade control structures where grouting is required resulting in the loss of 0.96 acre of Waters of the U.S. Stabilization of the Sulphur Creek confluence would discharge native soils, riprap and geosynthetic mats. Removal of culverts at Wood Canyon Creek would result in the discharge of dredged material. Riprap would also be discharged for the stabilization of banks and infrastructure protection. During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails, coffer dams or pipes; these structures would be removed upon completion of construction. Clearing and grubbing activities would result in the temporary removal of habitat for aquatic species.

During construction, noise and presence of visual forms associated with an active construction site may cause mobile individuals such as frogs to abandon the immediate area and discourage use of the area within the vicinity of the construction footprint. Earthwork within the construction footprint could bury or crush aquatic species with limited mobility. Minimization measures such as construction phasing would allow for affected species to occupy suitable aquatic habitat upstream of downstream of the construction footprint. Upon completion of construction, aquatic organisms would reoccupy or recolonize the restored aquatic habitat. Pond turtles, a sensitive species, would be temporarily relocated to suitable holding areas during construction for each phase and reintroduced into the restored phase upon completion of construction.

However, construction would not occur simultaneously within the entire project area. The construction footprint would migrate from one location to another over four years through the Proposed Project area. Upon completion of earthmoving activities, vegetation would be actively restored. Furthermore, the improved channel gradient and

stability throughout Aliso Creek would promote further growth and recruitment of riparian vegetation throughout the Proposed Project Area benefitting aquatic species.

Alternative 3.3 would also re-establish connectivity for aquatic wildlife movement along 5 miles of Aliso Creek as existing barriers to movement would be removed, including the ACWHEP structure (Reach 7) and the two large concrete drop structures (Reach 10). Additionally at the existing embankment crossing at Pacific Park Drive (Reach 12), a low flow stream diversion channel would be constructed to pass through the bikeway underpass. A pump system installed on the upstream side will provide a continuous low flow water supply from the creek. The inclusion of the Pacific Park Drive bypass feature extends the Aliso Creek aquatic species connectivity upstream of Pacific Park Drive project limit by an additional 3.5 miles to the Interstate 5 Freeway, resulting in total of 8.5 miles of connectivity enabled by this alternative. Though not critical to aquatic species sustainability, the reconnection to 3.5 miles of additional aquatic and riparian habitat would further benefit aquatic species.

Alternatives 3.6 through 3.8 share the same management measures with Alternative 3.3 but would incrementally increase the scope of restoration. Alternative 3.6 would reconnect Aliso Creek to an abandoned oxbow, adding approximately 850 feet of channel to the restoration area relative to Alternative 3.3. Alternative 3.6 would eliminates the need for one grade control stabilizer. Alternative 3.7 incorporates the same features as Alternative 3.6 and adds sinuosity to Aliso Creek downstream of Pacific Park Drive, adding approximately 32 feet of channel to the restoration area relative to Alternative 3.6. Likewise, Alternative 3.8 incorporates the same features as Alternative 3.7 and adds sinuosity to Aliso Creek downstream of the confluence with Wood Canyon Creek, adding approximately 59 feet of channel to the restoration area relative to Alternative 3.7. Restoration activities associated with Alternatives 3.6 through 3.8 would result in similar impacts characterized for Alternative 3.3. Relative to the size of the approximately 5-mile long reach of Aliso Creek within the Proposed Project area, incremental increases in scope of the restoration would not result in impacts that would be notably different from Alternative 3.3.

Secondary impacts associated with temporary loss of habitat from Aliso Creek during construction would entail the need for the pond turtles to relocate to suitable habitat within the Proposed Project Area including the replacement riparian habitat that would be established east of the current riparian habitat prior to construction in order to minimize habitat loss during construction. Pond turtles removed from each phase during construction would need to acclimate to their temporary environs. Holding turtles in a closed area such as a pool or pond may affect mating behavior. Placement of turtles in a natural open area may result in turtles nesting at the temporary site. Thus, there could be a temporary decrease in the number of clutch that would otherwise hatch at Aliso Creek. In general, secondary impacts to pond turtle are expected to be minimal.

Operation: Maintaining design grades, elevations, contours, and conveyance may require limited earthmoving activities on a periodic basis. In such cases there may be discharge of fill associated with the use of earthmoving equipment such as bulldozers or temporary stockpiling within newly established Waters of the U.S. Impacts will be temporary in nature. However, in-channel work may require temporary on-site relocation

of pond turtles to other parts of Aliso Creek. In other cases, like-for-like structural repair below the OHWM could result in permanent discharges of fill material into Waters of the U.S. In-channel work may require on-site relocation of pond turtles to other parts of Aliso Creek. Invasive species removal throughout the project footprint would typically be performed by proven eradication methods. Thus, impacts to pond turtle are expected to be minimal.

Vegetation

As detailed in Section 2.6.1.1 of the IFR, vegetation types alliances identified within the Proposed Project area are: open stand of *Salix gooddingii* (black willow) Forest Alliance, *Baccharis salicifolia* (mule fat) Shrubland Alliance, small extent of *Salix. exigua* (sandbar willow) Shrubland alliance (southern willow scrub) and stands of *Populus fremontii* (Fremont cottonwood) Woodland Alliance that has canopy less than 60% closure, highly disturbed, and in most cases dying. However, the Proposed Project area is dominated by non-native invasive plants, *Arundo donax* semi-natural herbaceous alliance (giant reed breaks), and small acreages of *Tamarix* spp shrubland alliance (salt cedar). These areas have out-competed the native riparian vegetation and formed their own vegetation type alliances and associations within the Creek. Much of the giant reed herbaceous alliance and salt cedar Shrubland alliance have undergone some eradication treatment.

Construction: Alternative 3.3 would improve channel gradient and stability throughout Aliso Creek. Raising the creek elevation would require excavation and redeposition of native soils within Waters of the U.S. Construction of grade control stabilizers would require discharge of boulders, riprap, and sheet piles. Concrete would be discharged at three grade control structures where grouting is required resulting in the loss of 0.96 acre of Waters of the U.S. Stabilization of the Sulphur Creek confluence would discharge native soils, riprap and geosynthetic mats. Removal of culverts at Wood Canyon Creek would result in the discharge of dredged material. Riprap would also be discharged for the stabilization of banks and infrastructure protection. During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails, coffer dams or pipes; these structures would be removed upon completion of construction.

Alternative 3.3 would entail clearing and grubbing followed by earthmoving activities within Aliso Creek including excavation, contouring, and discharges of fill materials resulting in removal of all vegetation both native and nonnative. Impacts would be temporary. Upon completion of each phase, riparian vegetation would be planted within the terraces of the constructed channel. The riparian corridor along the recontoured creek banks and terraces would be restored with appropriate riverine vegetation types (*Salix-Populus* Forest/Woodland Alliance, *Salix-Baccharis* Forest Alliance, *and Baccharis* Shrubland Alliance). Freshwater marsh (*Typha* Herbaceous Alliance) habitat would establish naturally. All exotic/invasive plants will be eradicated over time where present within the Proposed Project area, as necessary, including giant reed, Pampas grass, and castor bean. Upon completion of restoration activities, approximately 191 acres of

aquatic and riparian habitat throughout the 5 miles of the Proposed Project area would be restored (see Chapter 4 of the IFR).

Alternatives 3.6 through 3.8 share the same management measures with Alternative 3.3 but would incrementally increase the scope of restoration. Alternative 3.6 would reconnect Aliso Creek to an abandoned oxbow, adding approximately 850 feet of channel to the restoration area relative to Alternative 3.3. Alternative 3.6 would eliminate the need for one grade control stabilizer. Alternative 3.7 incorporates the same features as Alternative 3.6 and adds sinuosity to Aliso Creek downstream of Pacific Park Drive, adding approximately 32 feet of channel to the restoration area relative to Alternative 3.6. Likewise, Alternative 3.8 incorporates the same features as Alternative 3.7 and adds sinuosity to Aliso Creek downstream of the confluence with Wood Canyon Creek, adding approximately 59 feet of channel to the restoration area relative to Alternative 3.7. Restoration activities associated with Alternatives 3.6 through 3.8 would result in similar impacts characterized for Alternative 3.3. Relative to the size of the approximately 5-mile long reach of Aliso Creek within the Proposed Project area, incremental increases in scope of the restoration would not result in impacts that would be notably different from Alternative 3.3.

Secondary impacts associated with clearing and grubbing would be the temporary loss of habitat for birds, amphibians, or other wildlife that may use the riparian vegetation. The construction footprint would migrate from one location to another over four years through the project area. As a result, wildlife near the active construction zone should be able to relocate to and utilize unaffected areas. Revegetation of new constructed areas would benefit wildlife.

Operation: Maintaining restored vegetation would primarily entail invasive species removal throughout the project footprint. The work would typically be performed by hand tools and herbicide application. Thus, maintenance of vegetation would not result in discharges of fill in most instances. With respect to physical infrastructure, maintaining design grades, elevations, contours, and conveyance may require limited earthmoving and vegetation removal activities on a periodic basis. In such cases there may be temporary loss of riparian vegetation from the creek. However, with on-going eradication of non-native species, presence of perennial flows, and presence of a seedbank within the soil matrix, native riparian vegetation is expected to reestablish in affected areas. Thus, impacts to vegetation would be temporary.

Secondary effects of the fill associated with maintenance activities would be similar to those characterized for secondary impacts associated with construction.

Cumulative Impacts

Past and Present

Aliso Creek, Sulfur Creek, and Wood Canyon Creek drain a long, narrow coastal watershed from the Cleveland National Forest to the Pacific Ocean encompassing 34.6 square miles. About 75 percent of the Aliso Creek watershed has been developed and is at near-build out. The most intensive development has occurred in the middle portion of

the watershed, encompassing the cities of Lake Forest, Aliso Viejo, Mission Viejo, Laguna Niguel, Laguna Hills, and Laguna Woods. Development has consisted of medium to high density residential areas interspersed with commercial and industrial developments.

Increased development within the middle portion of the Aliso Creek watershed has resulted in discharges of fill within the creek for various purposes: culverts, wing walls, and energy dissipation structures for road crossings; concrete abutments and piers for bridge crossings; hardened embankments for flood control; concrete for drop structures; and concrete outfalls for storm water conveyance. It is likely that structures within the creek traversing the developed area have had multiple modifications and repairs subsequent to construction.

The remaining undeveloped 25 percent of the watershed includes the Cleveland National Forest in the upper watershed and the Aliso and Wood Canyons Wilderness Park in the lower portion of the watershed. Most of the lower reach within the Proposed Project Area is located within the approximately 3,875-acre Aliso and Wood Canyons Wilderness Park. A 2001 deed restriction placed on the land restricts the land use as a wilderness park in perpetuity. As a result, most of the lower reach traverses a relatively undeveloped landscape with steep hillsides surrounding a narrow canyon. The canyon is bordered by Laguna Beach to the west and Laguna Niguel to the east. Development from the two adjacent cities extend to the ridges of the hillsides.

Within the Proposed Project Area, the reach of Aliso Creek through developed areas of the watershed (from Pacific Park Drive to Awma Road) display alterations similar to those mentioned above: culverts, wing walls, and armored embankments downstream of road crossings; armored embankments where the creek is close to roads and development; drop structures and other grade stabilization or energy dissipation structures; concrete outfalls; and bridge abutments and piers. It is likely that structures within the creek traversing the developed area have had multiple modifications and repairs subsequent to construction.

The lower reach of Aliso Creek from Awma Road through the Aliso and Wood Canyons Wilderness Park largely remains unaltered. The lone exception is the ACWHEP grade control structure. A culvert, wing wall, and riprap have been discharged at this location.

Prior to the encroachment of development, Aliso Creek was an intermittent stream. Increased development and impermeable surfaces in the reaches upstream of the Proposed Project Area resulted in more stormflows being conveyed into the Creek. Thus, the Creek now flows year-round conveying stormflows and nuisance flows from developed area in the uplands. During storms, the creek conveys high energy flows resulting in erosion and incision in reaches downstream of the ACWHEP grade control structure. Likewise, water quality increasing became impaired along with increasing development.

In general, riverine corridors function as linkages for wildlife movement between habitat areas. Vegetation and habitat type connectivity maintain populations of migratory animals, provide corridors for gene flow, allow wildlife and plant dispersal to new areas,

and provide movement corridors at both the local and regional level. Dispersal into connecting habitats increases the diversity of plants and animals that can be supported.

Development in the middle portion of the watershed have resulted in loss of habitat. Furthermore, discharges of fill in Aliso Creek in the upper and middle reaches of the watershed, associated with bank stabilizations, grade controls, and road crossings create barriers to aquatic wildlife movement and inhibit dispersal. Native habitat in the middle reaches is absent. Where present, the habitat is fragmented and degraded.

The reach of Aliso Creek through the lower portion of the watershed encompassing the Proposed Project Area is modified to a lesser extent. Native habitat is present within the reach of Aliso Creek traversing the Wilderness Park. However, the volume and energy of flows from developed parts of the watershed caused erosion and incision in reaches downstream of the ACWHEP grade control structure prohibiting the establishment of riparian vegetation in severely incised section of the creek.

Foreseeable Future

For the reach of Aliso Creek traversing developed areas of the watershed, it is unlikely that future projects would entail major modifications of the channel. The existing maintenance practices are expected to remain. Whether or not the existing damages are repaired with earthen fill, riprap, or concrete, there will be a need to repair damages from future storms resulting in discharges of fill. The creek would continue to erode until equilibrium is reached. Water quality would remain impaired due to storm and nuisance flows into the channel from developed areas upstream.

All action alternative would result in additional discharges of fill within Waters of the U.S. The discharges of fill would mostly include native substrate and rocks. The proposed grade control structures would accelerate and improve channel gradient and stability throughout Aliso Creek. Stabilization of the channel gradient; reestablishment of riparian habitat; and eradication of invasive and non-native species would promote development a robust riparian habitat that is cohesive and connected throughout the Proposed Project Area benefitting wildlife in the area including threatened and endangered species as well as aquatic species such as the pond turtle.

Potential Direct and Indirect Impacts on Special Aquatic Sites (Subpart E)

Sanctuaries and Refuges

Construction: There are no sanctuaries or refuges designated under state or Federal laws within the footprint of any of the action alternatives. Therefore, no alternative would directly or indirectly impact sanctuaries or refuges.

Operation: There are no sanctuaries or refuges designated under state or Federal laws within the footprint of any of the action alternatives. Operations and maintenance would not directly or indirectly impact sanctuaries or refuges.

Wetlands

Wetlands are comprised of three components: availability of water; presence of hydric soils; and presence of wetland vegetation. Though flows are perennial, wetlands are unlikely to be present in areas of the Creek that are highly eroded or incised. Fringe wetlands or small pockets of wetlands could be present in areas of the Creek where floodplains are wide enough to support terraces. At these locations low-energy, sediment-laden flows will occasionally form sandbars that support wetland vegetation such as mule fat (*Baccharis salicifolia*) and small extent of sandbar willow (*Salix. exigu*). However, the diversity of wetland vegetation associated with robust wetlands are absent. For example, vegetation associated with wetland marshes such as bulrush (*Typha sp.*).

Due to the instability caused by erosion and high energy flows, size and locations of wetlands that may be present in Aliso Creek are highly variable. Prior to each phase of construction, the project area would be surveyed for the current location of jurisdictional wetlands.

Construction: Alternative 3.3 would improve channel gradient and stability throughout Aliso Creek. Raising the creek elevation would require excavation and redeposition of native soils within Waters of the U.S. Construction of grade control stabilizers would require discharge of boulders, riprap, and sheet piles. Concrete would be discharged at three grade control structures where grouting is required resulting in the loss of 0.96 acre of Waters of the U.S. Stabilization of the Sulphur Creek confluence would discharge native soils, riprap and geosynthetic mats. Removal of culverts at Wood Canyon Creek would result in the discharge of dredged material. Riprap would also be discharged for the stabilization of banks and infrastructure protection. During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails, coffer dams or pipes; these structures would be removed upon completion of construction.

Alternative 3.3 would entail clearing and grubbing followed by earthmoving activities within Aliso Creek including excavation, contouring, and discharges of fill materials resulting in removal of wetland vegetation and hydric soils that may be present. Impacts would be temporary. Upon completion of each phase, riparian vegetation would be planted within the terraces of the constructed channel. The riparian corridor along the recontoured creek banks and terraces would be restored with appropriate riverine vegetation types (*Salix-Populus* Forest/Woodland Alliance, *Salix-Baccharis* Forest Alliance, *and Baccharis* Shrubland Alliance). Freshwater marsh (*Typha* Herbaceous Alliance) habitat would establish naturally. All exotic/invasive plants will be eradicated over time where present within the project area, as necessary, including giant reed, Pampas grass, and castor bean. There would be an increase in the acreage of native riparian vegetation and a corresponding decrease in nonnative vegetation relative to the No Federal Action Alternative.

Alternatives 3.6 through 3.8 share the same management measures with Alternative 3.3 but would incrementally increase the scope of restoration. Alternative 3.6 would reconnect Aliso Creek to an abandoned oxbow, adding approximately 850 feet of channel to the restoration area relative to Alternative 3.3. Alternative 3.6 would eliminates the

need for one grade control stabilizer. Alternative 3.7 incorporates the same features as Alternative 3.6 and adds sinuosity to Aliso Creek downstream of Pacific Park Drive, adding approximately 32 feet of channel to the restoration area relative to Alternative 3.6. Likewise, Alternative 3.8 incorporates the same features as Alternative 3.7 and adds sinuosity to Aliso Creek downstream of the confluence with Wood Canyon Creek, adding approximately 59 feet of channel to the restoration area relative to Alternative 3.7. Restoration activities associated with Alternatives 3.6 through 3.8 would result in similar impacts characterized for Alternative 3.3. Relative to the size of the approximately 5-mile long reach of Aliso Creek within the Proposed Project Area, incremental increases in scope of the restoration would not result in impacts that would be notably different from Alternative 3.3.

Secondary impacts associated with clearing and grubbing would be the temporary loss of habitat for birds, amphibians, or other wildlife that may use the riparian vegetation. The construction footprint would migrate from one location to another over four years through the project area. As a result, wildlife near the active construction zone should be able to relocate to and utilize unaffected areas. Revegetation of new constructed areas would benefit wildlife.

In general, long-term direct or indirect impacts to wetlands are not anticipated. Subsequent to the completion of construction and sufficient growth of plants and vegetation, the ecosystem restoration elements would provide increased wetland functions and services such as increasing foraging and nesting habitat for wildlife especially avian species. Though not designed as treatment wetlands, wetlands within newly created Waters of the U.S. would provide some level of filtration commensurate with the duration of water residence times within these areas. There would be an increase in turbidity minimization functions.

Operation: Maintaining restored vegetation would primarily entail invasive species removal throughout the project footprint. The work would typically be performed by hand tools and herbicide application. Thus, maintenance of vegetation would not result in discharges of fill and impacts to wetlands in most instances. With respect to physical infrastructure, maintaining design grades, elevations, contours, and conveyance may require limited earthmoving and vegetation removal activities on a periodic basis. Most structural repairs would be like-for-like. In such cases there may be temporary loss of riparian vegetation from the creek. However, with on-going eradication of non-native species, presence of perennial flows, and presence of a seedbank within the soil matrix, native riparian vegetation is expected to reestablish in affected areas. Thus, impacts to vegetation would be temporary.

Secondary effects of the fill associated with maintenance activities would be similar to those characterized for secondary impacts associated with construction.

Mudflats

Construction: Mudflats are generally found in intertidal, estuarine or near-shore habitats, in deltas, or at river mouths. None of these conditions occur in the Proposed Project area. Sediment deposits may occur on occasion in some parts of the Creek, but they do not

function as mudflats, which are generally rich biologically and support benthic organisms that are supportive of fish and avian species. The action alternatives would not directly or indirectly affect mudflats.

Operation: As no mudflats are present or will result from construction of restoration features, operations and maintenance activities would not directly or indirectly affect mudflats.

Vegetated shallows

Construction: Vegetated shallows are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as sea grasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems. Vegetated shallows are not present in the Proposed Project area. The action alternatives would not directly or indirectly affect vegetated shallows.

Operation: As no vegetated shallows are present or will result from construction of restoration features, operations and maintenance activities would not directly or indirectly affect vegetated shallows.

Coral reefs

Construction: Coral reefs consist of skeletal deposits, usually of calcareous or silicaceous materials, and occur in marine environments, which does not exist in the Proposed Project Area. Therefore, there would be no direct or indirect effects to coral reefs.

Operation: As no coral reefs are present or will result from construction of restoration features, operations and maintenance activities would not directly or indirectly affect coral reefs.

Riffles and pools

Steep gradient sections of streams are sometimes characterized by riffle and pool complexes. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. Although this habitat type is generally associated with higher-gradient streams, some form of riffle and pool complex may occur where boulders and gravel have accumulated to the extent that they can back up flows to cause pools and allow for increased water velocity or formation of eddies on the downstream side.

Occasional riffle and pool complexes may be found in Aliso Creek. Prior to initiation of construction, the Proposed Project Area would be surveyed for the current location of riffle and pool complexes.

Construction: Alternative 3.3 would improve channel gradient and stability throughout Aliso Creek. Raising the creek elevation would require excavation and redeposition of native soils within Waters of the U.S. Construction of grade control stabilizers would

require discharge of boulders, riprap, and sheet piles. Concrete would be discharged at three grade control structures where grouting is required resulting in the loss of 0.96 acre of Waters of the U.S. Stabilization of the Sulphur Creek confluence would discharge native soils, riprap and geosynthetic mats. Removal of culverts at Wood Canyon Creek would result in the discharge of dredged material. Riprap would also be discharged for the stabilization of banks and infrastructure protection. During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails, coffer dams or pipes; these structures would be removed upon completion of construction.

Alternative 3.3 would entail clearing and grubbing followed by earthmoving activities within Aliso Creek including excavation, contouring, and discharges of fill materials resulting in removal of occasional pool and riffle complexes that may be present within Aliso Creek. Stabilization of Aliso Creek throughout the Proposed Project Area would require placement of 47 rock riffle grade control structures. Construction of the structures would require discharge of boulders, rocks, and sheet piles. Riffle structures would be placed in a series transverse to the channel and spaced at intervals required to support a projected equilibrium slope along the Creek alignment. The sequencing of riffle structures would allow the formation of intermittent pools between the structures. The slope of the creek bed between the riffles would be a stable 0.25%. Sheet piling would be included to ensure streambed grade integrity is maintained in case of damage or loss of the riffle structure during a significant storm event. Pools are expected to form in the areas behind the riffle grade control structures. The structures would allow aquatic wildlife passage.

Alternatives 3.6 through 3.8 share the same management measures with Alternative 3.3 but would incrementally increase the scope of restoration. Alternative 3.6 would reconnect Aliso Creek to an abandoned oxbow, adding approximately 850 feet of channel to the restoration area relative to Alternative 3.3. Alternative 3.6 would eliminates the need for one rock riffle grade control stabilizer. Alternative 3.7 incorporates the same features as Alternative 3.6 and adds sinuosity to Aliso Creek downstream of Pacific Park Drive, adding approximately 32 feet of channel to the restoration area relative to Alternative 3.6. Likewise, Alternative 3.8 incorporates the same features as Alternative 3.7 and adds sinuosity to Aliso Creek downstream of the confluence with Wood Canyon Creek, adding approximately 59 feet of channel to the restoration area relative to Alternative 3.7. Restoration activities associated with Alternatives 3.6 through 3.8 would result in similar impacts characterized for Alternative 3.3. Relative to the size of the approximately 5-mile long reach of Aliso Creek within the Proposed Project area, incremental increases in scope of the restoration would not result in impacts that would be notably different from Alternative 3.3.

Secondary impacts associated with construction of existing riffle and pool complexes within the creek would be the temporary loss of shelter for some aquatic species. Pools offer shelter to aquatic species since the depth and width of pools reduce the turbulence and energy associated of incoming flows. However, the diversity and number of aquatic species within the creek is limited due to the degraded condition of the creek as well as poor water quality. Furthermore, the construction footprint would migrate from one

location to another over four years through the project area. As a result, mobile aquatic species near the active construction zone should be able to relocate to and utilize unaffected areas. Riffles increase aeration and oxygenation of the water column which is primarily beneficial to fish. Thus, temporary loss of riffles would result in a decrease of dissolved oxygen in the water column. However, the decrease would be de minimis since notable concentrations of dissolved oxygen would require lengthy riffle complexes. Thus, secondary impacts are expected to be limited. Alternative 3.3 would result in construction of 47 rock riffle grade control structures throughout the creek. Presence of these structures would indirectly benefit aquatic species by creating aquatic refugia.

Operation: Maintenance of rock riffle grade control stabilizers may require limited earthmoving and discharge of fill to on a like-for-like basis. Thus, maintenance activities may require discharge of native substrate, boulders, rocks, and sheet piles as needed. Riffle and pool complexes would be restored to match construction configurations to the maximum extent practicable. During construction, work areas within Waters of U.S. would be isolated from flows with water diversion structures such as K-rails, coffer dams or pipes; these structures would be removed upon completion of construction.

Secondary effects of the fill associated with maintenance activities would be similar to those characterized for secondary impacts associated with construction.

Cumulative impacts

Past and Present

Aliso Creek drains a long, narrow coastal watershed from the Cleveland National Forest to the Pacific Ocean encompassing 34.6 square miles. About 75 percent of the Aliso Creek watershed has been developed and is at near-build out. The most intensive development has occurred in the middle portion of the watershed, encompassing the cities of Lake Forest, Aliso Viejo, Mission Viejo, Laguna Niguel, Laguna Hills, and Laguna Woods. Development has consisted of medium to high density residential areas interspersed with commercial and industrial developments.

Increased development within the middle portion of the Aliso Creek watershed has resulted in discharges of fill within the creek for various purposes: culverts, wing walls, and energy dissipation structures for road crossings; concrete abutments and piers for bridge crossings; hardened embankments for flood control; concrete for drop structures; and concrete outfalls for storm water conveyance. It is likely that structures within the creek traversing the developed area have had multiple modifications and repairs subsequent to construction.

The remaining undeveloped 25 percent of the watershed includes the Cleveland National Forest in the upper watershed and the Aliso and Wood Canyons Wilderness Park in the lower portion of the watershed. Most of the lower reach within the Proposed Project Area is located within the approximately 3,875-acre Aliso and Wood Canyons Wilderness Park. A 2001 deed restriction placed on the land restricts the land use as a wilderness

park in perpetuity. As a result, most of the lower reach traverses a relatively undeveloped landscape with steep hillsides surrounding a narrow canyon. The canyon is bordered by Laguna Beach to the west and Laguna Niguel to the east. Development from the two adjacent cities extend to the ridges of the hillsides.

Within the Proposed Project Area, the reach of Aliso Creek through developed areas of the watershed (from Pacific Park Drive to Awma Road) display alternations similar to those mentioned above: culverts, wing walls, and armored embankments downstream of road crossings; armored embankments where the creek is close to roads and development; drop structures and other grade stabilization or energy dissipation structures; concrete outfalls; and bridge abutments and piers. It is likely that structures within the creek traversing the developed area have had multiple modifications and repairs subsequent to construction.

The lower reach of Aliso Creek from Awma Road through the Aliso and Wood Canyons Wilderness Park largely remains unaltered. The lone exception is the ACWHEP grade control structure. A culvert, wing wall, and riprap have been discharged at this location.

Prior to the encroachment of development, Aliso Creek was an intermittent stream that had reached equilibrium with respect to the flows it conveyed. Slivers of fringe wetlands as well as occasional riffle pool and complexes were likely present. Increased development and impermeable surfaces in the reaches upstream of the Proposed Project Area resulted in more stormflows being conveyed into the creek. Thus, the creek now flows year-round conveying stormflows and nuisance flows from developed area in the uplands. During storms, the creek conveys high energy flows resulting in erosion and incision in reaches downstream of the ACWHEP grade control structure. The resulting erosion and incision would not have been able to support wetlands or pools and riffle complexes.

Foreseeable Future

For the reach of Aliso Creek traversing developed areas of the watershed, it is unlikely that future projects would entail major modifications of the channel. The existing maintenance practices are expected to remain. Whether or not the existing damages are repaired with earthen fill, riprap, or concrete, there will be a need to repair damages from future storms resulting in discharges of fill. The creek would continue to erode until equilibrium is reached. Since erosion would likely expose the bedrock underneath, it is unlikely that wetlands would develop.

All action alternatives would result in additional discharges of fill within Waters of the U.S. The discharges of fill would mostly include native substrate and rocks. The proposed rock riffle grade control structures would accelerate and improve channel gradient and stability throughout Aliso Creek; pools are expected to form in the areas behind the riffle grade control structures. Stabilization of the channel gradient as well as presence of pools would promote development of wetlands.

Potential Direct and Indirect Effects on Human Use Characteristics (Subpart F)

Municipal and private water supplies

Construction: The Creek is not a source for municipal or private water supplies. It conveys storm flows and discharge from wastewater treatment plants, which are not suitable for potable use. Therefore, there would be no direct or indirect effects on municipal or private water supplies under any alternative.

Operation: Maintenance activities within waters of the US would not directly or indirectly affect municipal or private water supplies.

Recreational and commercial fisheries

Construction: There is no recreational fishing within Aliso Creek. Even though there is currently perennial flow, the water depth is normally not deep enough to support recreation fish habitat. There is no record of fishing for any reason during the last 50-years.

Implementation of any build alternative may result in indirect long term benefits to aquatic species. The measures to be implemented include water shaded by riparian vegetation and rock riffle grade control stabilizers that would encourage pools to form in the areas behind the riffle grade control structures and provide aquatic refugia.. However, implementation of any build alternative would not result in impacts to recreational and commercial fisheries.

Operation: Maintenance activities within Waters of the U.S. would not directly or indirectly affect recreational and commercial fisheries.

Water-related recreation

Construction: There is no water-related recreation in Aliso Creek within the Proposed Project Area. Therefore there would not be any water related recreation that would be impacted under any alternative.

Operation: Maintenance activities within Waters of the U.S. would not directly or indirectly affect water related recreation.

Aesthetics

Existing views of Aliso Creek are composed of a beige, sinuous feature reflective of an earthen channel. Heterogeneous forms and textures as well as a natural color palette associated with vegetation flank the channel on both sides.

Construction: Alternative 3.3 would entail clearing and grubbing followed by earthmoving activities within Aliso Creek including excavation, contouring, and discharges of fill materials. A limited number of earthmoving equipment with highly visible paint schemes and colors would be temporarily present in Aliso for the duration of construction. The construction footprint would be temporarily devoid of heterogeneous forms and textures as well as a natural color palette associated vegetation and replaced with a homogeneous earthen environment with various hues of beige and brown. Upon

completion of earthwork, the channel and the adjoining terraces would be planted with native riparian plants. The planted vegetation would restore a natural aesthetic to the affected site. Since construction would be phased, the natural aesthetics would be maintained throughout most of the channel for the duration of construction. With the removal of non-native species, there would be long-term, indirect benefits to aesthetics upon completion of the ecosystem restoration project.

Alternatives 3.6 through 3.8 share the same management measures with Alternative 3.3 but would incrementally increase the scope of restoration. Alternative 3.6 would reconnect Aliso Creek to an abandoned oxbow, adding approximately 850 feet of channel to the restoration area relative to Alternative 3.3. Alternative 3.6 would eliminates the need for one rock riffle. Alternative 3.7 incorporates the same features as Alternative 3.6 and adds sinuosity to Aliso Creek downstream of Pacific Park Drive, adding approximately 32 feet of channel to the restoration area relative to Alternative 3.6. Likewise, Alternative 3.8 incorporates the same features as Alternative 3.7 and adds sinuosity to Aliso Creek downstream of the confluence with Wood Canyon Creek, adding approximately 59 feet of channel to the restoration area relative to Alternative 3.7. Restoration activities associated with Alternatives 3.6 through 3.8 would result in similar impacts characterized for Alternative 3.3. Relative to the size of the approximately 5-mile long reach of Aliso Creek within the Proposed Project area, incremental increases in scope of the restoration would not result in impacts that would be notably different from Alternative 3.3.

Secondary impacts associated with aesthetic impacts during construction would primarily be fulfillment the recreational experience for those visitors to the Aliso and Wood Canyons Wilderness Park who value the natural vista. Since construction would be phased, the natural aesthetics would be maintained throughout most of the channel for the duration of construction.

Operation: Maintaining restored vegetation would primarily entail invasive species removal throughout the project footprint. The work would typically be performed by hand tools and herbicide application. Vegetation maintenance would result in temporary changes in the height and density of vegetation, temporarily affecting aesthetics. Furthermore, since work would likely be localized, impacts would be de minimis and temporary. With respect to physical infrastructure, maintaining design grades, elevations, contours, and conveyance may require limited earthmoving and vegetation removal activities on a periodic basis. Most structural repairs would be like-for-like. In such cases there may be temporary loss of riparian vegetation from the creek. However, with on-going eradication of non-native species, presence of perennial flows, and presence of a seedbank within the soil matrix, native riparian vegetation is expected to reestablish in affected areas. Thus, impacts to aesthetics would be temporary.

Secondary effects of the fill associated with maintenance activities would be similar to those characterized for secondary impacts associated with construction.

Parks, national and historical monuments, national seashores, wilderness areas, and research sites

The upper reaches of Aliso Creek from Aliso Creek Road to Pacific Drive Park traverse urban areas. The lower reaches of the creek downstream of Aliso Creek Road traverse the Aliso and Wood Canyons Wilderness Park, a 4,500-acre regional wilderness park. In addition to Aliso Creek, the park features coastal canyons, high ridges, and endangered coastal sage scrub. The habitat also includes oak woodlands, sycamore-shaded canyons, riparian (or stream bank) areas, and the very rare southern maritime chaparral ecosystem. The wilderness park holds over 30 miles of trails. Most trails are located away from the construction footprint. However, Aliso Creek Trail closely parallels Aliso Creek throughout most reaches of the creek within the Proposed Project Area.

Construction: Alternative 3.3 would entail clearing and grubbing followed by earthmoving activities within Aliso Creek including excavation, contouring, and discharges of fill materials. Most construction would avoid existing trails. However, a portion of the Wood Canyon Creek Trail, between the Wilderness Park Visitor's Center at Awma Road Bridge downstream to the Wood Canyon Creek Confluence would need to be temporarily closed during construction near the location. Additionally, the initial 800 feet of Wood Canyon Trail will be realigned to the west by about 75 feet to remove it from the riparian vegetation habitat at Wood Canyon Creek. The trail would be reopened upon completion of construction.

Alternatives 3.6 through 3.8 share the same management measures with Alternative 3.3 but would incrementally increase the scope of restoration. Alternative 3.6 would reconnect Aliso Creek to an abandoned oxbow, adding approximately 850 feet of channel to the restoration area relative to Alternative 3.3. Alternative 3.6 would eliminates the need for one rock riffle. Alternative 3.7 incorporates the same features as Alternative 3.6 and adds sinuosity to Aliso Creek downstream of Pacific Park Drive, adding approximately 32 feet of channel to the restoration area relative to Alternative 3.6. Likewise, Alternative 3.8 incorporates the same features as Alternative 3.7 and adds sinuosity to Aliso Creek downstream of the confluence with Wood Canyon Creek, adding approximately 59 feet of channel to the restoration area relative to Alternative 3.7. Restoration activities associated with Alternatives 3.6 through 3.8 would result in similar impacts characterized for Alternative 3.3. Since all action alternatives include the reach between Wood Canyon Creek and the Awma Road Bridge, the temporary impacts to trail use would remain the same for all action alternatives.

Secondary impacts associated with temporary trail closures and realignments would primarily be fulfillment the recreational experience for those visitors to the Aliso and Wood Canyons Wilderness Park who regularly use the trail. Impacts would be temporary in nature.

Operation: Maintaining restored vegetation would primarily entail invasive species removal throughout the project footprint. The work would typically be performed by hand tools and herbicide application. With respect to physical infrastructure, maintaining design grades, elevations, contours, and conveyance may require limited earthmoving and vegetation removal activities on a periodic basis. Maintenance work may occasionally result in temporary closure of Aliso Creek Trail. However, the trail would be available for public use upon completion of maintenance activities.

Secondary effects of the fill associated with maintenance activities would be similar to those characterized for secondary impacts associated with construction.

Cumulative impacts

Past and Present

Aliso Creek drains a long, narrow coastal watershed from the Cleveland National Forest to the Pacific Ocean encompassing 34.6 square miles. About 75 percent of the Aliso Creek watershed has been developed and is at near-build out. The most intensive development has occurred in the middle portion of the watershed, encompassing the cities of Lake Forest, Aliso Viejo, Mission Viejo, Laguna Niguel, Laguna Hills, and Laguna Woods. Development has consisted of medium to high density residential areas interspersed with commercial and industrial developments.

Increased development within the middle portion of the Aliso Creek watershed has resulted in discharges of fill within the creek for various purposes: culverts, wing walls, and energy dissipation structures for road crossings; concrete abutments and piers for bridge crossings; hardened embankments for flood control; concrete for drop structures; and concrete outfalls for storm water conveyance. It is likely that structures within the creek traversing the developed area have had multiple modifications and repairs subsequent to construction.

The remaining undeveloped 25 percent of the watershed includes the Cleveland National Forest in the upper watershed and the Aliso and Wood Canyons Wilderness Park in the lower portion of the watershed. Most of the lower reach within the Proposed Project Area is located within the approximately 3,875-acre Aliso and Wood Canyons Wilderness Park. A 2001 deed restriction placed on the land restricts the land use as a wilderness park in perpetuity. As a result, most of the lower reach traverses a relatively undeveloped landscape with steep hillsides surrounding a narrow canyon. The canyon is bordered by Laguna Beach to the west and Laguna Niguel to the east. Development from the two adjacent cities extend to the ridges of the hillsides.

Aliso Creek functions primarily as drainage for storm and nuisance flows. There are no municipal and private water supplies, recreational and commercial fisheries, or water-related recreation uses of the creek.

Foreseeable Future

For the reach of Aliso Creek traversing developed areas of the watershed, it is unlikely that future projects would entail major modifications of the channel or further encroach onto the channel. Thus, Aliso Creek Trail through develop areas would likely remain. Likewise, with a 2001 deed restriction that restricted the land within the Aliso and Wood Canyons Wilderness Park as a wilderness park in perpetuity, the existing trail system including the Aliso Creek Trail would remain intact for the foreseeable future.

Evaluation and Testing (Subpart G)

All action alternatives would entail discharges of fill materials within Waters of the U.S. Temporary discharges of fill would entail dewatering structures such as k-rails, culverts. Dewatering structures would be removed upon completion of each phase of construction. Permanent discharges of fill would entail discharges of rock, concrete, and soil from within the incised Creek.

Both temporary and permanent fills would be chemically inert and would not leach contaminants into the water column.

6.0 Measures to Minimize Adverse Impacts (Subpart H)

Under any action alternative, the following measures will be taken prior to and during construction to monitor the degree of impacts related to wetland and riparian construction

Construction plans will identify optimum phasing and timing and specify the guidelines for minimum standards necessary to protect soils, biological resources, and water and prevent generation of fugitive dust. Specific guidelines may include:

- Limiting certain aspects of in-channel construction outside of the winter storm season (April 15 - October 15) to minimize soil erosion.
- Installing silt fences around construction areas to prevent silt and sediment from entering the Creek.
- Designing and implementing a dewatering plan to avoid operating equipment in flowing water by using temporary cofferdams or some other suitable diversion to divert channel flow around the channel and bank construction area.
- Complying with an established Spill Prevention and Response Plan, which would define requirements for storage, handling, and containment of hazardous materials.
- Developing and implementing a storm water pollution prevention plan.
- If vegetation removal must occur during the breeding season, a qualified biologist would perform nesting bird surveys following established protocol prior to construction. If nests are detected during these surveys, a 300-foot no construction buffer would be delineated around the nest (500 feet for raptors).
- Construction in breeding areas would be monitored by a qualified biologist.
- Construction would be phased to minimize impacts to wildlife species, so that the entire Proposed Project Area would not be under construction all at once to minimize human intrusion.
- Stabilizing and reseeding disturbed areas with native grasses, shrubs, and trees after construction is complete.
- Conducting operation and maintenance during times of the year when wildlife is not likely to be breeding or nesting.
- Avoiding sensitive habitat types to the degree possible when performing maintenance.

7.0 Summary of Effects to the Aquatic Environment

All action alternatives mostly share the same management measures but would incrementally increase the scope of restoration. However, the incremental differences between the alternatives are relatively small relative to the overall construction footprint common to all action alternatives. Thus, the scope of impacts to Waters of the U.S. would not be notably different. Likewise, the creation of additional Waters of the U.S. would not be notably different. The anticipated temporary impacts during construction would increase from Alternative 3.3 through 3.8, commensurate with increasing the duration time for construction. With implementation of measures to minimize impacts before, during, and after construction, there would be no permanent loss or reduction of aquatic functions for any build alternative.

8.0 Conclusion

Alternatives 3.3, 3.6, 3.7 and 3.8 meet the overall project purpose and are practicable with respect to cost, technology, and logistics.

The amount of temporary construction within Waters of the U.S. would increase from Alternative 3.3 to 3.8 commensurate with the scope of restoration. All temporary fill would be removed upon completion of construction. All action alternatives would entail discharges of permanent fill into Waters of the U.S. associated with construction of rock riffle grade control structures, bank stabilization, and protection of infrastructure.

All action alternatives mostly share the same management measures but would incrementally increase the scope of restoration. However, the incremental differences between the alternatives are relatively small relative to the overall construction footprint common to all action alternatives. Thus, the scope of impacts to Waters of the U.S. would not be notably different. Likewise, the creation of additional Waters of the U.S. would not be notably different.

All action alternatives would require implementation of environmental commitments to further avoid and minimize effects to the aquatic environment. No significant adverse impacts to aquatic resources have been identified in the IFR. No take of protected or sensitive aquatic species would occur under any build alternative.

Based on the preliminary analysis above, all action alternatives would in compliance with the Section 404(b)(1) Guidelines. The final 404(b)(1) evaluation and Findings of Compliance will be included with the Record of Decision for this project.

APPENDIX B-8: Adaptive Habitat Management Plan

ALISO CREEK MAINSTEM
ECOSYSTEM RESTORATION STUDY
Orange County, California

September 2017

US Army Corps of Engineers

Orange County Public Works
Environmental Resources
Department

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1.0 INTRODUCTION

1.1 Purpose

This document outlines the feasibility level Adaptive Habitat Management Plan (AHMP) for the proposed Aliso Creek Mainstem Ecosystem Restoration Project (Project) Los Angeles County, California. The U.S. Army Corps of Engineers (Corps) in partnership with the County of Orange Public Works, Environmental Resources (County) has developed feasibility level plans to restore approximately five (5) miles of the lower Aliso Creek watershed from the Pacific Park Drive area downstream to the South Orange County Wastewater Authority (SOCWA) Coastal Treatment Plant (CTP) Bridge, located 1.2 miles upstream of the ocean outlet, which is considered the Proposed Project area.

This AHMP reflects a level of detail consistent with the feasibility study phase. The primary intent was to develop monitoring and adaptive management actions appropriate to assess and achieve the Proposed Project's restoration goals and objectives. Restoration actions that would be undertaken to achieve the Proposed Project objectives and sources of uncertainty that may impact the need for adaptive management actions are described. The expected timelines for achieving successful establishment of self-sustaining restored habitat were used to develop an estimation of the monitoring and adaptive management program costs and duration for the Proposed Project.

The general purpose of the AHMP is to:

- Provide a systematic approach for improving resource management outcomes.
- Provide a structured process for recommending decisions, with an emphasis on uncertainty about resources response to management actions and the value of reducing that uncertainty to improve management.

More specifically, the AHMP will:

- Establish the framework for effective monitoring, evaluation of data, and for future implementation of habitat management activities in the Proposed Project area.
- Provide the process for identifying future actions related to habitat management activities in the Proposed Project area.
- Establish criteria and processes for vegetation and wildlife evaluation and modification of implementation activities.

This plan will be reviewed and revised as needed during the Preconstruction, Engineering, and Design (PED) phase as specific design details are made available.

1.2 Statutory Basis for Monitoring and Adaptive Management

Section 2039 of Water Resources Development Act (WRDA) 2007 directs the Secretary of the Army to ensure that, when conducting a feasibility study for a project (or component of a project) for ecosystem restoration, the recommended project includes a plan for monitoring the success of the ecosystem restoration. Section 2039 of WRDA 2007 requires that the monitoring plan include a description of the monitoring activities, the criteria for success, and the estimated cost and duration of the monitoring, and specifies that monitoring will be performed until the Secretary of the Army determines restoration success is achieved. The Corps' implementation guidance for Section 2039, in the form of a Corps Civil Works memorandum dated August 31, 2009, also requires that an adaptive management plan (i.e., contingency plan) be developed for all ecosystem restoration projects.

This AHMP includes elements required by the WRDA 2007 implementation guidance, including:

- Rationale for monitoring;
- Monitoring process and timing;
- Party responsible for carrying out the monitoring plan;

- Intended use(s) of the information obtained;
- The disposition of the information and analysis;
- Documentation of how to measure habitat restoration success; and
- The cost of the monitoring plan.

1.3 Rationale for Adaptive Management

The primary incentive for implementing an adaptive management program is to increase the likelihood of achieving desired Proposed Project outcomes given identified uncertainties and unknown factors that may influence the outcome of Project success.

Adaptive management would ordinarily be undertaken where:

- The natural resource system being managed is dynamic, changing through time in response to environmental conditions and management actions that vary through time. These factors can influence resource status and the ecological processes by which resource changes are realized (Williams 2011).
- Environmental variation is only partially predictable, and sometimes is unrecognizable. Variation in environmental conditions induces stochasticity in biological and ecological processes, which leads in turn to unpredictability in system behaviors (Williams 2011).
- The resource system is subjected to periodic and potential management interventions that potentially vary over time. Management actions influence system behaviors either directly or indirectly, by altering system states such as resource size, or influencing ecological processes such as mortality and movement, or altering vital rates such as reproduction and recruitment rates.
- Effective management is limited by uncertainty about the nature of resource processes and the influence of management on them. Reducing this uncertainty can lead to improved management actions.

Given these uncertainties and unknown factors, adaptive management provides an organized, coherent, and documented process that suggests management actions in relation to Proposed Project performance compared to Project objectives and outcomes. The adaptive management program utilizes the results of continued monitoring to manage restoration actions in order to achieve the Project objectives. Adaptive management uses critical feedback information from monitoring to inform managers and interested stakeholders of the need for adjustment of actions and reduces uncertainty in achieving success.

The Corps in partnership with the County has developed feasibility level plans to restore riparian and open water aquatic habitat for a very diverse and vast array of plants and animals in relation to the attributes of: 1) connectivity, 2) species richness (diversity), 3) sustainability, and 4) resilience. The Proposed Project will concentrate in the restoration of these attributes with some concentration on federal and state listed taxa, such as the least Bell's vireo and southern western pond turtle populations.

1.4 Adaptive Management Team

The AHMP provides the framework and guidance for an Adaptive Management Team (Management Team) to identify potential adaptive management actions in specific areas of the Project in which restoration measures would be implemented. The Management Team is a standing committee of stakeholders and agencies that work together to make recommendations relevant to implementing the AHMP. The Management Team is composed of the Corps, Orange County Public Works, and the resource agencies. Although the USACE and County have coordinated with the entities that will comprise the Management Team in development of this Integrated Feasibility Report (IFR), the

Management Team will be officially established after the Project has been authorized and appropriations have been received to begin PED.

The Management Team focuses on the ecological function of the habitats through related adaptive management actions to maintain and provide functional riverine habitat for general species and special status species (e.g., endangered species) within the Proposed Project area. The Management Team shall review monitoring results and advise on and recommend actions that are consistent with the project goals and reflect the current and future needs of the habitat and the species they support within the project area. This MAMP also identifies triggers upon which an action may be implemented based on the recommendation of the Management Team and Corps acceptance of that recommendation.

The Corps shall have final determination on all adaptive management actions recommended. Any decision criteria or actions outside of those proposed in this AHMP would require HQUSACE coordination (WRDA 2007 Section 2039 guidance).

The Corps is responsible for ensuring that monitoring data and assessments are properly used in the adaptive management decision-making process. If the Corps determines that adaptive management actions are needed, it will coordinate with the Management Team on implementation of those actions. The USACE is also responsible for project documentation, reporting, and external communication.

The Management Team shall meet at a minimum of once per year, as scheduled by the Corps during the monitoring period, to review the results of monitoring and assess whether Proposed Project objectives are being met. If objectives are not being met, the Management Team may recommend that adaptive management actions be taken in response to monitoring results as compared to decision-making triggers.

The Management Team may also consider other related projects along the creek in determining the appropriate adaptive management actions, and may consult with other recognized experts or stakeholders as appropriate, to achieve project goals.

1.4.1 Team Structure

The Management Team shall include representatives from the Corps, Los Angeles District and the non-Federal sponsor, the County, as well as resource agencies.

1.4.1.1 U.S. Army Corps of Engineers

The Corps may be represented by the Project Ecologist as well as the Project Hydrology and Hydraulics (H&H) representative as needed. Other Corps attendees may include the Project Manager, the Project Environmental Coordinator, and/or designees, as needed.

1.4.1.2 Orange County Public Works, Environmental Resources

The County, as the non-Federal sponsor for the Proposed Project, will ultimately be responsible for all Operations, Maintenance, Repairs, Replacement, and Rehabilitation activities once the Corps notifies the County of project completion. Prior to final project completion, the Corps will transfer responsibility of functional elements of the project to the County as they are completed.

1.4.1.3 Resource Agencies

The Management Team shall also include representatives from resource agencies who would serve in an advisory capacity, to assist in evaluation of monitoring data and assessment of adaptive management needs. The agencies may include, upon their acceptance:

- U.S. Fish and Wildlife Service, Carlsbad Field Office
- California Department of Fish and Wildlife

Additional expertise may be provided by other entities and stakeholders with knowledge of the Aliso Creek ecosystem, hydrology, and wildlife species, at the discretion of the primary Management Team participants.

2.0 DECISION MAKING PROCESS

2.1 Decision Criteria

Decision criteria, also referred to as adaptive management triggers, are used to determine if and when adaptive management opportunities should be implemented. They can be qualitative or quantitative based on the nature of the performance measure and the level of information necessary to make a decision. Desired outcomes can be based on reference sites, predicted values, or comparison to historic conditions. Initial decision criteria are identified below in Section 5.0, based on Proposed Project objectives and performance measures. More specific decision criteria, based on other parameters such as hydrology, geomorphology, and vegetation dynamics will be developed during PED phase of the project.

If assessments show that any or all of these triggers are met, investigations may be required to determine the cause of failure and adaptive management actions may be recommended.

2.2 Sources of Uncertainty

Adaptive management provides a coherent process for making decisions in the face of uncertainty. Scientific uncertainties and technological challenges are inherent with any large-scale ecosystem restoration project. Uncertainties associated with restoration of the habitats within the Proposed Project area include:

- Correct engineering and design to fully address project objectives;
- Correct operation and maintenance regime to fully achieve and maintain project objectives;
- Ability of hydrologic models to predict project impacts/benefits;
- Future availability of water for restored habitat due to extreme drought or other climate change issues; and
- Other factors which are not completely within Corps or County control or ability to predict, such as high flow events that may occur before the restored habitat has fully established, vandalism, or upstream watershed changes that may affect the Proposed Project area.

Uncertainties may remain concerning specific Proposed Project features, monitoring elements, and adaptive management opportunities.

2.3 Use of Monitoring Results and Analysis

Results of the monitoring will be assessed in comparison to Proposed Project objectives to evaluate whether the Project is functioning as planned and whether adaptive management actions are needed to achieve Project objectives. The results of the monitoring will be provided to the Management Team

members who will evaluate and compare data to Project objectives and decision making triggers. The Management Team will use the monitoring results to assess habitat responses to management actions, evaluate overall Project performance, and make recommendations for adaptive management actions as appropriate. If monitoring results, as compared to desired outcomes and decision making triggers show that Project objectives are not being met, the Management Team will evaluate causes of failure and recommend adaptive management actions to remedy the underlying problems.

As data is gathered through monitoring, more information will also be available to address uncertainties and fill information gaps. Uncertainties such as effective operational regimes, benefits generated by restored features, and accuracy of hydrologic models can be evaluated to inform adaptive management actions and future restoration needs.

3.0 Monitoring

An effective monitoring program is required to determine if the Proposed Project outcomes are consistent with original Proposed Project objectives. The power of a monitoring program developed to support adaptive management lies in the establishment of feedback between continued monitoring and corresponding project management. A well-conceived monitoring program is the central component of the Project adaptive management program as it identifies the information to assess whether the Project is functioning as planned.

The specific restoration objectives of the Aliso Creek Ecosystem Restoration Project include:

- Improve the degraded aquatic and riparian habitat ecosystem function and structure, including the mosaic and heterogeneity of vegetation types, to increase plant and animal biodiversity for the Aliso Creek mainstem and tributary confluences within the Aliso and Wood Canyons Wilderness Park throughout the period of analysis. In particular, promote in-stream connectivity (longitudinal, lateral, and vertical) to facilitate the reproductive viability of aquatic species.
- Improve the hydrologic and hydraulic regime to increase floodplain function and channel stability for the Aliso Creek system within the Aliso and Woods Canyon Wilderness Park throughout the period of analysis.
- Enhance the passive recreational experience that is compatible with the Proposed Project within the Aliso and Wood Canyons Wilderness Park throughout the period of analysis.

Monitoring must be closely integrated with the adaptive management components as monitoring data feeds directly into the evaluation of adaptive management needs. Objectives must be considered to determine appropriate indicators to monitor. In order to be effective, monitoring must be able to distinguish between ecosystem responses that result from project implementation (i.e., management actions) and natural ecosystem variability, including the impacts of climate change. Achieving project objectives requires monitoring that focuses on habitats and the hydrologic and geomorphic processes that support them.

A qualified restoration biologist will coordinate the restoration monitoring. This monitoring program is intended to provide continued oversight of the restoration areas after installation is completed. This oversight will accomplish two objectives: (1) provide feedback for the maintenance contractor and (2) provide information to evaluate progress so that recommendations can be made to help meet performance standards.

3.1 <u>Monitoring Plan</u>

According to the Corps Civil Works Memorandum dated August 31, 2009: "Monitoring includes the systemic collection and analysis of data that provides information useful for assessing project performance, determining whether ecological success has been achieved, or whether adaptive management may be needed to attain project benefits." The following discussion outlines the key components of the monitoring plan that will support the project AHMP.

Overall, monitoring results will be used to evaluate the progress of habitat restoration toward meeting project objectives and to inform the need for adaptive management actions to ensure success is achieved.

3.2 Monitoring Period

This monitoring plan includes the minimum monitoring actions to evaluate success and to determine adaptive habitat management needs. Assuming that multiple construction contracts may be required to implement all of the restoration elements associated with the Proposed Project, monitoring and adaptive habitat management would be initiated at the completion of each phase of construction if determined to be practicable, dependent on implementation of additional phases.

Upon completion of construction of the Project, cost-shared monitoring for ecological success and adaptive habitat management would be initiated and continue for five (5) years or until ecological success is achieved as defined by the Project's established success criteria and as documented by the monitoring reports in coordination with the Management Team. The restoration success will be documented through the close-out process as described in Section 9, below.

Although WRDA 2007 allows for up to ten years of cost-shared monitoring when necessary, this plan anticipates that only five (5) years of monitoring and adaptive habitat management per construction phase would be required for habitat to mature sufficiently to be self-sustaining and to meet ecological success criteria for Proposed Project objectives. Once the Corps determines that ecological success has been fully achieved, even if this occurs in less than five (5) years, no further monitoring would be performed. For each phase, although not anticipated, if ecological success criteria for project objectives have not been met within the first five (5) years, then cost-shared monitoring and adaptive habitat management would continue within those areas until ecological success criteria are met or for a maximum of five (5) additional years, whichever is less. If success cannot be determined within the ten-year period of cost-shared monitoring allowed by law, any additional monitoring and management will be a non-Federal responsibility. Cost-shared monitoring shall not continue beyond ten years.

3.3 Reference Site

Riverine vegetation cover types within undisturbed portions of the project area surrounding restoration areas will provide the reference vegetation community data for the adjacent areas being restored. Each reference site will be mapped with a Global Positioning System (GPS) to insure accurate measurements are taken each monitoring visit.

Reference sites for the restoration areas will be established after the Proposed Project has been authorized and appropriations have been received to begin PED.

3.4 Monitoring Activities

Monitoring procedures that would provide information necessary to evaluate the Proposed Project objectives include:

3.4.1 Geomorphology

In order to implement a sustainable ecosystem restoration project, part of the effort must include reestablishing the geomorphic structure of the creek. Once the pool/riffle structures are implemented throughout, they will need to be monitored to ensure they are maintaining creek stability while allowing for some dynamic variation in channel morphology.

Photo-point monitoring stations will be developed for all or part of the geomorphic pool/riffle structures. These photo points will be used to analyze how the pool/riffle structures raise the bed level elevation, keeping the creek channel in an equilibrium state and free of excessive degradation including scour, head cutting, and aggradation. Geomorphology of the restored areas will be monitored annually, following winter/spring flows to document channel response.

3.4.2 Hydrologic Regime

The target hydrologic regime for the Proposed Project area will be supported by groundwater and the seasonal flooding of Aliso Creek once the hydrogeomorphic conditions have been restored. The surface topography will change as a result of the restoration program and the restored vegetative alliances will rely on seasonal fluctuations of the water table, surface flows, and supplemental water for container plantings during The goal of this riverine ecosystem restoration effort is to reverse the negative effects caused by massive creek incision as well as monotypic stands of invasive weeds.

An important part of the ecosystem restoration is the current perennial water flow, creek in-stream aquatic dynamics being restored for aquatic invertebrates as well as fish and amphibians. The hydrologic regime will be monitored by implementation of monitoring wells in various parts of the ecosystem restoration project to determine groundwater levels, and other associated in-stream aquatic measurements.

Permanent monitoring stations would be established for monitoring of geomorphology/hydrology and associated vegetation elements and may include monitoring for:

- large woody debris;
- stream gradient;
- channel form;
- dimensions and dynamics;
- gravel bars or riffle-pool-run complexes and distributions; and
- substrate composition and distribution.

3.4.3 Vegetation

Vegetation Types to be Restored

Vegetation community restoration identified in this AHMP will focus on three habitat types: arroyo willow (*Salix lasiolepis*) woodland alliance, black willow (*Salix* g*ooddingii*) woodland alliance, and mule fat (*Baccharis salicifolia*) shrubland alliance, described in detail below. Restoration will focus on providing habitat value for the diversity of riparian bird species and in particular the least Bell's vireo. These vegetation types will provide benefits to an array of wildlife taxa in the provision of forage, cover, and unrestricted movement—aspects that are currently compromised by the dense cover of invasive weeds.

The prescribed vegetation types to be restored have been classified according to the *Second Edition: A Manual of California Vegetation* by John Sawyer, Todd Keeler-Wolf, and Julie Evans (2009), but the composition of these communities may be modified, where appropriate, as they exist within Aliso Creek system.

Vegetation Type Monitoring

Monitoring of Aliso Creek will be accomplished by assessing performance against a reference site located as near to the restoration project area as possible. For the purposes of this AHMP the establishment period is the first growing season after installation of container plantings, which is considered the completion of construction. Monitoring will begin after this first growing season. The Corps will be responsible for conducting monitoring of the effort through a five-year period beginning upon completion of construction of each project phase; i.e., after the first full season of plant establishment . Specific monitoring activities for Aliso Creek restoration areas will be refined during PED and in the construction phase. Monitoring would occur annually for the duration of the monitoring period. Monitoring will generally focus only on growth and mortality during the first two years of monitoring. Subsequent years of monitoring will include either a Releve' Protocol (California Native Plant Society (CNPS)) sampling method or vegetation mapping to document vegetation community establishment. . The Project Ecologist will qualitatively and quantitatively evaluate restoration success in relation to the performance criteria and document the progress of the sites upon the conclusion of monitoring each year.

Vegetation Measurements

Some plant species take significantly longer than five years to mature. Therefore, full maturation of certain plants established as part of the Proposed Project will not be achieved by the end of the monitoring period. However, the monitoring data will be analyzed for trends and changes in cover of the most common tree, shrub, and herbaceous species. Year-to-year changes in vegetative cover will be compared to determine whether the restoration areas are approaching characteristics of mature vegetation.

Growth and Mortality

During the first year of monitoring after completion of construction (Year 2), container plants that survived the establishment period (Year 1) should survive and be in healthy condition. If mortality of container plants occurs after Year 2 that is not mitigated by natural recruitment, then additional container planting may be required at the discretion of the Project Ecologist. Growth and mortality surveys will be carried out during the late spring or early summer. All plots and photograph stations would be documented via GPS coordinates to be duplicated in each year of monitoring for consistency

Quantitative Sampling

Quantitative sampling will be carried out during the late spring or early summer to ensure the best representation of species diversity. Sampling locations will be established according to a stratified-random sampling design (Releve') or vegetation mapping and documented in a monitoring report at the conclusion of each monitoring year. Sampled areas would be dependent on the specifics of the area to be monitored and the type of vegetation establishing, and may vary within or among individual phases.

Sampling may measure percent cover of native and non-native plant species, species diversity, structural diversity, age class, and density relative to reference areas. General observations, such as health and growth form of native plant species recruitment, and signs of drought stress would be noted during the surveys. Potential soil erosion, flood damage, vandalism and intrusion, trampling, and pest problems would be qualitatively identified. All plots and photograph stations would be documented via GPS coordinates to be duplicated in each year of monitoring for consistency.

Vegetation Monitoring Schedule

The monitoring period will begin after the first full season of plant establishment, which will be the completion of construction of each phase of restoration. The monitoring period will last for five years for each phase or until the restored vegetation has met performance standards. A monitoring schedule for each phase is presented in Table 3.4-1, below. The monitoring program will be coordinated by the Project Ecologist as outlined below for the first five years.

Table 3.4-1 Monitoring Schedule per Construction Phase*

Type/Task	Year 1	Year 2	Year 3	Year 4	Year 5
Qualitative					
Monitoring	Monthly	Monthly	Quarterly	Quarterly	Quarterly
Quantitative					
Spring *Relevé* Sampling	–		Annually	Annually	Annually

*Schedule is approximate.

3.4 Birds

Restoration creates habitats that possess the structural and functional attributes of the natural habitats they are intended to replace (Kus and Beck 2003). An important assumption of ecological restoration is that it provides appropriate habitat for native species. Unfortunately, restoration projects are often designed with little consideration for their effects on wildlife (Block et al. 2001). Most often, restoration efforts are developed specifically to provide habitat for a single imperiled species (Kus 1998). Restoration success can only be measured relative to reference habitat if one can be determined.

This presents a dilemma in identifying an appropriate standard by which to gauge restoration site performance in that natural habitats typically used as prototypes are mature stands while restoration sites created through plantings are in the earliest stages of growth (Kus and Beck 2003). The result is that monitoring restoration site performance is largely an effort in documenting progress towards achievement of the habitat attributes criteria. Use of the revegetated habitat likely differed among species and changed over time. Kus (1998) showed that least Bell's vireo use of restored habitat for foraging and nesting depended on the age and foliage cover characteristics (amount and height of cover). To be useful indicators of restored habitats, birds exhibit predictable and measurable responses to specific changes in habitat condition. Monitoring birds would provide an additional measure of habitat development to supplement that which is possible through direct sampling of vegetation.

Birds as a group are abundant, largely diurnal, and conspicuous, and they are typically among the taxa monitored as restoration sites develop (Kus and Beck 2003). Attempts to compare bird communities through simple measures such as species richness often fail to consider community composition and thus risk producing erroneous or misleading conclusions regarding community similarity. The target of restoration may be a single species, such as endangered birds like the least Bell's vireo *(Vireo bellii pusillus)* (Kus 1998; Kus and Beck 2003). In other instances, restoration takes a broader focus and is used to re-establish riparian bird communities in general (Anderson et al. 1989, Hunter et al. 1989, Rigney et al. 1989). Even when not the specific focus of restoration, birds provide a useful means for evaluating restoration site performance and similarity to natural habitat. Many investigators have suggested that birds provide excellent indicators of ecological integrity and as such may be ideal study organisms for monitoring that aims to maintain or restore ecosystems (Carigan & Villard 2002). Birds make good indicators primarily because they have been shown to respond to changes in the environment over multiple spatial scales (Temple & Wiens 1989). From a practical perspective, they are well suited for monitoring because (1) they announce their presence vocally making them relatively easy to detect and identify; (2) they can be surveyed efficiently (i.e.,

cost effectively) over very large areas; (3) demographic parameters underlying population trends can be assessed directly; and (4) researchers using landbird monitoring protocols benefit from the existence of standardized programs and guidelines that aid in repeatability and interpretation of results.

Therefore, monitoring of the restored riparian habitat will follow Kus and Beck (2003) [*An Approach for Monitoring Bird Communities to Assess Development of Restored Riparian Habitat*] using a guild approach—grouping species by habitat preference, habitat structure association, and foraging mode—to evaluate riparian restoration in a similar manner. Kus and Beck (2003) divided species into habitat and foraging guilds and compare guild composition and abundance in a restored habitat to those in a natural reference habitat. The emphasis in the analysis is not the degree of similarity between the restored and reference bird communities, but rather on the magnitude of change exhibited by guilds during years of vegetation growth at the restoration site, which they hypothesized was indicative of a response to that growth.

Analyzing bird communities by guilds is a useful approach for comparing bird use of restored and reference sites (Kus and Beck 2003). First, it allows reduction of the large number of species using the sites to a more tractable number of subdivisions, and avoids the pitfalls of comparing large communities with broadly different composition (Kus and Beck 2003). It also avoids multiple single-species comparisons and the associated problem of how to weight and synthesize results into a coherent conclusion (Kus and Beck 2003). Aggregating species into guilds produced sample sizes adequate for analysis where such are often lacking for individual species. Most important, the guild approach allows assessing the response to habitat change of species sharing an association with particular habitat features of interest; in this case, development of foliage cover and canopy architecture typical of natural riparian habitat.

Bird guild surveys in the Proposed Project area will be conducted annually through the monitoring period during the nesting season. A detailed bird guild monitoring plan, that will compared to reference sites found and agreed upon with resources agencies, will be further developed in PED in coordination with relevant agencies and research organizations.

3.4.5 Southwestern Pond Turtle

Southwestern pond turtle will be surveyed watershed wide for the 2 years in PED. Pond turtle within the project boundary will be removed to a location designated by CDFW and USGS WERC/SDFS during the entire construction phase. The AHMP team will make the determination of when and where pond turtles will be translocated back into the restored Aliso Creek Ecosystem. Invasive fish, amphibians, and reptiles within the watershed will be discussed and the breadth of surveys and eradication will be determined with the AHMP team.

3.4.6 Least Bell's vireo surveys

Presence/absence surveys, nest monitoring, and color banding for least Bell's vireo (LBVI) will be conducted annually during the nesting season each year beginning Year 3 of monitoring for Phase I restoration, when the restored habitat is expected to have enough structure to support nesting. Vegetation monitoring of the nest location will also be accomplished. The use of any particular habitat by an endangered species such as the LBVI cannot be guaranteed. However, the restored habitat is expected to be able to support LBVI once appropriate habitat structure is achieved. Successful habitat restoration can be achieved if the habitat structural conditions meet the suitability criteria developed by USGS (*Use of Restored Riparian Habitat by the Endangered Least Bell's Vireo* Barbara Kus) for LBVI riparian habitat creation and restoration, or if LBVI begin to utilize any part of the created habitat.

3.4.7 General wildlife surveys

Inventories of general wildlife (native and non-native) would be documented during the annual vegetation monitoring. Monitoring of wildlife would indicate if target habitats are less suitable due to

presence of undesirable species such as non-native wildlife and nuisance mammals, which may inhibit use and occupation by native species or may impact habitat suitability for native species. Results of this monitoring would identify if adaptive management actions related to these wildlife species are required.

3.5 Photo-Documentation

The restoration effort will be qualitatively documented using photographic monitoring and general observations. Several permanent viewpoints for photo-documentation will be established in each of the different restoration phases for monitoring of geomorphologic and vegetation parameters. Photos shall be taken each monitoring period from the same vantage point and in the same direction, and shall reflect information discussed in the monitoring report. These photos will be included in each annual report. Photo points will be mapped in GIS for consistency over the multi-year monitoring period.

3.6 Assessment Phase

The assessment phase of the adaptive management framework describes the process by which the results of the monitoring efforts will be compared to the Proposed Project performance measures or objectives of the restoration action. This assessment process will measure the progress of the Project in relation to the stated Project objectives.

The results of the monitoring program will be assessed annually through the Management Team. The Management Team will compare monitoring results to decision-making triggers to evaluate Project effectiveness and consider if adaptive management actions are needed. The assessments will indicate if the habitat responses to management actions are undesirable (e.g., are moving away from restoration goals) or if the responses have met the success criteria for the Project, as finally determined by the Corps. Assessments will also inform the Management Team if other factors are influencing the response that may warrant further research.

3.7 Database Management

The Corps will be responsible for storage of all data. Data analysis and reporting will be the responsibility of the Corps, which will provide reports for the Management Team to facilitate evaluation of adaptive management needs.

3.8 Annual Reports

The Corps will be responsible for documenting restoration progress in an annual report. The Corps will produce annual reports that measure progress towards meeting Proposed Project objectives as characterized by the performance measures. Reports filed at the end of each year will include a summary and analysis of monitoring data, an evaluation of restoration progress relative to performance standards, assessments, and the results of the Management Team deliberations. Annual reports will be prepared and distributed to the members of the Management Team for a period of five years beginning approximately one year after completion of construction for each phase.

These reports will include:

- A list of names, titles, and companies of all persons who prepared the content of the annual report and participated in monitoring activities for that year;
- An analysis of all qualitative and quantitative monitoring data;
- Copies of monitoring photographs;
- Maps identifying monitoring areas, planting zones, etc., as appropriate; and

- Beginning in Year 3, if the site has not met its performance standards at the end of the annual maintenance and monitoring period, the Project Ecologist will meet with the Management Team to recommend adaptive management measures. Each annual report will contain a section that addresses remedial actions that should be taken in order to meet the Proposed Project objectives. If followed, these recommended contingency measures will ensure that the restoration project is successful.

4.0 PERFORMANCE MEASURES

Project objectives are described in Section 3.0. Results of the monitoring program will inform whether successful restoration has been achieved, as compared to decision criteria.

- As stated above, upon completion of each phase of construction of the Proposed Project, cost-shared monitoring for ecological success and adaptive habitat management would be initiated and continue for five (5) years or until restoration success is achieved. In particular, promote in-stream connectivity (longitudinal, lateral, and vertical) to facilitate the reproductive viability of aquatic species.
- Improve the hydrologic and hydraulic regime to increase floodplain function and channel stability for the Aliso Creek system within the Aliso and Woods Canyon Wilderness Park throughout the period of analysis.

Geomorphologic/Hydrologic Monitoring

Geomorphic/hydrologic monitoring would be used to assess the Creek's response to restoration measures designed to increase floodplain function and channel stability, thereby promoting in-stream connectivity to the floodplain. Restoration success would be measured by whether the pool/riffle structures raise the bed level elevation and keep the creek channel in an equilibrium state free of excessive degradation including scour or head-cutting and aggradation. Increases in in-stream connectivity will facilitate the reproductive viability of aquatic species. Successful establishment of gravel and cobble substrates, the development of structural diversity and refugia, and in-channel geomorphic diversity are indicators of successful stream restoration, providing a solid foundation for native vegetation and the wildlife it supports.

Vegetation Monitoring

Vegetation would be monitored to assess improvements in habitat ecosystem function and structure, including the mosaic and heterogeneity of vegetation types.

Vegetation would be monitored annually beginning the first full year after plant establishment for five (5) years or less if success criteria are met sooner than 5 years.

Restoration will be considered successful, when the restoration areas are well established, and invasive weeds have been eradicated. The restoration areas will be monitored both qualitatively and quantitatively for five (5) years following completion of construction to analyze f trends and changes in cover of the most common tree, shrub, and herbaceous species and determine whether the restoration areas are approaching characteristics of mature vegetation.

Restoration sites also are expected to sustain themselves for a minimum of two years in the absence of significant maintenance measures (i.e., irrigation) prior to completion of the five-year monitoring period. By satisfying these performance measures, the restoration areas indicate that they are establishing themselves as self-sustaining habitat that is equivalent in form, function, and value to the natural, undisturbed reference sites.

Bird and Wildlife Monitoring

As noted, vegetation would be monitored to assess improvements in habitat ecosystem function and structure, including the mosaic and heterogeneity of vegetation types. Improved habitat function and structure should increase both plant and animal biodiversity in the mainstem and tributary confluences. Inventories of general wildlife (native and non-native) would be documented during the annual vegetation monitoring. Monitoring for bird species richness (diversity) would also be performed as indicated above.

Bird and general wildlife surveys provide supplemental information on restoration success and would indicate whether target habitats and connectivity have been successfully restored. Results of monitoring would indicate whether habitat components necessary to provide connectivity and support increased wildlife movement have been successfully established.

If vegetation has met requirements in terms of cover and structure based on progress toward habitat maturation and regeneration, but common obligate wildlife or bird use has not improved, then additional studies may be warranted to understand if habitat is lacking critical elements and functions to support species use and movement. Presence of riverine obligate and facultative species that use the habitat for all or a portion of their life requirements is an indicator of successful habitat establishment, as well as the successful establishment of a functional, self-sustaining ecosystem.

Results of monitoring would indicate whether habitat components necessary to provide connectivity and support increased wildlife movement have been successfully established.

5.0 DECISION CRITERIA

Decision criteria, also referred to as adaptive management triggers, are used to determine if and when adaptive management opportunities should be implemented. Initial decision criteria are identified below, based on Project objectives and performance measures. More specific decision criteria, based on other parameters such as hydrology, geomorphology, and vegetation dynamics will be developed during PED phase of the project.

If assessments show that any or all of these triggers are met, investigations may be required to determine the cause of failure and adaptive management actions may be recommended.

Trigger: Monitoring of geomorphology/hydrology indicates that uniform channel form (i.e., lack of riffle-pool-run complexes, consistent depth) rather than geomorphic diversity has established or that equilibrium is not attained, as compared to the channel form of reference sites.

Channel geomorphologic/hydrologic condition is subject to the dynamism present in any natural system. If channel conditions indicate that appropriate variation in channel form is not occurring, or if monitoring shows severe degradation that indicates the creek is not attaining equilibrium, adaptive management actions may be implemented to address problematic conditions and achieve project objectives.

Trigger: Monitoring data indicate vegetative cover is not approaching characteristics of mature vegetation.

Riverine habitats may not achieve the appropriate structural conditions due to unfavorable geomorphic conditions. Such conditions may include increased distance to groundwater, sedimentation, new channel incision, or sediment scour. These conditions may be created naturally, such as during storm events, or may be the consequence of design. Lack of water due to drought may affect the establishment and persistence of vegetation, and subsequently the percent cover. Plantings may fail due to predation or trampling. Not all of these conditions are evidence of site failure, and may be representative of the dynamism of the system for which no adaptive actions are required.

Trigger: Habitat monitoring indicates increasing non-native and nuisance wildlife with no change or decrease in use by common native obligates and/or special status species.

Invasive infestation may occur due to upstream inputs of seed/source material. It is expected that invasive species will be adequately controlled through O&M procedures. However, if invasive infestation control is found to be ineffective, the Corps may recommend adjustments to invasive control methods utilized under O&M. Adaptive management actions may be implemented to address problematic conditions in order to achieve project objectives.

6.0 POTENTIAL ADAPTIVE MANAGEMENT MEASURES

The results of monitoring would be used by the Management Team to evaluate project status and adaptive management needs. Some potential adaptive management actions for this Proposed Project are described below. Prior to implementing adaptive management measures, the Corps and County shall assess whether supplemental environmental analysis is required.

Irrigation/Supplemental Water: Irrigation and/or supplemental water may be needed if triggers for vegetative cover are met. Assessment of monitoring results may show that drought conditions are causing poor establishment or die off of planted vegetation. Adaptive management actions would include supplemental water to support native plant establishment and successful restoration of riverine habitats.

Replanting: Additional planting of habitat may be required if triggers for vegetative cover are met. Monitoring results would be reviewed to identify source of underlying cause of inadequate cover, which may require that additional adaptive management actions be implemented. Monitoring results may indicate that drought conditions are causing poor establishment or die off of planted vegetation. Trampling or other factors may also trigger action.

Plant Protection: Plant protection may be needed if triggers for vegetative cover are met. Monitoring results may show that plantings are failing due to predation or trampling from recreational use, homeless encampments, or nuisance species. Adaptive management actions would include measures such as plant cages or protective fencing that could be installed to protect plantings.

Invasive Species Control: It is expected that invasive species will be adequately controlled through O&M procedures. However, if monitoring results show that triggers for invasive species are met, the Corps may recommend adjustments to invasive control methods under O&M.

Vegetation Management: It is expected that the vegetation communities will respond to the dynamic system and develop with a diversity of structure and age classes. If monitoring suggests that the restored habitat is exhibiting unhealthy structure or monotypic age class characteristics, vegetation management such as thinning or removal of specific classes of vegetation may be implemented

Re-grading: Re-grading of the creek invert may be needed if triggers for geomorphology are met. Monitoring results may determine that sedimentation, creek scour, or new channel incision or erosion have impacted the successful establishment of habitats or has prevented establishment of in-channel diversity. Adaptive management actions would include re-grading to support the appropriate geomorphic conditions for successful establishment of habitat.

Non-native/Nuisance Wildlife Control: Nuisance wildlife control may be needed if triggers for wildlife use are met. Monitoring results may indicate that nuisance wildlife, such as feral mammals and mesopredators are impacting habitat suitability and resource availability for native species. Such impacts may include competition for prey items or foraging opportunities. Adaptive management actions may include control of such nuisance species to improve opportunities for use of and movement through the target habitats.

It is assumed that wildlife control would not be required as part of O&M. If monitoring and implementation of adaptive management shows that wildlife control would be required to meet ecological success criteria beyond the monitoring period, adjustments to O&M may be made to require recurring wildlife control based on appropriate triggers informed by monitoring results.

7.0 CONCLUSION OF MONITORING

Ecological success of a project feature will be confirmed when desired outcomes have been achieved, measured by meeting or exceeding the performance measures identified in Section 4.

Once ecological success has been documented by the District Engineer in consultation with the Federal and State resources agencies, and a determination has been made by the Division Commander that ecological success has been achieved, no further monitoring will be required. Ecological success will be documented through an evaluation of the predicted outcomes as measured against the actual results.

8.0 COSTS FOR MONITORING AND ADAPTIVE HABITAT MANAGEMENT PROGRAMS

The costs associated with implementing the AHMP were estimated based on current available data, methods proposed, and comparable projects. The potential adaptive management actions as described and potential expected frequency of need were used as a basis for estimating the AHMP cost. Because uncertainties remain as to detailed designs and adaptive management needs and opportunities, the costs estimated in will be refined in PED during the development of the detailed monitoring and adaptive management plans for each project phase/feature.

8.1 Costs for Implementation of Monitoring Program

Cost calculations for monitoring are displayed as a five-year total. .

The current total estimate for implementing the monitoring plan is approximately $1,258,900 for the Tentatively Selected Plan.

8.2 Costs for Implementation of Adaptive Management Program

Costs for the adaptive management program were based on estimated level of effort and potential frequency of need, and include participation in the Management Team and reporting. These costs do not include costs incurred by any of the other agencies for its participation in the Management Team. The current total estimate for implementing the adaptive management program is approximately $1,285,000 for the Tentatively Selected Plan.

8.3 Total Costs for Monitoring and Adaptive Management

The Proposed Project construction would take place over four (4) phases. Phase 0, Pacific Park Drive to AWMA Road Bridge would be restored at the same time Phase 1 is being restored at the furthest downstream reaches of the Proposed Project area. The physical component of the restoration will focus on widening, terracing, and developing pool and riffle structures in the Creek to reestablish the ground water connection upon which riparian habitat depends. Planting of native species would commence once these construction activities are complete, with the establishment phase or first full growing season after implementation considered the completion of construction for that phase.

These costs take into consideration the phasing of the actual construction effort. For earlier years, when not all phases have been constructed, the monitoring effort would be limited to only constructed phases. Similarly, vegetation monitoring will not end until the 9th year, i.e., the 5th monitoring year after the completion of construction of Phase 4. The least Bell's vireo monitoring is dependent on the number of vireos that nest is each constructed phase.

Table 8.3-1 Preliminary Cost Estimates For Monitoring and Adaptive Management

	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year	9th year
MONITORING									
Geomorphology Monitoring	$5,000	$10,000	$15,000	$20,000	$25,000	$15,000	$15,000	$15,000	$15,000
Hydrologic Monitoring	$8,700	$17,500	$26,200	$34,900	$43,600	$30,000	$30,000	$30,000	$30,000
Vegetation Monitoring	$10,000	$20,000	$30,000	$40,000	$50,000	$60,000	$20,000	$20,000	$20,000
Bird Guild Monitoring	$12,000	$24,000	$36,000	$47,000	$59,000	$35,000	$35,000	$20,000	$20,000
Wildlife Surveys	$25,000	$40,000	$50,000	$60,000	$70,000	$30,000	$20,000	$10,000	$10,000
Subtotal	$60,700	$111,500	$157,200	$201,900	$247,600	$170,000	$120,000	$95,000	$95,000
Adaptive Management									
Least Bell's Vireo Population Monitoring (population surveys and nest monitoring of 45% of nesting birds)	$0	$0	$50,500	$60,700	$80,800	$90,500	$100,000	$110,000	$110,000
Southwestern Pond Turtle Monitoring	$0	$0	$75,000	$50,000	$50,000	$40,000	$30,000	$20,000	$20,000
Annual Reports	$10,000	$20,000	$30,000	$40,000	$50,000	$15,000	$15,000	$15,000	$15,000
AHMP Management Team	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
AHM Measures	$50,000	$50,000	$75,000	$100,000	$125,000	$100,000	$75,000	$75,000	$50,000
Subtotal	$70,000	$80,000	$190,000	$200,000	$235,000	$165,000	$130,000	$120,000	$95,000
Total	*$130,700*	*$191,500*	*$347,200*	*$401,900*	*$482,600*	*$335,000*	*$250,000*	*$215,000*	*$190,000*

9.0 Close-Out Plan

Monitoring will be continued until ecological success for all Proposed Project phases is determined. Once ecological success has been documented by the District Engineer in consultation with the Federal and State resources agencies, and a determination has been made by the Division Commander that ecological success has been achieved (may be less than ten years), no further monitoring will be required. Ecological success will be documented through an evaluation of the predicted outcomes as measured against the actual results.

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APPENDIX B-9: Greenhouse Gases

ALISO CREEK MAINSTEM
ECOSYSTEM RESTORATION STUDY
Orange County, California

September 2017

US Army Corps
of Engineers

Orange County Public Works
Environmental Resources
Department

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Corps Policy on Climate Change

It is the policy of the Corps to integrate climate change adaptation planning and actions into its missions, operations, programs, and projects. The Corps shall continue undertaking its climate change adaptation planning and shall implement the results of that planning using the best available – and actionable – climate science and climate change information. The Corps shall consider potential climate change impacts when undertaking long-term planning, setting priorities, and making decisions affecting its resources, programs, policies, and operations. These actions are fully compatible with the guiding principles and framework of the U.S. Federal Interagency Climate Change Adaptation Task Force and the Implementing Instructions for Federal Agency Climate Change Adaptation issued on 4 March 2011 jointly by the Executive Office of the President's Council on Environmental Quality / Office of the Federal Environmental Executive (CEQ/OFEE) and the Office of Management and Budget.

It is the policy of the Corps that mitigation and adaptation investments and responses to climate change shall be considered together to avoid situations where near-term mitigation measures might be implemented that would be overcome by longer-term climate impacts requiring adaptation, or where a short-term mitigation action would preclude a longer-term adaptation action.

The successful implementation of this Corps' adaptation policy will help enhance the resilience of the built and natural water-resource infrastructure the Corps manages and reduce its potential vulnerabilities to the effects of climate change and variability. This success will allow the Corps to continue fulfilling its missions using Integrated Water Resource Management to safeguard the Nation's tremendous investment in the built and natural water-resource infrastructure by mainstreaming climate change adaptation in all Corps activities. The Corps Climate Change Adaptation Steering Committee oversees and coordinates agency-wide climate change adaptation planning and implementation.

The Proposed Project would be consistent with the policy with the restoration of native habitats that are adaptable to the potential changing climate scenario as native species are more adaptable than non-native species. An Adaptive Habitat Management Plan would establish means to review the changing climate impacts on the Proposed Project allowing for future adjustments to sustain and/or modify the ecosystem.

International and Federal Regulations and Directives

In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change (IPCC) to assess "the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation."

The IPCC constructed several emission projections of greenhouse gasses (GHGs) needed to stabilize global temperatures and climate change impacts. The IPCC predicted that the range of global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.4 to

5.8º Celsius (C). Regardless of analytical methodology, global average temperature and mean sea level are expected to rise under all scenarios.

Global Warming Potentials and Atmospheric Lifetimes of Select Greenhouse Gases		
Gas	**Atmospheric Lifetime (Years)**	**Global Warming Potential (100 Year Time Horizon)**
Carbon Dioxide	50 – 200	1
Methane	12 ± 3	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetraflouromethane (CF_4)	50,000	6,500
PFC: Hexafluoroethane (C_2F_6)	10,000	9,200
Sulfur Hexafluoride (SF_6)	3,200	23,900

Source: EPA, 2006.

On March 21, 1994, the United States joined other countries around the world in signing the United Nations Framework Convention on Climate Change (UNFCCC). Under the Convention, governments gather and share information on Greenhouse Gas (GHG) emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

The Kyoto Protocol is a treaty made under the UNFCCC. Countries can sign the treaty to demonstrate their commitment to reduce their emissions of GHGs or engage in emissions trading. More than 160 countries, accounting for 55 percent of global emissions, are under the protocol. Former United States Vice President Al Gore symbolically signed the Protocol in 1998. However, in order for the Protocol to be formally ratified, it must be adopted by the U.S. Senate, which has not been done to date.

The EPA found that greenhouse gases (GHG) taken in combination endanger both the public health and the public welfare of current and future generations (EPA, 2006). The EPA also found that the combined emissions of these GHGs from new motor vehicle engines contribute to air pollution that endangers public health and welfare (Section 202(a) of the Clean Air Act).

On September 22, 2009, the EPA released the "Final Mandatory Reporting of Greenhouse Gases Rule," which requires all sources from certain sectors, such as fuel suppliers, as well as large industrial sources emitting over 25,000 metric tons carbon dioxide equivalent (MTCO2e) to report their annual emissions to EPA (EPA 2009a). In order to regulate GHGs under the CAA, the EPA must finalize their proposed endangerment finding, published on April 17, 2009 (EPA 2009b). The proposed finding does not include any proposed regulations, and before taking any steps to reduce GHGs under the CAA, EPA would conduct an appropriate process and consider stakeholder input.

In November 2007 and August 2008, the Ninth Circuit U.S. Court of Appeals ruled that a NEPA document must contain a detailed GHG analysis. (*Center for Biological Diversity v. National Highway Safety Administration* 508 F. 3d 508 [2007] was vacated and replaced by *Center for*

Biological Diversity v. National Highway Safety Administration 2008 DJDAR 12954 [August 18, 2008]). Despite the Supreme Court and circuit court rulings, to date there are no promulgated Federal regulations limiting GHG emissions.

On September 30, 2009, EPA released a proposed rule titled "Prevention of Significant Deterioration/Title V Greenhouse Gas Tailoring Rule" (EPA 2009c). The rule would limit greenhouse gases (GHGs) from major industrial sources by setting a threshold of significance of 25,000 MTCO2e for GHGs under the CAA. Also on September 30, 2009, the U.S. Senate released its version of the U.S. House of Representative's American Clean Energy and Security Act (ACESA).

State of California

California began efforts to address GHG issues at a state level in 1988, when the California Energy Commission was directed to develop a statewide inventory of GHG emission sources. The California Climate Action Registry was established in 2000 to allow companies and government agencies to voluntarily record their GHG emissions in a database, in anticipation of possible future regulations that might allow credit for early GHG emission reductions. In 2002, Assembly Bill 1493 directed CARB to develop regulations to reduce GHG emissions from vehicles sold in California. Publish a list of discrete early-action GHG emission reduction measures by June 30, 2007.

CARB has estimated that the 1990 level of GHG emissions in California was 470.7 million tons CO_2e. By comparison, the estimated 2004 level of GHG emissions in California was 529 million tons CO_2e. CARB (2008a) estimated that without implementation of programs to reduce GHG emissions, statewide GHG emissions in 2020 would be about 596 million tons CO_2e. The goals of the California Global Warming Solutions Act of 2006 are to halt the growth in annual GHG emissions and to reduce GHG emissions to the 1990 level by 2020. Achieving the 2020 goal would represent an 11 percent reduction in statewide GHG emissions from 2004 levels and a 21 percent reduction from projected 2020 "business as usual" emission levels. Based on the GHG inventory for 2004 the major sources of GHG emissions in California are presented below.

Greenhouse Gas Emissions by Sector			
SECTOR	**TOTAL EMISSION ($MMTCO_2e$) 2000**	**TOTAL EMISSION ($MMTCO_2e$) 2012**	**Percent Change 2000-2012**
Agriculture	32.5	37.9	16%
Commercial	13.6	22.0	51%
Electricity Generation			
In-State	*59.2*	*51.2*	-14%
Imports	*46.0*	*44.1*	-4%
Forestry (excluding sinks)	0.2		
Industrial	103.3	100.7	-3%
Residential	31.8	31.6	-1%
Transportation	182.4	171.0	-4%

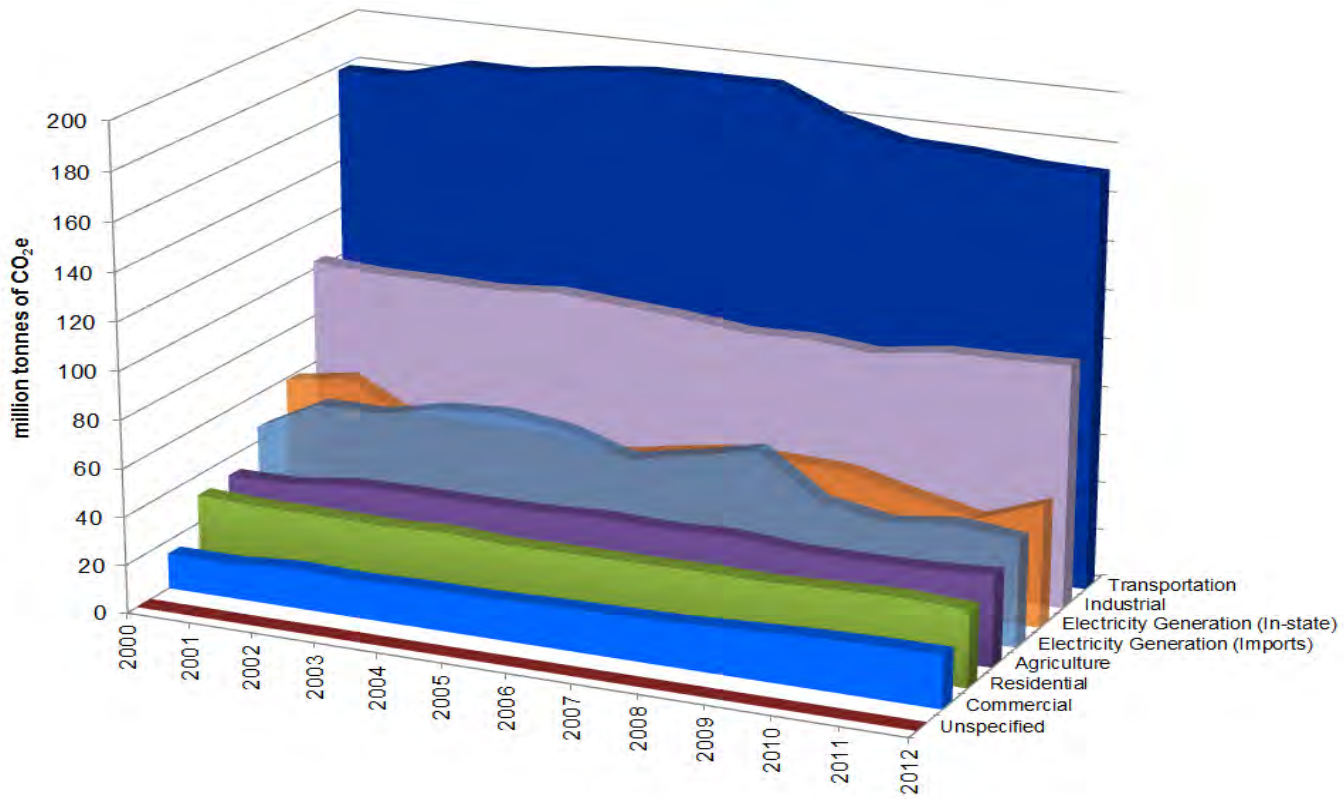
Source: CARB 2014

Global Warming Potentials and Atmospheric Lifetimes of Select Greenhouse Gases		
Gas	**Atmospheric Lifetime (Years)**	**Global Warming Potential (100 Year Time Horizon)**
Carbon Dioxide	50 – 200	1
Methane	12 ± 3	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetraflouromethane (CF4)	50,000	6,500
PFC: Hexafluoroethane (C2F6)	10,000	9,200
Sulfur Hexafluoride (SF6)	3,200	23,900

Source: EPA, 2006.

All greenhouse gases are weighted relative to CO_2 based on the IPCC's 4th Assessment Report. Unspecified includes emissions from evaporative losses, which could not be attributed to an individual sector. The sector emissions may not add up exactly to the above listed gross and net total emissions due to rounding.

Source: CARB 2014



Greenhouse Gas Emission Trends by Economic Sector

In 2007, CARB adopted regulations requiring mandatory reporting of GHG emissions from the following categories of stationary emission sources:

- Cement manufacturing plants.
- Electric generating plants, retail providers, and power marketers.
- Cogeneration facilities.
- Petroleum refineries, hydrogen plants, and combustion from oil and gas production.
- General stationary source fuel combustion.

The GHG reporting requirements establish a *de minimis* threshold of 25,000 metric tons (27,558 tons) per year of CO_2 emissions for industrial facilities other than power generation and cogeneration facilities. The *de minimis* emissions threshold for power generation and cogeneration facilities is 2,500 metric tons (2,756 tons) per year of CO_2. The regulation exempts power generation and cogeneration facilities with a capacity of less than one megawatt, backup and emergency generators, portable equipment, primary and secondary schools, and most hospitals. GHG emissions from vehicle fleets also are excluded from the reporting requirements, but the regulation provides for voluntary reporting of those emissions. Non-exempt facilities with annual CO_2 emissions below the relevant *de minimis* thresholds are not required to report their annual GHG emissions. Depending on type and size of facility, GHG emissions must be reported either annually or every third year.

Currently the EPA does not regulate greenhouse gas pollutants resulting from motor vehicle emissions, those pollutants that could contribute significantly to global warming.

Carbon Dioxide (CO_2) Equivalent is a metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP). Carbon dioxide equivalents are commonly expressed as "million metric tons of carbon dioxide equivalents ($MMTCO_2Eq$)." The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP. The use of carbon equivalents (MMTCE) is declining.

Water Vapor (H_2O) is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant in the atmosphere it maintains a climate necessary for life. As the temperature rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, and soil). Because the air is warmer, the relative humidity can be higher as the 'air' is able to hold more water, leading to more water vapor in the atmosphere. The high concentration of water vapor is then able to absorb more thermal indirect energy radiated from the earth, further warming the atmosphere, holding even more water vapor. This continuous process is referred to as a "positive feedback loop." The extent to which this process will continue is unknown, as other factors keep the process in check , due to the increase in water vapor in the atmosphere, more of it would eventually condense into clouds, reflecting incoming solar radiation, allowing less energy to reach the earth's surface and heat it up.

The main source (85%) of water vapor is evaporation from the oceans. Other major sources include change from sea ice and snow to water vapor and transpiration from plant leaves.

Carbon Dioxide is an odorless, colorless natural greenhouse gas. CO_2 is emitted from natural and human sources. Natural sources include decomposition of dead organic matter, respiration

of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Human sources include: burning coal, natural gas, and wood. Prior to the industrial revolution, concentrations were considered to be fairly stable at 280 ppm. This number has since increased to approximately 370 ppm, an increase of over 30%. The prediction is for CO_2 to increase to 540 ppm by 2100 as a direct result of human sources. It is predicted this may result in the average global temperature increase of at least 2 degrees Celsius. CO_2 is removed from the atmosphere by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks.

Methane (CH_4) is an extremely effective absorber of radiation, though its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10-12 years), compared to other GHG.

CH_4 has natural and human sources. It is released as part of the biological process in low oxygen environments, such as swamplands or in rice production (at the roots). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, fossil-fuel combustion, biomass burning, and mining coal have added to the atmospheric concentration of CH_4 (EPA 2006).

Nitrous Oxide N_2O) is also known as laughing gas, a colorless greenhouse gas. N_2O is produced by microbial process in soil and water, including in fertilizers which contain nitrogen. In addition to fossil-fuel powered plants, nylon production, nitric acid production, and vehicle emissions also contribute to the atmospheric load. It is used as an aerosol spray propellant, potato chip bags to keep the chips fresh, race cars, and rocket engines. N_2O can be transported into the atmosphere, deposited on the earth's surface, and be converted into other compounds.

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CHCs are non-toxic, non-flammable, insoluble, and chemically un-reactive in the atmosphere. CFCs have no natural source, were first synthesized in 1928 and used for refrigerants, aerosol propellants, and cleaning solvents. Although production is declining due to the discovery that they are able to destroy the atmosphere, their long atmospheric lifespan means some CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons (HFCs) are synthetic man-made chemicals that are used as a substitute for CFCs. Of all the GHGs, they are considered one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundance are HFC-23 (CHF_3), HFC-123a (CF_3CH_4F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use as a refrigerant is increasing. Concentrations of HFC-23 and HFC-134a are currently about 10 parts per trillion (ppt) each, with HFC-152a about 1 ppt (EPA 2006). The most common use of HFCs is automobile air conditioners and refrigerants.

Perfluorocarbons PFCs) have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above the earth's surface are able to destroy the compounds. PFCs have very long life-spans because of this, of between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane

(CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt (EPA 2006). The two main sources are aluminum production and semiconductor manufacture.

Sulfur Hexfluoride (SF_6) is an inorganic odorless, colorless non-flammable gas. It has the highest global warming potential of any gas currently evaluated. Concentrations in the 1990's were about 4 ppt (EPA 2006). SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a trace gas for leak detection.

Aerosols are particles emitted into the air through burning of biomass (plant material) and fossil-fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel containing sulfur is burned. Another source is the incomplete combustion or the incomplete burning of fossil-fuels, resulting in black carbon or soot. Although aerosol concentrations have been lowering in the United States, concentrations are rising as a result of other sources around the world.

Climate change is driven by "forcings" and "feedbacks." A feedback is "an internal climate process that amplifies or dampens the climate response to a specific forcing." Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. The global warming potential (GWP) is the potential of a gas or aerosol to trap heat in the atmosphere; it is the "cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas." Individual GHG species have varying GWP and atmospheric lifetimes. The carbon dioxide equivalent (CO_2e) -- the mass emissions of an individual GHG multiplied by its GWP -- is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent metric. The reference gas for GWP is CO_2 therefore CO_2 has a GWP of 1. Compared to methane's GWP of 21, methane has a greater global warming effect than CO_2 on a molecule-per-molecule basis.

Global Warming Potentials and Atmospheric Lifetimes of Select Greenhouse Gases

	Atmospheric Lifetime (Years)	Global Warming Potential (100 Year Time Horizon)
Carbon Dioxide	50 - 200	1
Methane	12 $\pm$ 3	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetraflouromethane (CF_4)	50,000	6,500
PFC: Hexafluoroethane (C_2F_6)	10,000	9,200
Sulfur Hexafluoride (SF_6)	3,200	23,900

Source: EPA, 2006.

According to a white paper on GHG emissions and GCC prepared by the Association of Environmental Professionals (AEP), total worldwide GHG emissions in 2004 were estimated to

be 20,135 teragrams (Tg)[1] CO_2e, excluding emissions/removals from land use, land use change, and forestry (AEP 2007). In 2004, GHG emissions in the U.S. were 7,074.4 Tg CO_2e. California is a substantial contributor of GHG, as it is the second largest contributor in the U.S. and the sixteenth largest in the world (as compared to other nations). In 2004, California produced 494 Tg CO_2e which is approximately seven percent of U.S. emissions.

[1] One teragram (Tg) is equal to one million metric tons or approximately 2,204,600,000 pounds (lbs).