Appendix D

Biological Technical Report

D-1 GATEWAY AVIATION CENTER PROJECT

BIOLOGICAL TECHNICAL REPORT



Riverside County, California

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1 INTRODUCTION

Meridian Park, LLC proposes to construct a gateway air freight cargo center, the Meridian D-1 Gateway Aviation Center Project (project), within the March Joint Powers Authority (JPA) jurisdiction in unincorporated Riverside County, California (Figure 1). The project site is located in the southeastern portion of the March Air Reserve Base (MARB) and March JPA planning area, west of Heacock Street, and southwest of the intersection of Heacock Street and Krameria Avenue, in unincorporated Riverside County, California. Interstate 215 (I-215) is located approximately one mile west of the project site (Figure 1). The project site is located within portions of two parcels, designated as Assessor's Parcel Numbers (APNs) 294-170-010 and 294-170-006, as well as right-of-way within Heacock Street (no APN). The project site is located within Township 3 South, Range 4 West, Section 25 within the Riverside East 7.5-minute quadrangle, as mapped by the U.S. Geological Survey (USGS; USGS 2020a, USGS 2020b).

The project site encompasses a relatively flat approximately 46-acre area (Figure 1). The project site primarily supports non-native grassland vegetation. Surrounding land uses include industrial and commercial development, residential development, and military development.

This Biological Technical Report (BTR) describes the existing biological resources within and adjacent to the proposed project footprint; details the methods used to assess existing conditions and potential impacts on sensitive habitats and species; and presents potential avoidance, minimization, and mitigation measures to reduce potential project impacts.

1.1 SITE BACKGROUND AND PLANNING CONTEXT

The project was part of the larger 'Disposal and Reuse of March Air Force Base' and occurs within the 'southeast planning subarea' identified for future development under that process. Reuse of the entire base was planned under the *March AFB Master Reuse Plan*, and that document served as the basis for the *March Joint Powers Authority (JPA) General Plan* (March JPA 1999a). Environmental review of the general plan was performed in 1999 under the *Master Environmental Impact Report for the General Plan of the March Joint Powers Authority* (March JPA 1999b; SCH No. 97071095).

As part of that process, a Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) was pursued for Stephens' kangaroo rat (*Dipodomys stephensi*), least Bell's vireo (*Vireo bellii pusillus*), mountain plover (*Charadrius montanus*), coastal California gnatcatcher (*Polioptila californica californica*), Quino checkerspot butterfly (*Euphydryas editha quino*), southwestern willow flycatcher (*Empidonax traillii extimus*), and Riverside fairy shrimp (*Streptocephalus woottoni*).

The project also occurs within the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) area (Dudek & Associates, Inc. 2003). The MSHCP is a regional effort to preserve sensitive habitats and species, and to ensure that all development in the region permitted through the County of Riverside complies with the MSHCP. The goal of such regional biological planning efforts is to preserve sufficient native habitats such that special-status species are also conserved. Though the March JPA is an independent agency and therefore not covered under the MSHCP,

project mitigation will be pursued in a manner consistent with the MSHCP, further off-setting potential minor impacts on special-status species that could occur with project implementation.

1.2 PROJECT DESCRIPTION

The proposed project would occur on approximately 46 acres and would include the development of two components: the Air Cargo Center Component and the Off-Site Component. The Air Cargo Center Component would be constructed on approximately 34 acres and would involve development of a gateway air freight cargo center, as well as work in the public right-of-way within Heacock Street. The Off-Site Component would be constructed on approximately 12 acres and would include taxiway construction, widening, and realignment, storm-drain extensions, and an access roadway construction within March Air Reserve Base (March ARB).

The Air Cargo Center Component of the project would include development of a gateway air cargo center, including the construction of an approximately 180,800-square-foot cargo building with 9 grade-level loading doors, 31 truck dock positions, and 37 trailer storage positions. The cargo building would contain approximately 9,000 square feet of office space. In addition to the proposed cargo building, the project would include construction of a tarmac and parking apron, allowing for aircraft to access four proposed aircraft parking gates along the northern side of the cargo building. This would include construction of a new taxilane (Taxilane J) that would provide aircraft access to the existing Taxiway A within March ARB. The project would also include an expansion of Taxiway G and construction of a parking apron adjacent to the western boundary of the cargo building, within March JPA land use jurisdiction. This would allow for aircraft to access three proposed aircraft parking gates along the western side of the cargo building. The proposed tarmac expansion, Taxilane J, and parking aprons would be sized to accommodate commercial cargo airplanes and would be paved to meet Federal Aviation Administration (FAA) standards. The parking aprons would connect with the existing Taxiways A and G, which would be used by aircraft to access the March Inland Port Airport runway.

The Off-Site Component of the project would include construction of project features on land owned by March ARB. Development occurring on March ARB would require easements from the U.S. Air Force within five work areas, identified as Work Areas 1 through 5.

Development and construction activity within the work areas would consist of the following:

- Work Area 1: Construction of a 50-foot-wide perimeter patrol road running along the northern and northwestern boundaries of the project site that would connect with the existing patrol roads on the eastern and western ends of the constructed patrol road; replacement of an existing chain-link fence with a security fence.
- Work Area 2: Construction of a headwall and inlet apron for a storm drain culvert; extension of a dual 36-inch-diameter storm drain backbone via jack and bore under Taxiway A to replace the existing silt-filled culvert; connection of the culvert to the storm drain extension.

- Work Area 3: Reconfiguration of the Taxiway A to Taxilane J transition to allow for aircraft access to the proposed cargo building. Portions of Taxiway A would be demolished and reconstructed to allow for the taxiway to connect with the proposed Taxilane J within the project site.
- Work Area 4: Removal of an existing inverted culvert apron outlet; cleaning of the existing 36-inch-diameter culvert; extension of the existing single 36-inch-diameter storm drain under Taxiway A via jack and bore to connect to the culvert.
- Work Area 5: Reconstruction and realignment of the intersection of Taxiway A and Taxiway G. This would result in a widened entryway for aircraft to turn from Taxiway A to Taxiway G, and to accommodate aircraft access to the aircraft parking stations along the western boundary of the cargo building.

An access and construction easement from the U.S. Air Force would be required to complete the proposed work within Work Areas 1 through 5. A permanent maintenance access easement from the U.S. Air Force would be required for Work Areas 2 through 5. A permanent operations easement from the U.S. Air Force would be required for Work Areas 3 and 5. Because the project would require construction and alteration of the March ARB taxiways, the project applicant is required to submit FAA Form 7406-1 – Notice of Proposed Construction or Alteration.

Once constructed, the project is anticipated to average 17 flights per day. Flights would occur 6 days a week. Generally, inbound flights would occur in the early morning hours, and outbound flights would occur in the late evening hours. Inbound flights would approach from the west over non-residential land uses. During the holiday season (i.e., late November through late December), increased flight operations would be anticipated (estimated to result in an additional 256 flights over a 4-week period); however, the maximum annual flight operations would not exceed the currently available civilian air cargo operations capacity under the Joint Use Agreement. Flight operations would occur between the hours of 7 a.m. and 11 p.m.

The following approvals would be required for the proposed project:

- Zoning Designation: The project site has not previously been given a zoning designation; therefore, to be consistent with the current General Plan land use designations of Aviation (AV), the project is requesting a zoning designation of Aviation (AV) for the project site.
- Parcel Map: A parcel map is requested to divide the project site into two parcels: a Development Area and a Deed-Restricted Area. The Deed-Restricted Area will include the portion of Site 7 located on the project site.
- Plot Plan: Concurrent with the requested Zoning Amendment, a Plot Plan Application would be submitted to allow construction of the following within March JPA jurisdiction:
- An approximately 180,800-square-foot cargo building with 9 grade-level loading doors and 31 dock positions, a parking apron sufficient to support commercial cargo airplanes, 37 trailer storage positions, and 122 stalls for employee parking.
- An expansion of the existing taxiway/tarmac.
- Construction of stormwater facilities, including an underground detention basin.
- Removal of the existing security fence and construction of a new security fence.

- Expansion of the existing access roadway and a signalized entrance onto Heacock Street.

1.3 REGULATORY FRAMEWORK

Federal, state, and local agencies have established several regulations to protect and conserve biological resources. The descriptions below provide a brief overview of agency regulations that may be applicable to the project. The regulating agencies make the final determination as to what types of permits are required.

1.3.1 FEDERAL REGULATIONS

Federal Endangered Species Act

The federal Endangered Species Act of 1973 (ESA; 16 U.S Code § 1531 et seq.), as amended, provides for listing of endangered and threatened species of plants and animals and designation of critical habitat for listed species. The ESA regulates the "take" of any endangered fish or wildlife species, per Section 9. As development is proposed, the responsible agency or individual landowner is required to consult with the USFWS to assess potential impacts on listed species (including plants) or their critical habitat, pursuant to Sections 7 and 10 of the ESA. USFWS is required to make a determination as to the extent of impact a project would have on a particular species. If it is determined that potential impacts on a species would likely occur, measures to avoid or reduce such impacts must be identified. USFWS may issue an incidental take statement, following consultation and the issuance of a Biological Opinion. This allows for take of the species that is incidental to another authorized activity, provided that the action will not adversely affect the existence of the species. Section 10 of the ESA provides for issuance of incidental take permits to non-federal parties with the development of a habitat conservation plan (HCP); Section 7 provides for permitting of federal projects.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA; 16 U.S. Code § 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and listed at 50 Code of Federal Regulations (CFR) 10.13. The USFWS enforces the MBTA, which prohibits "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird, or attempt such actions, except as permitted by regulation.

Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA; 33 U.S. Code § 1251 et seq.), the U.S. Army Corps of Engineers (Corps) is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S. (including wetlands), which include those waters listed in 33 CFR 328.3 (51 Federal Register [FR] 41217, November 13, 1983; 53 FR 20764, June 6, 1988) and further defined by the 2001 *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC; 531 U.S. 159) decision and the 2006 *Rapanos v. United States* (547 U.S. 715) decision. The Corps, with oversight from the U.S.

Environmental Protection Agency (USEPA), has the principal authority to issue CWA Section 404 permits. The Corps would require a Standard Individual Permit (SIP) for more than minimal impacts on waters of the U.S. as determined by the Corps. Projects with minimal individual and cumulative adverse effects on the environment may meet the conditions of an existing Nationwide Permit (NWP).

A Water Quality Certification or waiver pursuant to Section 401 of the CWA (33 U.S. Code § 1341) is required for all Section 404 permitted actions. The Regional Water Quality Control Board (RWQCB), a division of the State Water Resources Control Board (SWRCB), provides oversight of the Section 401 certification process in California. The RWQCB must certify "that there is a reasonable assurance that the activity will be conducted in a manner which will not violate water quality standards" (40 CFR 121.2(a)(3)). Water Quality Certifications must be based on the finding that a proposed discharge will comply with applicable water quality standards.

The National Pollutant Discharge Elimination System (NPDES) is the permitting program for discharge of pollutants into surface waters of the U.S. under Section 402 of the CWA (33 U.S. Code § 1342).

1.3.2 STATE REGULATIONS

California Environmental Quality Act

The California Environmental Quality Act (CEQA; California Public Resources Code § 21000 et seq.) was established in 1970 as California's counterpart to the National Environmental Policy Act (NEPA). CEQA requires state and local agencies to identify significant environmental impacts of their actions and to avoid or mitigate those impacts, where feasible.

CEQA applies to certain activities of state and local public agencies. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a "project." A project is an activity undertaken by a public agency or a private activity, which must receive some discretionary approval (meaning that the agency has the authority to deny the requested permit or approval) from a government agency that may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

California Endangered Species Act and Natural Community Conservation Planning Act

The California Endangered Species Act of 1984 (CESA; California Fish and Game Code [CFGC] § 2050 et seq.), in combination with the California Native Plant Protection Act of 1977 (CFGC § 1900 et seq.), regulates the listing and take of plant and animal species designated as endangered, threatened, or rare within the state. California also lists species of special concern based on limited distribution; declining populations; diminishing habitat; or unusual scientific, recreational, or educational value. The California Department of Fish and Wildlife (CDFW) is responsible for assessing development projects for their potential to impact listed species and their habitats. State-listed special-status species are addressed through the issuance of a 2081 permit (Memorandum of Understanding).

In 1991, the California Natural Community Conservation Planning (NCCP) Act (CFGC § 2800 et seq.) was approved and the NCCP Coastal Sage Scrub program was initiated in Southern

California. The NCCP program was established "to provide for regional protection and perpetuation of natural wildlife diversity while allowing compatible land use and appropriate development and growth." The NCCP Act encourages preparation of plans that address habitat conservation and management on an ecosystem basis rather than one species or habitat at a time.

California Fish and Game Code Sections 1600-1602

Pursuant to Division 2, Chapter 6, Section 1602 of the CFGC, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake that supports fish or wildlife. A Notification of Lake or Streambed Alteration must be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake" (CFGC § 1602). CDFW has jurisdiction over riparian habitats associated with watercourses and wetland habitats supported by a river, lake, or stream. Jurisdictional waters are delineated by the outer edge of riparian vegetation (i.e., drip line) or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources (e.g., riparian or wetland areas not supported by a river, lake, or stream). CDFW reviews the proposed actions and, if necessary, submits (to the applicant) a proposal that includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the applicant is the Lake or Streambed Alteration Agreement.

California Fish and Game Code Sections 3503, 3511, 3513, 3801, 4700, 5050, and 5515

CDFW protects and manages fish, wildlife, and native plant resources within California. The California Fish and Game Commission and/or CDFW are responsible for issuing permits for the take or possession of protected species. The following sections of the CFGC address protected species: Section 3511 (birds), Section 4700 (mammals), Section 5050 (reptiles and amphibians), and Section 5515 (fish). In addition, the protection of birds of prey is provided for in Sections 3503, 3513, and 3800 of the CFGC.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code § 13000 et seq.) provides for statewide coordination of water quality regulations. The SWRCB was established as the statewide authority and nine separate RWQCBs were developed to oversee water quality on a day-to-day basis. The RWQCBs have primary responsibility for protecting water quality in California. As discussed above, the RWQCBs regulate discharges to surface waters under the CWA. In addition, the RWQCBs are responsible for administering the Porter-Cologne Water Quality Control Act.

Pursuant to the Porter-Cologne Water Quality Control Act, the state is given authority to regulate waters of the state, which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a Report of Waste Discharge if a Section 404 permit is not required for the activity. "Waste" is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

1.3.3 REGIONAL AND LOCAL PLANS

Western Riverside Multiple Species Habitat Conservation Plan (MSHCP)

The project occurs within an area covered by the Western Riverside MSHCP (Dudek & Associates, Inc. 2003). Projects are covered under the MSHCP if the lead agency is signatory to the MSHCP. However, the March Joint Powers Authority is the lead agency for the project and is not a signatory to the MSHCP. As such, the project is not subject to MSHCP regulations nor does it receive take authority granted under the MSHCP.

Riverside County Ordinance Nos. 499 and 559- Tree Removal

Chapter 12.08 of the Riverside County Code of Ordinances provides regulations regarding roadside tree removal and trimming activities (County of Riverside 2016). In accordance with Unincorporated Riverside County Ordinance No. 499 (as amended through 499.11), a person or entity must obtain a permit from the County Transportation Director prior to removing trees or trimming any tree planted in the right of way of a County highway. If such removals are proposed, the County Transportation Director may impose conditions such as requirements for use of a qualified tree surgeon or trimmer; bond, insurance or security to protect from damage; and relocation and/or replacement of one or more other trees.

Chapter 12.24 of the Riverside County Code of Ordinances also includes regulations related to tree removal (County of Riverside 2016). According to the Unincorporated Riverside County Ordinance No. 559 (as amended through 559.7), the removal of living native trees on parcels or property greater than 0.5 acre in size, located in the unincorporated Riverside County, and above 5,000 feet in elevation requires a permit. The project site elevation is below 5,000 acres; as such, this ordinance is not applicable.

Riverside County Oak Tree Management Guidelines

Riverside County Oak Tree Management Guidelines address oak woodlands in areas where zoning and/or general plan density restrictions will allow the effective use of clustering (County of Riverside 1999). A biological study is required for properties that support oak trees on a lot size of 2.5 acres or greater. Protected oaks include any individual tree larger than 2 inches in diameter at breast height (DBH) or the sum of the DBH of multiple trunks. Protected species include *Quercus agrifolia*, *Q. chrysolepis*, *Q. engelmannii*, *Q. kelloggii*, *Q. morehus*, and *Q. wislezenii* (County of Riverside 1999).

Stephens' Kangaroo Rat Habitat Conservation Plan

The Stephens' Kangaroo Rat Habitat Conservation Plan (HCP) was completed in 1996 by the Riverside County Habitat Conservation Agency, the CDFW, and the USFWS. The HCP was created as a region-wide plan for species permitting and conservation so that individual projects could receive ESA take authority for the species through the County, rather than individually. The HCP established 7 "core reserves," totaling more than 41,000 acres, within a planning area of 533,000 acres. The Riverside County Habitat Conservation Agency is responsible for "completing" the reserves through the addition of land in fee simple or through the acquisition of easements. The HCP also calls for the addition of 2,500 acres of occupied Stephens' kangaroo rat habitat into the

reserves, for a total of 15,000 acres of occupied SKR habitat within core reserves (Chamberlin 1998). A portion of the reserves occur within the former MARB; however, the project site is not among the reserve lands.

General Plan of the March Joint Powers Authority.

As part of the base re-alignment, the March JPA General Plan was created as a guiding tool for development within the former MARB. The general plan is designed to implement the March Air Force Base Master Reuse Plan, which included disposal and redevelopment of approximately 4,400 acres of the approximately 6,500 acres of the former Air Base. The General Plan serves as a blueprint for future growth and development (March JPA 1999a).

2 METHODS

Rocks Biological Consulting (RBC) biologists conducted vegetation mapping; habitat assessments for special-status species, including, Riverside fairy shrimp (*Streptocephalus woottoni*), Stephens' kangaroo rat (*Dipodomys stephensi*), and burrowing owl (*Athene cunicularia*); a general biological survey; and summer special-status plant surveys. Additionally, RBC regulatory specialists conducted a formal aquatic resources delineation to identify areas that may be considered jurisdictional under the Corps pursuant to Section 404 of the CWA, under the RWQCB pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act, and under the CDFW pursuant to Section 1602 of the CFGC.

The general biological survey, vegetation mapping, habitat assessments, and summer special-status plant survey were conducted within the approximately 46-acre project site and an approximate 100-foot survey buffer. Note that survey buffer areas are included in this analysis in order to assess the potential for special-status species or resources in areas immediately adjacent the project site that could be impacted by the project analyzed herein. Such information should not be considered comprehensive for all biological resources or aquatic resources that may occur in buffer areas, and buffer mapping is intended only for the project analysis outlined herein; such information is not intended for impact analysis of any future projects within or adjacent to project buffer areas. Please note that due to project changes following the general biological survey, the buffer is slightly less than 100-feet in some areas. Despite these changes, the surveyed buffer area remains adequate for assessing adjacency issues.

2.1 DATABASE SEARCH

Prior to conducting field surveys, existing information regarding biological resources present or potentially present within the project area was obtained through a review of pertinent literature and databases, including, but not limited to:

- CDFW California Natural Diversity Database (CNDDB; CDFW 2020a)
- California Native Plant Society (CNPS) Electronic Inventory (CNPS 2020)
- USFWS IPaC Database (USFWS 2020)
- USFWS National Wetlands Inventory (NWI) Database (USFWS 2019)
- Natural Resources Conservation Service (NRCS) Soils Survey Database (NRCS 2019)
- USGS National Hydrography Dataset (NHD) (USGS 2018)
- Base re-alignment Biological Opinion (USFWS 1999) and supporting information

A CNDDB (CDFW 2020a) query was conducted for the project site plus a 3-mile radius. The CNPS Electronic Inventory (CNPS 2020) search was conducted for the nine USGS 7.5' quadrangles surrounding the project site for an elevation range of 1,400 to 1,600 feet above mean sea level (amsl). The potential for special-status species to occur within the study area was refined by considering the habitat affinities of each species, field habitat assessments, vegetation mapping, and knowledge of local biological resources.

Database results, along with local biological knowledge, were utilized for assessment of special-status species' potential for occurrence on or adjacent the project site. The potential for

occurrence table created for the project (see section 3) includes all federally and state-listed species and candidate species that have been reported within three miles of the project site (CNDDB and IPaC/USFWS databases), as well as all California Rare Plant Rank (CRPR) list 1 and 2 species that occur within a nine-quadrangle search (CNPS).

2.2 VEGETATION MAPPING AND GENERAL BIOLOGICAL SURVEYS

RBC biologists conducted vegetation mapping in the field to provide a baseline of the biological resources that occur or have the potential to occur within the project site or buffer on May 12, 2020 and January 13, 2021. RBC conducted vegetation mapping by walking throughout the project site and mapping vegetation communities on aerial photographs at a 1:2400 scale (1 inch = 200 feet). Vegetation was identified in survey buffer areas via binoculars from the project site during the general biological survey.

The extent of each habitat type (delineated as a habitat polygon on the vegetation maps) was calculated using the ArcGIS Geographic Information System (GIS). Habitats were classified based on the dominant and characteristic plant species in accordance with vegetation community classifications outlined in Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and consistent with MSHCP vegetation mapping classification. Note that information regarding how each community is classified under *MCV2*(Sawyer et al. 2009) is also provided herein for reference.

RBC biologists conducted a general biological survey for plants and wildlife concurrently with vegetation mapping on May 12, 2020 and January 13, 2021. Photos taken during the general biological survey are provided in Appendix A. Plant species encountered during the field survey were identified and recorded in field notebooks. Plant species that could not be identified were brought to the laboratory for identification using the dichotomous keys in the *Jepson Manual* (Baldwin et al. 2012) and following the taxonomic treatment of the Jepson Manual with input from the *Western Riverside County Annotated Checklist* (Roberts 2004). A compiled list of the vascular plant species observed in the project site and buffer is presented in Appendix B.

Wildlife species were documented during the field survey by sight, calls, tracks, scat, or other signs, and were recorded in field notebooks. Binoculars (8X42 magnification) were used to aid in the identification of wildlife. In addition to species observed during the surveys, expected wildlife use of the project site was assessed based on known habitat preferences of local species and knowledge of their biogeographic distribution in the region. A compiled list of wildlife species observed in the study area is presented in Appendix C; scientific and common names of wildlife follow CDFW (2018).

The location of observed biological resources designated as special-status by the USFWS, CDFW, and/or CNPS, were recorded in field notebooks, on aerial maps, and/or through the use of Global Positioning System (GPS) handheld units. The project site and buffer were also surveyed for habitat with the potential to support special-status plant and wildlife species.

2.3 AQUATIC RESOURCES DELINEATION

RBC conducted a formal aquatic resources delineation within the survey area per the Corps, RWQCB, and CDFW regulations, guidelines, and protocols on June 3, 2020 to identify any areas that may be considered jurisdictional under the Corps pursuant to Section 404 of the CWA, the RWQCB pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act, and the CDFW pursuant to Section 1602 of the CFGC (Appendix E).

Prior to the formal aquatic resources delineation, field maps were created using GIS and a color aerial photograph at a 1:150 scale. RBC also reviewed USGS NHD (USGS 2018) and topography data, USFWS NWI data (USFWS 2019), and NRCS soils data (NRCS 2019; Appendix E) to further determine the potential locations of aquatic resources within the survey area. RBC also utilized Google Earth to assess current and historic presence or absence of flows and/or ponding in the survey area (Google Earth Pro 2020).

Staff evaluated all areas with depressions, drainage patterns, and/or wetland vegetation within the survey area for potential jurisdictional status, with focus on the presence of defined channels and/or wetland vegetation, soils, and hydrology. Please note that the original site plan was larger than the project site depicted on the figures provided in this report; therefore, numbering of the aquatic resources shown on Figures 3A – 3C is non-consecutive and follows the numbering presented in the *Meridian D-1 Gateway Aviation Center Aquatic Resources Delineation Report* (ARDR; RBC 2022; Appendix E).

Lateral limits of potential non-wetland waters of the U.S. for the Corps and the RWQCB were identified using field indicators of an Ordinary High Water Mark (OHWM) as outlined in *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (Corps 2008a). Additionally, staff examined potential Corps and RWQCB jurisdictional wetland waters using the routine determination methods set forth in Part IV, Section D, Subsection 2 of the 1987 *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the *2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0* (Corps 2008b).

CDFW-jurisdictional boundaries were determined based on the presence of a lake and/or streambed and riparian habitat or wetland areas supported by (i.e., adjacent or connected to) a lake or streambed, based on the definition of streambed as outlined at 14 California Code of Regulations (CCR) § 1.72 and in the 1987 *Rutherford v. State of California* decision (188 Cal. App. 3d 1268).

Complete methods are presented in the ARDR (RBC 2022; Appendix E).

2.4 SPECIAL-STATUS SPECIES SURVEYS & ASSESSMENTS

2.4.1 SUMMER PLANT SURVEYS

RBC conducted focused surveys for summer-blooming floral species within the project site on May 12, 2020. The project site was surveyed for special-status plants with a moderate or high potential to occur on site (Table 5), including paniculate tarplant (*Deinandra paniculata*), smooth tarplant

(*Centromadia pungens* ssp. *laevis*), and other summer blooming species. All suitable habitat within the project site was walked and assessed for the presence of special-status floral species.

2.4.2 FAIRY SHRIMP SURVEYS

RBC conducted USFWS protocol wet and dry season surveys for listed large branchiopods (fairy shrimp) within the project site during the 2020 – 2021 season. RBC conducted initial dry season sampling on October 21, 2020 and collected soil from 11 basins within the project site. The soil samples were sieved to obtain fairy shrimp cysts, and the cysts were then hydrated before they were identified to species using a stereo dissecting scope. Following an initial rain event which occurred on December 29, 2020, RBC conducted wet season fairy shrimp surveys between January 6 and April 9, 2021. RBC sampled all ponded areas within the project site at seven-day intervals until dry and sampling continued at seven-day intervals after basins were re-inundated. During the wet season sampling period, RBC identified 10 additional basins not previously sampled during the dry season. On September 28, 2021, RBC conducted follow up dry season sampling at the additional 10 basins observed during the wet season surveys. Fairy shrimp cysts collected from these soil samples were identified to species following the same procedures as the first round of soil analysis.

2.4.3 STEPHENS' KANGAROO RAT SURVEYS

RBC conducted a live-trapping survey for Stephens' kangaroo rat within the project site between November 5 and November 18, 2020. The live-trapping effort used 197 large (3 x 2.75 x 12") Sherman live-traps with shortened doors. RBC accrued a total of 985 trap-nights (traps set per night per survey). Traps were baited with bird seed approximately an hour before sunset. Traps were checked once during the night and again just after sunrise. Animals were identified and released immediately at the point of capture and the traps remained closed during the day to avoid unnecessary animal capture. RBC mapped all trap locations in ArcGIS Collector. Live-trapping was conducted by Dr. Phil Brylski (TE-148555-2).

2.4.4 BURROWING OWL HABITAT ASSESSMENT AND SPECIES/BURROW MAPPING

RBC biologist and avian specialist Chris Thomson documented burrowing owl on the project site during general biological surveys in May 2020. Mr. Thomson is a highly experienced burrowing owl surveyor and meets the qualifications outlined in the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Because of the incidental observations of owls during the general biological surveys, burrowing owl is assumed to be present within the project site and protocol surveys were not deemed necessary for the purposes of this analysis given that presence was already confirmed. The burrowing owls on site were carefully studied during general biological surveys in order to determine the number of owls present and to document all active burrows within the site.

3 RESULTS

3.1 PHYSICAL SETTING

The project site is a relatively flat parcel that supports several upland vegetation communities, primarily dominated by non-native grassland, with smaller areas of disturbed, ruderal, and developed land. Surrounding land uses include industrial and commercial development, residential development, and military development. The site is periodically mowed so conditions are atypical; mapping was performed based on conditions observed during the May 2020, January 2021, and April 2021 field visits.

On-site elevations range from approximately 1,484 feet amsl to 1,502 feet amsl. Soils mapped on site are primarily Exeter sandy loam, 0 to 2 percent slopes and Monserate sandy loam, 0 to 5 percent slopes (Appendix D).

3.2 VEGETATION COMMUNITIES AND LAND USES

The survey area supports six vegetation communities and other land covers, as classified in accordance with *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and consistent with the MSHCP vegetation mapping classification. Vegetation communities were then crosswalked with *The Manual of California Vegetation, 2nd Edition* (MCV2) (Sawyer et al. 2009). Vegetation within the survey area is predominantly comprised of non-native grassland, disturbed habitat, and developed land cover (i.e., roads and industrial), as shown on Figure 2 and identified in Table 1. No large stands of riparian vegetation communities are present on site, although a small stand of *Salix gooddingii* borders the commercial development to the south of the project site (Figure 2). Table 1 provides a summary of vegetation acreages for the survey area, which is crosswalked from Holland (1986) to MCV2 (Sawyer et al. 2009). Vegetation descriptions throughout this section refer to MCV2 (Sawyer et al. 2009) as crosswalked from Holland (1986).

Table 1. Summary of Vegetation within the D-1 Gateway Aviation Center Survey Area

Vegetation (Holland)[1]	Vegetation[2]	Global/ State Rank	D-1 Gateway Avian Center Survey Area[4] (acres)
UPLAND VEGETATION COMMUNITIES			
Non-native Grassland	Red brome or Mediterranean grass grasslands	No Rank	49.83
Ruderal	Upland mustards and other ruderal forbs	No Rank	0.61
		Subtotal	*50.44*
RIPARIAN VEGETATION COMMUNITIES			
Salix gooddingii[3]	Goodding's black willow[3]	G4S3	0.04
		Subtotal	*0.04*

Vegetation (Holland)[1]	Vegetation[2]	Global/ State Rank	D-1 Gateway Avian Center Survey Area[4] (acres)
LAND COVERS			
Developed	Developed/Disturbed	No Rank	20.21
Disturbed Habitat	Developed/Disturbed	No Rank	2.58
Ornamental	Developed/Disturbed	No Rank	0.61
		Subtotal	*23.40*
		Total	73.88

[1] Vegetation communities recognized by Holland (1986)
[2] Vegetation communities from Holland (1986) crosswalked to The Manual of California Vegetation (Sawyer et al. 2009)
[3] Distinct from surrounding vegetation; does not have an equivalent Holland or MCV2 vegetation community
[4] 'Survey Area' includes the project site plus an approximate 100-foot mapping buffer

3.2.1 UPLAND VEGETATION COMMUNITIES

Red Brome or Mediterranean Grass Grasslands (Non-native Grassland)

The red brome or Mediterranean grass grasslands (herein referred to as non-native grassland) within the survey area (49.83 acres) supports scattered stands of non-native grass species such as wild oat (*Avena barbata*), red brome (*Bromus rubens*), and rat-tail fescue (*Festuca myuros*), amongst lower numbers of ruderal plant species. Paniculate tarplant was observed consistently throughout the non-native grassland habitat within the project site. The project site is frequently mowed, keeping non-native grasses and ruderal species fairly low to the ground. Non-native grassland occurs throughout much of the project site (Figure 2).

Red brome or Mediterranean grass grasslands (non-native grassland) were mapped to the general habitat type because CDFW does not consider any of the semi-natural stands as special-status biological resources under CEQA (CDFW 2020b).

Upland Mustards and Other Ruderal Forbs (Ruderal)

The upland mustards and other ruderal forbs (herein referred to as ruderal) areas within the survey area (0.61 acre) support stands of ruderal vegetation such as common sow-thistle (*Sonchus oleraceus*), short-pod mustard (*Hirschfeldia incana*), and red-stem filaree (*Erodium cicutarium*), amongst lower numbers of non-native grass species. A small patch of ruderal vegetation occurs at the southwestern edge of the project site (Figure 2). This area was likely historically disturbed and subsequently colonized by ruderal plant species.

Ruderal is not recognized by CDFW (2020b); therefore, it is not considered a special-status vegetation community under CEQA.

3.2.2 NATIVE RIPARIAN VEGETATION COMMUNITIES

Goodding's Black Willow (Salix gooddingii)

The Goodding's black willow (herein referred to as *Salix gooddingii*) within the survey area (0.04 acre) supports a few individuals of young Goodding's black willow, amongst a small number of

willow baccharis (*Baccharis salicina*) (Photo 15, Appendix A). *Salix gooddingii* in the survey area occurs in the southwestern portion, along the southern boundary of the project site (Figure 2; Appendix A, Photo 15). Although small, this area was mapped and noted for its disparity from the surrounding vegetation communities. Prior to construction of the adjacent road and parking lot, the vegetation in this area appeared uniform with respect to the surrounding land on historic aerials (Google Earth Pro 2022). The adjacent road and parking lot were paved around 2005, which likely resulted in increased water conveyance to this small strip of land. The increased soil moisture would have allowed willow and baccharis species to germinate.

The *Salix gooddingii* within the survey area differs significantly from the definition of Goodding's willow – red willow riparian woodland forest provided in MCV2 (Sawyer et al. 2009) as this area is not large enough (totaling 0.04 acre) or mature enough to provide a canopy layer. Although *Salix gooddingii* dominated communities are typically considered sensitive by CDFW (2020b), this area is very small and likely originated due to the altered drainage patterns caused by surrounding development. In addition, this area does not provide significant habitat value for the species inhabiting the surrounding upland habitats. This area did not meet the hydrophytic vegetation, hydric soil, or wetland hydrology parameters and was deemed non-jurisdictional in the ARDR (RBC 2022; Appendix E). As such, it does not warrant consideration as special-status under CEQA.

3.2.3 LAND COVERS

Developed/Disturbed (Developed, Disturbed Habitat, and Ornamental)

Developed/disturbed areas within the survey area total 23.40 acres. Developed/disturbed land support little to no native vegetation and are comprised of human-made structures (buildings, pavement, etc.) or human-made disturbances (vegetation clearing, mowing, vehicle disturbance, etc.). Areas mapped as developed in the survey area (20.21 acres) occur along the southern boundary and within the western portion of the survey area in the form of a paved road and lot (Figure 2). Areas mapped as disturbed in the survey area (2.58 acres) occur at the southern and eastern areas of the survey area and are comprised of bare soils (Figure 2). Ornamental vegetation within the survey area (0.61 acre) is found within the far southeast corner of the survey area and is associated with a developed parking lot (Figure 2). Ornamental vegetation is typically classified as an area containing planted ornamental, non-native plant species.

Developed/disturbed land is not recognized by CDFW (2020b); therefore, it is not considered special-status under CEQA.

3.3 JURISDICTIONAL AQUATIC RESOURCES

Based on the formal aquatic resources delineation, the project site supports approximately 0.35 acre (1,162 linear feet) of non-wetland waters of the U.S. and 0.10 acre of wetland waters of the U.S. jurisdictional by the Corps (Table 2; Figure 3A), 0.34 acre (1,139 linear feet) of non-wetland waters of the State and 0.11 acre (22 linear feet) of wetland waters of the State jurisdictional by the RWQCB (Table 3; Figure 3B), and approximately 0.49 acre (1,162 linear feet) of vegetated streambed jurisdictional by the CDFW (Table 4; Figure 3C).

Please note that the original site plan was larger than the project site depicted on the figures in this report; therefore, numbering of the aquatic resources shown on Figures 3A – 3C is non-consecutive and follows the numbering presented in the ARDR (RBC 2022; Appendix E). For the Corps, the observed aquatic resources were delineated into four separate aquatic resources as follows: Non-Wetland Water (NWW-) 1A, NWW-1B, Wetland Water (WW-) 1, and WW-2 (Figure 3A). For the RWQCB, the aquatic resources were delineated into the same four separate features; however, based on agency-specific guidance, the features are labeled and classified as follows: NWW-1, WW-1, WW-2, and WW-3 (Figure 3B). For CDFW, one observed aquatic resource, NWW-1, was delineated (Figure 3C).

Table 2. Aquatic Resource Summary: Corps

Aquatic Resource Name	Cowardin Code	Active Channel Width Range (Feet)	Presence of OHWM/ Wetland	Dominant Vegetation	Location (lat, long)	Acre(s)	Linear Feet
NWW-1A	R6	10 – 30	Yes/No	Non-Native Grassland	33.876241, -117.248628	0.34	1,139
NWW-1B	R6	13 – 18	Yes/Yes	Non-Native Grassland	33.876558, -117.250668	0.01	22
WW-1	PEM	7 – 21	No/Yes	Non-Native Grassland	33.876243, -117.250595	0.04	N/A[1]
WW-2	PEM	12 – 29	No/Yes	Non-Native Grassland	33.876932, -117.248469	0.07	N/A[1]
					Total[2]	0.45	1,162

[1] Linear footage not calculated as this feature is considered a seasonally inundated depression not associated with a linear riverine feature.

[2] Acreages and linear feet summed using raw numbers provided during GIS analysis (available upon request) and thus the sum of the total rounded numbers may not directly add up in this table.

Table 3. Aquatic Resource Summary: RWQCB

Aquatic Resource Name	Cowardin Code	Active Channel Width Range (Feet)	Presence of OHWM/ Wetland	Dominant Vegetation	Location (lat, long)	Acre(s)	Linear Feet
NWW-1	R6	10 – 30	Yes/No	Non-Native Grassland	33.876241, -117.248628	0.34	1,139
WW-1	R6	13 – 18	Yes/Yes	Non-Native Grassland	33.876558, -117.250668	0.01	22
WW-2	PEM	7 – 21	No/Yes	Non-Native Grassland	33.876243, -117.250595	0.04	N/A[1]
WW-3	PEM	12 – 29	No/Yes	Non-Native Grassland	33.876932, -117.248469	0.07	N/A[1]
					Total[2]	0.45	1,162

[1] *Linear footage not calculated as this feature is considered a seasonally inundated depression not associated with a linear riverine feature.*

[2] *Acreages and linear feet summed using raw numbers provided during GIS analysis (available upon request) and thus the sum of the total rounded numbers may not directly add up in this table.*

Table 4. Aquatic Resource Summary: CDFW

Aquatic Resource Name	Aquatic Resource Type	Vegetation Community	Width Range[1] (Feet)	Location (lat, long)	Acre(s)	Linear Feet
NWW-1	Vegetated Streambed	Non-Native Grassland	15 – 35	33.876241, -117.248628	0.49	1,162
				Total	0.49	1,162

[1] *Corresponds with the approximate stream bank widths observed during delineation.*

The project site supports three potential ponding areas (Potential Ponding Area [PPA-] 1, PPA-2, and PPA-4) that are not expected to be jurisdictional by the Corps, RWQCB, or CDFW since they did not display an observable OHWM or bed and bank and instead displayed slight drainage patterns indicative of a potential ponding area and some concavity within the otherwise flat landscape. The project site also supports several swales (Swale [S-]1, S-2, and S-3) that are not expected to be jurisdictional by the Corps, RWQCB, or CDFW since they did not display an observable OHWM, bed and bank, or other evidence of conveying regular flows on site or from the runway areas. Finally, the project site supports a concrete-lined ditch (Ditch [D-]1) that is not expected to be jurisdictional by the Corps, RWQCB, or CDFW since it did not display an observable OHWM; no longer appeared to convey flows; and was filled with trash, debris, and eroded soils from the adjacent upland areas. Complete results are presented under separate cover in the ARDR (RBC 2022; Appendix E).

3.4 PLANTS AND WILDLIFE

The project area supports a low diversity of vegetation communities and plant species. A total of 82 plant species (45 percent native, 55 percent non-native) were observed during project biological surveys (Appendix B). A total of 17 bird species, one reptile species, three mammal species, and five invertebrate species were observed or presumed present based on track and/or scat (Appendix C). Twilight/nighttime surveys were not conducted, therefore crepuscular and nocturnal animals are likely under-represented in the project species list; however, habitat assessments were performed for all special-status species to ensure that any potentially-present rare species are adequately addressed herein.

Special-status biological resources are those defined as follows: 1) Species that have been given special recognition by federal, state, or local conservation agencies and organizations due to limited, declining, or threatened/endangered population sizes; 2) Species and habitat types recognized by local and regional resource agencies as sensitive; 3) Habitat areas or vegetation communities that are unique, are of relatively limited distribution, or are of particular value to wildlife; 4) Wildlife corridors and habitat linkages; and/or 5) Biological resources that may or may not be considered sensitive, but are regulated under local, state, and/or federal laws.

For the purposes of this report, species are considered to have special-status if they meet one or more of the following criteria:

- Listed or considered for listing or proposed for listing under the ESA or CESA (CDFW 2020a; USFWS 2020)
- Included on the CDFW Special Animals List (CDFW 2020a)
- CDFW Species of Special Concern (CDFW 2020a)
- CDFW Fully Protected Species (CDFW 2020a)
- Listed as having a California Rare Plant Rank (CRPR; formerly CNPS List, CNPS 2020)

3.4.1 SPECIAL-STATUS PLANT SPECIES

Special-status plant species include those that are: 1) Listed or proposed for listing by federal or state agencies as threatened or endangered; 2) CRPR List 1 through 4 (CNPS 2020); or 3) Considered rare, endangered, or threatened by the CDFW (CDFW 2020a) or other local conservation organizations or specialists.

CNPS is a statewide resource conservation organization that has developed an inventory of California's sensitive plant species. The CRPR system is recognized by the CDFW and essentially serves as an early warning list of potential candidate species for threatened or endangered status. The CRPR system is categorized as outlined in Table 6.

Summer rare plant surveys for paniculate tarplant, smooth tarplant, and other summer blooming species were conducted in May 2020 and April 2021. Survey results were positive for paniculate tarplant and negative for smooth tarplant. No other rare plant species were observed on site. Special-status plants with potential to occur on site are provided in Table 5.

Some trees are protected under local tree protection ordinances. A small stand of Goodding's black willow (*Salix gooddingii*) occurs at the southern boundary of the survey area (Figure 2); however, no oak trees or other protected specimens are present.

Table 5. Assessment of Special-Status Plant Species Potential to Occur

Species	Status	Habitat Description	Potential to Occur
Bristly sedge (*Carex comosa*)	CRPR 2B.1	Perennial rhizomatous herb. Blooms May-September. Coastal prairie, marshes and swamps (lake margins), valley and foothill grasslands. Elevation 0-2,050 feet.	Very low potential to occur. Suitable coastal prairies, marshes and swamps not present. Grassland habitat on site is disturbed.
California satintail (*Imperata brevifolia*)	CRPR 2B.1	Perennial rhizomatous herb. Blooms September-May. Chaparral, coastal scrub, Mojavean desert scrub, alkali meadows and seeps, and riparian scrub. Elevation 0-3,986 feet.	Very low potential to occur. No chaparral, coastal scrub, Mojavean desert scrub, alkali meadows and seeps, or riparian scrub habitat present.
California screw-moss (*Tortula californica*)	CRPR 1B.2	Moss. Sandy soils within chenopod scrub, valley and foothill grassland. Elevation 30-4,790 feet.	Very low potential to occur. Suitable chenopod scrub not present. Grassland habitat on site is disturbed.
Chaparral ragwort (*Senecio aphanactis*)	CRPR 2B.2	Annual herb. Blooms January-April. Chaparral, cismontane woodland, and coastal scrub. Elevation 50-2,625 feet.	Very low potential to occur. No chaparral, cismontane woodland or coastal scrub habitat present.
Chaparral sand-verbena (*Abronia villosa* var. *aurita*)	CRPR 1B.1	Annual herb. Blooms January-September. Sandy chaparral, coastal scrub and desert dunes. Elevation 245-5,250 feet.	Very low potential to occur. Suitable sandy habitat not present.
Coulter's goldfields (Lasthenia glabrata ssp. coulteri)	CRPR 1B.1	Annual herb. Blooms February-June. Coastal salt marshes and swamps, playas, vernal pools. Elevation 3-4,002 feet.	Low potential to occur. Suitable vernal pool habitat and adjacent upland habitats limited. Species would have been detectable during 2020 project surveys.
Horn's milk-vetch (*Astragalus hornii* var. *hornii*)	CRPR 1B.1	Annual herb. Blooms May-October. Lake margins, alkaline, meadows and seeps, playas. Elevation 195-2,790 feet.	Very low to no potential to occur. Suitable aquatic habitats not present.

Species	Status	Habitat Description	Potential to Occur
Jaeger's bush milk-vetch (*Astragalus pachypus* var. *jaegeri*)	CRPR 1B.1	Perennial shrub. Blooms December-June. Sandy or rocky soils within chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation 1,195-3,200 feet.	Low potential to occur. Suitable chaparral, cismontane woodland, or coastal scrub not present. Grassland habitat on site is disturbed.
Little mousetail (*Myosurus minimus* ssp. *apus*)	CRPR 3.1	Annual herb. Blooms Mar-June. Valley/foothill grasslands and alkaline vernal pools. Elevation 65-2,100 feet.	Low potential to occur. Suitable vernal pool habitat and adjacent upland habitats limited. Species would have been detectable during 2020 project surveys.
Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*)	CRPR 1B.2	Annual herb. Blooms April-July. Chaparral, coastal scrub, meadows and seeps, valley/foothill grassland, and vernal pools. Elevation 98-5,020 feet.	Low potential to occur. Suitable vernal pool habitat and adjacent upland habitats limited. Species would have been detectable during 2020 project surveys.
Los Angeles spineflower (*Helianthus nuttallii* ssp. *parishii*)	CRPR 1A	Perennial rhizomatous herb. Blooms August-October. Marshes and swamps (coastal salt and freshwater). Elevation 30-5,005 feet.	Very low potential to occur. Marshes and swamps not present.
Mesa horkelia (*Horkelia cuneata var. puberula*)	CRPR 1B.1	Perennial herb. Blooms February-September. Maritime chaparral, cismontane woodland, and coastal scrub. Elevation 230-2,657 feet.	Very low potential to occur. Suitable maritime chaparral, cismontane woodland, or coastal scrub not present.
Mud nama (*Nama stenocarpa*)	CRPR 2B.2	Annual/perennial herb. Blooms January-July. Marshes and swamps (lake margins, riverbanks). Elevation 15-1,640 feet.	Very low potential to occur. Marshes and swamps not present.
Munz's onion (*Allium munzii*)	FE; ST; CRPR 1B.1	Perennial bulbiferous herb. Blooms March-May. Chaparral, Cismontane woodland, Coastal scrub, Pinyon and juniper woodland, Valley and foothill grassland. Elevation 970-3,510 feet.	Very low potential to occur. Suitable chaparral, cismontane woodland, coastal scrub, or pinyon and juniper woodland not present. Grassland habitat on site is disturbed.
Nevin's barberry (*Berberis nevinii*)	FE; SE; CRPR 1B.1	Perennial evergreen shrub. Blooms February-June. Chaparral, cismontane woodland, coastal scrub, and riparian scrub. Elevation 230-2,705 feet.	No potential to occur. Species is visible year-round and was not detected during surveys.

Species	Status	Habitat Description	Potential to Occur
Paniculate tarplant (*Deinandra paniculata*)	CRPR 4.2	Annual herb. Blooms April-November. Coastal scrub, valley/foothill grassland, vernal pools. Elevation 82-3,084 feet.	Present. Known from area and suitable habitat is present. Species observed during rare plant survey.
Parish's brittlescale (*Atriplex parishii*)	CRPR 1B.1	Annual herb. Blooms June-October. Chenopod scrub, playas, and vernal pools within alkaline habitat. Elevation 82-6,233 feet.	Very low potential to occur. No suitable alkaline habitat present.
Parish's bush-mallow (*Malacothamnus parishii*)	CRPR 1A	Perennial deciduous shrub. Blooms June-July. Chaparral, coastal scrub. Elevation 1,000-1,495 feet.	Very low potential to occur. Suitable chaparral and coastal scrub habitat not present.
Parry's spineflower (*Chorizanthe parryi* var. *parryi*)	CRPR 1B.1	Annual herb. Blooms April-June. Chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation 900-4,000 feet.	Low potential to occur. Suitable chaparral, cismontane woodland, or coastal scrub not present. Grassland habitat on site is disturbed.
Prairie wedge grass (*Sphenopholis obtusata*)	CRPR 2B.2	Perennial herb. Blooms April-July. Cismontane woodland, meadows and seeps. Elevation 984-6,561 feet.	Very low potential to occur. No woodlands, meadows, or seeps present.
Salt spring checkerbloom (*Sidalcea neomexicana*)	CRPR 2B.2	Perennial herb. Blooms March-June. Chaparral, coastal scrub, lower montane coniferous forests, Mojavean desert scrub, and playas. Elevation 50-5,020 feet.	Very low potential to occur. Suitable chaparral, coastal scrub, lower montane coniferous forests, Mojavean desert scrub, or playas not present.
San Bernardino aster (*Symphyotrichum defoliatum*)	CRPR 1B.2	Perennial rhizomatous herb. Blooms July-November. Cismontane woodlands, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and vernally mesic valley/foothill grasslands. Elevation 7-6,690 feet.	Very low potential to occur. No associated habitats or suitable mesic habitat present.
San Jacinto Valley crownscale (*Atriplex coronata* var. *notation*)	FE; CRPR 1B.1	Annual herb. Blooms April-August. Playas, mesic valley/foothill grasslands, and vernal pools within alkaline habitat. Elevation 456-1,640 feet.	Very low potential to occur. No suitable alkaline habitat present.

Species	Status	Habitat Description	Potential to Occur
Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*)	FE; SE; CRPR 1B.1	Perennial herb. Blooms April-September. Chaparral and coastal alluvial fan scrub. Elevation 298-2,000 feet.	Very low potential to occur. No chaparral or coastal alluvial fan scrub present.
Slender-horned spineflower (*Dodecahema leptoceras*)	FE; SE; CRPR 1B.1	Annual herb. Blooms April-June. Chaparral, cismontane woodland, alluvial fan coastal scrub. Elevation 655-2,490 feet.	Very low potential to occur. No chaparral, cismontane woodland, or alluvial fan coastal scrub present.
Smooth tarplant (*Centromadia pungens* ssp. *laevis*)	CRPR 1B.1	Annual herb. Blooms April-September. Chenopod scrub, meadows and seeps, playa, riparian woodland, valley and foothill grassland. Elevation 0-2,100 feet.	Very low potential to occur. This species is known from the area but was not observed during the May 2020 surveys.
Spreading navarretia (*Navarretia fossalis*)	FT; CRPR 1B.1	Annual herb. Blooms April-June. Chenopod scrub, shallow freshwater marshes and swamps, playas, and vernal pools. Elevation 98-2,150 feet.	Low potential to occur. Suitable vernal pool habitat and adjacent upland habitats limited. Species would have been detectable during 2020 project surveys.
Thread-leaved brodiaea (*Brodiaea filifolia*)	FT; SE; CRPR 1B.1	Perennial bulbiferous herb. Blooms March-June. Chaparral, cismontane woodlands, coastal scrub, playas, valley/foothill grasslands, vernal pools. Elevation 82-3,675 feet.	Low potential to occur. Suitable vernal pool habitat and adjacent upland habitats limited. Species would have been detectable during 2020 project surveys.
Vernal barley (*Hordeum intercedens*)	CRPR 3.2	Annual herb. Blooms March-June. Coastal dunes, coastal scrub, valley/foothill grassland saline flats and depressions, and vernal pools. Elevation 16-3,280 feet.	Low potential to occur. Suitable vernal pool habitat and adjacent upland habitats limited. Species would have been detectable during 2020 project surveys.
White-bracted spineflower (*Chorizanthe xanti* var. *leucotheca*)	CRPR 1B.2	Annual herb. Blooms April-June. Sandy or gravelly soils within coastal scrub (alluvial fans), Mojavean desert scrub, pinyon and juniper woodland. Elevation 980-3,935 feet.	Very low potential to occur. Suitable coastal scrub, Mojavean desert scrub, or pinyon and juniper woodland not present.

Species	Status	Habitat Description	Potential to Occur
Woven-spored lichen (*Texosporium sancti-jacobi*)	CRPR 3	Crustose lichen. Appears on soil, small mammal pellets, dead twigs, and on *Selaginella* spp., as well as chaparral openings. Elevation 950-2,165 feet.	Very low potential to occur. Continuous site disturbance would disrupt the establishment of this species.
Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)	CRPR 2B.1	Annual herb. Blooms May-September. Alkaline environments within meadows and seeps, marshes and swamps, riparian forest and vernal pools. Elevation 15-1,425 feet.	Very low potential to occur. No suitable alkaline habitat present.
CRPR: California Rare Plant Rank FE: Federally Endangered (FE) Species under the Endangered Species Act FT: Federally Threatened (FT) Species under the Endangered Species Act SE: State Endangered (SE) under the California Endangered Species Act ST: State Threatened (ST) under the California Endangered Species Act			

Table 6. California Rare Plant Rank (CRPR) Definitions

California Rare Plant Rank (CRPR)	1A	presumed extirpated in California and rare or extinct elsewhere
	1B	rare, threatened, or endangered in California and elsewhere
	2A	presumed extirpated in California but more common elsewhere
	2B	rare, threatened, or endangered in California but more common elsewhere
	3	plants for which more information needed
	4	plants of limited distribution
CRPR Threat Ranks	0.1	Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
	0.2	Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
	0.3	Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

3.4.1.1 Threatened and Endangered Plant Species

No federally or state threatened or endangered plants were observed during the general field survey or summer rare plant survey and none have a moderate or high potential to occur based on the disturbed nature of the site and lack of suitable habitats (Table 5).

3.4.1.2 Plant Species of Special Concern

Summer focused rare plant surveys were conducted in May 2020 to assess the site for the presence of smooth tarplant (*Centromadia pungens* spp. *laevis*), as well as additional listed and rare plant species.

One CRPR 4.2 list plant, paniculate tarplant, was observed on the project site during focused summer rare plant surveys. No additional plant species of special concern have a moderate or high potential to occur on site based on the disturbed nature of the site and lack of suitable habitats (Table 5).

Paniculate Tarplant (Deinandra paniculata)

Paniculate tarplant is an annual herb in the sunflower family (Asteraceae) with small yellow flowers that bloom from March to November. Paniculate tarplant is native to California and Baja California and occurs in the U.S. from San Diego County to Santa Barbara County at elevations less than 3,000 feet amsl. This species is commonly found in coastal scrub, valley and foothill grassland, and vernal pool habitats (CNPS 2018). Paniculate tarplant is a CRPR rank 4.2 species, meaning it is of limited distribution and moderately threatened in California (20-80% of occurrences threatened). Paniculate tarplant is also a State Rank S4, meaning it is "apparently secure within California."

An estimated 1,000 individuals of paniculate tarplant were observed interspersed throughout the non-native grassland habitat within the project site during 2020 summer plant surveys.

Smooth Tarplant (Centromadia pungens spp*. laevis)*

Smooth tarplant is an annual herb in the sunflower family (Asteraceae) with small yellow flowers that bloom from April to September. Smooth tarplant is native and endemic to California, occurring in San Diego, Los Angeles, Riverside, and San Bernardino Counties at elevations ranging from 82 to 3,084 feet amsl. This species is commonly found in coastal scrub, valley and foothill grassland, and vernal pool habitats (CNPS 2018).

Smooth tarplant is a CRPR rank 1B.1 species, meaning it is rare, threatened, or endangered in California and elsewhere, and seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat). Smooth tarplant is also a State Rank S2, meaning it is imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province (CNPS 2020).

Smooth tarplant was not observed on site during 2020 summer plant surveys of the project site.

3.4.2 SPECIAL-STATUS WILDLIFE SPECIES AND CRITICAL HABITATS

No federally or state threatened or endangered species were observed within or immediately adjacent to the project site during project surveys. Two CDFW Species of Special Concern (SSC), burrowing owl and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and one CDFW Watch List species (WL), California horned lark (*Eremophila alpestris actia*), were observed in the project site and buffer during project surveys.

Four listed species, Riverside fairy shrimp, least Bell's vireo (*Vireo bellii pusillus*), San Bernardino kangaroo rat (*Dipodomys merriami parvus*), and Stephens' kangaroo rat, have been documented within 3 miles of the project site (Figure 4A and Figure 4B). An analysis of the potential for sensitive wildlife to occur on the project site is provided in Table 7.

Table 7. Assessment of Special-Status Wildlife Species with Potential to Occur

Species	Status	Habitat Description	Potential to Occur
INVERTEBRATES			
Riverside fairy shrimp (*Streptocephalus woottoni*)	FE	Vernal pools or other seasonal pools with a depth greater than 30 cm.	Surveys negative. Limited ponding features observed during project surveys that appear to be deep enough for this species, which typically occurs in pools greater than 30 centimeters in depth.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Natural vernal pools or other seasonal pools.	Surveys negative. Potential ponding features observed on site may be suitable for this species, which is typically found in deep, naturally occurring vernal pools.
AMPHIBIANS			
Western spadefoot (*Spea hammondii*)	SSC	Temporary ponds, vernal pools, and backwaters of flowing creeks, as well as adjacent upland habitats such as grasslands and coastal sage scrub for burrowing.	Low to moderate potential to occur. Suitable vernal pool habitats and adjacent upland habitats are limited. Flowing creeks not present.
REPTILES			
California glossy snake (*Arizona elegans occidentalis*)	SSC	Found in arid scrub, rocky washes, grasslands, and chaparral habitats. Prefers habitats containing open areas and loose soils for burrowing.	Moderate potential to occur. Suitable arid grassland habitat containing loose soils present.

Species	Status	Habitat Description	Potential to Occur
Coastal whiptail (*Aspidoscelis tigris stejnegeri*)	SSC	A variety of rocky, sandy, dry habitats including sage scrub, chaparral, woodlands on friable loose soil.	Low potential to occur. Suitable habitats are not present on site; this species is more common near the coast.
Coast horned lizard (*Phrynosoma blainvillii*)	SSC	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands. Found on sandy or friable soils with open scrub. Requires open areas, bushes, and fine loose soil.	Low potential to occur. Suitable habitats are not present on site; this species is more common near the coast.
Orange-throated whiptail (*Aspidoscelis hyperythra*)	WL	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands. Found on sandy or friable soils with open scrub.	Low potential to occur. Suitable habitats are not present on site.
Red-diamond rattlesnake (*Crotalus ruber*)	SSC	Chaparral, coastal sage scrub, along creek banks, and in rock outcrops or piles of debris. Often associated with dense vegetation in rocky areas.	Low potential to occur. Suitable rocky outcrops within scrub and chaparral habitat are not present.
BIRDS			
Burrowing owl (*Athene cunicularia*)	SSC (at burrowing sites & some wintering sites)	Found in grasslands and open scrub from the coast to foothills. Strongly associated with California ground squirrel (Otospermophilus beecheyi) and other fossorial mammal burrows.	Present. Species observed at burrow (breeding) sites during summer 2020 and winter 2021 general biological surveys.
California horned lark (*Eremophila alpestris actia*)	WL	Found from coastal deserts and grasslands to alpine dwarf-shrub habitat above treeline. Also seen in coniferous or chaparral habitats.	Present. Species observed on site during 2020 general biological surveys.
Cooper's hawk (*Accipiter cooperii*)	WL (when nesting)	Usually in oak woodlands but occasionally in willow or eucalyptus woodlands.	Low potential to occur. Although not observed during project surveys, this species is known to occur in the area (eBird 2022). Limited nesting habitat present on site. No large willows, oaks, or eucalyptus trees present on site.

Species	Status	Habitat Description	Potential to Occur
Least Bell's vireo (*Vireo bellii pusillus*)	FE (when nesting); SE (when nesting)	Riparian woodland with understory of dense young willows or mulefat and willow canopy. Nests often placed along internal or external edges of riparian thickets.	Very low potential to occur. Riparian habitats on site are small and lack dense understory.
Loggerhead shrike (*Lanius ludovicianus*)	SSC (when nesting)	Found within grassland, chaparral, desert, and desert edge scrub, particularly near dense vegetation used for nesting.	Low potential to occur. Suitable foraging habitat is present, but dense nesting habitat is not present.
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	WL	Found in arid, moderate to steep rocky terrain with scattered shrub and grass cover.	Low potential to occur. Suitable steep rocky terrain not present.
MAMMALS			
Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)	SSC	Found in low elevation grassland, alluvial sage scrub, and coastal sage scrub.	Low potential to occur. Alluvial sage scrub and coastal sage scrub not present; however, grassland habitat present. Burrows consistent with this species were observed during 2020 general biological surveys; however, Los Angeles pocket mouse sign was not observed. Repeated disturbance of the site would likely preclude this species.
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	SSC	Rugged cliffs, rocky outcrops, and slopes in desert shrub and pine oak forests.	Low potential to occur. Rocky outcrops and cliffs not present.
San Bernardino kangaroo rat (*Dipodomys merriami parvus*)	FE, CSE, SSC	Primarily found in alluvial scrub and floodplain habitats containing sandy loam substrate and open vegetative cover.	Very low potential to occur. Suitable alluvial scrub and floodplain habitat not present.
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	SSC	Habitats include early stages of chaparral, open coastal sage scrub, and grasslands near the edges of brush. Uses open land but requires some shrubs for cover.	Present. Although the site is fairly disturbed, suitable foraging habitat is present for this species.

Species	Status	Habitat Description	Potential to Occur
Southern grasshopper mouse (*Onychomys torridus ramona*)	SSC	Occurs primarily in desert scrub habitats. Habitats with low open and semi-open scrubs habitats including coastal sage scrub, mixed chaparral, low sagebrush, riparian scrub, and annual grassland with scattered shrubs, are less frequently inhabited by this species.	Low potential to occur. Suitable desert habitat with friable soils lacking on site. Grassland habitat is present on site; however, repeated disturbance of the site would likely preclude this species.
Stephens' kangaroo rat (*Dipodomys stephensi*)	FE; ST	Habitats include annual grassland and coastal sage scrub with sparse shrub cover. Commonly in association with *Eriogonum fasciculatum*, *Artemisia californica*, and *Erodium cicutarium*, in areas with loose, friable, well-drained soil, and flat or gently rolling terrain.	Very low potential to occur; 2020 focused surveys were negative. Habitat suitability considered moderate as grassland habitat, *Erodium cicutarium*, and friable soils present.
Western mastiff bat (*Eumops perotis californicus*)	SSC	Chaparral, live oaks, and arid, rocky regions. Requires downward opening crevices.	Low potential to occur. Suitable roosting crevices not present.
Western yellow bat (*Lasiurus xanthinus*)	SSC	Occupies a range of habitats in arid and dry areas. Inhabits secluded woodlands, agricultural lands, and sometimes even residential areas.	Low potential to occur. Suitable roosting habitat not present.

CSE: Candidate State Endangered (CSE) Species under the California Endangered Species Act
FE: Federally Endangered (FE) Species under the Endangered Species Act
FT: Federally Threatened (FT) Species under the Endangered Species Act
SE: State Endangered (SE) under the California Endangered Species Act
ST: State Threatened (ST) under the California Endangered Species Act
SSC: California Department of Fish and Wildlife Species of Special Concern (SSC)
WL: California Department of Fish and Wildlife Watch List (WL) Species

3.4.2.1 Threatened and Endangered Wildlife Species

Riverside Fairy Shrimp (Streptocephalus woottoni)

Riverside fairy shrimp is federally listed as endangered (USFWS 2011). This species is the biotic foundation of the food web for a diverse range of aquatic and terrestrial predators. Riverside fairy shrimp has adapted and evolved to endure dry seasons when vernal pools are not ponded, by lying dormant in cysts (dormant eggs) until environmental conditions are optimal for the Riverside fairy shrimp life cycle. Hatching and observation periods are variable based on annual and seasonal precipitation levels. Riverside fairy shrimp hatch and mature within 48 to 56 days, depending on environmental variables such as water temperature. Since Riverside fairy shrimp matures slowly (as

compared to seven to 14 days for San Diego fairy shrimp), it is generally restricted to the cooler water temperatures of deep (greater than 12 inches or 30 centimeters) vernal pools (USFWS 2011).

Riverside fairy shrimp is considered to have one of the most limited distributions among west coast-endemic fairy shrimps, found in California only in Ventura, Orange, Riverside, and San Diego Counties (and is also known to occur in Baja California). The extent of the Riverside fairy shrimp range in California spans 163 miles north-south and all populations, with the exception of the Riverside population, are found within 15 miles of the coast (USFWS 2011).

Riverside fairy shrimp's restricted distribution and requirement for deep vernal pools that pond for a minimum of six weeks is attributed to the species substantial development period. Riverside fairy shrimp takes approximately 48 to 56 days to carry out its lifecycle. The species is typically observed from mid-March to April; however, the species may hatch outside of its characteristic season due to early or late precipitation. Riverside fairy shrimp is relatively sedentary and does not possess a strong ability to disperse (USFWS 2011).

Based on the 2008 5-year review for Riverside fairy shrimp, there are 45 known extant or presumed extant occurrences in approximately 200 vernal pools and vernal pool complexes. A CNDDB query (2020) shows two historical occurrences of Riverside fairy shrimp. One population within one mile northwest of the project site is considered to be possibly extirpated (Figure 4A and Figure 4B). One additional population located approximately 1.8 miles north of the project site is listed as extirpated (CNDDB 2020).

The project site supports potential ponding features that are likely capable of retaining inundation for periods greater than 120 days, and therefore may be suitable for Riverside fairy shrimp. As such, Riverside fairy shrimp was considered to have a moderate potential to occur on site and protocol surveys were conducted as part of this analysis.

Dry season surveys were conducted on October 21, 2020 and September 28, 2021, and wet season surveys were conducted between January 6 and April 9, 2021. Both wet and dry season surveys were negative for Riverside fairy shrimp (RBC 2021; Appendix F).

Vernal Pool Fairy Shrimp (Branchinecta lynchi)

Vernal pool fairy shrimp is federally listed as threatened. This species occurs from Jackson County near Medford, Oregon, throughout the Central Valley, and west to the central Coast Ranges. Isolated southern populations occur on the Santa Rosa Plateau and near Rancho California in Riverside County (Eng et al.1990). This species is more typical of natural vernal pools, not riverine or other systems. In its southernmost range, e.g., Riverside County, this species tends to occur in pools that pond for long periods of time (USFWS 2007).

This species has not been reported in the immediate project area (CNDDB 2020). However, on-site ponding features support potentially suitable habitat for vernal pool fairy shrimp. Vernal pool fairy shrimp require a long ponding period that deeper pools, such as those at the Santa Rosa Plateau with depths up to 16 inches, provide (Chester 2007). The project site supports features that likely remain inundated for long periods, and therefore may be suitable for vernal pool fairy shrimp. As

such, vernal pool fairy shrimp has a low to moderate potential to occur on site and protocol large branchiopod (fairy shrimp) wet and dry season surveys were conducted as part of this analysis.

Dry season surveys were conducted on October 21, 2020 and September 28, 2021 and wet season surveys were conducted between January 6 and April 9, 2021. Both wet and dry season surveys were negative for vernal pool fairy shrimp (RBC 2021; Appendix F). *Branchinecta* cysts were detected during dry season surveys; however, only the non-listed versatile fairy shrimp (*Branchinecta lindahli*) was documented. Similarly, versatile fairy shrimp was detected during wet season surveys but the listed vernal pool fairy shrimp was not observed.

Least Bell's Vireo (Vireo bellii pusillus)

Least Bell's vireo is federally and state-listed as endangered. Historically, this species was a common summer visitor to riparian habitat throughout much of California. The species is now found only in riparian woodlands in southern California, with the majority of breeding pairs in San Diego, Santa Barbara, and Riverside Counties. Least Bell's vireo is a migratory species, which typically arrives in southern California in late March or early April and leaves for its wintering ground in September.

This species is restricted to riparian woodland and is most frequent in areas that include an understory of dense young willows or mulefat with a canopy of tall willows. Least Bell's vireo typically builds its nests along edges of riparian thickets (Unitt 2004) approximately three feet above the ground.

The decline of Least Bell's vireo has been attributed primarily to habitat loss, degradation, and fragmentation combined with brood and nest parasitism by brown-headed cowbird (*Molothrus ater*). Significant effort has been focused on preserving, enhancing, and creating suitable nesting habitat for the species, and extensive cowbird control programs have helped this species' populations rebound along several of its breeding drainages in southern California (Durst et al. 2006).

Least Bell's vireo historically occurs within three miles of the project site (Figure 4A). Though an area of Goodding's willow - red willow riparian woodland and forest occurs within the survey area, it is extremely small (0.04 acre) and is not connected to any larger area of suitable habitat and lacks the dense understory typically associated with suitable nesting habitat. As such, this species has a low potential to occur on site.

San Bernardino Kangaroo Rat (Dipodomys merriami parvus)

San Bernardino kangaroo rat, a subspecies of Merriam's kangaroo rat (*D. merriami*), is federally listed as endangered and is a CDFW Species of Special Concern.

San Bernardino kangaroo rat inhabits open, early to intermediate-stage successional alluvial fan scrub habitats containing sandy or gravelly substrates in southwestern San Bernardino and northern Riverside Counties (USFWS 2009). The chief populations of this subspecies are primarily known from the upper Santa Ana River and tributaries. Habitat for this subspecies typically occurs on braided channels and floodplains with active fluvial processes and upland terraces in close proximity. Hydrological processes greatly influence the habitat of San Bernardino kangaroo rat.

Flooding events can destroy habitat, however, are necessary to maintain open alluvial fan scrub. Absence of flooding events creates stands of alluvial fan vegetation too closed for this subspecies.

San Bernardino kangaroo rat is primarily granivorous and will occasionally eat leafy vegetation and insects. This subspecies collects seeds and stores them in pit caches or within fossorial burrows.

Timing of reproduction is variable for this subspecies, based on environmental conditions such as food availability. Reproductive activity levels in males have been documented from January through August. Females may lay more than one litter per year, with litter size averaging two to three young.

Threats to San Bernardino kangaroo rat include loss of habitat because of natural and anthropogenic causes, such as flooding and human alteration of hydrological processes. Habitat fragmentation also poses a threat to the survivorship and longevity of this subspecies.

A historical occurrence for San Bernardino kangaroo rat exists within three miles of the project site (Figure 4B; CDFW 2020a). Suitable burrows and San Bernardino kangaroo rat sign were not observed during 2020 or 2021 biological surveys. Furthermore, suitable open alluvial fan scrub is not present on site (Figure 2) and no San Bernardino kangaroo rats were observed incidentally during focused Stephens' kangaroo rate surveys conducted in 2020. As such, San Bernardino kangaroo rat has a very low potential to occur on site.

Stephens' Kangaroo Rat (Dipodomys stephensi)

Stephens' kangaroo rat is federally listed as endangered and state-listed as threatened. There are three distinct regions with Stephens' kangaroo rat populations: western Riverside County, western San Diego County, and central San Diego County. Stephens' kangaroo rat historically occurred in southwestern San Bernardino County but is believed to be extirpated from that area (USFWS 1997).

Habitat for Stephens' kangaroo rat includes open grasslands, fallow agricultural fields, and sparse coastal sage scrub in areas with penetrable soils and flat to fairly steep sloping topography (USFWS 1997). Stephens' kangaroo rat is found at elevations of 180 to 4,100 feet amsl, with most populations located at elevations below 2,000 feet amsl (USFWS 1997). Habitat for Stephens' kangaroo rat varies in composition and density from place to place and season to season. Filaree (*Erodium* spp.) frequently dominates the best Stephens' kangaroo rat habitat areas, especially during and shortly after the rainy season (RECON 1989). Areas with dense grass cover are typically not suitable for Stephens' kangaroo rat (USFWS 1997). A nocturnal species, Stephens' kangaroo rat consumes a diet primarily of seeds. The decline of this species is attributed in large part to habitat loss and fragmentation due to urban development and agriculture. Other factors contributing to the loss of the species include off-road vehicles, rodent control, and predation by feral and domestic cats (USFWS 1997).

Stephens' kangaroo rat has been reported within one mile of the project site (CDFW 2020a; Figure 4A). Suitable grassland habitat containing *Erodium cicutarium* is present on the project site and burrows consistent with this species were observed during 2020 general biological surveys. Due to the disturbed nature (disked soil) of the site, the probability of an extant, on-site Stephens'

kangaroo rat population is not as high as it might have been historically; however, this species was considered to have a moderate potential to occur on site and surveys were conducted as part of this review effort. Results of protocol Stephens' kangaroo rat surveys conducted in 2020 were negative. The complete Stephens' kangaroo rat survey report is presented in Appendix G.

3.4.2.2 Wildlife Species of Special Concern & Watch List Species

California Glossy Snake (Arizona elegans occidentalis)

The California glossy snake is a CDFW Species of Special Concern. This subspecies occurs from the eastern portion of the San Francisco Bay Area to northwestern Baja, California but is absent from the central coast. The California glossy snake typically inhabits arid scrublands, rocky washes, grasslands and chaparral and prefers microhabitats of open areas with loose soil for easy burrowing. This species is nocturnal and is generally active from late February to November with peak activity occurring in May (Stebbins 2003).

Threats to this species include habitat modification due to agricultural, commercial, and residential development (Thomson et al. 2016). Due to the species' nocturnal nature, it was not observed on site during general biological surveys; however, there is suitable grassland habitat on site with an abundance of small mammal burrows dug into loose soil that can support this species. Therefore, this species has a moderate potential to occur on site.

Burrowing Owl (Athene cunicularia)

Burrowing owl is a CDFW Species of Special Concern at nesting sites and is federally protected by the MBTA. The western subspecies of burrowing owl (*A. c. hypugaea*) breeds from southern Canada to the western half of the United States and into Baja California and central Mexico. In California, suitable habitat for burrowing owl is generally characterized by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils, such as naturally occurring grassland, shrub steppe, and desert habitats (Haug et al. 1993). Burrowing owl may also occur in agricultural areas, ruderal grassy fields, vacant lots, and pastures containing suitable vegetation structure and useable burrows with foraging habitat in proximity (Gervais et al. 2008). Burrowing owl usually use burrows dug by California ground squirrel (*Otospermophilus beecheyi*) and round-tailed ground squirrel (*Citellus tereticaudus*) and dens or holes dug by other fossorial species including badger (*Taxidea taxus*), coyote (*Canis latrans*), and fox (e.g., San Joaquin kit fox [*Vulpes macrotis mutica*]) (Ronan 2002). Burrowing owl also frequently use natural rock cavities, debris piles, culverts, and pipes for nesting and roosting (Rosenberg et al. 2004) and have been documented using artificial burrows for nesting and cover (Smith and Belthoff 2001).

Burrowing owls have declined throughout much of their range because of habitat loss due to urbanization, agricultural conversion, and destruction of ground squirrel colonies (Remsen 1978). The incidental poisoning of burrowing owls and the destruction of their burrows during eradication programs aimed at rodent colonies have also caused their decline (Collins 1979; Remsen 1978). Although burrowing owl are relatively tolerant of lower levels of human activity, human-related impacts such as shooting and introduction of non-native predators have negative population

impacts. Burrowing owl often nest and perch near roads where they are vulnerable to roadside shooting, fatal car strikes, and general harassment (Remsen 1978).

Several burrowing owls were documented on the project site during 2020 and 2021 biological surveys. Three burrowing owls were observed at two separate occupied burrow sites during May 2020 general biological surveys of the site, including: 1) A pair of burrowing owls at a burrow on the northern boundary of the site: and 2) An individual owl at a burrow southeastern of the project site. In addition, one individual owl was flushed from the central portion of the site during October 21, 2020 dry season fairy shrimp soil collection surveys. This individual was likely one of the owls documented at burrows five months before during general biological surveys (Figure 2). In addition, multiple burrows were observed throughout the survey area that did not appear to be active but have the potential to support owls.

In total, three to four burrowing owls were documented within the study area during project biological surveys.

California Horned Lark (Eremophila alpestris actia)

California horned lark is a CDFW Species of Special Concern found from coastal deserts and grasslands to alpine dwarf-shrub habitat above tree line, and in coniferous or chaparral habitats. It is a common to abundant resident in a variety of open habitats, usually found in habitats where trees and large shrubs are absent. Within southern California, California horned larks nest on the ground in open fields, grasslands, and rangelands. Horned larks forage in areas with low-growing vegetation and feed primarily on grains and other seeds, shifting to mostly insects in the summer months. California horned lark breeds from March through July, with a peak in activity in May. Pairs do not maintain territories outside of the breeding season and instead form large gregarious, somewhat nomadic flocks.

Threats to California horned lark include habitat destruction and fragmentation. Habitats preferred by California horned lark are easily converted to other landscapes and human uses such as farmland and development. Pesticides have also been shown to poison and kill horned larks (Beason 1995). As a ground nester, California horned lark is vulnerable to mowing in a variety of habitats and pesticide use in agricultural fields.

California horned lark were observed foraging in the project site buffer during biological surveys (Figure 2).

San Diego Black-Tailed Jackrabbit (Lepus californicus bennettii)

San Diego black-tailed jackrabbit is a California Species of Special Concern. San Diego black-tailed jackrabbit is found from the coast to the western slope of the coastal mountains, up to 6,000 feet amsl. It inhabits open land but requires some shrubs for cover. Typical habitats include early stages of chaparral, open coastal sage scrub, and grasslands near the edges of brush. Their preferred foods are grasses and forbs, with a reported diet of 65% shrub browse and 35% herbage (Chew and Chew 1970). Breeding occurs throughout the year, and young are born under shrubs with no special nest structure. Home ranges averaging 45 acres have been recorded in California (Lechleitner 1958).

Population declines threaten this subspecies with extinction in the state. It is currently considered vulnerable due to a restricted range and small number of populations. Major threats to black-tailed jackrabbit include habitat loss and fragmentation due to agriculture and urban development.

Three individual San Diego black-tailed jackrabbits were observed during project general biological surveys, two in the western portion of the project site and one immediately outside the southwestern boundary of the project site (Figure 2).

3.4.2.3 Critical Habitat

The ESA defines critical habitat as a specific geographic area, or areas, that contains features essential for the survival and recovery of endangered and threatened species. USFWS designates critical habitat for endangered and threatened species and may include sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Critical habitat may also include areas that are not currently occupied by the species, but that will be needed for its recovery. Special management of critical habitat, including measures for water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types is required to ensure the long-term survival and recovery of the identified species.

No USFWS-designated critical habitat or proposed critical habitat occurs within three miles of the proposed project site (USFWS 2020).

3.5 WILDLIFE CORRIDORS

A wildlife corridor can be defined as a physical feature that links wildlife habitat, often consisting of native vegetation that joins two or more larger areas of similar wildlife habitat. Corridors enable migration, colonization, and genetic diversity through interbreeding and are therefore critical for the movement of animals and the continuation of viable populations. Corridors can consist of large, linear stretches of connected habitat (such as riparian vegetation) or as a sequence of stepping-stones across the landscape (discontinuous areas of habitat such as wetlands and ornamental vegetation), or corridors can be larger habitat areas with known or likely importance to local fauna.

Regional corridors are defined as those linking two or more large patches of habitat, and local corridors are defined as those allowing resident animals to access critical resources (food, cover, and water) in a smaller area that might otherwise be isolated by urban development. A viable wildlife migration corridor consists of more than an unobstructed path between habitat areas. Appropriate vegetation communities must be present to provide food and cover for both transient species and resident populations of less mobile animals. There must also be a sufficient lack of stressors and threats within and adjacent to the corridor for species to use it successfully.

The project area does not serve as a wildlife corridor, as the areas surrounding the site are substantially developed. While there is undeveloped land to the north and west of the site, these areas are active airport lands and do not likely serve as a significant wildlife corridor.

4 IMPACT ANALYSIS

Direct impacts are caused by the project and occur at the same time and place as the project. Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Direct impacts would include direct losses to native habitats, potential jurisdictional waters, wetlands, and special-status species; and diverting natural surface water flows. Direct impacts could include injury, death, and/or harassment of listed and/or special-status species. Direct impacts could also include the destruction of habitats necessary for species breeding, feeding, or sheltering. Direct impacts on plants can include crushing of adult plants, bulbs, or seeds.

Indirect impacts can result from project-related activities where biological resources are affected in a manner that is not direct. Indirect impacts may occur later in time or at a place that is farther removed in distance from the project than direct impacts, but indirect impacts are still reasonably foreseeable and attributable to project-related activities. Examples include habitat fragmentation; elevated noise, dust, and lighting levels; changes in hydrology, runoff, and sedimentation; decreased water quality; soil compaction; increased human activity; and the introduction of invasive wildlife (domestic cats and dogs) and plants.

Cumulative impacts refer to incremental individual environmental effects of two or more projects when considered together. Such impacts taken individually may be minor but are collectively significant in light of regional impacts.

March JPA's 2015 Local CEQA Guidelines Form J thresholds of significance have been used to determine whether project implementation would result in a significant direct, indirect, and/or cumulative impact. These thresholds are based on Appendix G of the state CEQA Guidelines (CCR Title 14, Division 6, Chapter 3, Sections 15000–15387). A significant biological resources impact would occur if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS;
- Have a substantial adverse effect on federal protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marshes, vernal pools, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy, or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plan.

4.1 VEGETATION IMPACTS

The proposed project will primarily result in permanent impacts on non-native upland vegetation communities and land uses, including non-native grassland, ruderal land, developed land, disturbed habitat, and ornamental vegetation (Figure 5; Table 8). Minor impacts on isolated riparian habitat, *Salix gooddingii* (Goodding's black willow), will also occur with project implementation.

Salix gooddingii within the project site is small, totaling 0.02 acre, and isolated. As noted in Section 3.2, germination of riparian species in an otherwise upland area appears to be the result of runoff from the adjacent development. These few individual trees/shrubs do not provide any significant habitat value for local wildlife and are not associated with jurisdictional wetlands (RBC 2022). Given its unnatural existence and lack of habitat value, this area does not warrant mitigation as a protected community. As such, impacts to riparian vegetation communities would be less than significant.

Non-native grassland, though not a native habitat, is sometimes considered to have biological value for raptor foraging and other wildlife use. Burrowing owl, a CDFW species of special concern, was observed in the non-native grassland on site. Mitigation for burrowing owl will be performed as outlined in Section 5.1, below. As such, impacts to non-native grassland would be less than significant.

Table 8. D-1 Gateway Aviation Center Vegetation Communities/Land Use Project Impacts

Vegetation (Holland)[1]	Vegetation[2]	Project Site Impacts (acres)
UPLAND VEGETATION COMMUNITIES		
Non-native Grassland	Red brome or Mediterranean grass grasslands	32.19
Ruderal	Upland mustards and other ruderal forbs	0.61
	Subtotal	*32.80*
RIPARIAN VEGETATION COMMUNITIES		
Salix gooddingii[3]	Goodding's black willow[3]	0.02
	Subtotal	*0.02*
LAND COVERS		
Developed	Developed/Disturbed	11.68
Disturbed Habitat	Developed/Disturbed	0.99
Ornamental	Developed/Disturbed	0.08
	Subtotal	*12.75*
	Total	45.57

[1] *Vegetation communities recognized by Holland (1986)*
[2] *Vegetation communities from Holland (1986) crosswalked to The Manual of California Vegetation (Sawyer et al. 2009)*
[3] *Distinct from surrounding vegetation; does not have an equivalent Holland or MCV2 vegetation community*

4.2 POTENTIAL JURISDICTIONAL AQUATIC RESOURCES IMPACTS

Based upon the results of the ARDR (RBC 2022; Appendix E), the project would permanently impact approximately 0.35 acre (1,162 linear feet) of non-wetland waters of the U.S. and 0.10 acre of wetland waters of the U.S. jurisdictional by the Corps (Table 9; Figure 6A), 0.34 acre of non-wetland waters of the State (1,130 linear feet) and 0.11 acre (22 linear feet) of wetland waters of the State jurisdictional by the RWQCB (Table 10; Figure 6B), and 0.49 acre (1,162 linear feet) of vegetated streambed jurisdictional by the CDFW (Table 11; Figure 6C).

Please note that the original site plan was larger than the project site depicted on the figures in this report; therefore, numbering of the aquatic resources shown on Figures 3A – 3C is non-consecutive and follows the numbering presented in the ARDR (RBC 2022; Appendix E).

Permitting through the Corps, RWQCB, and CDFW would be required for impacts on non-wetland and wetland waters of the U.S. jurisdictional by the Corps, non-wetland and wetland waters of the State jurisdictional by the RWQCB, and vegetated streambed jurisdictional by the CDFW. The project applicant will be responsible for acquiring the necessary authorizations required by the Corps, RWQCB, and CDFW and associated compensatory mitigation requirements, if applicable.

Table 9. D-1 Gateway Aviation Center Potential Corps Aquatic Resource Impacts

Aquatic Resource Name	Project Site Impacts (acres)	Project Site Impacts (linear feet)
NWW-1A	0.34	1,139
NWW-1B	0.01	22
Non-Wetland Waters of the U.S. Subtotal[1]	*0.35*	*1,162*
WW-1	0.04	0[2]
WW-2	0.07	0[2]
Wetland Waters of the U.S. Subtotal[1]	*0.10*	*0*
Total[1]	0.45	1,162

[1] *Acreages and linear feet summed using raw numbers provided during GIS analysis (available upon request) and thus the sum of the total rounded numbers may not directly add up in this table.*
[2] *Linear footage not calculated as this feature is considered a seasonally inundated depression not associated with a linear riverine feature.*

Table 10. D-1 Gateway Aviation Center Potential RWQCB Aquatic Resource Impacts

Aquatic Resource Name	Project Site Impacts (acres)	Project Site Impacts (linear feet)
NWW-1	0.34	1,139
Non-Wetland Waters of the State Subtotal	*0.34*	*1,139*
WW-1	0.01	22
WW-2	0.04	0[1]
WW-3	0.07	0[1]
Wetland Waters of the State Subtotal[2]	*0.11*	*22*
Total[2]	0.45	1,162

[1] *Linear footage not calculated as this feature is considered a seasonally inundated depression not associated with a linear riverine feature.*
[2] *Acreages and linear feet summed using raw numbers provided during GIS analysis (available upon request) and thus the sum of the total rounded numbers may not directly add up in this table.*

Table 11. D-1 Gateway Aviation Center Potential CDFW Aquatic Resource Impacts

Aquatic Resource Name	Project Site Impacts (acres)[1]	Project Site Impacts (linear feet)
NWW-1	0.49	1,162
Total	0.49	1,162

4.3 SPECIAL-STATUS PLANTS AND WILDLIFE IMPACTS

4.3.1 FEDERALLY AND STATE LISTED THREATENED/ENDANGERED SPECIES

No federally and/or state listed species were documented on site during 2020 and 2021 project surveys and none have a moderate or high potential to occur on site.

Stephens' Kangaroo Rat

Protocol live-trapping surveys for Stephens' kangaroo rat were performed as part of this project and were negative (Appendix F). As such, no impacts on Stephens' kangaroo rat would occur with project implementation.

Riverside Fairy Shrimp and Vernal Pool Fairy Shrimp

Protocol wet and dry season surveys for Riverside fairy shrimp and vernal pool fairy shrimp were performed as part of this project and were negative. Riverside fairy shrimp and vernal pool fairy shrimp are considered absent from the project site; as such, no impacts on these species would occur with project implementation.

4.3.2 SPECIAL-STATUS PLANT SPECIES

CRPR Listed Plant Species

One CRPR plant species, paniculate tarplant, occurs on the project site. Paniculate tarplant is a CRPR rank 4.2 species and State Rank S4. Its CRPR 4.2 listing means it is of limited distribution and moderately threatened in California (20-80% of occurrences threatened). Paniculate tarplant State Rank S4 signifies the plant is apparently secure within California (CNPS 2020). No additional CRPR plant species occur or have a moderate or high potential to occur on site based on the disturbed nature of the site and lack of suitable habitats

CRPR 4 plants "meet the definitions of the California Endangered Species Act of the California Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and we strongly recommend that California Rare Plant Rank 4 plants be evaluated for impact significance during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, based on CEQA Guidelines §15125 (c) and/or §15380" (California Native Plant Society [CNPS] 2020). Paniculate tarplant's State Rank of S4 means that it is "apparently secure – uncommon but not rare; some cause for long-term concern due to declines or other factors."

An estimated 1,000 individuals of paniculate tarplant were observed consistently throughout the non-native grassland habitat within the project site and would be permanently impacted with construction of the project (Figure 5). As part of the March Air Force Base closure process, 664 acres of lands were placed into conservation easement to offset species and habitat losses associated with base redevelopment, including development of the project site. Conserved areas occur west of I-15, approximately 3.3 miles northwest of the project site and provide similar habitats to those that the project will impact, including non-native grasslands, with patches of Riversidean sage scrub and riparian areas (Center for Natural Lands Management 2012). It is also likely, given the habitats present within the conserved areas, that there are additional populations of

paniculate tarplant within the conserved areas. As such, many habitat and species losses have already been addressed through preservation of the conserved areas, including paniculate tarplant and other CRPR species. Additionally, paniculate tarplant is still relatively common throughout its range and the small impact on suitable habitat within the project site would not cause a considerable decline in its numbers or distribution. Given previous implementation of the habitat-based mitigation and the relatively low-sensitivity of the species, impacts on paniculate tarplant would be less than significant.

4.3.3 WILDLIFE SPECIES OF SPECIAL CONCERN & WATCH LIST SPECIES

Burrowing Owl

Burrowing owls were observed on site during 2020 and 2021 biological surveys. With project implementation, direct impacts on burrowing owl could occur in the form of habitat destruction, and potentially death, injury, or harassment of nesting birds, their eggs, and their young. Injury or mortality occurs most frequently during the vegetation clearing stage of construction and affects eggs, nestlings, and recently fledged young that cannot safely avoid equipment. Potential impacts on burrowing owl were identified in the *Master Environmental Impact Report for the General Plan of the March Joint Powers Authority* (March JPA 1999a). Project impacts on burrowing owls are potentially significant and mitigation, as outlined in Section 5 (MM-1), will be required during project implementation.

Other Special-status Wildlife Species

San Diego black-tailed jackrabbit (CDFW Species of Special Concern) and California horned lark (CDFW Watch List) were also observed within the project site during 2020 surveys (Appendix C). One additional Species of Special Concern, California glossy snake, has a moderate potential to occur on site.

As previously discussed, as part of the March Air Force Base closure process, 664 acres of lands were placed into conservation easement to offset species and habitat losses associated with base redevelopment, including development of the project site. As such, loss of habitat for Species of Special Concern and Watch List species have been offset through conservation of 664 acres of habitat as part of the larger base closure efforts; habitat-based impacts on these species would be less than significant, conditional upon satisfaction of previous mitigation requirements. Additionally, adult avian species would likely flush during initial project activities, and with implementation of nesting bird protections (MM-4), potential impacts on nests would be avoided. Thus, direct avian impacts would be avoided.

However, potential direct mortality of San Diego black-tailed jackrabbit and California glossy snake, if present, could occur during construction activities; impacts on these species are potentially significant and mitigation, as outlined in Section 5 (MM-2 and MM-3), will be required during project implementation.

4.4 NESTING BIRD IMPACTS

The project site has minor potential to support avian nests, which would be protected under the MBTA and/or CFGC §3503, which provides that it is unlawful to "take, possess, or needlessly destroy" avian nests or eggs. Thus, potential impacts could occur if vegetation clearing is undertaken during the breeding season. Removal of habitat would occur outside of the breeding season (February 1 to September 15). If vegetation removal cannot occur outside of the breeding season, a qualified biologist would survey the area prior to construction initiation. If active nests are found, the project clearing in that area plus an appropriate buffer (determined by the qualified biologist in consultation with CDFW) would be delayed until nestlings have fledged. Please refer to Section 5 (MM-4) for full nest protection requirements.

4.5 WILDLIFE CORRIDOR IMPACTS

Much of the project site is bordered by developed land. While there is undisturbed land to the north and west of the main project site, these areas are active airport lands and do not likely serve as a significant wildlife corridor. Thus, the project would not impact wildlife corridors.

4.6 LOCAL POLICIES & ORDINANCES IMPACTS

4.6.1 MARCH JPA GENERAL PLAN

The March JPA General Plan Resource Management Element provides for the conservation, development, and use of natural resources. It includes the following policies related to biological resources:

Policy 1.1 Where possible, retain local drainage courses, channels and creeks in their natural condition.

Policy 2.6 Open channels shall be encouraged, as appropriate, to maintain or enhance riparian habitat areas.

Policy 5.1 Where practical, conserve important plant communities and habitats such as riparian areas, wetlands, significant tree stands, and species by using buffers, creative site planning, revegetation, and open space easement/dedications.

Policy 5.4 In areas that may contain important plant and animal communities, require development to prepare biological assessments identifying species types and locations and develop measures to preserve recognized sensitive species, as appropriate.

Policy 5.5 Where practical, allow development to remove only the minimum natural vegetation and encourage the revegetation of graded areas with native plant species.

Policy 5.6 Work with state, federal and local agencies in the preservation and/or mitigation of recognized sensitive vegetation and wildlife in March JPA Planning Area.

The proposed project would impact aquatic resources; however, mitigation outlined in section 5 (MM-5) would reduce impacts to less than significant.

This BTR was prepared for the proposed project in conformance with goal 5.4 of the plan and includes measures to mitigate the project's potential impacts to those species.

Potential impacts on sensitive wildlife and associated habitats were addressed as part of the March Air Force Base closure USFWS Section 7 consultation (BO 1-6-99-F-13) and subsequent *Center of Biological Diversity v. Jim Bartel et al.* Settlement Agreement (S.D. Cal. No. 09-cv-1854-JAH-POR).

As such, impacts to the March JPA General Plan would be less than significant and no additional mitigation is required.

4.6.2 RIVERSIDE COUNTY ORDINANCE NOS. 499 & 559 – TREE REMOVAL AND RIVERSIDE COUNTY OAK TREE MANAGEMENT POLICY

No native oaks occur within the project site; therefore, no impacts on oaks that are protected under the Riverside County Oak Tree Management Guidelines would occur with project implementation.

The only trees that occur near roadways are willows and street tree plantings. Pursuant to Unincorporated Riverside County Ordinance No. 499 (as amended though 499.11), "No person, firm, corporation, public district, public agency or political subdivision shall remove or severely trim any tree planted in the right of way of any County highway without first obtaining a permit from the County Transportation Director to do so" [emphasis added]. As there have been no street trees planted on the project site, no impacts on trees protected under Ordinance No. 499.11 would occur with project implementation.

Chapter 12.24 of the Riverside County Code of Ordinances also includes regulations related to tree removal (County of Riverside 2016). According to the Unincorporated Riverside County Ordinance No. 559 (as amended through 559.7), the removal of living native trees on parcels or property greater than 0.5 acre in size, located in the unincorporated Riverside County, and above 5,000 feet amsl requires a permit. The project site elevation is below 5,000 feet amsl; as such, this ordinance is not applicable and no impacts on trees protected under Riverside County Ordinance No. 559 would occur with project implementation.

4.7 HABITAT CONSERVATION PLAN; NATURAL COMMUNITY CONSERVATION PLAN; OR OTHER APPROVED LOCAL, REGIONAL, OR STATE HABITAT CONSERVATION PLAN IMPACTS

The project area is located within SKR HCP (RCHCA 1996); however, March JPA is not a participating agency in this plan, and this species is not present on the project site.

The project is physically located within the Western Riverside MSHCP area (RCA 2003). However, March JPA is not a Permittee in the MSHCP, and therefore, projects under their authority are not subject to the MSHCP nor are they granted any take authorization unless they choose to apply for take under the Participating Special Entity process. Nevertheless, the Regional Conservation Authority *MSHCP Information Map* (RCA 2021) was reviewed for requirements that could result in

a potential conflict between the proposed project and the MSHCP. The project area is not located within a Criteria Cell. The project area is within an area where burrowing owl surveys are required, but not in an area where surveys for narrow endemic criteria area plants, small mammals, and/or amphibians are required (RCA 2020). For plant and wildlife species that are covered under the MSHCP, impacts are fully mitigated for covered activities within Riverside County by payment of the MSHCP fee and through consistency with MSHCP Section 6 policies and requirements. Though the March JPA is not a Permittee in the MSHCP and required to be consistent with the MSHCP, implementation of mitigation as part of the proposed project is beneficial to the MSHCP. Specifically, mitigation (MM-1A, MM-1B, and MM-2) as proposed is consistent with the MSHCP requirements for burrowing owl. In addition, MM-1A, MM-1B, and MM-5 are consistent with the MSHCP requirements for Section 6.1.2 Riparian/Riverine and Vernal Pool Resources.

Because there would be no conflicts with the SKR HCP nor the Western Riverside MSHCP, there would be no project impacts related to these plans and no mitigation specific to either of these plans is required.

4.8 CUMULATIVE IMPACTS

The project would result in impacts on potentially jurisdictional features, developed lands, disturbed habitat, non-native grassland, ruderal vegetation, ornamental vegetation, and *Salix gooddingii*, as well as burrowing owl, California horned lark, San Diego black-tailed jackrabbit, and glossy snake, if present.

Project biological impacts were previously analyzed under the larger March Air Force Base re-use EIR, and the project area is included in the regional MSHCP planning area. The MSHCP is a regional effort to offset significant cumulative biological impacts, and all development in the region that is permitted through the County of Riverside must comply with the MSHCP. Because of this regional biological planning, cumulative biological impacts on vegetation communities and most species in the region are not significant when developments are pursued in compliance with the plan. Though the March JPA is an independent agency and therefore not a participant under the MSHCP, project mitigation will be pursued in a manner consistent with the MSHCP. As such, most cumulative impacts are considered less than significant.

Impacts on California horned lark, San Diego black-tailed jackrabbit, and glossy snake, if present, are not anticipated to be cumulatively significant. These species are covered under the regional MSHCP and are expected to be conserved under that plan. Due to the regional scarcity of burrowing owls, however, cumulative impacts have the potential to be significant. Burrowing owl have not been documented on recent projects immediately surrounding the March Air Base, e.g., K4 Warehouse project (Rocks Biological Consulting 2020). However, owls have been documented in nearby areas to the west of Interstate 15, including Meridian South Campus developments (Rocks Biological Consulting 2018) and Veteran's Industrial Park (March JPA 2019). Future growth in the area could result in additional impacts and potentially significant cumulative impacts to burrowing owls. Because the proposed project has a potential to result in significant impacts to burrowing owls, its contribution to cumulative burrowing owl impacts on burrowing owl in the

region would be cumulatively considerable. However, with implementation of mitigation measure MM-1A and MM-1B, cumulative impacts would be reduced to less than significant.

5 MITIGATION

The following discussion provides project-specific mitigation/avoidance measures for potential impacts on biological resources.

5.1 BURROWING OWL AVOIDANCE AND MITIGATION

RBC observed burrowing owl, a CDFW Species of Special Concern, during 2020 and 2021 biological surveys. As such, the following mitigation for burrowing owl is required:

MM-1A: Prior to the initiation of construction activities, a qualified biologist shall conduct pre-construction surveys for burrowing owl to determine presence/absence of the species. The survey shall be conducted in accordance with the most current and applicable CDFW protocol within 30 days of site disturbance. If burrowing owls are not detected during the clearance survey, no additional mitigation is required. Preconstruction surveys shall include suitable burrowing owl habitat within the project footprint and within 500 feet of the project footprint (or within an appropriate buffer as required in the most recent guidelines and where legal access to conduct the survey exists). If burrowing owls are not detected during the clearance survey, no additional mitigation is required.

If burrowing owl is located, occupied burrowing owl burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by CDFW verifies through non-invasive methods that either the birds have not begun egg laying and incubation, or that juveniles from the occupied burrows are foraging independently and capable of independent survival. Disturbance buffers shall be implemented by a qualified biologist in accordance with the recommendations included in the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). A biologist shall be contracted to perform monitoring during all construction activities approximately every other day. The definitive frequency and duration of monitoring shall be dependent on whether it is the breeding versus non-breeding season and the efficacy of the exclusion buffers, as determined by a qualified biologist and in coordination with CDFW.

If burrowing owl is detected during the non-breeding season (September 1 through January 31) or confirmed to not be nesting, a non-disturbance buffer between the project activities and the occupied burrow shall be installed by a qualified biologist in accordance with the recommendations included in the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012).

MM-1B: If avoidance is not possible, either directly or indirectly, a Burrowing Owl Relocation and Mitigation Plan shall be prepared and submitted for approval by CDFW. Once approved, the Plan would be implemented to relocate non-breeding burrowing owls from the project site. The Plan shall detail methods and guidance for passive relocation of burrowing owls from the project site, provide monitoring and management of the replacement burrow sites reporting requirements, and ensure that

a minimum of two suitable, unoccupied burrows are available off site for every burrowing owl or pair of burrowing owls to be passively relocated. Compensatory mitigation of habitat would be required if occupied burrows or territories occur within the permanent impact footprint. Habitat compensation shall be approved by CDFW and detailed in the Burrowing Owl Relocation and Mitigation Plan.

The project applicant shall submit at least one burrowing owl pre-construction survey report to the satisfaction of the March Joint Powers Authority and CDFW to document compliance with this mitigation measure. For the purposes of this mitigation measure, 'qualified biologist' is a biologist who meets the requirements set forth in the CDFW *Staff Report on Burrowing Owl Mitigation* (CDFW 2012).

5.2 BEST MANAGEMENT PRACTICES: SITE MONITORING AND ADJACENCY IMPACT AVOIDANCE

To avoid impacts to sensitive resources as well as inadvertent disturbance to areas outside the limits of the proposed project activities, the following monitoring requirements and BMPs shall be implemented.

MM-2:

- A biologist shall be contracted to perform daily monitoring during initial vegetation removal and throughout ground disturbing activities that result in the breaking of the ground surface. After initial vegetation removal and ground disturbance that results in breaking of the ground surface, a biologist shall be contracted to perform regular random checks (not less than once per week but could be increased depending on the presence of sensitive species) to ensure that all mitigation and best management practices (BMPs) are implemented. In addition, monitoring reports and a post-construction monitoring report will be prepared to document compliance with these mitigation measures and BMPs.
- To prevent inadvertent disturbance to areas outside the limits of work, the construction limits shall be clearly demarcated (e.g., installation of flagging or temporary visibility construction fence) prior to ground disturbance activities and all construction activities, including equipment staging and maintenance shall be conducted within the marked disturbance. The work limit delineation will be maintained throughout project construction. Should construction fencing be installed to delineate the limits of work, adequate openings along the northern and western perimeters shall be established to allow for dispersal of wildlife into the adjacent undeveloped lands. The contractor shall consult with the biological monitor to confirm that construction fencing will prevent unauthorized access beyond the limits of work while allowing wildlife to escape from active construction areas.
- A biologist will flush special-status species (i.e., avian or other mobile species) from suitable habitat areas to the maximum extent practicable immediately prior to initial vegetation removal activities.
- Construction vehicles shall not exceed 15 miles per hour on unpaved roads adjacent to project site or the right-of-way accessing the site.

- If trash and debris need to be stored overnight during the maintenance activities, fully covered trash receptacles that are animal-proof and weather-proof will be used by the maintenance contractor to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Alternatively, standard trash receptacles may be used during the day, but must be removed each night.
- Cut vegetation must be hauled out of any waterways and stored, if necessary, where it cannot be washed by rainfall or runoff into waterways. When maintenance activities are completed, any excess materials or debris will be removed from the project site.
- Temporary structures and storage of construction materials will not be located in jurisdictional waters, including wetlands and riparian areas.
- Staging/storage areas for construction equipment and materials will not be located in jurisdictional waters, including wetland and riparian areas.
- The operator will not permit pets on or adjacent to construction sites.
- As per the Landscaping Guidelines of the Resource Management Element of the March JPA General Plan (1999a), drought tolerant vegetation and native vegetation will be used to the extent feasible, consistent with March JPA Landscape Water Efficiency Ordinance #JPA 16-03, with the purpose of preserving existing mature trees and native vegetation. A qualified botanist shall review landscape plans to recommend appropriate provisions to minimize the spread of invasive plant species as defined by the County of Riverside and listed by the California Invasive Plant Council (www.cal-ipc.org) and California Native Plant Society (www.cnps.org) within the project area. Provisions may include a) installation of container plants and/or hydro-seeding areas adjacent to existing, undisturbed native vegetation areas with native plant species that are common within temporary impact areas; and (b) review and screening of proposed plants to identify and avoid potential invasive species and weed removal during the initial planting of landscaped areas.

5.3 SAN DIEGO BLACK-TAILED JACKRABBIT MITIGATION

San Diego black-tailed jackrabbit, a CDFW Species of Special Concern, has been identified on site and potential direct mortality impacts are potentially significant. As such, mitigation is required, as follows:

MM-3: Thirty days prior to construction a qualified biologist shall conduct a survey within the proposed construction disturbance zone and within 200 feet of the disturbance zone for San Diego black-tailed jackrabbit. If San Diego black-tailed jackrabbit/s are present, non-breeding rabbits shall be flushed from areas to be disturbed. Dens, depressions, nests, or burrows occupied by pups shall be flagged and ground-disturbing activities avoided within a minimum of 200 feet during the pup-rearing season (February 15 through July 1). This buffer may be reduced based on the location of the den upon consultation with California Department of Fish and Wildlife (CDFW). Occupied maternity dens, depressions, nests, or burrows shall be flagged for avoidance. A biologist shall be contracted to perform daily monitoring during initial vegetation removal and throughout ground-disturbing activities that result in the breaking of the ground surface, as further described in MM-2. If construction fencing is

installed, the contractor shall establish adequate openings within the northern and western fence perimeters to allow for passive dispersal into adjacent undeveloped lands during construction. If unattended young are discovered, they shall be relocated to suitable habitat by a qualified biologist. The applicant shall document all San Diego black-tailed jackrabbit identified, avoided, or moved and provide a written report to CDFW within 72 hours. Collection and relocation of animals shall only occur with the proper scientific collection and handling permits.

5.4 NESTING BIRD AVOIDANCE AND MINIMIZATION MEASURES

The project site supports suitable habitat for nesting birds. As such, the following mitigation is required to reduce impacts on nesting birds:

MM-4: To avoid direct impacts to raptors and/or native/migratory birds (including California horned lark), vegetation removal and grading activities should occur outside of the breeding season for these species (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-construction survey shall be conducted within three (3) calendar days prior to the start of construction activities (including removal of vegetation).

If nesting birds are observed, a letter report or mitigation plan in conformance with applicable state and federal law (i.e., appropriate follow up surveys, monitoring schedules, construction, and noise barriers/buffers) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service as applicable for review and approval and implemented to the satisfaction of those agencies. The project biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction. If nesting birds are not detected during the pre-construction survey, no further mitigation is required.

5.5 AQUATIC RESOURCES MITIGATION

As noted above, the proposed project would permanently impact 0.35 acre (1,162 linear feet) of non-wetland waters of the U.S. and 0.10 acre of wetland waters of the U.S. jurisdictional by the Corps, 0.34 acre (1,130 linear feet) of non-wetland waters of the State and 0.11 acre (22 linear feet) of wetland waters of the State jurisdictional by the RWQCB, and 0.49 acre (1,162 linear feet) of vegetated streambed jurisdictional by the CDFW. Impacts on Corps-, RWQCB-, and CDFW-jurisdictional aquatic resources would require a Section 404 authorization from the Corps, a Section 401 Water Quality Certification from the RWQCB, and a Streambed Alteration Agreement from the CDFW. Additionally, compensatory mitigation may be required by the regulatory agencies to offset the proposed project impacts. With implementation of the following mitigation measure,

impacts on Corps-, RWQCB-, and CDFW-jurisdictional waters would be reduced to less than significant. The following mitigation for jurisdictional aquatic resources is required:

MM-5: The project site supports aquatic resources that are considered jurisdictional under the Corps, RWQCB, and CDFW. Prior to construction activity, the Applicant shall coordinate with the Corps, Los Angeles District to assure conformance with the requirements of Section 404 of the CWA and with the Santa Ana RWQCB (Region 8) to assure conformance with the requirements of Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. Prior to activity within CDFW-jurisdictional streambed, the Applicant shall coordinate with CDFW (Eastern Sierra and Inland Desert Region 6) relative to conformance to the Lake and Streambed Alteration permit requirements.

The project shall mitigate at not less than 1:1 with re-establishment credits (0.45 acre Corps/0.45 acre RWQCB/0.49 acre CDFW) for impacts on aquatic resources as a part of an overall strategy to ensure no net loss. Mitigation shall be completed through use of a mitigation bank (e.g., Riverpark Mitigation Bank), or other applicant-sponsored mitigation. Final mitigation ratios and credits shall be determined in consultation with the Corps, RWQCB, and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.

Should applicant-sponsored mitigation be implemented, a Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared in accordance with State Water Resources Control Board guidelines and approved by the agencies in accordance with the proposed program permits. The HMMP will include but is not limited to: a conceptual planting plan including planting zones, grading, and irrigation, as applicable; a conceptual planting plant palette; a long-term maintenance and monitoring plan; annual reporting requirements; and proposed success criteria. Any off-site applicant-sponsored mitigation shall be conserved and managed in perpetuity.

Best management practices (BMPs) shall be implemented to avoid any indirect impacts to jurisdictional waters, including the following:

1) Vehicles and equipment will not be operated in ponded or flowing water except as described in permits.
2) Water containing mud, silt, or other pollutants from grading or other activities will not be allowed to enter jurisdictional waters or be placed in locations that may be subjected to high storm flows.
3) Spoil sites will not be located within 30 feet from the boundaries of jurisdictional waters or in locations that may be subject to high storm flows, where spoils might be washed back into drainages.
4) Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil, or other petroleum products, or any other substances that could be hazardous to

vegetation or wildlife resources, resulting from project-related activities, will be prevented from contaminating the soil and/or entering avoided jurisdictional waters.

5) No equipment maintenance will be performed within 100 feet of jurisdictional waters, including wetlands and riparian areas, where petroleum products or other pollutants from the equipment may enter these areas. Fueling of equipment will not occur on the project site.

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FIGURE 1

Project Location

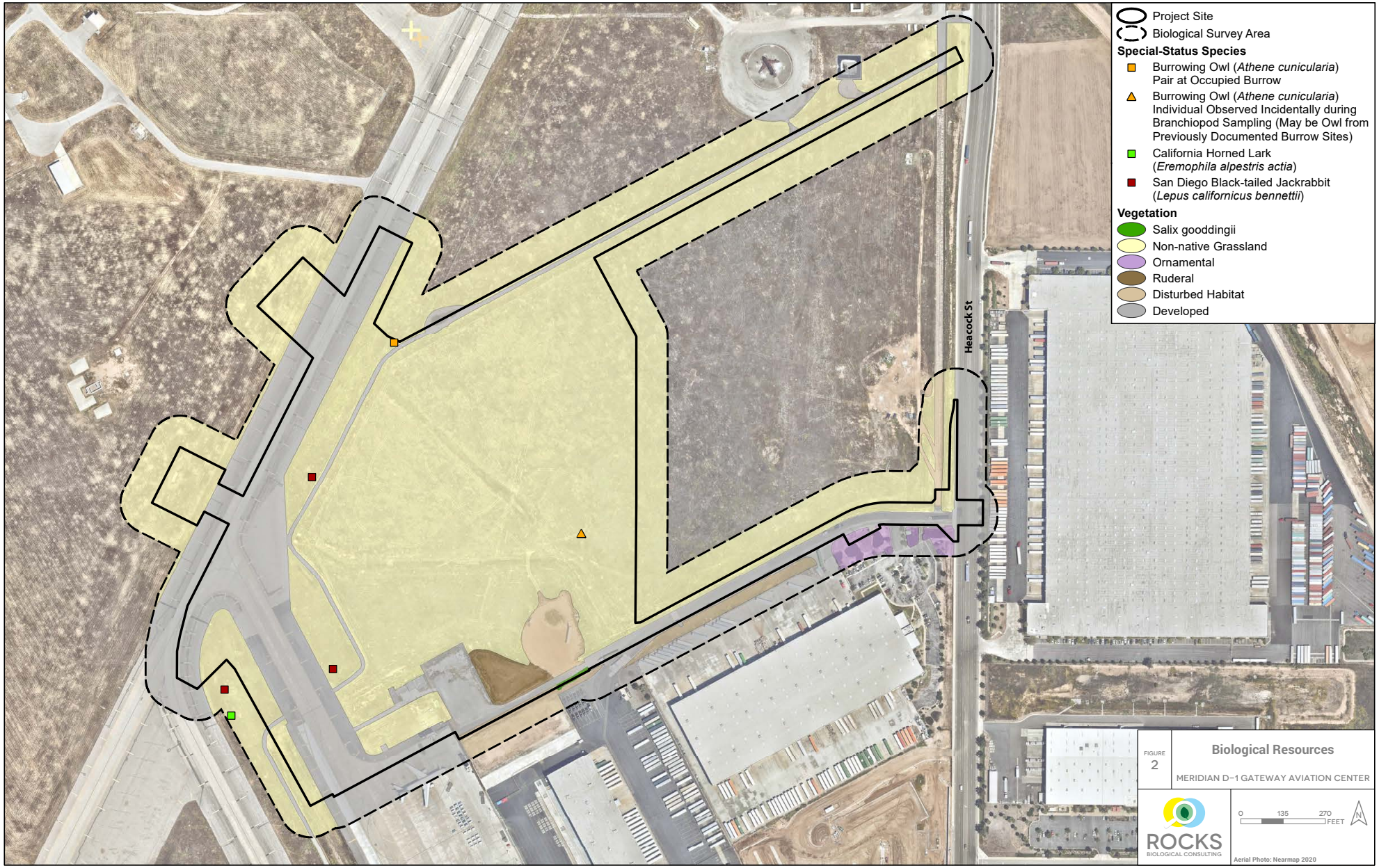
MERIDIAN D-1 GATEWAY AVIATION CENTER

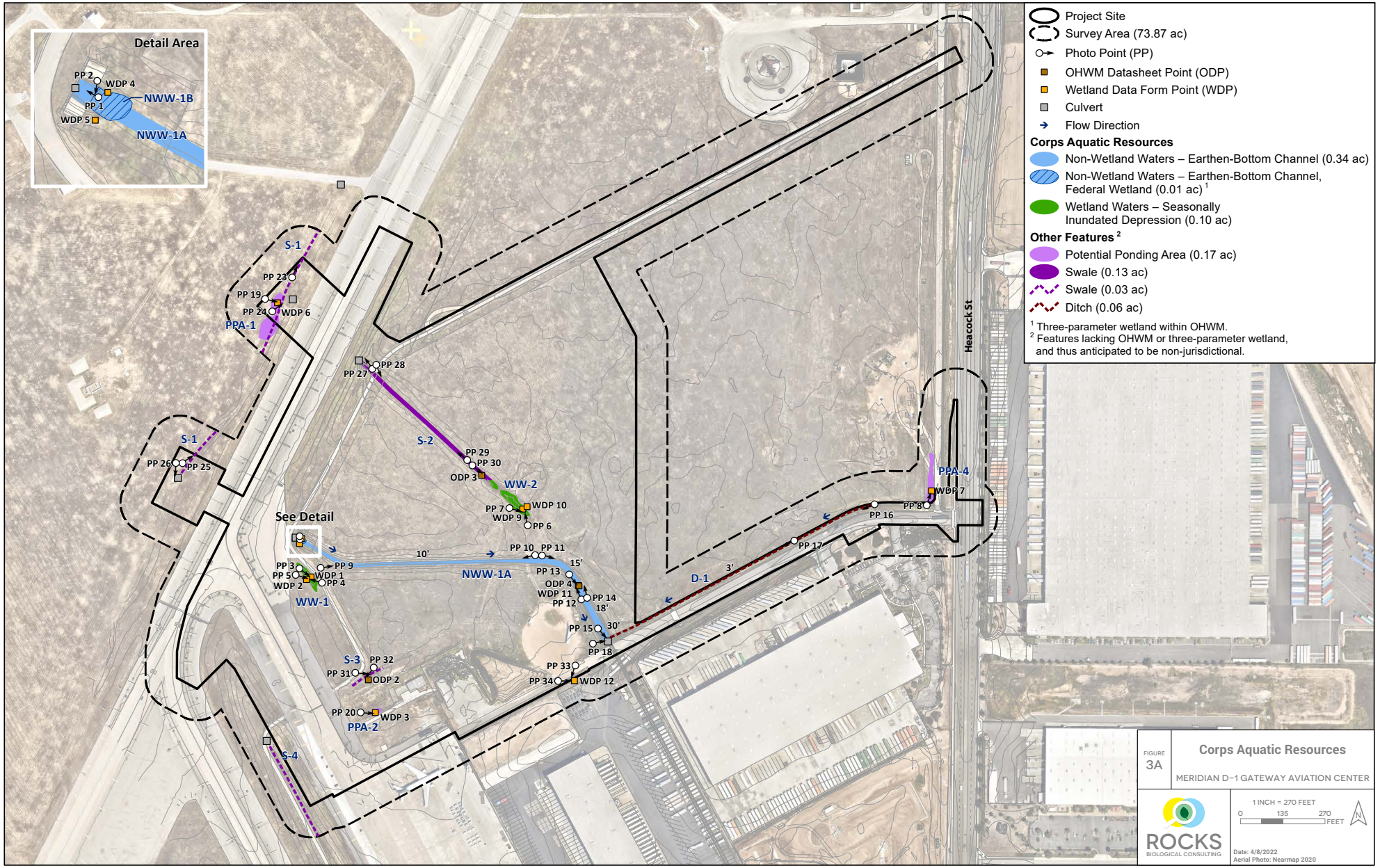
ROCKS BIOLOGICAL CONSULTING

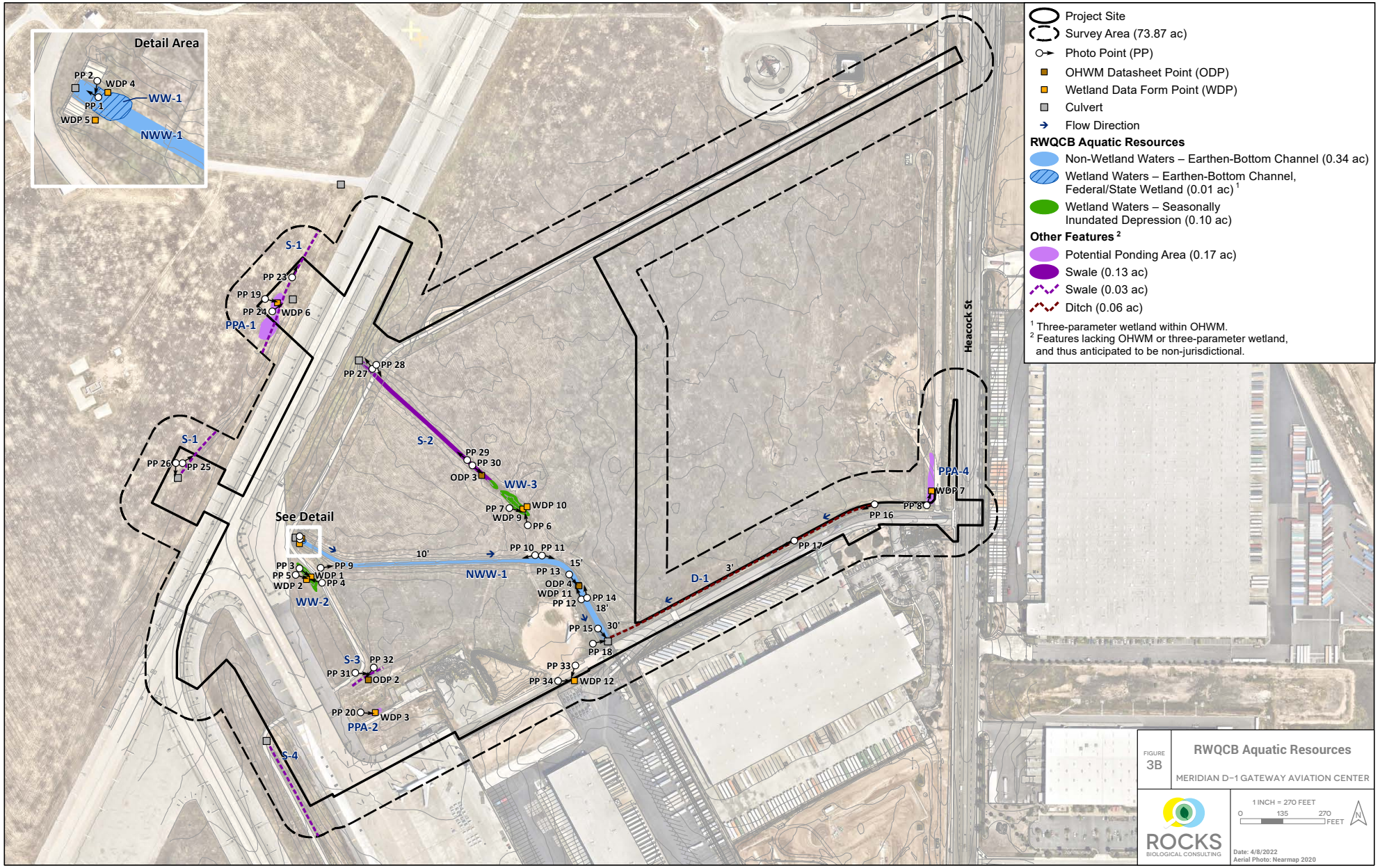
0 1,000 2,000 FEET

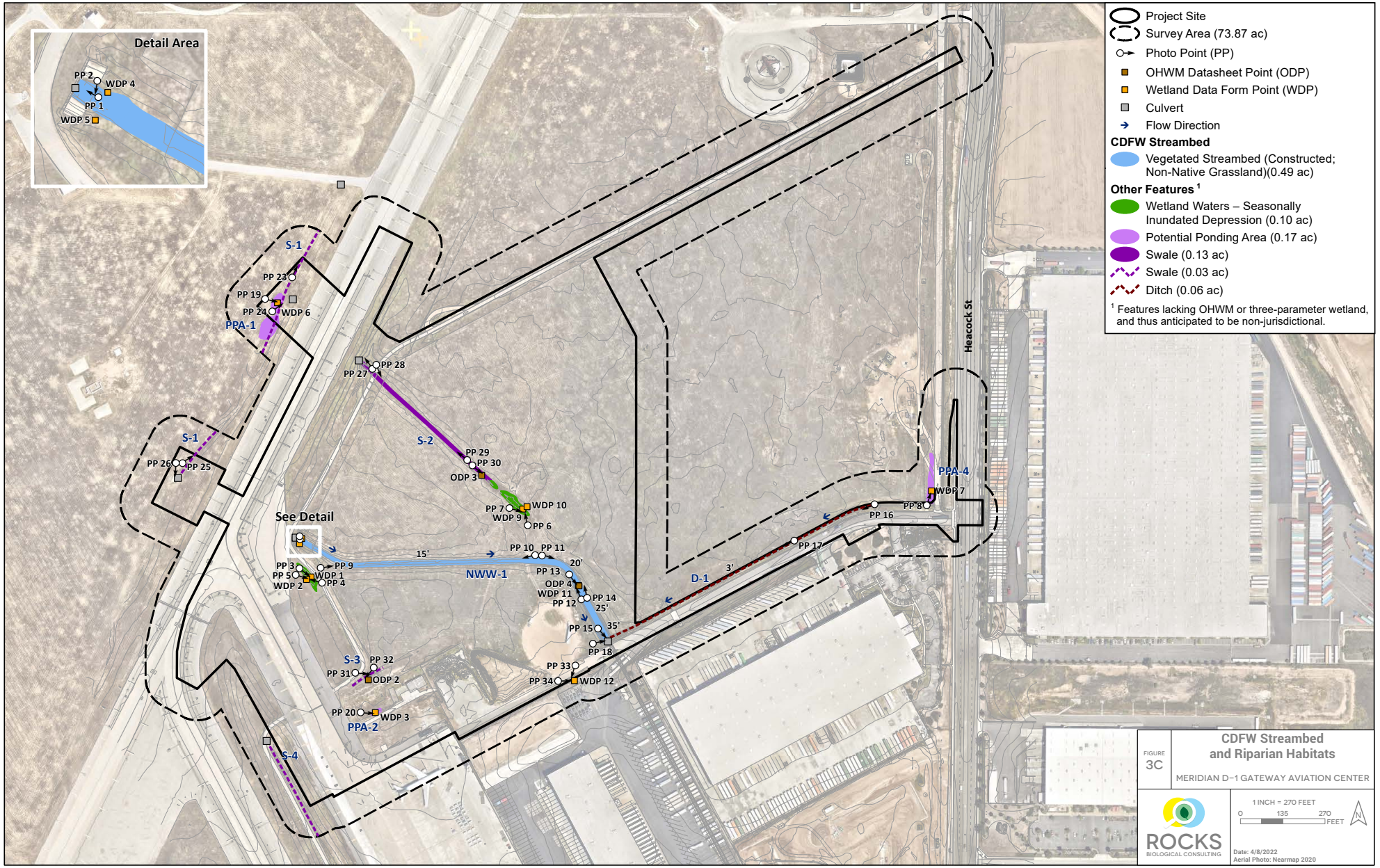
N

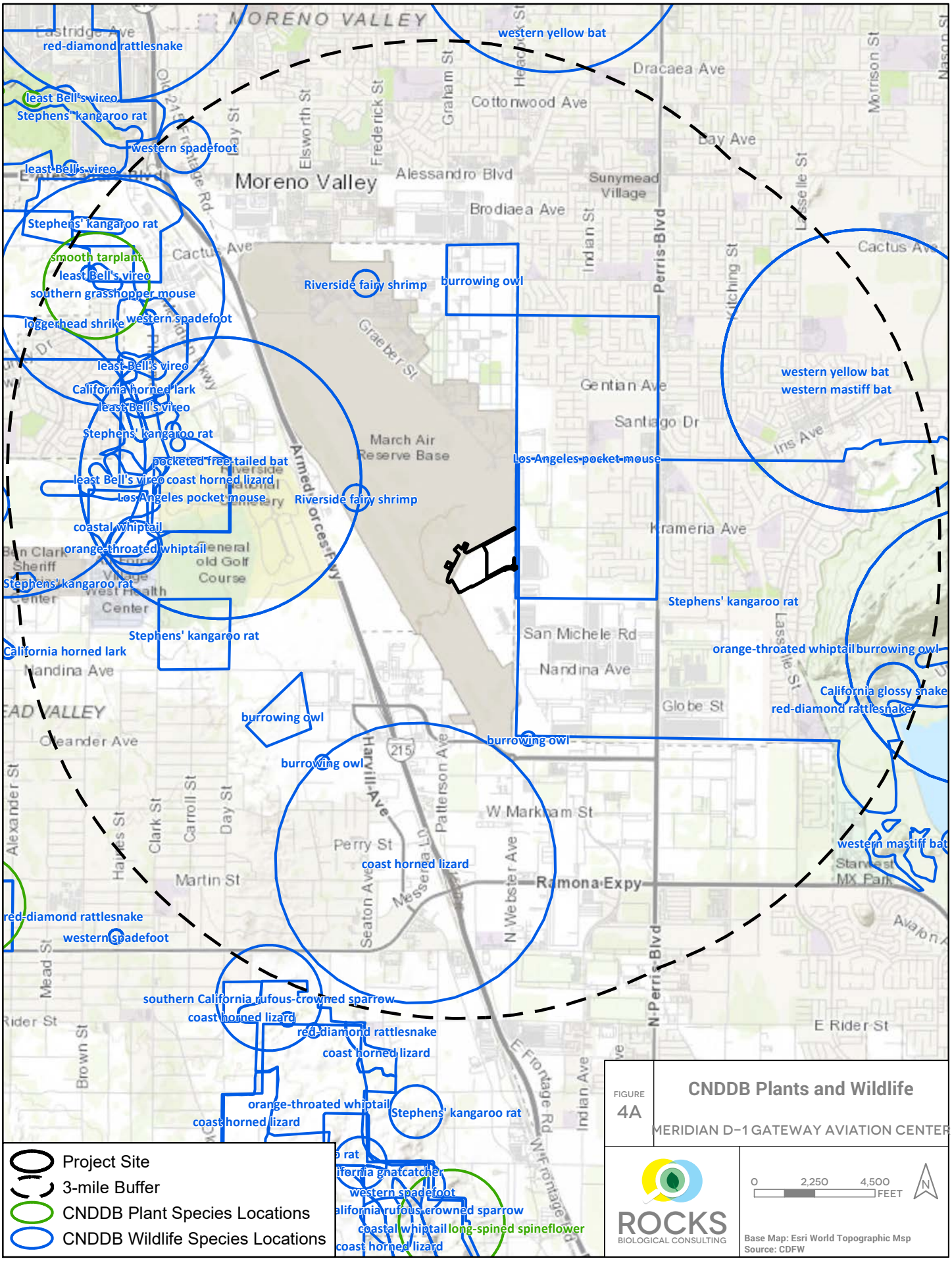
Date: 4/8/2022
Aerial Photo: USDA NAIP 2020
Regional Map: National Geographic, Esri 2012

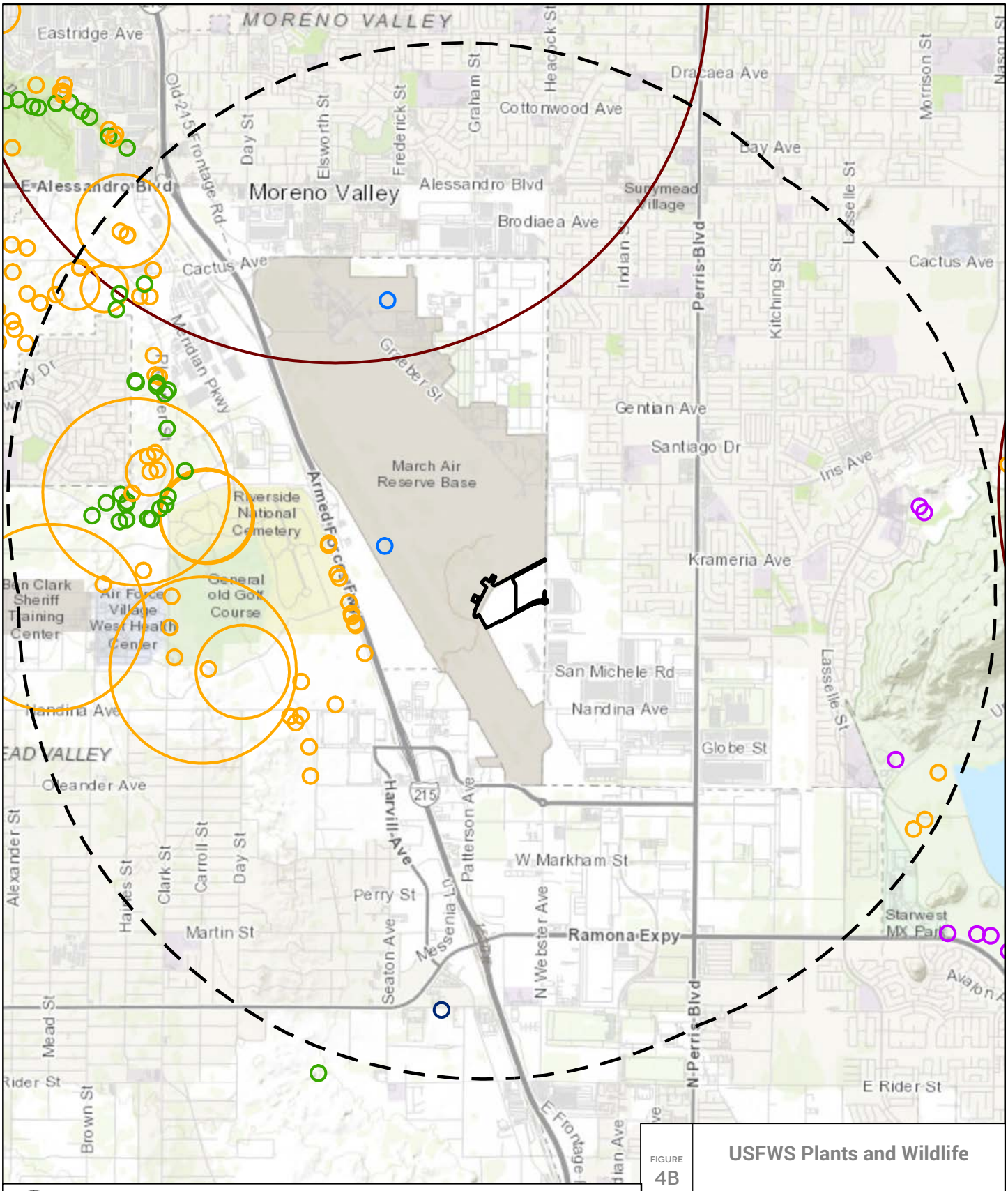

Project Site
Biological Survey Area
Special-Status Species
Burrowing Owl (Athene cunicularia) Pair at Occupied Burrow
Burrowing Owl (Athene cunicularia) Individual Observed Incidentally during Branchiopod Sampling (May be Owl from Previously Documented Burrow Sites)
California Horned Lark (Eremophila alpestris actia)
San Diego Black-tailed Jackrabbit (Lepus californicus bennettii)
Vegetation
Salix gooddingii
Non-native Grassland
Ornamental
Ruderal
Disturbed Habitat
Developed
Heacock St
FIGURE 2
Biological Resources
MERIDIAN D-1 GATEWAY AVIATION CENTER
ROCKS BIOLOGICAL CONSULTING
0 135 270 FEET
N
Aerial Photo: Nearmap 2020


Detail Area
PP 2
WDP 4
PP 1
WDP 5
NWW-1B
NWW-1A
S-1
PP 23
PP 19
PP 24
WDP 6
PPA-1
PP 28
PP 27
S-2
PP 29
PP 30
ODP 3
WW-2
PP 7
WDP 9
WDP 10
PP 6
See Detail
PP 26
PP 25
S-1
PP 3
PP 5
WDP 2
WDP 1
PP 4
PP 9
WW-1
10'
NWW-1A
PP 10
PP 11
15'
PP 13
ODP 4
WDP 11
PP 12
PP 14
18'
PP 15
30'
PP 18
D-1
3'
PP 17
PP 16
PP 8
WDP 7
PPA-4
Heacock St
S-3
PP 32
PP 31
ODP 2
PP 33
PP 34
WDP 12
PP 20
WDP 3
PPA-2
S-4
Project Site
Survey Area (73.87 ac)
Photo Point (PP)
OHWM Datasheet Point (ODP)
Wetland Data Form Point (WDP)
Culvert
Flow Direction
Corps Aquatic Resources
Non-Wetland Waters – Earthen-Bottom Channel (0.34 ac)
Non-Wetland Waters – Earthen-Bottom Channel, Federal Wetland (0.01 ac) [1]
Wetland Waters – Seasonally Inundated Depression (0.10 ac)
Other Features [2]
Potential Ponding Area (0.17 ac)
Swale (0.13 ac)
Swale (0.03 ac)
Ditch (0.06 ac)
[1] Three-parameter wetland within OHWM.
[2] Features lacking OHWM or three-parameter wetland, and thus anticipated to be non-jurisdictional.
FIGURE 3A
Corps Aquatic Resources
MERIDIAN D-1 GATEWAY AVIATION CENTER
ROCKS BIOLOGICAL CONSULTING
1 INCH = 270 FEET
0 135 270 FEET
N
Date: 4/8/2022
Aerial Photo: Nearmap 2020


Detail Area
PP 2
WDP 4
PP 1
WDP 5
WW-1
NWW-1
S-1
PP 23
PP 19
PP 24
WDP 6
PPA-1
PP 28
PP 27
S-2
PP 29
PP 30
ODP 3
WW-3
PP 7
WDP 10
WDP 9
PP 6
See Detail
PP 26
PP 25
S-1
PP 3
PP 5
WDP 2
PP 9
WDP 1
PP 4
WW-2
10'
NWW-1
PP 10
PP 11
15'
PP 13
ODP 4
WDP 11
PP 12
PP 14
18'
PP 15
30'
PP 18
D-1
3'
PP 17
PP 16
PP 8
WDP 7
PPA-4
Heacock St
S-3
PP 32
PP 31
ODP 2
PP 33
PP 34
WDP 12
PP 20
WDP 3
PPA-2
S-4
Project Site
Survey Area (73.87 ac)
Photo Point (PP)
OHWM Datasheet Point (ODP)
Wetland Data Form Point (WDP)
Culvert
Flow Direction
RWQCB Aquatic Resources
Non-Wetland Waters – Earthen-Bottom Channel (0.34 ac)
Wetland Waters – Earthen-Bottom Channel, Federal/State Wetland (0.01 ac) [1]
Wetland Waters – Seasonally Inundated Depression (0.10 ac)
Other Features [2]
Potential Ponding Area (0.17 ac)
Swale (0.13 ac)
Swale (0.03 ac)
Ditch (0.06 ac)
[1] Three-parameter wetland within OHWM.
[2] Features lacking OHWM or three-parameter wetland, and thus anticipated to be non-jurisdictional.
FIGURE 3B
RWQCB Aquatic Resources
MERIDIAN D-1 GATEWAY AVIATION CENTER
ROCKS BIOLOGICAL CONSULTING
1 INCH = 270 FEET
0 135 270 FEET
N
Date: 4/8/2022
Aerial Photo: Nearmap 2020


Detail Area
PP 2
WDP 4
PP 1
WDP 5
S-1
PP 23
PP 19
PP 24
WDP 6
PPA-1
PP 28
PP 27
S-2
PP 29
PP 30
ODP 3
PP 7
WDP 9
WDP 10
PP 6
See Detail
PP 26
PP 25
S-1
PP 3
PP 5
WDP 2
WDP 1
PP 4
PP 9
15'
NWW-1
PP 10
PP 11
20'
PP 13
ODP 4
WDP 11
PP 12
PP 14
25'
PP 15
35'
PP 18
D-1
3'
PP 17
PP 16
PP 8
WDP 7
PPA-4
Heacock St
S-3
PP 32
PP 31
ODP 2
PP 33
PP 34
WDP 12
PP 20
WDP 3
PPA-2
S-4
Project Site
Survey Area (73.87 ac)
Photo Point (PP)
OHWM Datasheet Point (ODP)
Wetland Data Form Point (WDP)
Culvert
Flow Direction
CDFW Streambed
Vegetated Streambed (Constructed; Non-Native Grassland)(0.49 ac)
Other Features [1]
Wetland Waters – Seasonally Inundated Depression (0.10 ac)
Potential Ponding Area (0.17 ac)
Swale (0.13 ac)
Swale (0.03 ac)
Ditch (0.06 ac)
[1] Features lacking OHWM or three-parameter wetland, and thus anticipated to be non-jurisdictional.
FIGURE 3C
CDFW Streambed and Riparian Habitats
MERIDIAN D-1 GATEWAY AVIATION CENTER
ROCKS BIOLOGICAL CONSULTING
1 INCH = 270 FEET
0 135 270 FEET
N
Date: 4/8/2022
Aerial Photo: Nearmap 2020


MORENO VALLEY
Moreno Valley
March Air Reserve Base
Riverside National Cemetery
General old Golf Course
Sheriff
West Health Center
Village
Eastridge Ave
Cottonwood Ave
Dracaea Ave
Bay Ave
Alessandro Blvd
Brodiaea Ave
Sunnymead Village
Cactus Ave
Gentian Ave
Santiago Dr
Iris Ave
Krameria Ave
San Michele Rd
Nandina Ave
Globe St
Oleander Ave
Perry St
Martin St
W Markham St
Ramona Expy
E Rider St
Rider St
Mead St
Alexander St
Hayes St
Clark St
Carroll St
Day St
Brown St
Seaton Ave
Patterson Ave
Harvill Ave
N Webster Ave
Indian St
Perris Blvd
N Perris Blvd
Graham St
Elsworth St
Frederick St
Heacock St
Morrison St
Lasselle St
Kitching St
Graeber St
Armed Forces Fwy
E Frontage Rd
W Frontage Rd
Day St
215
red-diamond rattlesnake
western yellow bat
least Bell's vireo
Stephens' kangaroo rat
western spadefoot
Stephens' kangaroo rat
smooth tarplant
least Bell's vireo
southern grasshopper mouse
loggerhead shrike
western spadefoot
Riverside fairy shrimp
burrowing owl
least Bell's vireo
California horned lark
least Bell's vireo
Stephens' kangaroo rat
pocketed free-tailed bat
least Bell's vireo
coast horned lizard
Los Angeles pocket mouse
Riverside fairy shrimp
coastal whiptail
orange-throated whiptail
Stephens' kangaroo rat
western yellow bat
western mastiff bat
Los Angeles pocket mouse
Stephens' kangaroo rat
California horned lark
orange-throated whiptail
burrowing owl
California glossy snake
red-diamond rattlesnake
burrowing owl
burrowing owl
burrowing owl
western mastiff bat
coast horned lizard
red-diamond rattlesnake
western spadefoot
southern California rufous-crowned sparrow
coast horned lizard
red-diamond rattlesnake
coast horned lizard
orange-throated whiptail
coast horned lizard
Stephens' kangaroo rat
western spadefoot
coastal whiptail
long-spined spineflower
coast horned lizard
Project Site
3-mile Buffer
CNDDB Plant Species Locations
CNDDB Wildlife Species Locations
FIGURE 4A
CNDDB Plants and Wildlife
MERIDIAN D-1 GATEWAY AVIATION CENTER
ROCKS BIOLOGICAL CONSULTING
0 2,250 4,500 FEET
N
Base Map: Esri World Topographic Msp
Source: CDFW



Project Site
3-mile Buffer

USFWS Species Locations

Coastal California Gnatcatcher
Least Bell's Vireo
Los Angeles Pocket Mouse
Riverside Fairy Shrimp
San Bernardino Kangaroo Rat
Stephens' Kangaroo Rat
Versatile Fairy Shrimp

FIGURE 4B

USFWS Plants and Wildlife

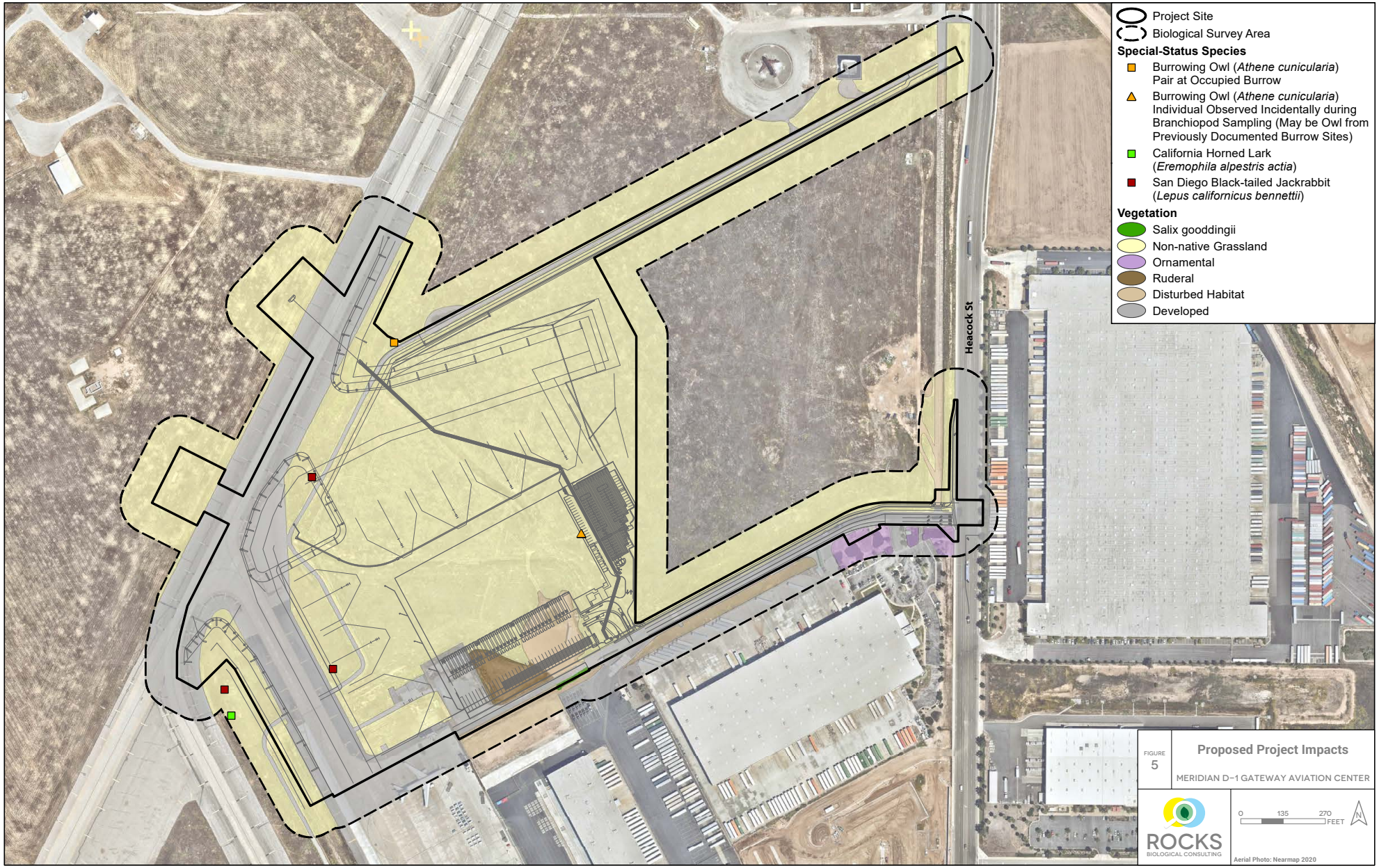
MERIDIAN D-1 GATEWAY AVIATION CENTER

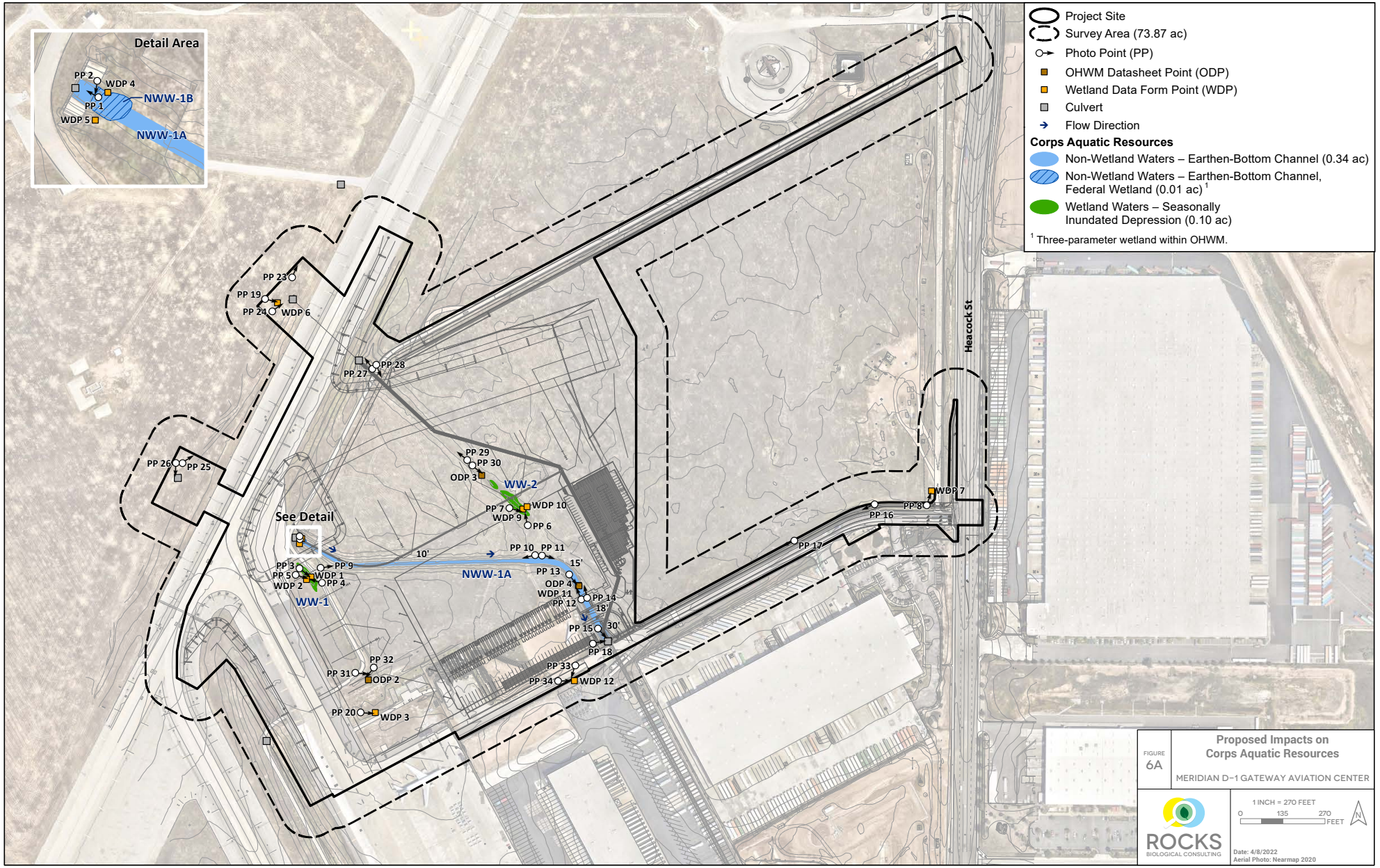
ROCKS BIOLOGICAL CONSULTING

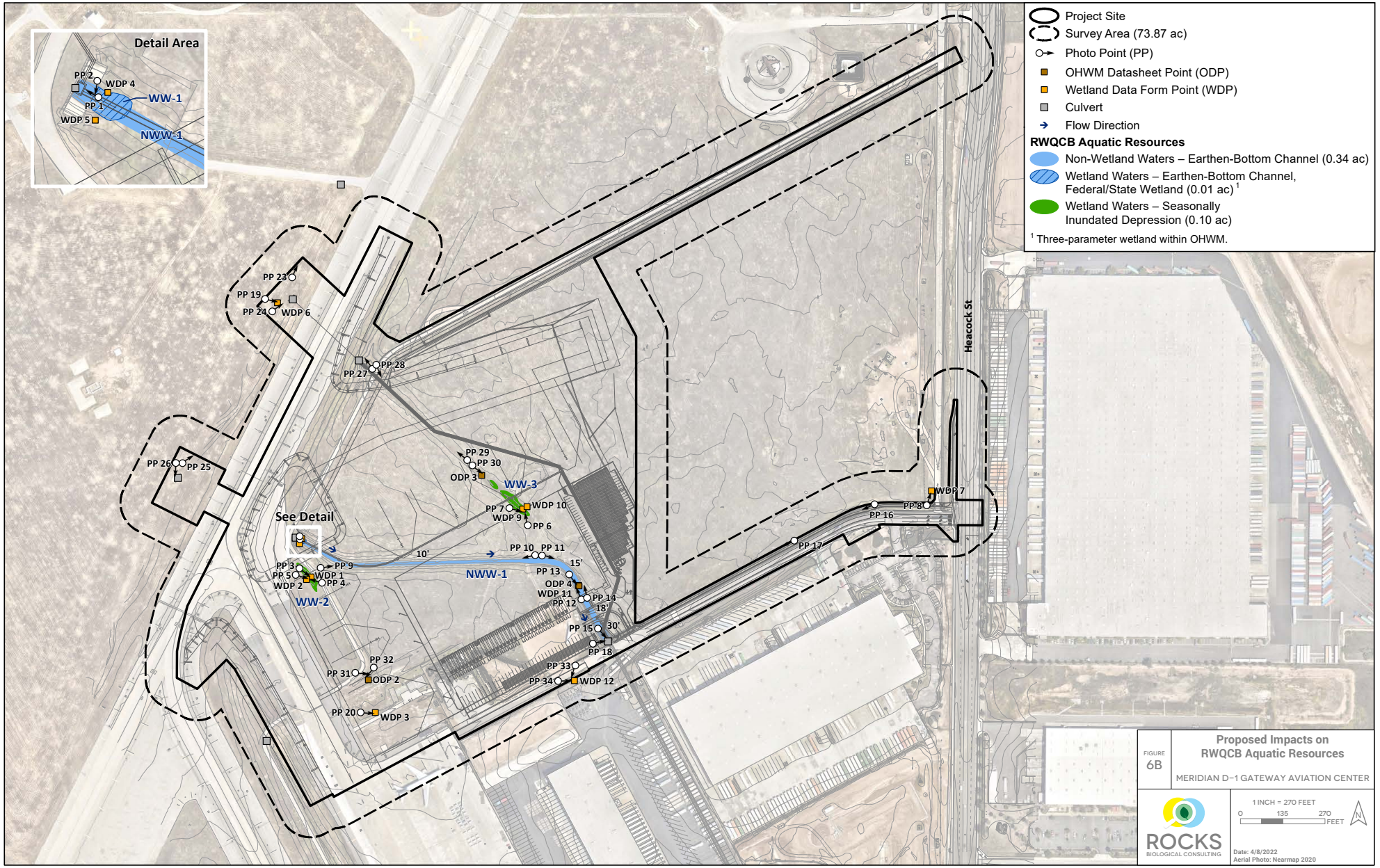
0 2,250 4,500 FEET

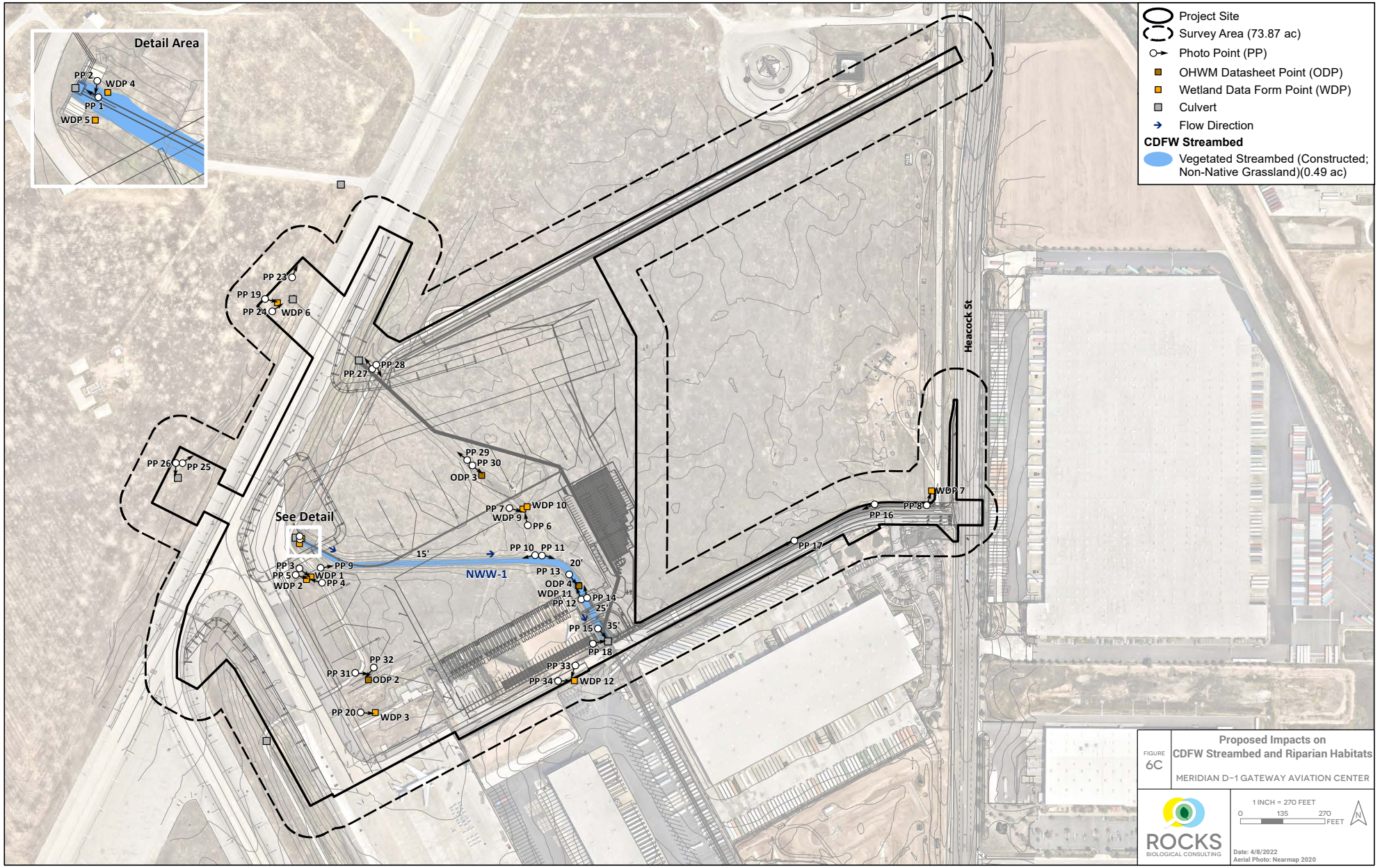
N

Base Map: Esri World Topographic Msp
Source: USFWS


Project Site
Biological Survey Area
Special-Status Species
Burrowing Owl (Athene cunicularia) Pair at Occupied Burrow
Burrowing Owl (Athene cunicularia) Individual Observed Incidentally during Branchiopod Sampling (May be Owl from Previously Documented Burrow Sites)
California Horned Lark (Eremophila alpestris actia)
San Diego Black-tailed Jackrabbit (Lepus californicus bennettii)
Vegetation
Salix gooddingii
Non-native Grassland
Ornamental
Ruderal
Disturbed Habitat
Developed
Heacock St
FIGURE 5
Proposed Project Impacts
MERIDIAN D-1 GATEWAY AVIATION CENTER
ROCKS BIOLOGICAL CONSULTING
0 135 270 FEET
N
Aerial Photo: Nearmap 2020


Detail Area
PP 2
WDP 4
PP 1
WDP 5
NWW-1B
NWW-1A
Project Site
Survey Area (73.87 ac)
Photo Point (PP)
OHWM Datasheet Point (ODP)
Wetland Data Form Point (WDP)
Culvert
Flow Direction
Corps Aquatic Resources
Non-Wetland Waters – Earthen-Bottom Channel (0.34 ac)
Non-Wetland Waters – Earthen-Bottom Channel, Federal Wetland (0.01 ac) [1]
Wetland Waters – Seasonally Inundated Depression (0.10 ac)
[1] Three-parameter wetland within OHWM.
Heacock St
PP 23
PP 19
PP 24
WDP 6
PP 27
PP 28
PP 26
PP 25
PP 29
PP 30
ODP 3
WW-2
PP 7
WDP 10
WDP 9
PP 6
See Detail
PP 3
PP 5
WDP 2
PP 9
WDP 1
PP 4
WW-1
10'
NWW-1A
PP 10
PP 11
15'
PP 13
ODP 4
WDP 11
PP 12
PP 14
18'
PP 15
30'
PP 18
PP 32
PP 31
ODP 2
PP 33
PP 34
WDP 12
PP 20
WDP 3
WDP 7
PP 8
PP 16
PP 17
FIGURE 6A
Proposed Impacts on Corps Aquatic Resources
MERIDIAN D-1 GATEWAY AVIATION CENTER
ROCKS BIOLOGICAL CONSULTING
1 INCH = 270 FEET
0 135 270 FEET
N
Date: 4/8/2022
Aerial Photo: Nearmap 2020


Detail Area
PP 2
WDP 4
WW-1
PP 1
WDP 5
NWW-1
Project Site
Survey Area (73.87 ac)
Photo Point (PP)
OHWM Datasheet Point (ODP)
Wetland Data Form Point (WDP)
Culvert
Flow Direction
RWQCB Aquatic Resources
Non-Wetland Waters – Earthen-Bottom Channel (0.34 ac)
Wetland Waters – Earthen-Bottom Channel, Federal/State Wetland (0.01 ac) [1]
Wetland Waters – Seasonally Inundated Depression (0.10 ac)
[1] Three-parameter wetland within OHWM.
Heacock St
PP 23
PP 19
PP 24
WDP 6
PP 27
PP 28
PP 26
PP 25
PP 29
PP 30
ODP 3
WW-3
PP 7
WDP 10
WDP 9
PP 6
See Detail
PP 3
PP 5
WDP 2
PP 9
WDP 1
PP 4
WW-2
10'
NWW-1
PP 10
PP 11
15'
PP 13
ODP 4
WDP 11
PP 12
PP 14
18'
PP 15
30'
PP 18
PP 32
PP 31
ODP 2
PP 33
PP 34
WDP 12
PP 20
WDP 3
WDP 7
PP 8
PP 16
PP 17
FIGURE 6B
Proposed Impacts on RWQCB Aquatic Resources
MERIDIAN D-1 GATEWAY AVIATION CENTER
ROCKS BIOLOGICAL CONSULTING
1 INCH = 270 FEET
0 135 270 FEET
N
Date: 4/8/2022
Aerial Photo: Nearmap 2020


Detail Area
PP 2
WDP 4
PP 1
WDP 5
Project Site
Survey Area (73.87 ac)
Photo Point (PP)
OHWM Datasheet Point (ODP)
Wetland Data Form Point (WDP)
Culvert
Flow Direction
CDFW Streambed
Vegetated Streambed (Constructed; Non-Native Grassland)(0.49 ac)
Heacock St
See Detail
NWW-1
15'
20'
25'
35'
PP 23
PP 19
PP 24
WDP 6
PP 27
PP 28
PP 26
PP 25
PP 29
PP 30
ODP 3
PP 7
WDP 10
WDP 9
PP 6
PP 3
PP 5
WDP 2
WDP 1
PP 4
PP 9
PP 10
PP 11
PP 13
ODP 4
WDP 11
PP 12
PP 14
PP 15
PP 18
PP 16
PP 8
WDP 7
PP 17
PP 32
PP 31
ODP 2
PP 33
PP 34
WDP 12
PP 20
WDP 3
FIGURE 6C
Proposed Impacts on CDFW Streambed and Riparian Habitats
MERIDIAN D-1 GATEWAY AVIATION CENTER
ROCKS BIOLOGICAL CONSULTING
1 INCH = 270 FEET
0 135 270 FEET
N
Date: 4/8/2022
Aerial Photo: Nearmap 2020

APPENDIX A

SITE PHOTOGRAPHS

APPENDIX A

SITE PHOTOGRAPHS

Photo 1. Overview of western survey area buffer, facing south toward non-native grassland vegetation. May 12, 2020.

Photo 2. Overview of northwestern survey area buffer, facing southeast toward non-native grassland vegetation. May 12, 2020.

Photo 3. View of western survey area buffer, facing north toward non-native grassland vegetation. May 12, 2020.

Photo 4. View of northwestern survey area buffer, facing south toward non-native grassland vegetation. May 12, 2020.

Photo 5. Overview of project site, facing north toward non-native grassland vegetation. May 12, 2020.

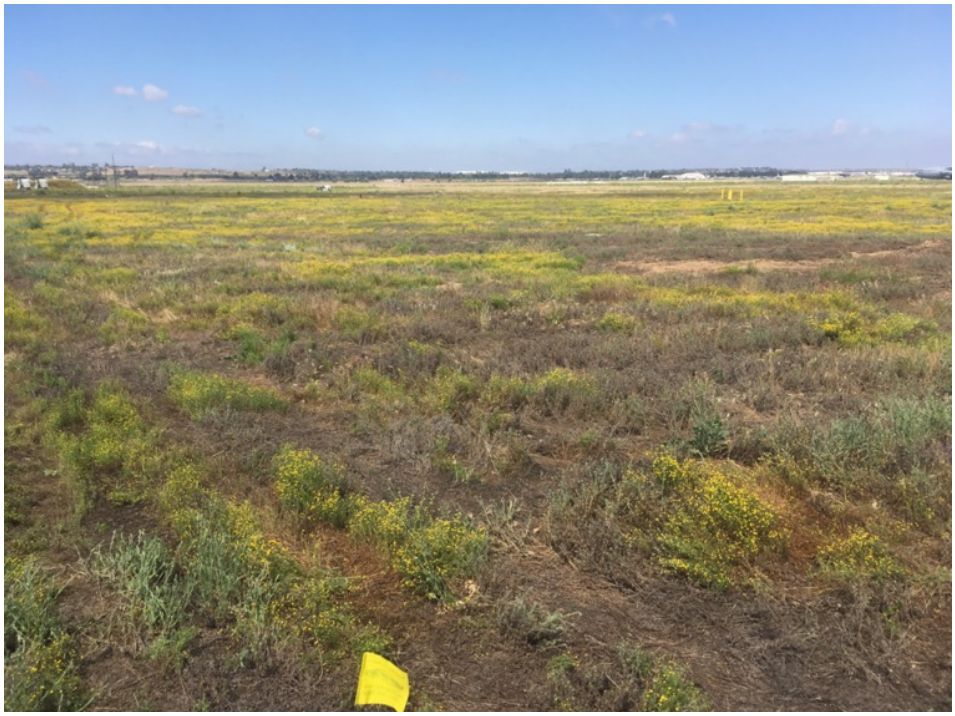


Photo 6. Overview of project site, facing west toward non-native grassland vegetation. May 12, 2020.

Photo 7. View of eastern portion of project site, facing south toward non-native grassland vegetation. May 12, 2020.

Photo 8. Overview of project site, facing south toward non-native grassland vegetation. May 12, 2020.

Photo 9. Overview of project site, facing east toward non-native grassland vegetation. May 12, 2020.

Photo 10. View from center of project site, facing northwest toward non-native grassland vegetation. May 12, 2020.

Photo 11. View from center of project site, facing northeast toward non-native grassland vegetation. May 12, 2020.

Photo 12. View of southern portion of project site, facing east toward non-native grassland vegetation. May 12, 2020.

Photo 13. View of southern portion of project site, facing east toward non-native grassland vegetation and developed areas. May 12, 2020.

Photo 14. View of potential ponding feature on site, facing northeast toward non-native grassland vegetation. June 18, 2020.

Photo 15. View of *Salix gooddingii* (Goodding's black willow) along the southern project boundary, facing south. June 3, 2020.

Photo 16. View of occupied burrowing owl burrow on site. May 12, 2020.

APPENDIX B

LIST OF VASCULAR PLANT SPECIES OBSERVED WITHIN THE PROJECT STUDY AREA

APPENDIX B

PLANT SPECIES OBSERVED

Family	Common Name	Scientific Name
Plants		
Amaranthaceae	white tumbleweed	*Amaranthus albus**
Anacardiaceae	Peruvian pepper	*Schinus molle**
Apocynaceae	climbing milkweed	*Funastrum cynanchoides* var. *hartwegii*
Asteraceae	annual bur-sage	*Ambrosia acanthicarpa*
Asteraceae	mule-fat, seep-willow	*Baccharis salicifolia* ssp. *salicifolia*
Asteraceae	willow baccharis	*Baccharis salicina*
Asteraceae	tocalote	*Centaurea melitensis**
Asteraceae	common spikeweed	*Centromadia pungens* ssp. *pungens*
Asteraceae	California sand-aster	*Corethrogyne filaginifolia* var. *filaginifolia*
Asteraceae	paniculate tarplant	*Deinandra paniculata*
Asteraceae	stinkwort	*Dittrichia graveolens**
Asteraceae	thickbracted goldenbush	*Ericameria palmeri* var. *pachylepis*
Asteraceae	horseweed	*Erigeron canadensis*
Asteraceae	asthmaweed	*Erigeron sumatrensis**
Asteraceae	western sunflower	*Helianthus annuus*
Asteraceae	telegraph weed	*Heterotheca grandiflora*
Asteraceae	smooth cat's ear	*Hypochaeris glabra**
Asteraceae	goldenbush	*Isocoma menziesii*
Asteraceae	prickly lettuce	*Lactuca serriola**
Asteraceae	common goldfields	*Lasthenia gracilis*
Asteraceae	tidy tips	*Layia platyglossa*
Asteraceae	narrow-leaf cottonrose	*Logfia gallica**
Asteraceae	stinknet	*Oncosiphon piluliferum**
Asteraceae	fragrant everlasting cudweed	*Pseudognaphalium luteoalbum**
Asteraceae	dwarf woolly-marbles	*Psilocarphus brevissimus* var. *brevissimus*
Asteraceae	common sow-thistle	*Sonchus oleraceus**
Asteraceae	cotton-thorn	*Tetradymia comosa*
Asteraceae	silver puffs	*Uropappus lindleyi*
Boraginaceae	rancher's fiddleneck	*Amsinckia intermedia*
Brassicaceae	short-pod mustard	*Hirschfeldia incana**
Brassicaceae	cow-cress	*Lepidium campestre**
Brassicaceae	London rocket	*Sisymbrium irio**

Family	Common Name	Scientific Name
Caryophyllaceae	four-leaf allseed	*Polycarpon tetraphyllum* ssp. *tetraphyllum**
Caryophyllaceae	ruby sand-spurrey	*Spergularia rubra**
Chenopodiaceae	prickly russian-thistle	*Salsola tragus**
Convolvulaceae	field bindweed	*Convolvulus arvensis**
Crassulaceae	pygmyweed	*Crassula connata*
Crassulaceae	smooth-seed pygmyweed	*Crassula solieri*
Euphorbiaceae	doveweed	*Croton setiger*
Euphorbiaceae	spotted spurge	*Euphorbia maculata**
Euphorbiaceae	small-seed sandmat	*Euphorbia polycarpa*
Fabaceae	acacia	*Acacia* sp.*
Fabaceae	Spanish-clover	*Acmispon americanus* var. *americanus*
Fabaceae	dwarf white milk vetch	*Astragalus didymocarpus*
Fabaceae	miniature lupine	*Lupinus bicolor*
Fabaceae	chick lupine	*Lupinus microcarpus*
Fabaceae	California burclover	*Medicago polymorpha**
Fabaceae	Indian sweetclover	*Melilotus indicus**
Fabaceae	tree clover	*Trifolium ciliolatum*
Fabaceae	dwarf sack clover	*Trifolium depauperatum*
Geraniaceae	long-beak filaree/storksbill	*Erodium botrys**
Geraniaceae	red-stem filaree/storksbill	*Erodium cicutarium**
Geraniaceae	white-stem filaree/storksbill	*Erodium moschatum**
Juncaceae	toad rush	*Juncus bufonius* var. *bufonius*
Lamiaceae	rosemary	*Salivia rosmarinus**
Lamiaceae	vinegar weed	*Trichostema lanceolatum**
Lythraceae	grass poly	*Lythrum hyssopifolia**
Malvaceae	cheeseweed	*Malva parviflora**
Montiaceae	red maids	*Calandrinia menziesii*
Myrsinaceae	scarlet pimpernel	*Lysmachia arvensis**
Onagraceae	summer cotton weed	*Epilobium brachycarpum*
Onagraceae	willow herb	*Epilobium ciliatum* ssp. *ciliatum*
Papaveraceae	California poppy	*Eschscholzia californica*
Plantaginaceae	English plantain	*Plantago lanceolata**
Plantaginaceae	Mexican/purslane speedwell	*Veronica peregrina* ssp. *xalapensis*
Poaceae	slender wild oat	*Avena barbata**

Family	Common Name	Scientific Name
Poaceae	wild oat	*Avena fatua**
Poaceae	soft chess	*Bromus hordeaceus**
Poaceae	red brome	*Bromus rubens**
Poaceae	cheat grass	*Bromus tectorum**
Poaceae	truncate finger grass	*Chloris truncata**
Poaceae	Bermuda grass	*Cynodon dactylon**
Poaceae	rat-tail fescue	*Festuca myuros**
Poaceae	perennial rye grass	*Festuca perennis**
Poaceae	barley	*Hordeum murinum**
Poaceae	golden-top	*Lamarckia aurea**
Poaceae	annual beard grass	*Polypogon monspeliensis**
Poaceae	Mediterranean schismus	*Schismus barbatus**
Rubiaceae	common bedstraw, goose grass	*Galium aparine*
Salicaceae	Goodding's black willow	*Salix gooddingii*
Solanaceae	tree tobacco	*Nicotiana glauca**
Urticaceae	dwarf nettle	*Urtica urens*
*:Non-native species		

APPENDIX C

LIST OF WILDLIFE SPECIES OBSERVED WITHIN THE PROJECT STUDY AREA

APPENDIX C

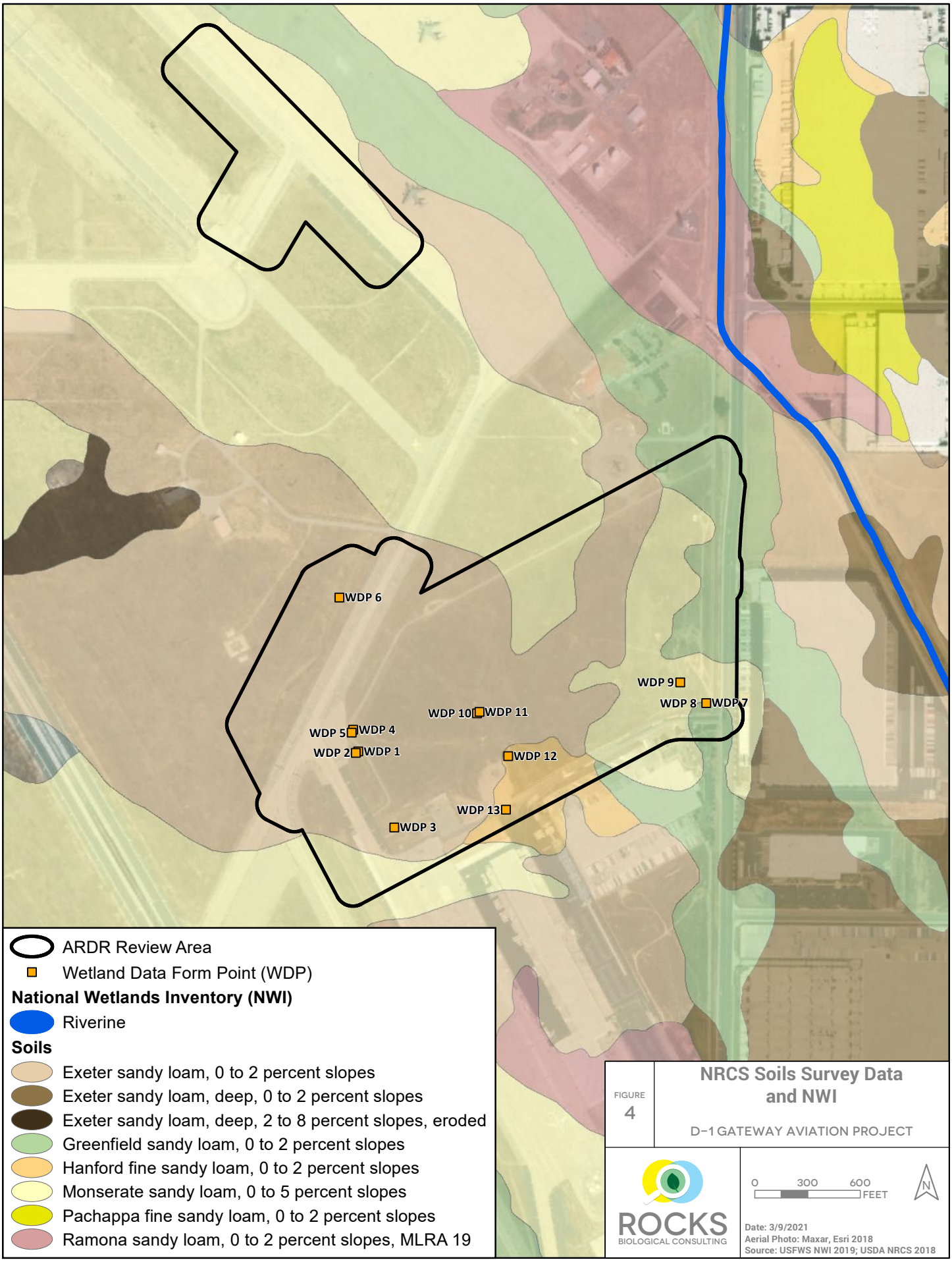
WILDLIFE SPECIES OBSERVED

Family	Common Name	Scientific Name
Birds		
Accipitridae	red-tailed hawk	*Buteo jamaicensis*
Alaudidae	California horned lark (WL)	*Eremophila alpestris actia*
Charadriidae	killdeer	*Charadrius vociferus*
Columbidae	mourning dove	*Zenaida macroura*
Corvidae	common raven	*Corvus corax*
Fringillidae	house finch	*Haemorhous mexicanus*
Fringillidae	lesser goldfinch	*Spinus psaltria*
Hirundinidae	barn swallow	*Hirundo rustica*
Hirundinidae	cliff swallow	*Petrochelidon pyrrhonota*
Icteridae	hooded oriole	*Icterus cucullatus*
Icteridae	western meadowlark	*Sturnella neglecta*
Passerellidae	savannah sparrow (savannah group)	*Passerculus sandwichensis*
Strigidae	burrowing owl (SSC; burrow sites & some wintering sites)†	*Athene cunicularia*
Sturnidae	European starling*	*Sturnus vulgaris*
Tyrannidae	Say's phoebe	*Sayornis saya*
Tyrannidae	western kingbird	*Tyrannus verticalis*
Tyrannidae	Cassin's kingbird	*Tyrannus vociferans*
Invertebrates		
Branchinectidae	versatile fairy shrimp	*Branchinecta lindahli*
Lycaenidae	acmon blue	*Plebejus acmon*
Nymphalidae	painted lady	*Vanessa cardui*
Pieridae	cabbage white	*Pieris rapae*
Pieridae	checkered white	*Pontia protodice*
Sphingidae	white-lined sphinx moth	*Hyles lineata*
Reptiles		
Phrynosomatidae	common side-blotched lizard	*Uta stansburiana*
Mammals		
Leporidae	San Diego black-tailed jackrabbit (SSC)	*Lepus californicus bennettii*
Leporidae	desert cottontail	*Sylvilagus audubonii*
Sciuridae	California ground squirrel	*Otospermophilus beecheyi*

SSC: California Department of Fish and Wildlife (CDFW) Species of Special Concern
WL: California Department of Fish and Wildlife (CDFW) Watch List species
*: Non-native species
†: Species observed at burrow site by RBC during project survey(s)

APPENDIX D

SITE SOILS MAP


WDP 6
WDP 9
WDP 8
WDP 7
WDP 10
WDP 11
WDP 5
WDP 4
WDP 2
WDP 1
WDP 12
WDP 13
WDP 3
ARDR Review Area
Wetland Data Form Point (WDP)
National Wetlands Inventory (NWI)
Riverine
Soils
Exeter sandy loam, 0 to 2 percent slopes
Exeter sandy loam, deep, 0 to 2 percent slopes
Exeter sandy loam, deep, 2 to 8 percent slopes, eroded
Greenfield sandy loam, 0 to 2 percent slopes
Hanford fine sandy loam, 0 to 2 percent slopes
Monserate sandy loam, 0 to 5 percent slopes
Pachappa fine sandy loam, 0 to 2 percent slopes
Ramona sandy loam, 0 to 2 percent slopes, MLRA 19
FIGURE 4
NRCS Soils Survey Data and NWI
D-1 GATEWAY AVIATION PROJECT
ROCKS BIOLOGICAL CONSULTING
0 300 600 FEET
N
Date: 3/9/2021
Aerial Photo: Maxar, Esri 2018
Source: USFWS NWI 2019; USDA NRCS 2018

APPENDIX E

D-1 GATEWAY AVIATION CENTER AQUATIC RESOURCES DELINEATION REPORT

ROCKS
BIOLOGICAL CONSULTING



MERIDIAN D-1 GATEWAY AVIATION CENTER AQUATIC RESOURCES DELINEATION REPORT

Riverside County, California

September 29, 2022

Prepared for:
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1 INTRODUCTION

On behalf of Meridian Park, LLC, Rocks Biological Consulting (RBC) conducted a formal aquatic resources delineation for the Meridian D-1 Gateway Aviation Center review area, composed of 127.73 acres (Figure 1), to identify areas that may be considered jurisdictional under the U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act; the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act; and the California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the California Fish and Game Code. The information provided in this aquatic resources delineation report (ARDR) is necessary to define the presence or absence of aquatic resources within the review area. This ARDR can also be used by the agencies to inform the jurisidictional status of delineated aquatic resources and by the applicant and agencies to assess conformance with state and federal regulations and to estimate potential impacts and associated permitting requirements. Furthermore, the information contained in this report is in compliance with the Corps Los Angeles District's *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (Minimum Standards; Corps 2017). Appendix A provides a checklist to ensure compliance with the Minimum Standards.

This ARDR also serves as a request for the Corps to complete a Preliminary Jurisdictional Determination (PJD) based on the information provided in this report. Appendix B provides the required forms associated with the PJD request.

2 SITE DESCRIPTION, LANDSCAPE SETTING

2.1 LOCATION

The review area is located in the southeastern portion of the March Air Reserve Base (ARB), west of Heacock Street and southwest of the intersection of Heacock Street and Krameria Avenue, in unincorporated Riverside County, California (Figure 1). Commercial development borders the review area to the north and east and industrial development borders the review area to the south. The latitude and longitude of the approximate center of the review area is 33.877470, -117.248001. The review area sits on Township 3 South, Range 4 West, and Section 25 within the Riverside East, Sunnymead, Steele Peak, and Perris 7.5-minute quadrangles, as mapped by the U.S. Geological Survey (USGS; Figure 2).

2.2 TOPOGRAPHY

The review area is primarily flat with elevations ranging from approximately 1,484 to 1,502 feet above mean sea level (amsl) (Figure 2). Drainage patterns on site trend northwest to southeast following a gradual drecrease in elevation in the same direction.

2.3 WATERSHED

The review area is within the San Jacinto Hydrologic Unit Code (HUC) 8 (18070202), Lower San Jacinto River HUC 10 (1807020203), and Perris Reservoir HUC 12 (180702020305) watersheds (Figure 3). In addition to the watersheds defined by the USGS and commonly used by the Corps, the RWQCB also defines watershed boundaries by Hydrologic Units (HUs). The review area is within the Santa Ana Basin, the San Jacinto Valley HU, Perris Hydrologic Area, and the Perris

Valley Hydrologic Subarea (Santa Ana Regional Water Quality Control Board [SARWQCB] 1986; SARWQCB 2019).

The headwaters of the San Jacinto River originate in the San Jacinto Mountains of San Bernardino County and flow for approximately 58 miles before discharging into Lake Elsinore (SARWQCB 2017), where overflow spills into the Temescal Wash, the Santa Ana River, and ultimately the Pacific Ocean. The Lower San Jacinto River HUC 10 encompasses approximately 100 square miles; the Perris Reservoir HUC 12 encompasses approximately 50 square miles (UCD SIG n.d.).

3 METHODS

3.1 PRE-FIELD REVIEW

Prior to the on-site delineation, field maps were created using a Geographic Information System (GIS) and a color aerial photograph at a 1:150 scale. RBC staff also reviewed USGS National Hydrography Dataset (NHD) and topography data (Figure 2), U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data (USFWS 2019), and Natural Resources Conservation Service (NRCS) soils data (Figure 4) to further determine the potential locations of aquatic resources within the review area. Google Earth was also utilized to assess current and historic presence or absence of flows and/or ponding in the review area (Google Earth Pro 2020).

3.2 ON-SITE DELINEATION AND MAPPING

RBC regulatory specialists Shanti Santulli and Emily Trevino and botanist/regulatory specialist Brenda Bennett conducted an aquatic resources delineation field visit on June 3, 2020 from 0715 to 1415. Field survey conditions at the beginning of the field visit were 72°F with 20% cloud cover and winds at approximately 0 to 2 miles per hour (mph). Field conditions at the end of the field visit were 99°F with 15% cloud cover and winds at approximately 5 to 7 mph. RBC biologist Chris Thomson conducted a follow-up site visit on January 14, 2021 to assess the 22.40-acre northern parcel that was added to the project footprint after the initial June 2020 site visit. No potential ponding areas or other aquatic resources were observed within the northern parcel during the January 13, 2021 survey; therefore, a formal aquatic resources delineation was not performed in this portion of the project site. Figure 1 and Figures 5A-5C depict the 127.73-acre review area.

Areas with depressions, drainage patterns, and/or wetland vegetation within the review area were evaluated, with focus on the presence of defined channels and/or wetland vegetation, soils, and hydrology.

While in the field, potential aquatic resources were recorded using a hand-held Global Positioning System (GPS) unit with a level of accuracy ranging from 3 to 7 feet. RBC staff refined the data using aerial photographs and topographic maps with two-foot contours to ensure accuracy.

All figures generated for this ARDR follow the Corps' Updated Map and Drawing Standards for the South Pacific Division Regulatory Program (Corps 2016).

The below subsections provide the aquatic resources delineation methods used per agency; Appendix C provides additional details regarding the agencies' applicable regulations and guidance associated with this ARDR.

3.2.1 CORPS

Ordinary High Water Mark Delineation

Aquatic resources with a defined ordinary high water mark (OHWM) would be considered potential non-wetland waters of the U.S. Corps regulations at 33 Code of Federal Regulations (CFR) 329.11 define an OHWM as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas" (51 Federal Register [FR] 41251, November 13, 1986). RBC staff used guidance provided in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (OHWM Field Guide; Corps 2008a) and Regulatory Guidance Letter (RGL) 05-05 to estimate the extent of an OHWM in the field. For each feature exhibiting the potential presence of an OHWM, RBC completed a 2010 Arid West Ephemeral and Intermittent Streams OHWM Datasheet following the guidance provided in the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (OHWM Datasheet; Corps 2010). Per the 2010 OHWM Datasheet, common indicators of an OHWM include a break in slope (i.e., abrupt cut in bank slope created by hydrogeomorphic processes across the landscape), changes in average sediment texture between floodplain units (i.e., low-flow, active floodplain, low terrace), and changes in vegetation species and/or cover between floodplain units.

Wetland Delineation

Field staff examined potential wetland waters of the U.S. using the routine determination methods set forth in Part IV, Section D, Subsection 2 of the 1987 *Corps of Engineers Wetland Delineation Manual* (Wetland Manual; Environmental Laboratory 1987) and the 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0* (Arid West Supplement; Corps 2008b). Areas that met the three parameters per the Arid West Supplement (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology, following methods set forth in the Wetland Manual and Arid West Supplement) were considered wetland waters of the U.S. RBC staff based wetland plant indicator status (i.e., Obligate [OBL], occurs 99+% in wetlands; Facultative Wetland [FACW], occurs 67-99% in wetlands; Facultative [FAC], occurs 34-66% in wetlands; Facultative Upland [FACU], occurs 1-33% in wetlands; Upland [UPL], occurs 99+% in uplands; and Not Listed [NL], considered UPL for wetland delineation purposes) on the *National Wetland Plant List* (NWPL; Lichvar et al. 2016) and hydric soils indicators on *Field Indicators of Hydric Soils in the United States, Version 8.2* (NRCS 2018a). Soil chromas were identified in the field according to *Munsell Soil-Color Charts with Genuine Munsell Color Chips* (Munsell Color 2015) and per the Wetland Manual and Arid West Supplement. Plants were identified according to *The Jepson Manual: Vascular Plants of California, 2nd edition* (Baldwin et al. 2012) and nomenclature follows Jepson eFlora (Jepson Flora Project 2019).

3.2.2 RWQCB

Ordinary High Water Mark Delineation

The State Water Resources Control Board (SWRCB) and RWQCBs do not have regulations or guidance on defining the extent of non-wetland waters of the State. As such, field staff identified the lateral limits of potential non-wetland waters of the State using the same methods for determining an OHWM per the Corps as described in Section 3.2.1 as they have generally been considered coincident.

Wetland Delineation

The State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (the Procedures; SWRCB 2021) defines wetland waters of the State. The Procedures were adopted on April 2, 2019, went into effect on May 28, 2020, and were revised on April 6, 2021. As detailed in the Procedures, the SWRCB and RWQCBs define a wetland as follows: "An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation" (SWRCB 2021).

The Procedures provide that RWQCBs shall rely on a wetland delineation from a final ARDR verified by the Corps to determine the extent of wetland waters of the State. If any potential wetland areas have not been delineated in a final ARDR verified by the Corps, the limits of such potential wetland waters of the State shall be identified using the same wetland delineation methods per the Corps as described in Section 3.2.1, except that a lack of vegetation (i.e., less than 5 percent areal coverage of plants during the peak of the growing season) does not preclude an area from meeting the definition of a wetland waters of the State (SWRCB 2019).

3.2.3 CDFW

Lake, Streambed, and Associated Riparian and Wetland Habitat Delineation

CDFW jurisdiction relies on the presence of a lake and/or streambed and associated riparian or wetland habitat. Lakes include "natural lakes or man-made reservoirs" (14 California Code of Regulations [CCR] § 1.56). CDFW regulations define a streambed as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation" (14 CCR § 1.72). The 1987 *Rutherford v. State of California* (188 Cal. App. 3d 1268) decision further provided that a streambed is the "channel of a water course; the depression between the banks worn by the regular and usual flow of the water." A streambed includes the "[a]rea extending between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including sand bars which may exist between the foot of said banks…" (188 Cal. App. 3d 1268). The bank is defined as "the slope or elevation of land that bounds the bed of the stream in a permanent or long-standing way, and that confines the stream water up to its highest level" (*The People v. Phillip Wright Osborn*, 116 Cal. App. 4th 764).

Riparian habitat refers to vegetation and habitat associated with a stream. CDFW-jurisdictional habitat includes all riparian shrub or tree canopy that may extend beyond the banks of a stream. Isolated riparian habitat (i.e., where riparian vegetation did not appear associated with an ephemeral wash) is not considered CDFW-jurisdictional.

CDFW follows the USFWS wetland definition and classification system, which defines a wetland as transitional land between terrestrial and aquatic systems having one or more of the following attributes: "(1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year" (USFWS 1979). A wetland is presumed when all three attributes are present; if less than three attributes are present the presumption of a wetland must be supported by "the demonstrable use of wetland areas by wetland associated fish or wildlife resources, related biological activity, and wetland habitat values" (California Fish and Game Commission [CFGC] 1994).

Potential CDFW-jurisdictional wetland boundaries were determined based on the presence of wetland areas supported by a lake or streambed. Wetland delineation methods to determine the presence of one or more wetland attributes included the same methods per the Corps as described in Section 3.2.1.

Based on the above, potential CDFW-jurisdictional aquatic resources delineated included lakes and/or streambeds and their associated riparian and wetland habitats. Field staff delineated the lateral extent of potential CDFW jurisdiction to be "bank to bank" for a streambed or to the "dripline" of riparian habitat and/or wetland boundary, if present.

4 SITE ALTERATIONS, CURRENT AND PAST LAND USE

RBC staff reviewed Google Earth, NetrOnline Historic Aerials, and the University of California – Santa Barbara databases and a historical site drainage analysis prepared by DRC Engineering, Inc. (Appendix D) to assess historic and ongoing land uses within the review area.

Based on a review of the historical site drainage analysis, modifications to the drainage features within the review area can be traced back to the construction of the adjacent runway and taxiway in the late 1940s or early 1950s (DRC Engineering, Inc., 2020; Appendix D). At that time, drainage culverts were installed to maintain flows and prevent ponding in the infield areas and shallow swales were constructed to convey flows to existing drainageways. The drainage features within the review area were further manipulated and modified in 2001 as a result of the development of a warehouse distribution center in the lot immediately south of the review area and the construction of a common use access road along the northern boundary of the review area (DRC Engineering, Inc., 2020; Appendix D). These developments resulted in modifications to the primary drainage feature on-site (Non-Wetland Water [NWW-] 1A and 1B, or NWW-1, per Section 6 below), the relocation of a drainage swale (Swale [S-] 2 per Section 6 below) and the construction of a V-ditch (Ditch [D-] 1 per Section 6 below). Per the historical site drainage analysis, the review area has also undergone ongoing remediation, soil removals, soil vapor extraction, and access road or other construction activities that may have resulted in the creation of various depressional areas (e.g,, Wetland Water [WW-] 1, WW-2, Potential Ponding Area [PPA-] 3, and PPA-4 per Section 6 below) throughout the review area due to soil compaction from equipment routing (DRC Engineering, Inc.,

2020; Appendix D). Appendix D contains further details regarding the historical site drainage analysis and historic aerial imagery. Normal circumstances were assumed to be present within the review area.

The following sections provide additional details regarding site alterations and land use specific to on-site soils, hydrology, and vegetation based on available data and the site visit.

4.1 SOILS

Based on the NRCS soils data map (Figure 4), the soils outlined below in Table 1 occur within the review area:

Table 1. Soils Mapped within Review Area

Soil Map Unit	Soil Series/Unit	Geomorphic Surface	Taxonomic Class	NRCS Hydric Status
Exeter sandy loam, 0 to 2 percent slopes	Exeter	Alluvial fans	Fine-loamy, mixed, superactive, thermic Typic Durixeralfs	No
Greenfield sandy loam, 0 to 2 percent slopes	Greenfield	Alluvial fans, terraces	Coarse-loamy, mixed, active, thermic Typic Haploxeralfs	No
Hanford fine sandy loam, 0 to 2 percent slopes	Hanford	Alluvial fans	Coarse-loamy, mixed, superactive, nonacid, thermic Typic Xerorthents	No
Monserate sandy loam, 0 to 5 percent slopes	Monserate	Alluvial fans	Fine-loamy, mixed, superactive, thermic Typic Durixeralfs	No

The National Technical Committee for Hydric Soils defines hydric soils; *Changes in Hydric Soils Database Selection Criteria* (77 FR 12234) outlines the current four hydric soil criteria. As shown above in Table 1, the Soil Data Access (SDA) Hydric Soils List does not list any of the soil map units within the review area as hydric (NRCS n.d.).

The soil series/units outlined above in Table 1 are further described below per the USDA's *NRCS Official Soil Series Description and Series Classification* database (NRCS 2018b):

Exeter series – Exeter soils are derived from granite and are found on hummocky, undulating to gently rolling alluvial fans and stream terraces. Exeter soils consist of moderately well drained soils with very slow to medium runoff and moderately slow permeability above the duripan. These soils occur in dry subhumid climates with hot, dry summers and cool, moist winters. Exeter soils are used for a variety of purposes including irrigated cropland, dairy and cattle production, and building site development.

Greenfield series – Greenfield soils consist of well drained and moderately permeable soils with slow to medium runoff. These soils form in moderately coarse and coarse textured alluvium derived from granite and mixed rock sources and are found on alluvial fans and terraces. Greenfield soils occur in dry subhumid mesothermal climates with hot, dry summers and cool, moist winters.

Greenfield soils are used primarily for the production of irrigated field, forage, and fruit crops and for growing dryland grain and pasture.

Hanford series – The Hanford series consists of soils that formed in moderately coarse textured alluvium derived principally from granite. These soils are well drained and are found primarily on stream bottoms, floodplains, and alluvial fans. Hanford soils occur in dry subhumid mesothermal climes with hot, dry summers and cool, moist winters. Hanford soils are used for growing a wide range of fruits, vegetables, and general farm crops.

Monserate series – The Monserate series consists of moderately well to well drained soils with slow to rapid runoff and moderately slow permeability. Monserate soils formed in alluvium derived primarily from granite and are found primarily on nearly level to moderately steep terraces and fans in southern California. Monserate soils occur in dry subhumid mesothermal climates with long, dry summers and mild, moist winters. Monserate soils are primarily used for growing grain, pasture, some citrus, and field and truck crops.

As stated in the Arid West Supplement, RBC used the hydric soils list as a tool and made final hydric soils determinations based on field-collected data at representative wetland delineation sample points deemed appropriate on site as recorded on the attached Arid West Wetland Determination Data Forms (Wetland Data Forms; Appendix E) discussed further in Section 6.1.

4.2 HYDROLOGY

Per the review of on-line data sources, USGS NHD maps two features in the southwestern portion of the review area and one feature along the eastern boundary of the review area (Figure 2). The feature in the southwestern potion of the review area is designated as a “canal/ditch” and travels from a culvert outlet adjacent to the airplane runway along the western portion of the review area to two culvert outlets near the southern boundary of the review area, where it is designated as a “connector.” The feature along the eastern boundary of the review area is designated as a “canal/ditch” and travels north to south along Heacock Street. USFWS NWI does not map any features throughout the review area (Figure 4; USFWS 2019).

The known hydrologic sources for the observed on-site drainages, discussed further below, are direct precipitation, runway and road runoff, and surrounding commercial and industrial uses. Based on review of the USGS NHD web map and Google Earth, the two on-site features converge into a canal/ditch approximately 0.39 mile southeast of the review area along Heacock Street, which then travels north to south along Heacock Street for approximately 0.96 mile and west to east between E Oleander Avenue and Harley Knox Boulevard for 1.77 miles before outletting into the Perris Valley storm drain. The Perris Valley storm drain then flows south for approximately 6.03 miles before discharging into the San Jacinto River and ultimately Canyon Lake and Lake Elsinore (USGS 2018).

4.3 VEGETATION

Table 2 provides vegetation community acreages within the review area based on vegetation mapping conducted by RBC biologists on May 12 and June 3, 2020 (Figure 6A – 6B). The review area primarily consists of non-native grassland surrounded primarily by developed land. The

vegetation community classifications follow Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986).

Table 2. Vegetation Communities within Review Area

Vegetation Community/Land Cover Type	Acre(s)[1]
Developed	36.88
Disturbed Habitat	4.75
Non-native Grassland	84.83
Ornamental	0.61
Ruderal	0.61
Salix gooddingii	0.04
Total	127.73

[1] Acreages summed using raw numbers provided during GIS analysis (available upon request) and thus the sum of the total rounded numbers may not directly add up in this table.

Developed – Developed land within the review area (36.88 acres) supports little to no native vegetation and are comprised of human-made structures (buildings, pavement, etc.). Areas mapped as developed on the project site occur in the western portion and along the southern boundary of the review area in the form of a paved road and lot.

Disturbed Habitat – Disturbed habitat within the review area (4.75 acres) supports little to no native vegetation and are comprised of human-made disturbances (vegetation clearing, mowing, vehicle disturbance, etc.). Areas mapped as disturbed on the project site occur at the southern and eastern areas of the review area and are comprised of bare soils.

Non-native Grassland – Non-native grassland within the review area (84.83 acres) supports scattered stands of non-native grass species such as wild oat (*Avena barbata*), red brome (*Bromus rubens*), and rat-tail fescue (*Festuca myuros*), amongst a lower number of ruderal plant species. The project site is frequently mowed, keeping non-native grasses and ruderal species fairly low to the ground. Non-native grassland occurs throughout much of the review area.

Ornamental – Ornamental vegetation within the review area (0.61 acre) supports stands of planted non-native species such as rosemary (*Salvia rosmarinus*), acacia (*Acacia* sp.), and Peruvian pepper (*Schinus molle*). Ornamental vegetation is concentrated in small segments adjacent to developed land along the southeastern boundary of the review area.

Ruderal – Ruderal areas within the review area (0.61 acre) support stands of ruderal vegetation such as common sow-thistle (*Sonchus oleraceus*), short-pod mustard (*Hirschfeldia incana*), and red-stem filaree (*Erodium cicutarium*), amongst lower numbers of non-native grass species. A small patch of ruderal vegetation occurs at the southwestern edge of the project boundary. This area was likely historically disturbed and subsequently colonized by ruderal plant species.

Salix gooddingii – *Salix gooddingii* within the review area (0.04 acre) supports a small stand of Goodding's black willow (*Salix gooddingii*) amongst small numbers of willow baccharis (*Baccharis*

salicina). The stand of *Salix gooddingii* occurs in the southwestern portion of the site, along the southern boundary of the review area.

5 PRECIPITATION DATA AND ANALYSIS

RBC utilized the Corps' Antecedent Precipitation Tool (APT) to assess whether or not the delineation date occurred in a drier, average, or wetter than normal period for the review area (Corps 2020). The Corps created the APT to assist with determining the normal periodic range of precipitation and other climate variables for the waterbody or waterbodies within a review area. Additionally, the APT can also generally inform the regulatory agencies whether or not normal hydrologic/climatic conditions were on site at the time of the site visit and assist with completion of the Wetland Determination Data Forms (Appendix D).

5.1 ANTECEDENT PRECIPITATION TOOL DATA

The APT provides three climatological parameters: Palmer Drought Severity Index (PDSI), season, and antecedent precipitation condition. The PDSI is a standardized index calculated on a monthly basis with PDSI value outputs ranging from -10 (extremely dry) to +10 (extremely wet) (National Oceanic and Atmospheric Administration [NOAA] 2020) to assess drought conditions (i.e., PDSI Class). The APT determines wet vs. dry season based on related procedures provided in the applicable regional supplement for the review area (i.e., Arid West Supplement). The antecedent precipitation condition is classified as drier than normal with an antecedent runoff condition (ARC) score less than 10; normal with an ARC score between 10 to 14; or wetter than normal with an ARC score greater than 14 (Corps 2000).

Table 3 summarizes the key data extrapolated from the APT output to compare the current year 30-day rolling total to the averaged 30-year normal for the weather stations with comprehensive historical data within 30 miles of the review area: estimated drought conditions, wet or dry season determination, ARC score, and antecedent precipitation condition. Based on the APT output provided in Appendix F and summarized in Table 3, the precipitation and climatic conditions were within the normal periodic range for the review area.

Table 3. Antecedent Precipitation Tool Data for the Review Area

Field Survey Date	PDSI Value	PDSI Class	Season	ARC Score	Antecedent Precipitation Condition
6/3/2020	2.11	Moderate wetness	Dry season	12	Normal conditions

6 DESCRIPTION OF OBSERVED POTENTIAL AQUATIC RESOURCES

The following descriptions of observed potential aquatic resources within the review area document the presence or absence of aquatic resource indicators per the methods discussed in Section 3.

For the Corps, the observed aquatic resources were delineated into four separate aquatic resources based on observed changes in vegetation species, presence of an artificial bed and

bank, and presence/absence of federal wetland parameters as follows: WW-1, WW-2, NWW-1A, and NWW-1B (Figure 5A). Similarly, for the RWQCB, the aquatic resources were delineated into the same four separate features; however, based on agency-specific guidance as described futher below in the agency's respective section, those features are labeled and classified as follows: WW-1, WW-2, WW-3, and NWW-1 (Figure 5B). For CDFW, one observed aquatic resource, NWW-1, was delineated based primarily on the presence of an artificially constructed bed and bank.

Appendix G provides site photographs of the features within the review area; all figures in the Figure 5 series display representative photo points.

6.1 CORPS WETLAND WATERS OF THE U.S.

Twelve Wetland Data Form Points (WDP) were taken within the review area to determine the presence or absence of federally jurisdictional wetlands (Figure 5A; Appendix E). RBC also completed four OHWM Datasheets in the review area (Figure 5A; Appendix E). All three federal wetland parameters were observed at three of the 12 WDP locations. Despite meeting the definition of a federal wetland, waters occuring within a defined OHWM are classified as non-wetland waters of the U.S. per Corps' protocols (i.e., wetlands occuring within the OHWM are non-wetland waters by regulation and guidance). As such, see *Non-Wetland Water 1B* in Section 6.2 below for further discussion of three-parameter wetlands observed within the OHWM of *Non-Wetland Water 1A*.

Wetland Water 1

WW-1 is a disturbed seasonally inundated depression, artificially constructed as a result of soil borrowing for road grading of an adjacent re-routed road per Appendix D. WW-1 is located directly east of the airplane runway in the western portion of the review area (Figure 5A). WW-1 did not display an observable OHWM or bed and bank and instead displayed drainage patterns and surface soil cracks indicative of ponding within a depressional area, as well as a dark layer of a biotic crust. Wetland delineation data was collected within WW-1 to confirm the presence or absence of wetland parameters. WDP 1 met the hydrophytic vegetation, hydric soil, and wetland hydrology parameters (Figure 5A; Appendix E, WDP 1). WDP 1 was dominated by smoothseed pygmyweed (*Crassula solieri*; OBL), short woolyheads (*Psilocarphus brevissimus*; FACW), and American speedwell (*Veronica peregrina* ssp. *xalapensis*; FAC). WDP 2, taken in the adjacent uplands of WDP 1 to help determine the wetland boundary, did not meet the hydrophytic vegetation, hydric soil, or wetland hydrology parameters (Figure 5A; Appendix E, WDP 2).

Wetland Water 2

WW-2 is composed of two disturbed seasonally inundated depression areas primarily within a dirt access road and a swale, per Appendix D, near the central portion of the review area directly southeast of S-2 (see Section 6.6 below). WW-2 is in close proximity to other known and documented soil borrowing sites and within an area recorded as being frequently disturbed (Appendix D). WW-2 did not display an observable OHWM or bed and bank and instead displayed drainage patterns and surface soil cracks indicative of ponding within a depressional area, as well as a dark layer of a biotic crust. Wetland delineation data was collected within WW-2 to confirm the presence or absence of wetland parameters. WDP 9 met the hydrophytic vegetation, hydric soil, and wetland hydrology parameters (Figure 5A; Appendix E, WDP 9). WDP 9 was dominated by

short woolyheads (FACW) and smallseed sandmat (*Euphorbia polycarpa*; NL/UPL). WDP 10, taken in the adjacent uplands of WDP 9 to help determine the wetland boundary, did not meet the hydrophytic vegetation, hydric soil, or wetland hydrology parameters (Figure 5A; Appendix E, WDP 10).

6.2 CORPS NON-WETLAND WATERS OF THE U.S.

Non-Wetland Water 1A

NWW-1A is a vegetated, artificially constructed earthen-bottom channel that enters the review area from a culvert directly east of the airplane runway along the western portion of the review area and travels east/southeast for approximately 1,127 feet before entering two culvert inlets near the southern boudary of the review area (Figure 5A). A wetland and OHWM delineation were conducted within the channel to confirm the presence or absence of wetland parameters and/or OHWM indicators. WDP 11 was taken near the downstream extent of NWW-1A within a disturbed vegetated area primarily dominated by non-native grassland plants such as Musky stork's bill (*Erodium moschatum*; NL/UPL), Spanish clover (*Acmispon americanus*; UPL), and vinegarweed (*Trichostema lanceolatum*; UPL). WDP 11 met the wetland hydrology parameter; however, did not meet the hydrophytic vegetation or hydric soil parameters (Figure 5A; Appenix D, WDP 11).

RBC staff observed a faint 10-foot wide OHWM at the upstream extent of NWW-1A east of the culvert outlet and concrete apron structure adjacent to the airplane runway. The OHWM continues southeast and widens to an average 18-foot width near the downstream extent of NWW-1A at OHWM Datasheet Point (ODP) 4. The OHWM at ODP 4 did not show evidence of a low-flow channel or clear break in bank slope. ODP 4 was defined by a change in vegetation species and cover, an artificial bed and bank, and some soil cracking at the channel bottom (Figure 5A and 5B; Appendix E, ODP 4). NWW-1A continues south toward the southern border of the review area and widens to approximately 30 feet wide at the OHWM.

See *Non-Wetland Water 1B* below for details regarding an area within the OHWM of NWW-1A that met federal wetland parameters.

Non-Wetland Water 1B

NWW-1B is located at the upstream extent of and entirely within the delineated OHWM of NWW-1A. Thus, OHWM data collected for NWW-1A dictates the extent of the OHWM within which NWW-1B occurs. NWW-1B is located adjacent to a culvert outlet and concrete apron structure directly east of the airplane runway along the western portion of the review area (Figure 5A). The culvert outlet was constructed with a reverse fall condition which results in ponding of downstream flows on the concrete apron and contributes to the wetland conditions observed at NWW-1B (DRC Engineering, Inc., 2020; Appendix D). Wetland delineation data was collected within the primarily earthen-bottom NWW-1B to confirm the presence or absence of wetland parameters. WDP 4, taken within a heavily vegetated area dominated by horseweed (*Erigeron canadensis*; FACU), American speedwell (FAC), and annual beard-grass (*Polypogon monspeliensis*; FACW), met the hydrophytic vegetation, hydric soil, and wetland hydrology parameters (Figure 5A; Appendix E, WDP 4). WDP 5, taken in the adjacent uplands of WDP 4 to help determine the wetland boundary, did not meet the hydrophytic vegetation, hydric soil, or wetland hydrology parameters (Figure 5A; Appendix E, WDP 5).

Figure 5A displays the estimated extent of three-parameter federal wetlands as NWW-1B based on representative data collected at WDP 4 (and its associated upland WDP 5) and observation of similar hydrology, topography, and presence of hydrophytic vegetation.

6.3 RWQCB WETLAND WATERS OF THE STATE

Wetland Water 1

The wetland waters of the State boundary for WW-1 is the same boundary defined for NWW-1B described in Section 6.2 above.

Figure 5B displays the estimated extent of RWQCB wetlands within the review area based on the presence of all three federal wetland parameters and per the SWRCB Procedures.

Wetland Water 2

The wetland waters of the State boundary for WW-2 is the same boundary defined for WW-1 described in Section 6.2 above.

Figure 5B displays the estimated extent of RWQCB wetlands within the review area based on the presence of all three federal wetland parameters and per the SWRCB Procedures.

Wetland Water 3

The wetland waters of the State boundary for WW-3 is the same boundary defined for WW-2 described in Section 6.2 above.

Figure 5B displays the estimated extent of RWQCB wetlands within the review area based on the presence of all three federal wetland parameters and per the SWRCB Procedures.

6.4 RWQCB NON-WETLAND WATERS OF THE STATE

Non-Wetland Water 1

The non-wetland waters of the State extent for NWW-1 is the same as defined for NWW-1A described in Section 6.2 above.

Figure 5B displays the estimated extent of RWQCB non-wetland waters of the State within the review area based on the presence of OHWM indicators.

6.5 CDFW STREAMBED AND ASSOCIATED RIPARIAN AND WETLAND HABITATS

Non-Wetland Water 1

NWW-1 is a primarily vegetated and earthen constructed channel. Specifically, the earthen-bottom channel enters the review area via a culvert outlet adjacent to the airplane runway along the western portion of the review area, measuring approximately 15 feet wide from the top of the bank. The channel continues east/southeast and widens to an average 25-foot width; at its terminus at the culverts near the southern boundary of the review area, the channel is approximately 35 feet wide from bank to bank. No associated riparian or wetland vegetation occurs beyond the banks of the channel. The artificial streambed area within the channel is dominated by non-native grassland plants such as Musky stork's bill (NL/UPL), Spanish clover (UPL), and vinegarweed (UPL). The

banks of NWW-1 are dominated by short-pod mustard (NL/UPL), great brome (*Bromus diandrus*; NL/UPL), and stinknet (*Oncosiphon piluliferum*; FACU).

Figure 5C displays the estimated extent of streambed within the review area, delineated based on the top of the channel banks.

6.6 OTHER FEATURES

Field staff further investigated several areas with potential aquatic resource indicators, including swales, an abandoned ditch, and several disturbed potential ponding areas as described below.

The features discussed in this section are not discussed further in this ARDR as they are not anticipated to be jurisdictional under the Corps, RWQCB, or CDFW regulations, policy, and/or guidance based on the information provided in this section.

Potential Ponding Areas 1 – 4

Several potential ponding areas occur within the review that did not display an observable OHWM or bed and bank and instead displayed slight drainage patterns indicative of a potential ponding area and some concavity within the otherwise flat landscape. A summary of each observed potential ponding area is provided below.

PPA-1 intersects the central portion of S-1 located west of the airplane runway in the northwestern portion of the review area. Wetland delineation data was collected within PPA-1 to confirm the presence or absence of wetland parameters. WDP 6, taken within a vegetated area considered significantly disturbed due to routine mowing and dominated by smallseed sandmat (NL/UPL) and goldfields (*Lasthenia* sp.; treated as FACU), did not meet the hydrophytic vegetation, hydric soil, or wetland hydrology parameters (Figures 5A-5C; Appendix E, WDP 6).

PPA-2 is located directly east of the airplane runway in the southwestern portion of the review area. Wetland delineation data was collected within PPA-2 to confirm the presence or absence of wetland parameters. WDP 3, taken within a vegetated area dominated by red sandspurry (*Spergularia rubens*; FAC), vinegarweed (FACU), and doveweed (*Croton setiger*; NL/UPL), met the wetland hydrology parameter; however, WDP 3 did not meet the hydrophytic vegetation or hydric soil parameters (Figures 5A-5C; Appendix E, WDP 3).

PPA-3 is located west of Heacock Street in the southeastern portion of the review area. PPA-3 was potentially created as a result of soil vapor extractions and soil remedian efforts that subject the surrounding area to soil removal and compacting activities (Appendix D). Wetland delineation data was collected within PPA-2 to confirm the presence or absence of wetland parameters. WDP 8, taken within a vegetated area dominated by California aster (*Carethroggre flaginifolia*; NL/UPL) and vinegarweed (FACU), met the wetland hydrology parameter; however, WDP 8 did not meet the hydrophytic vegetation or hydric soil parameters (Figures 5A-5C; Appendix E, WDP 8).

PPA-4 is located west of Heacock Street in the southeastern portion of the review area directly southeast of PPA-3. PPA-4 was potentially created as a result of the routing of heavy equipment through the area for the purpose of conducting the various remediation and soil vapor extraction activities conducted in the area surrounding PPA-3 (Appendix D). Wetland delineation data was collected within PPA-4 to confirm the presence or absence of wetland parameters. WDP 7 was taken within an area considered significantly disturbed due to previous soil compaction and

removal due to heavy vehicle traffic and site construction. WDP 7, which was dominated by hyssop loosetrife (*Lythrum hyssopifolia*; OBL) and common spikeweed (*Centromadia pungens* ssp. *pungens*; FAC), met the hydrophytic vegetation and wetland hydrology parameters; however, no hydric soil indicators were observed within WDP 7 (Figures 5A-5C; Appendix E, WDP 7).

Swales 1 – 4

Several swales were observed during the field delineation that did not display an observable OHWM, bed and bank, or other evidence of conveying regular flows on site or from the runway areas. These disturbed swale features also did not appear to convey flows to downstream aquatic resources via observed flow patterns, culverts, or other flow paths. A summary of each observed swale is provided below.

S-1 is a concave drainage area located west of the airplane runway that enters through a culvert on the northwestern boundary of the review area and travels southwest for approximately 1,075 feet and intersects with PPA-1 before eventually entering into a culvert inlet near the western boundary of the review area. WDP 6, taken within a vegetated area considered significantly disturbed due to routine mowing and dominated by smallseed sandmap (NL/UPL) and goldenfields (*Lasthenia* sp.; treated as FACU), did not meet the hydrophytic vegetation, hydric soil, or wetland hydrology parameters (Figures 5A-5C; Appendix E, WDP 6). ODP 1, taken near the upstream extent of S-1, displayed a slight change in vegetation species between the swale and adjacent uplands but did not show evidence of a break in slope or defined bed and bank. Additionally, ODP 1 did not contain a change in sediment texture, change in vegetation cover, or any other OHWM indicators between the swale and the adjacent upland area (Figures 5A-5C; Appendix E, ODP 1). Thus, this swale was determined to not have an OHWM or defined bed and bank.

S-2 is a disturbed drainage area that enters the review area at a culvert outlet located east of the airplane runway. The culvert outlet has silted up over time and currently requires at least six inches of ponding to flow beyond and over the adjacent perimeter road (DRC Engineering Inc., 2020; Appendix D). Per Appendix D, S-2 and NWW-1A previously converged near the center of review area; however, based on 2002 imagery, the 2001 development resulted in S-2 no longer being in line to divert flows into NWW-1A. ARDR field observations confirmed the swale no longer appears to connect with the channel and has been blocked off by a dirt access road (Appendix G, Photos 6 and 7). S-2 currently travels southeast from the culvert outlet for approximately 625 feet before entering into WW-2 at its southeastern terminus (Figure 5A-5C). From the edge of the perimeter road, southeast 700+ linear feet, S-2 contains less than a 0.1% slope (DRC Engineering Inc., 2020; Appendix D). ODP 3, taken at the downstream extent of S-2, displayed a slight change in vegetation species between the swale and adjacent uplands but did not show evidence of a break in slope or defined bed and bank. Additionally, ODP 2 did not contain a change in sediment texture, change in vegetation cover, or any other OHWM indicators between the swale and the adjacent upland area (Figures 5A-5C; Appendix E, ODP 2). Thus, this swale was determined to not have an OHWM or defined bed and bank.

S-3 is a drainage area located east of the airplane runway in the southwestern portion of the review area. S-3 did not display an observable OHWM or bed and bank and instead appeared to convey surface flows from airplane runoff. ODP 2, taken in an area dominated by non-native grassland, displayed a slight change in vegetation species between the swale and adjacent uplands but did

not show evidence of a break in slope or defined bed and bank. Additionally, ODP 3 did not contain a change in sediment texture, change in vegetation cover, or any other OHWM indicators between the swale and the adjacent upland area (Figures 5A-5C; Appendix E, ODP 3). Thus, this swale was determined to not have an OHWM or defined bed and bank.

S-4 is an approximately 310-linear foot concave drainage area that enters the review area at a culvert outlet in the southwestern portion of the review area and trends northwest to southeast to its southeastern terminus at the review area boundary in the southwestern segment. The conditions and vegetation observed at S-1 were similar to and representative of S-4. Thus, this swale was determined to not have an OHWM or defined bed and bank.

Ditch 1

D-1 is a concrete-lined, artificially created ditch that occurs in the southern portion of the review area, initiating on site and traveling east to southwest for approximately 933 feet before entering two culvert outlets at the downstream extent of NWW-1. Per Appendix D, D-1 is a V-ditch created in uplands in 2001 to intercept and convey flows into NWW-1A and away from the adjacent developed areas. D-1 is surrounded by non-native grassland and measures approximately 3 feet wide. RBC did not observe any indicators of an OHWM at D-1; while within a constructed concrete bed and bank, the ditch appeared to no longer convey flows and was filled with trash, debris, and eroded soils from the adjacent upland areas. In summary, D-1 did not appear to be functioning as an aquatic resource.

7 DEVIATION FROM NWI AND NHD

The delineated extents of NWW-1A and NWW-1B (or NWW-1) generally occur within the area mapped by the USGS NHD as a “canal/ditch” traveling from the western portion of the review area to the southern boundary of the review area, where it is designated as a “connector.” The downstream portion of the “connector” extends further south than the southern boundary of the review area/NWW-1A. USGS NHD does not map the delineated extents of WW-1 or WW-2. Additionally, RBC did not observe any evidence of the “canal/ditch” that travels along the eastern boundary of the review area and is mapped further north (upstream) and south (downstream) than the boundaries of the review area. The NWI does not map any aquatic resources within the review area.

8 RESULTS AND CONCLUSIONS

The results provided in this section include the extent of delineated aquatic resources within the review area based on observed field indicators of potential waters of the U.S., waters of the State, and CDFW streambed and associated wetland and/or riparian habitat per the methodologies discussed in Section 3.

This section, however, does not analyze the Corps’ jurisdictional status of the delineated features per the current regulations, guidance, and standard operating procedures. As stated in Section 1, Appendix B provides the required forms to officially request a PJD from the Corps for aquatic resources observed within the review area.

8.1 CORPS

WW-1 and WW-2 met the three federal wetland parameters whereas NWW-1A displayed various indicators of an OHWM, such as a change in vegetation species between the channel and adjacent uplands and an artificial bed and bank. NWW-1B met the appropriate wetland parameters to qualify as a potential wetland waters of the U.S.; however, based on guidance provided by the Corps, wetlands within an OHWM constitute potential non-wetland waters of the U.S. As such, NWW-1A and NWW-1B would be considered potential non-wetland waters of the U.S.

Approximately 0.35 acre (1,162 linear feet) of potential non-wetland waters of the U.S. associated with NWW-1A and NWW-1B and 0.10 acre of potential wetland waters of the U.S. associated with WW-1 and WW-2 occur within the review area, as further detailed in Table 4 and as shown on Figure 5A. Linear footage was not calculated for WW-1 and WW-2 as these features are considered seasonally inundated depressions not associated with a linear riverine feature. The ORM Bulk Upload Aquatic Resources or Consolidated Excel spreadsheet is included as Appendix I.

Table 4. Aquatic Resource Summary Table: Corps

Aquatic Resource Name	Cowardin Code	Active Channel Width Range (Feet)	Observed OHWM Indicators[1]	Observed Wetland Parameters[2]	Presence of OHWM/ Wetland	Dominant Vegetation	Location (lat, long)	Acre(s)	Linear Feet
NWW-1A	R6	10 – 30	CVS, CVC, ABB, SC	WH	Yes/No	Non-Native Grassland	33.876241, -117.248628	0.34	1,139
NWW-1B	R6	13 – 18	CVS, CVC, ABB, SC	HV, HS, WH	Yes/Yes	Non-Native Grassland; See WDP 4	33.876558, -117.250668	0.01	22
WW-1	PEM	7 – 21	N/A	HV, HS, WH	No/Yes	Non-Native Grassland; See WDP 1	33.876243, -117.250595	0.04	N/A[3]
WW-2	PEM	12 – 29	N/A	HV, HS, WH	No/Yes	Non-Native Grassland; See WDP 9	33.876932, -117.248469	0.07	N/A[3]
							Total[4]	0.45	1,162

[1] OHWM Indicators: CVS = Change in vegetation species; CVC = Change in vegetation cover; ABB = Artificial bed and bank; SC = Soil cracking
[2] Wetland Indicators: HV = Hydrophytic vegetation; HS = Hydric soil; WH = Wetland hydrology
[3] Linear footage not calculated as this feature is considered a seasonally inundated depression not associated with a linear riverine feature.
[4] Acreages and linear feet summed using raw numbers provided during GIS analysis (available upon request) and thus the sum of the total rounded numbers may not directly add up in this table.

8.2 RWQCB

NWW-1 displayed various indicators of an OHWM, such as a change in vegetation species between the channel and adjacent uplands and an artificial bed and bank. NWW-1 did not meet the three federal/state wetland parameters; however, WW-1, WW-2, and WW-3 did meet the appropriate wetland parameters to qualify as wetland waters of the State. As such, NWW-1 would

be considered non-wetland waters of the State based on the presence of an OHWM; WW-1, WW-2, and WW-3 are expected to be considered wetland waters of the State given the presence of the three required wetland parameters and qualification as a wetland waters of the State under Section II.3.c of the SWRCB Procedures.

Approximately 0.34 acre (1,139 linear feet) of non-wetland waters of the State associated with NWW-1 and 0.11 acre (22 linear feet associated with WW-1 which occurs within NWW-1) of wetland waters of the State associated with WW-1, WW-2, and WW-3 occur within the review area, as further detailed in Table 5 and as shown on Figure 5B. Linear footage was not calculated for WW-2 and WW-3 as these features are considered seasonally inundated depressions not associated with a linear riverine feature.

Table 5. Aquatic Resource Summary Table: RWQCB

Aquatic Resource Name	Cowardin Code	Active Channel Width Range (Feet)	Observed OHWM Indicators[1]	Observed Wetland Parameters[2]	Presence of OHWM/ Wetland	Dominant Vegetation	Location (lat, long)	Acre(s)	Linear Feet
NWW-1	R6	10 – 30	CVS, CVC, ABB, SC	WH	Yes/No	Non-Native Grassland	33.876241, -117.248628	0.34	1,139
WW-1	R6	13 – 18	CVS, CVC, ABB, SC	HV, HS, WH	Yes/Yes	Non-Native Grassland; See WDP 4	33.876558, -117.250668	0.01	22
WW-2	PEM	7 – 21	N/A	HV, HS, WH	No/Yes	Non-Native Grassland; See WDP 1	33.876243, -117.250595	0.04	N/A[3]
WW-3	PEM	12 – 29	N/A	HV, HS, WH	No/Yes	Non-Native Grassland; See WDP 9	33.876932, -117.248469	0.07	N/A[3]
							Total[4]	0.45	1,162

[1] OHWM Indicators: CVS = Change in vegetation species; CVC = Change in vegetation cover; ABB = Artificial bed and bank; SC = Soil cracking
[2] Wetland Indicators: HV = Hydrophytic vegetation; HS = Hydric soil; WH = Wetland hydrology
[3] Linear footage not calculated as this feature is considered a seasonally inundated depression not associated with a linear riverine feature.
[4] Acreages and linear feet summed using raw numbers provided during GIS analysis (available upon request) and thus the sum of the total rounded numbers may not directly add up in this table.

8.3 CDFW

The earthen-bottom NWW-1 displayed a defined artificial streambed; the bed and bank for the channel was defined by the area composed of non-native grassland species within the channel bottom up to the top of the constructed earthen banks. Wetland or riparian habitat directly associated with the streambeds did not extend beyond the top of the defined banks of the channel. Approximately 0.49 acre (1,162 linear feet) of vegetated streambed occur within the review area, as further detailed in Table 6 and as shown on Figure 5C.

WW-1 and WW-2 per the Corps and WW-2 and WW-3 per the RWQCB, which are considered Corps- and RWQCBjurisdictional wetland features, respectively, are not considered CDFW-jurisdictional since the features were not associated with a streambed.

Table 6. Aquatic Resource Summary Table: CDFW

Aquatic Resource Name	Aquatic Resource Type	Vegetation Community	Width Range[1] (Feet)	Location (lat, long)	Acre(s)	Linear Feet
NWW-1	Vegetated Streambed	Non-Native Grassland	15 – 35	33.876241, -117.248628	0.49	1,162
				Total	0.49	1,162

[1] Corresponds with the approximate stream bank widths observed during delineation.

8.4 DISCLAIMER STATEMENT

The aquatic resources acreages and linear feet estimated in this section represent the existing conditions during the time of the field surveys. Please note that the applicable agencies will make final jurisdictional determinations. RBC recommends early coordination with the resource agencies to determine the final jurisdictional boundaries, applicable permitting processes, compensatory mitigation requirements, and other potential permitting issues specific to the proposed work within the review area. Agency representatives may request to access the site to field-verify the results of this ARDR with the applicant, or a designated representative.

The information provided in this report should remain valid for up to five years from the date of the field effort for the jurisdictional delineation unless site conditions change substantially, or a regulatory agency requires an updated report.

9 CONTACT INFORMATION

Applicant/Land Owner:

Timothy C. Reeves

Meridian Park LLC

1156 North Mountain Avenue

Upland, CA 91785

timothy.reeves@lewismc.com

909-579-1294

Agent:

Sarah Krejca

Rocks Biological Consulting

4312 Rialto Street

San Diego, CA 92107

sarah@rocksbio.com

619-813-8790

Agency access to the review area can be coordinated with the applicant and/or agent upon request.

FIGURE 1

Project Location

MERIDIAN D-1 GATEWAY AVIATION PROJECT

ROCKS BIOLOGICAL CONSULTING

0 1,000 2,000 FEET

N

Date: 4/6/2022
Aerial Photo: Maxar, Esri 2018
Regional Map: National Geographic, Esri 2012

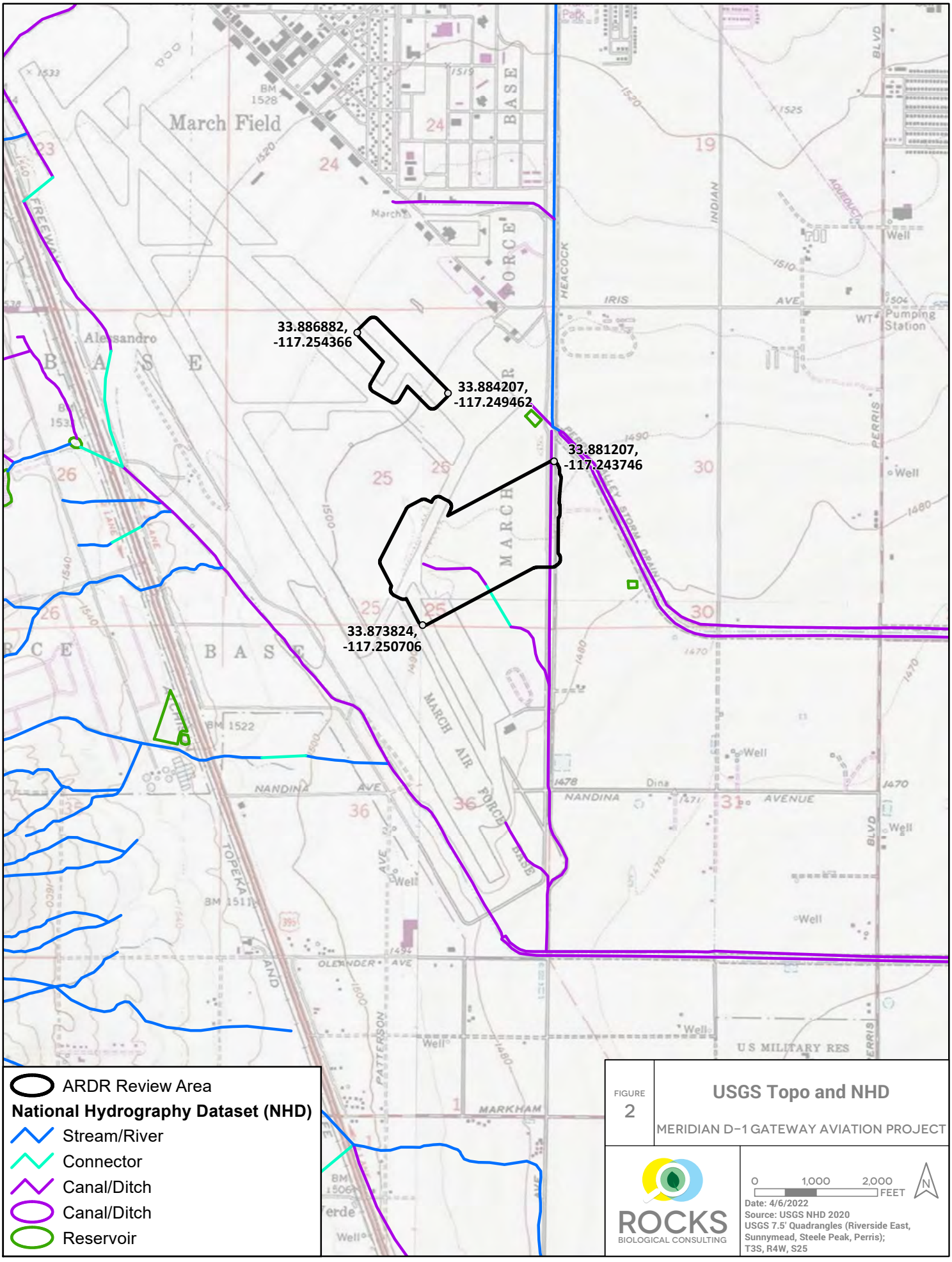


FIGURE 2

USGS Topo and NHD

MERIDIAN D-1 GATEWAY AVIATION PROJECT

ROCKS BIOLOGICAL CONSULTING

0 1,000 2,000 FEET

Date: 4/6/2022
Source: USGS NHD 2020
USGS 7.5' Quadrangles (Riverside East, Sunnymead, Steele Peak, Perris);
T3S, R4W, S25

ARDR Review Area
NHD Watershed 8-digit HUC
NHD Watershed 10-digit HUC
NHD Watershed 12-digit HUC

Moreno Valley
HUC 12 - 180702020304

Santa Ana
HUC 8 - 18070203

Perris Reservoir
HUC 12 - 180702020305

Middle San Jacinto River
HUC 10 - 1807020202

Whitewater River
HUC 8 - 18100201

Lower San Jacinto River
HUC 10 - 1807020203

San Jacinto
HUC 8 - 18070202

Perris Valley-San Jacinto River
HUC 12 - 180702020306

Railroad Canyon Reservoir-San Jacinto River
HUC 12 - 180702020307

San Jacinto Valley
HUC 12 - 180702020302

Upper San Jacinto River
HUC 10 - 1807020201

Saint Johns Canyon
HUC 12 - 180702020301

Menifee Valley
HUC 12 - 180702020303

Lake Elsinore
HUC 12 - 180702020308

Aliso-San Onofre
HUC 8 - 18070301

Santa Margarita
HUC 8 - 18070302

San Luis Rey-Escondido
HUC 8 - 18070303

FIGURE 3

Watershed

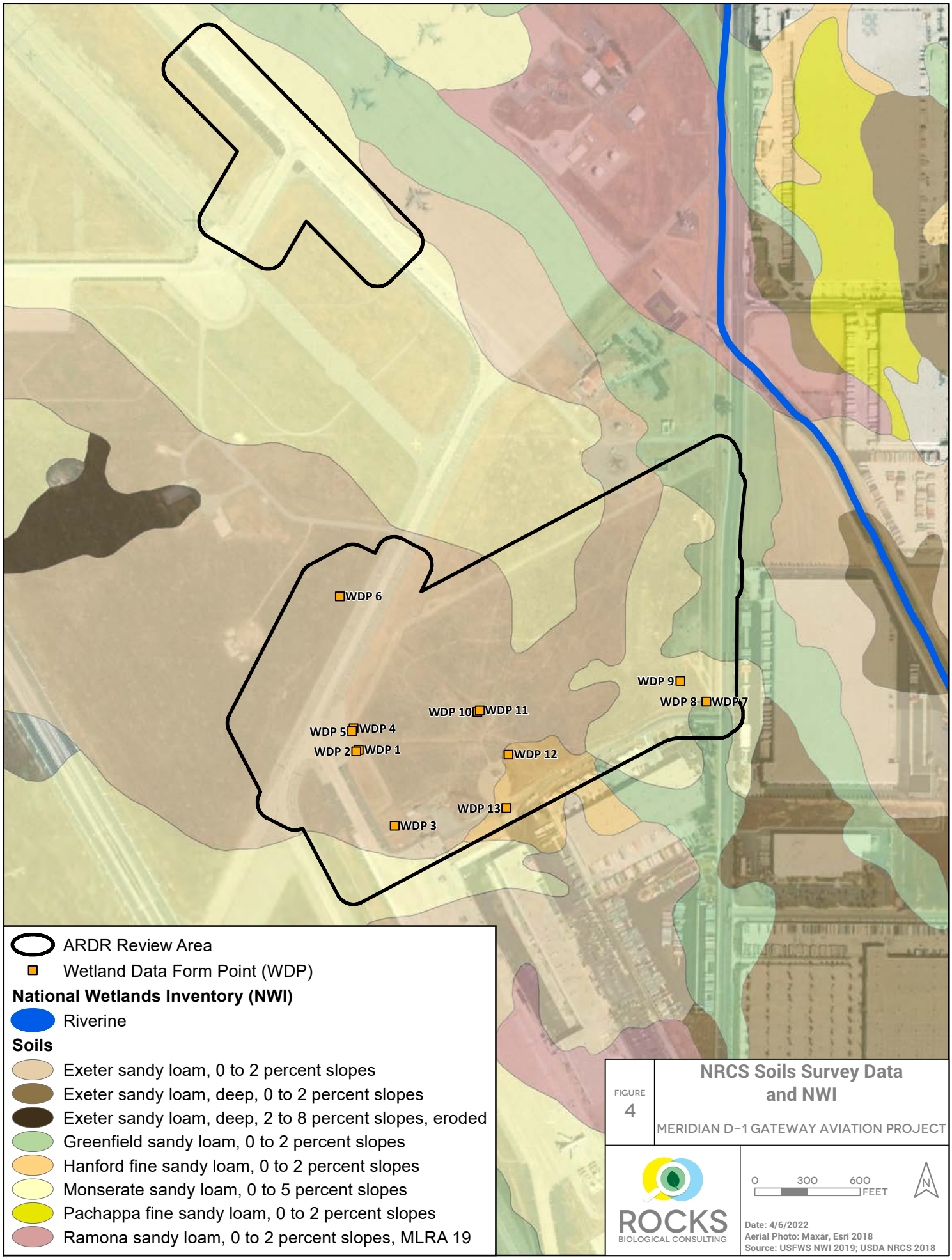
MERIDIAN D-1 GATEWAY AVIATION PROJECT

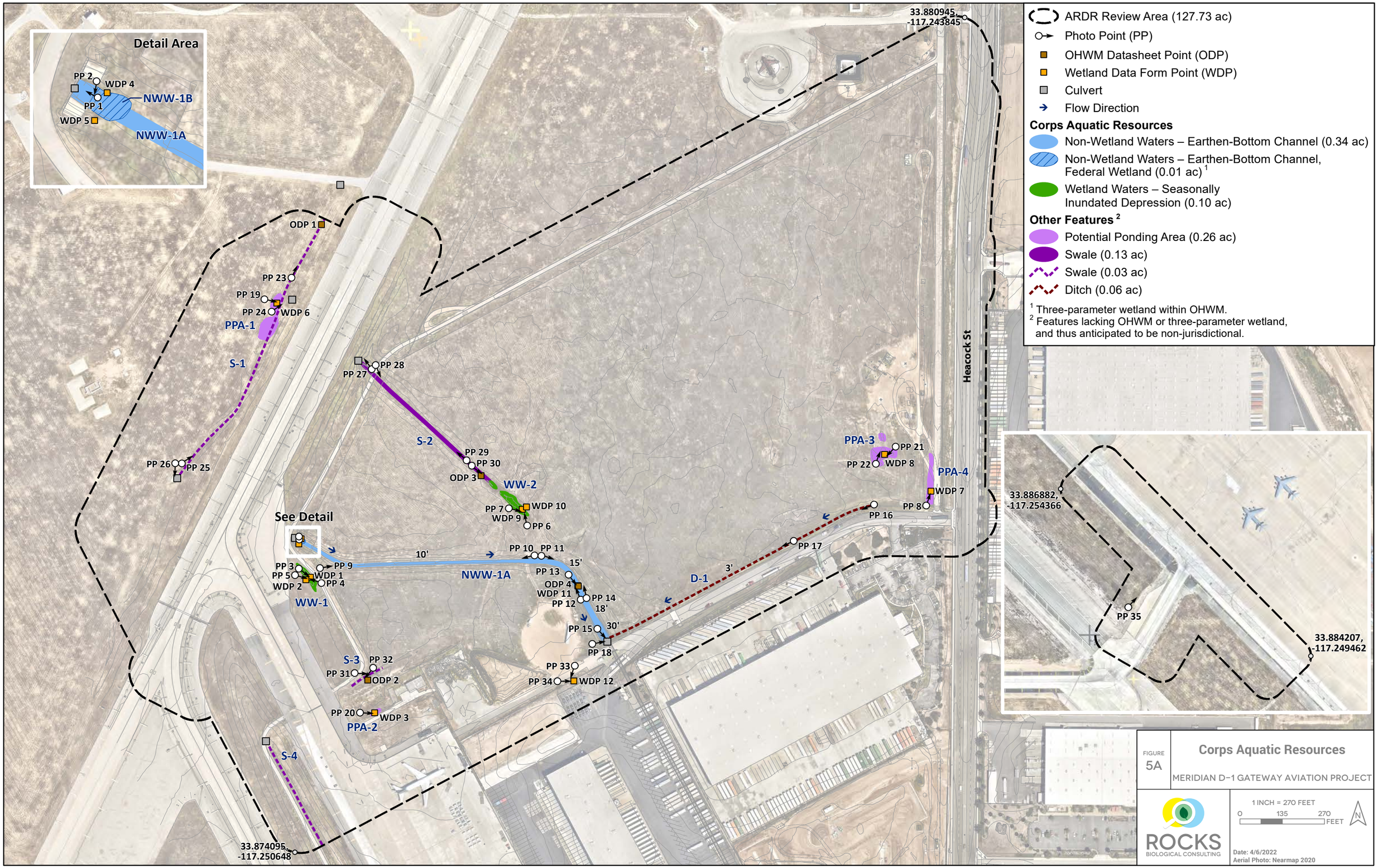
ROCKS BIOLOGICAL CONSULTING

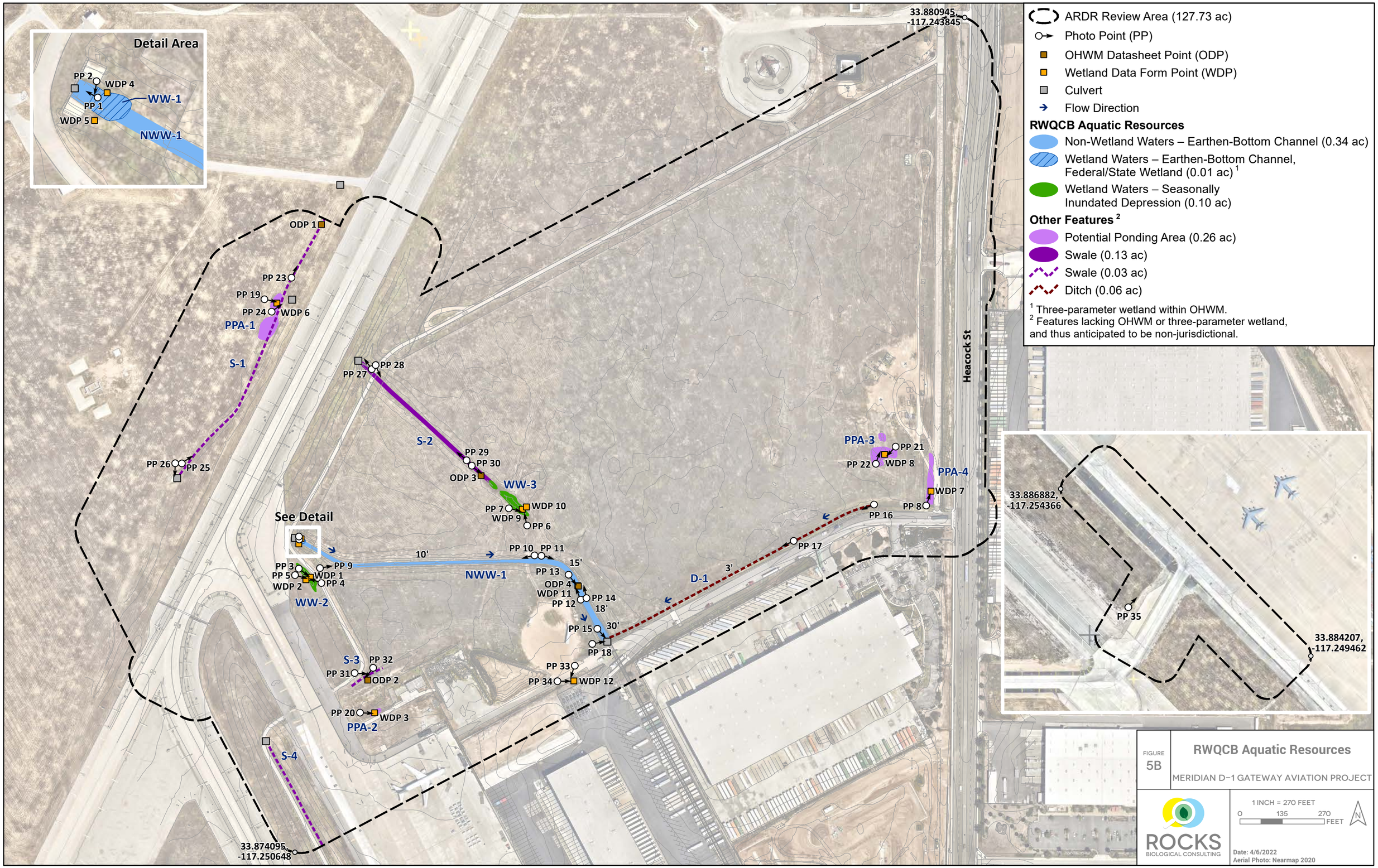
0 2 4 MILES

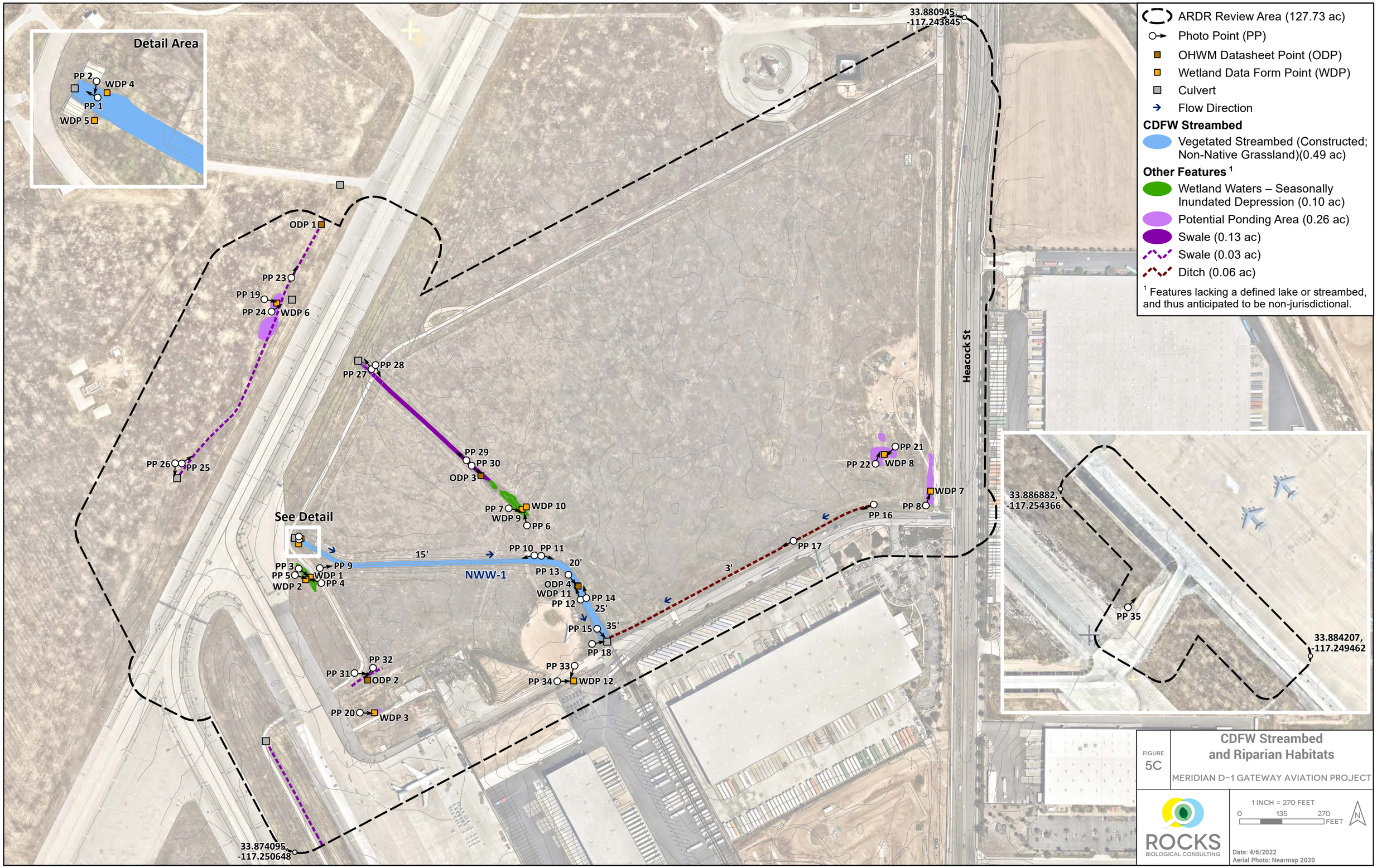
N

Date: 4/6/2022
Aerial Photo: Maxar, Esri 2018
Source: USGS NHD 2020


WDP 6
WDP 9
WDP 8
WDP 7
WDP 10
WDP 11
WDP 5
WDP 4
WDP 2
WDP 1
WDP 12
WDP 13
WDP 3
ARDR Review Area
Wetland Data Form Point (WDP)
National Wetlands Inventory (NWI)
Riverine
Soils
Exeter sandy loam, 0 to 2 percent slopes
Exeter sandy loam, deep, 0 to 2 percent slopes
Exeter sandy loam, deep, 2 to 8 percent slopes, eroded
Greenfield sandy loam, 0 to 2 percent slopes
Hanford fine sandy loam, 0 to 2 percent slopes
Monserate sandy loam, 0 to 5 percent slopes
Pachappa fine sandy loam, 0 to 2 percent slopes
Ramona sandy loam, 0 to 2 percent slopes, MLRA 19
FIGURE 4
NRCS Soils Survey Data and NWI
MERIDIAN D-1 GATEWAY AVIATION PROJECT
ROCKS BIOLOGICAL CONSULTING
0 300 600 FEET
N
Date: 4/6/2022
Aerial Photo: Maxar, Esri 2018
Source: USFWS NWI 2019; USDA NRCS 2018


Detail Area
PP 2
WDP 4
PP 1
NWW-1B
WDP 5
NWW-1A
33.880945,
-117.243845
ODP 1
PP 23
PP 19
PP 24
WDP 6
PPA-1
S-1
PP 26
PP 25
PP 27
PP 28
S-2
PP 29
PP 30
ODP 3
WW-2
PP 7
WDP 10
WDP 9
PP 6
See Detail
PP 3
PP 5
WDP 2
PP 9
WDP 1
PP 4
WW-1
10'
NWW-1A
PP 10
PP 11
15'
PP 13
ODP 4
WDP 11
PP 12
PP 14
18'
PP 15
30'
PP 18
D-1
3'
PP 17
PP 16
PPA-3
PP 21
PP 22
WDP 8
PPA-4
WDP 7
PP 8
Heacock St
S-3
PP 32
PP 31
ODP 2
PP 33
PP 34
WDP 12
PP 20
WDP 3
PPA-2
S-4
33.874095,
-117.250648
33.886882,
-117.254366
PP 35
33.884207,
-117.249462
ARDR Review Area (127.73 ac)
Photo Point (PP)
OHWM Datasheet Point (ODP)
Wetland Data Form Point (WDP)
Culvert
Flow Direction
Corps Aquatic Resources
Non-Wetland Waters – Earthen-Bottom Channel (0.34 ac)
Non-Wetland Waters – Earthen-Bottom Channel, Federal Wetland (0.01 ac) [1]
Wetland Waters – Seasonally Inundated Depression (0.10 ac)
Other Features [2]
Potential Ponding Area (0.26 ac)
Swale (0.13 ac)
Swale (0.03 ac)
Ditch (0.06 ac)
[1] Three-parameter wetland within OHWM.
[2] Features lacking OHWM or three-parameter wetland, and thus anticipated to be non-jurisdictional.
FIGURE 5A
Corps Aquatic Resources
MERIDIAN D-1 GATEWAY AVIATION PROJECT
ROCKS BIOLOGICAL CONSULTING
1 INCH = 270 FEET
0 135 270 FEET
N
Date: 4/6/2022
Aerial Photo: Nearmap 2020


Detail Area
PP 2
WDP 4
PP 1
WW-1
WDP 5
NWW-1
33.880945,
-117.243845
ODP 1
PP 23
PP 19
PP 24
WDP 6
PPA-1
S-1
PP 27
PP 28
S-2
PP 29
PP 30
ODP 3
WW-3
PP 7
WDP 10
WDP 9
PP 6
PP 26
PP 25
See Detail
PP 3
PP 5
WDP 2
PP 9
WDP 1
PP 4
WW-2
10'
NWW-1
PP 10
PP 11
15'
PP 13
ODP 4
WDP 11
PP 12
PP 14
18'
PP 15
30'
PP 18
D-1
3'
PP 17
PP 16
PPA-3
PP 21
PP 22
WDP 8
PPA-4
WDP 7
PP 8
Heacock St
S-3
PP 32
PP 31
ODP 2
PP 33
PP 34
WDP 12
PP 20
WDP 3
PPA-2
S-4
33.874095,
-117.250648
33.886882,
-117.254366
PP 35
33.884207,
-117.249462
ARDR Review Area (127.73 ac)
Photo Point (PP)
OHWM Datasheet Point (ODP)
Wetland Data Form Point (WDP)
Culvert
Flow Direction
RWQCB Aquatic Resources
Non-Wetland Waters – Earthen-Bottom Channel (0.34 ac)
Wetland Waters – Earthen-Bottom Channel, Federal/State Wetland (0.01 ac) [1]
Wetland Waters – Seasonally Inundated Depression (0.10 ac)
Other Features [2]
Potential Ponding Area (0.26 ac)
Swale (0.13 ac)
Swale (0.03 ac)
Ditch (0.06 ac)
[1] Three-parameter wetland within OHWM.
[2] Features lacking OHWM or three-parameter wetland, and thus anticipated to be non-jurisdictional.
FIGURE 5B
RWQCB Aquatic Resources
MERIDIAN D-1 GATEWAY AVIATION PROJECT
ROCKS BIOLOGICAL CONSULTING
1 INCH = 270 FEET
0 135 270 FEET
N
Date: 4/6/2022
Aerial Photo: Nearmap 2020


Detail Area
PP 2
WDP 4
PP 1
WDP 5
ODP 1
PP 23
PP 19
PP 24
WDP 6
PP 26
PP 25
PP 27
PP 28
PP 29
PP 30
ODP 3
PP 7
WDP 10
WDP 9
PP 6
See Detail
PP 3
PP 5
WDP 2
PP 9
WDP 1
PP 4
15'
NWW-1
PP 10
PP 11
20'
PP 13
ODP 4
WDP 11
PP 12
PP 14
25'
PP 15
35'
PP 18
3'
PP 17
PP 16
PP 22
PP 21
WDP 8
PP 8
WDP 7
33.880945,
-117.243845
Heacock St
33.886882,
-117.254366
PP 35
33.884207,
-117.249462
PP 32
PP 31
ODP 2
PP 20
WDP 3
PP 33
PP 34
WDP 12
33.874095,
-117.250648
ARDR Review Area (127.73 ac)
Photo Point (PP)
OHWM Datasheet Point (ODP)
Wetland Data Form Point (WDP)
Culvert
Flow Direction
CDFW Streambed
Vegetated Streambed (Constructed; Non-Native Grassland)(0.49 ac)
Other Features [1]
Wetland Waters – Seasonally Inundated Depression (0.10 ac)
Potential Ponding Area (0.26 ac)
Swale (0.13 ac)
Swale (0.03 ac)
Ditch (0.06 ac)
[1] Features lacking a defined lake or streambed, and thus anticipated to be non-jurisdictional.
FIGURE 5C
CDFW Streambed and Riparian Habitats
MERIDIAN D-1 GATEWAY AVIATION PROJECT
ROCKS BIOLOGICAL CONSULTING
1 INCH = 270 FEET
0 135 270 FEET
N
Date: 4/6/2022
Aerial Photo: Nearmap 2020

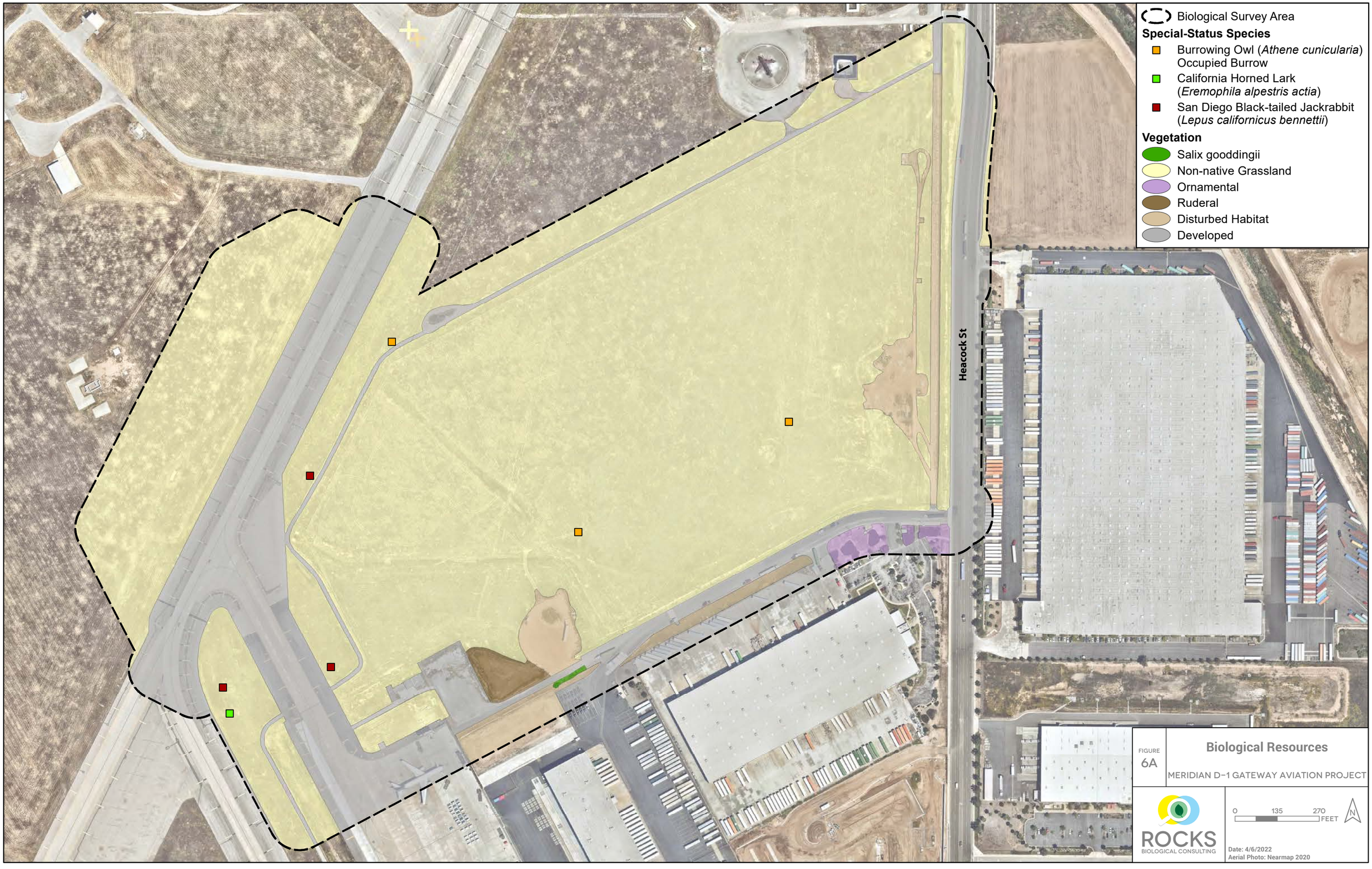


FIGURE 6A

Biological Resources

MERIDIAN D-1 GATEWAY AVIATION PROJECT

ROCKS BIOLOGICAL CONSULTING

0 135 270 FEET

N

Date: 4/6/2022
Aerial Photo: Nearmap 2020

FIGURE 6B

Biological Resources

MERIDIAN D-1 GATEWAY AVIATION PROJECT

ROCKS BIOLOGICAL CONSULTING

0 75 150 FEET

N

Date: 4/6/2022
Aerial Photo: Nearmap 2020

APPENDIX A

CHECKLIST: MINIMUM STANDARDS FOR ACCEPTANCE OF AQUATIC RESOURCES DELINEATION REPORTS

APPENDIX A. CHECKLIST: MINIMUM STANDARDS FOR ACCEPTANCE OF AQUATIC RESOURCES DELINEATION REPORTS, LOS ANGELES DISTRICT REGULATORY DIVISION, USACE, MARCH 16, 2017

REPORT SECTION/ PAGE NUMBER	MINIMUM STANDARDS FOR ACCEPTANCE OF AQUATIC RESOURCES DELINEATION REPORTS	ADDITIONAL NOTES
Section 1; Appendix B	1. JD REQUEST AND FORMS: ☑ A cover letter indicating whether you are requesting a jurisdictional determination (JD). ☑ If you are requesting a JD, you must complete, sign, and return the Request for Corps Jurisdictional Determination (JD) sheet. ☑ For preliminary jurisdictional determinations the Preliminary Jurisdictional Determination Form must be signed and submitted.	*Text provided in ARDR in lieu of formal cover letter.
Section 9	2. CONTACT INFORMATION: Contact information for the ☑ applicant(s), ☑ property owner(s), and ☑ agent(s).	
N/A	3. SITE ACCESS: If the property owner or their representatives will not accompany the Corps to the site, a signed statement from the property owner(s) allowing Corps personnel to enter the property and to collect samples during normal business hours. If the property lacks direct access by public roads (in other words, access requires passage through private property not owned by the applicant), the owner or proponent must obtain permission from the adjacent property owner(s) to provide access for Corps personnel.	Property owner and/or representatives will accompany the Corps for a site visit upon request.
Section 2.1	4. LOCATION: ☑ Directions to the survey area, ☑ an address (if available) and ☑ one or more set of geographic coordinates expressed in decimal degrees.	
Section 3.2.1	5. DELINEATION MANUAL CONFIRMATION: ☑ A statement confirming the delineation has been conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and applicable regional supplement(s). ☑ The regional supplement(s) used must be identified. ☑ For OHWM delineations, a statement must be included confirming the use of the OHWM field guide or that it is not applicable.	
Section 6	6. AQUATIC RESOURCE(S) DESCRIPTION: ☑ A narrative describing all aquatic resources on-site and an explanation of the mapped boundaries and any complex transition zones. ☑ If the site contains resources that only meet one or two of the three wetland criteria or do not exhibit a clear OHWM, describe the rationale for their inclusion or exclusion from the delineation. ☑ Also explain if any erosional features, upland swales, ditches and other potential aquatic features were considered but not included in the delineation.	
Figures 1 and 5A; Section 6; Table 4	7. AQUATIC RESOURCE MAPPING AND ACREAGE: ☑ Map of the outside survey boundary, ☑ total extent of aquatic and proposed non-aquatic features, ☑ type of feature(s) (waters of the United States or wetland), and include ☑ the total acreage for each polygon.	
Section 3.2	8. FIELD WORK DATES: ☑ Date(s) field work was completed.	
Table 4	9. AQUATIC RESOURCE TABLE: A table listing all aquatic resources. The table must include ☑ the name of each aquatic resource (actual or arbitrary), ☑ its Cowardin type, ☑ acreage, ☑ summary of OHWM/wetland presence, ☑ dominant vegetation for each, and ☑ location (latitude/longitude in decimal degrees). ☑ For linear features, the table must show both acreage and linear feet as well as channel measurements (active channel width).	
Section 4; Appendix D and G	10. FIELD CONDITIONS: A description of existing field conditions, including ☑ current land use, ☑ normal conditions, ☐ flood/drought conditions, ☐ irrigation practices, ☑ past or recent manipulation to the site, and ☐ characteristics considered atypical (for criteria see OHWM and wetland supplement guides). ☑ Include WETS tables or pre-site visit precipitation data as appropriate: https://www.wcc.nrcs.usda.gov/climate/wets_doc.html.	N/A for unchecked

Section 4.2	11. HYDROLOGY: ☑ A discussion of the hydrology at the site, including ☑ all known surface or subsurface sources, ☑ drainage gradients, ☑ downstream connections to the nearest traditional navigable waterway or interstate water, and ☑ any influence from manmade water sources such as irrigation.	
N/A	12. REMOTE SENSING: ☐ If remote sensing was used in the delineation, provide an explanation of how it was used and include the name, date and source of the tools and data used and copies of the maps/photographs.	N/A
Section 4.1; Figure 4; Appendix G	13. SOILS: ☑ Soil descriptions, ☑ soil map(s), ☑ soil photos, and ☐ a discussion of hydric soils (for wetland delineations only).	N/A for unchecked
Figure 2	14. USGS QUADRANGLE: ☑ A site location map on a 7.5-minute USGS quadrangle. The map must provide ☑ the name of the USGS quadrangle, ☑ Section, ☑ Township, ☑ Range, and ☑ the latitude and longitude in decimal degree format.	
Appendix I	15. BULK UPLOAD FORM: ☑ For sites with 3 or more separate aquatic features a completed copy of the ORM Bulk Upload Aquatic Resources or Consolidated Excel spreadsheet must be submitted.	
Figure 5 series	16. FIGURES: ☑ Map(s) of all delineated aquatic resources in accordance with the Final Map and Drawing Standards for the South Pacific Division Regulatory Program.	
Figure 5 series and Appendix G	17. SITE PHOTOGRAPHS: ☑ Ground photographs showing representative aquatic resource sites (or lack of), ☑ as well as an accompanying map of photo-points and table of photographic information (see Final Map and Drawing Standards for the South Pacific Division Regulatory Program item no. 8 a-c).	
Appendix E	18. DATA FORMS: ☑ Completed data forms including all essential information to make a jurisdictional determination [e.g. 2006 Wetland Determination Data Form -- Arid West Supplement; 2010 Arid West Ephemeral and Intermittent Streams OHWM Datasheet].	
Section 3	19. METHODS: ☑ A description of the methods used to survey the aquatic resource boundaries. ☑ If GPS data is used, the level of accuracy must be included. Ideally, the GPS equipment should have the capability of sub-meter (<=1 meter) level horizontal accuracy.	
Appendix J	20. GIS DATA: ☑ Digital data for the site, aquatic resource boundaries, and data point locations must be provided in a geographic information system (GIS) format, preferably either ESRI shapefiles or Geodatabase format, but GoogleEarth KMZ or KML files may be acceptable non-complex projects. Each GIS data file must be accompanied by a metadata file containing the appropriate geographic coordinate system, projection, datum, and labeling description. If GIS data is unavailable or otherwise cannot be produced and the Corps determines a site visit is necessary, the aquatic resource boundaries should be physically marked with numbered flags or stakes to facilitate verification by the Corps.	

APPENDIX B

JURISDICTIONAL DETERMINATION REQUEST FORMS

Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: District Name Here

- I am requesting a JD on property located at: southeastern portion of March Air Reserve Base, west of Heacock St, southwest of Heacock St & Krameria Ave
  (Street Address)
  City/Township/Parish: unincorporated County: Riverside State: CA
  Acreage of Parcel/Review Area for JD: 127.73
  Section: 25 Township: 3 S Range: 4 W
  Latitude (decimal degrees): 33.877470 Longitude (decimal degrees): -117.248001
  (For linear projects, please include the center point of the proposed alignment.)
- Please attach a survey/plat map and vicinity map identifying location and review area for the JD.
- ✔ I currently own this property. ___ I plan to purchase this property.
  ___ I am an agent/consultant acting on behalf of the requestor.
  ___ Other (please explain): _____.
- Reason for request: (check as many as applicable)
  ___ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
  ___ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
  ✔ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
  ___ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
  ___ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
  ___ A Corps JD is required in order to obtain my local/state authorization.
  ___ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
  ___ I believe that the site may be comprised entirely of dry land.
  ___ Other: _____
- Type of determination being requested:
  ___ I am requesting an approved JD.
  ✔ I am requesting a preliminary JD.
  ___ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
  ___ I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature: *Signature to be provided on final/agency submittal copy* Date: _____

- Typed or printed name: Timothy C. Reeves
  Company name: Meridian Park LLC
  Address: 1156 North Mountain Avenue
  Upland, CA 91785
  Daytime phone no.: (909) 579-1294
  Email address: timothy.reeves@lewismc.com

***Authorities:** Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.
Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD:

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Timothy C. Reeves, Meridian Park, LLC, 1156 North Mountain Ave, Upland, CA 91785

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: CA County/parish/borough: Riverside City: Unincorporated

Center coordinates of site (lat/long in degree decimal format):

Lat.: 33.877470 Long.: -117.248001

Universal Transverse Mercator: 11 S 477064.79 3748597.90

Name of nearest waterbody: San Jacinto River

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☐ Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
NWW-1A	33.876241	-117.248628	0.344 ac/1,139 ln ft	Non-wetland waters	Section 404
NWW-1B	33.876558	-117.250668	0.008 ac/22 ln ft	Non-wetland waters	Section 404
WW-1	33.876243	-117.250595	0.037 ac	Wetland waters	Section 404
WW-2	33.876932	-117.248469	0.066 ac	Wetland waters	Section 404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- [x] Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
  Map: 2022 ARDR, prepared by Rocks Biological Consulting.
- [x] Data sheets prepared/submitted by or on behalf of the PJD requestor.
  - [ ] Office concurs with data sheets/delineation report.
  - [ ] Office does not concur with data sheets/delineation report. Rationale: _____.
- [ ] Data sheets prepared by the Corps: _____.
- [ ] Corps navigable waters' study: _____.
- [x] U.S. Geological Survey Hydrologic Atlas: 2022 ARDR, Figure 2; USGS NHD 2020.
  - [x] USGS NHD data.
  - [x] USGS 8 and 12 digit HUC maps.
- [x] U.S. Geological Survey map(s). Cite scale & quad name: USGS 7.5-min Riverside East, Sunnymead, Steele Peak, & Perris quads.
- [x] Natural Resources Conservation Service Soil Survey. Citation: 2022 ARDR, Figure 4; USDA NRCS 2018.
- [x] National wetlands inventory map(s). Cite name: 2022 ARDR, Figure 4; USFWS NWI 2019.
- [ ] State/local wetland inventory map(s): _____.
- [ ] FEMA/FIRM maps: _____.
- [ ] 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- [x] Photographs: [x] Aerial (Name & Date): See 2022 ARDR figures - Maxar, ESRI 2018; Nearmap 2020.
  or [x] Other (Name & Date): See 2022 ARDR Appendix G, Site Photographs.
- [ ] Previous determination(s). File no. and date of response letter: _____.
- [x] Other information (please specify): 2022 ARDR, prepared by Rocks Biological Consulting.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

_____	*Signature to be provided on final/agency submittal copy*
Signature and date of Regulatory staff member completing PJD	Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

[1] Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

APPENDIX C

APPLICABLE AQUATIC RESOURCE PROTECTION REGULATIONS

APPENDIX C. APPLICABLE AQUATIC RESOURCE PROTECTION REGULATIONS

Several regulations have been established by federal, state, and local agencies to protect and conserve aquatic resources. The descriptions below provide a brief overview of agency regulations that may be applicable to the project.

Executive Order 11990

Executive Order 11990 aims to avoid direct or indirect impacts on wetlands from federal or federally approved projects when a practicable alternative is available. If wetland impacts cannot be avoided, all practicable measures to minimize harm must be included.

Clean Water Act

Pursuant to Section 404 of the Clean Water Act (33 U.S. Code [USC] § 1251 et seq.; CWA), the U.S. Army Corps of Engineers (Corps) is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S. (including wetlands), which include those waters listed in 33 Code of Federal Regulations (CFR) 328.3 (51 Federal Register [FR] 41217, November 13, 1983; 53 FR 20764, June 6, 1988) and further defined by the 2001 *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC; 531 U.S. 159) decision and the 2006 *Rapanos v. United States* (547 U.S. 715) decision. The Corps, with oversight from the U.S. Environmental Protection Agency (USEPA), has the principal authority to issue CWA Section 404 permits. The Corps would require a Standard Individual Permit (SIP) for more than minimal impacts on waters of the U.S. as determined by the Corps. Projects with minimal individual and cumulative adverse effects on the environment may meet the conditions of an existing Nationwide Permit (NWP).

A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for all Section 404 permitted actions. The Regional Water Quality Control Board (RWQCB), a division of the State Water Resources Control Board (SWRCB), provides oversight of the Section 401 certification process in California. The RWQCB must certify "that there is a reasonable assurance that the activity will be conducted in a manner which will not violate water quality standards" (40 CFR 121.2(a)(3)). Water Quality Certifications must be based on the finding that a proposed discharge will comply with applicable water quality standards.

The National Pollutant Discharge Elimination System (NPDES) is the permitting program for discharge of pollutants into surface waters of the U.S. under Section 402 of the CWA.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.) provides for statewide coordination of water quality regulations. The SWRCB was established as the statewide authority and nine separate RWQCBs were developed to oversee water quality on a day-to-day basis. The RWQCBs have primary responsibility for protecting water quality in California. As discussed above, the RWQCBs regulate discharges to surface waters under the federal CWA. In addition, the RWQCBs are responsible for administering the Porter-Cologne Water Quality Control Act.

Pursuant to the Porter-Cologne Water Quality Control Act, the state is given authority to regulate waters of the state, which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a Report of Waste Discharge if a Section 404 permit is not

required for the activity. “Waste” is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

California Fish and Game Code Section 1600-1602

Pursuant to Division 2, Chapter 6, Section 1602 of the California Fish and Game Code (CFGC), California Department of Fish and Wildlife (CDFW) regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake that supports fish or wildlife. A Notification of Lake or Streambed Alteration must be submitted to CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake” (CFGC § 1602). CDFW has jurisdiction over riparian habitats associated with watercourses and wetland habitats supported by a river, lake, or stream. Jurisdictional waters are delineated by the outer edge of riparian vegetation (i.e., drip line) or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources (e.g., riparian or wetland areas not supported by a river, lake, or stream). CDFW reviews the proposed actions and, if necessary, submits (to the applicant) a proposal that includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and applicant is the Lake or Streambed Alteration Agreement.

APPENDIX D

HISTORICAL SITE DRAINAGE EVALUATION, PREPARED BY DRC ENGINEERING, INC.

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning

160 South Old Springs Road, Ste. 210
Anaheim Hills, California 92808
Phone: 714-685-6860
Fax: 714-685-6801

November 25, 2020

To: ***Lewis Retail Centers***
Attn: ***Timothy C. Reeves, Vice President Retail Project Development***
1156 N. Mountain Avenue
Upland, CA 91785

Project: **D1 Airport Cargo Gateway**

RE: **Historical Site Drainage Evaluation**

Mr. Reeves,

Per your request we have reviewed the Preliminary Aquatic Resource Mapping document prepared by Rocks Biological Consulting (undated) received June 30th, 2020. Our primary focus was reviewing several areas: (as identified on Figure 5A prepared by RocksBio Dated 8/28/2020) NWW-1A Ditch/Channel, NWW-1B wetland (inset detail on Fg. 5), WW-1 wetland, WW-2 wetland, & PPA-4 potential ponding area. We have reviewed these features against available historical aerial imagery, record drawings, and reports. Below is a brief summary of findings:

NWW-1A Ditch/Channel- Runway 14/32 was constructed in the late 1940s early 1950s and was in service by 1953. As part of the expansion taxiway A was constructed to allow aircraft movement from the flight line base area to the runway. This taxiway would have blocked off drainage from the infield area formed by the edges of runway 12/30, 14/32 and taxiway A. In the 1953 aerial imagery two drainage culverts {as identified on Air Force record drawings as a 52" (NE) and 36" (SW) of 52"} have been installed maintain drainage and prevent ponding. From these culverts (southeast side of Taxiway A) relatively shallow swales were constructed to convey flows from the culverts and tie to existing drainage. At some point runway 14/32 was lengthened and taxiway G with flight line was incorporated. As part of those improvements it appears the drainage culverts were also upgraded with headwall structures incorporated (1961 imagery.) The swale from the 36" culvert appears to have been expanded further to the

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southeast. This drainage system appears to be unchanged until development in 2001. In 2001 the lot immediately south of the proposed D1 site was developed with a warehouse distribution center and along the North boundary a common use access road was constructed. Two significant changes to drainage appear to have occurred as part of this development: primarily existing historic drainage swales appear to have been relocated 60-100 feet SW of their historic flow path into an earthen channel. Secondly historic drainage for D1 and portions of the Air Base flowing to the southeast were blocked off by the access road and a V-ditch was constructed to intercept and convey flows to the new earthen channel. The final change to site drainage occurred as part of 2004 development of the "DHL" air cargo building when 850 linear feet of the now "March Channel" was undergrounded as a dual 36" RCP culvert system from a headwall on the NW D-1 site discharging near the corner intersection of the DHL parking lot and Philips building parking lot. Today on the proposed D-1 site approximately 370 linear feet of the 2001 earth March Channel remain. The channel lacks a well-defined shape as would be expected in a ditch. Furthermore, there is a limited portion with 2' overtopping depth (less than a defined channel would provide.) It is our opinion the area identified as NWW-1A has been allowed to revert back to its historic swale characteristic and accordingly should be categorized as a swale.

NWW-1B Wetland- This area occurs immediately adjacent to the 36" culvert apron structure. It is our belief this condition has resulted from construction error. The outlet side of the culvert concrete apron was constructed with a reverse fall condition. This condition provides 8.5" of ponding on the impervious concrete apron with an additional 5" ponding (total 13+" ponding at outlet) due to negative drainage condition continuing in the swale. No record drawings were available to further explore events leading to this condition. However, in the 1997 aerial imagery the perimeter road can be seen to be SE of the outlet culvert and in 2002 imagery it can be seen the perimeter road was re-routed to the NW of the outlet culver headwall. See exhibit D-1 NWW-1B Culvert Outlet. Appropriate corrective action to restore intended drainage pattern should alleviate this condition.

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WW-1 Wetland/Seasonally Inundated Depression - This area occurs just south of the 36" culver outlet. This area also appears to have developed due to construction grading activity. Per Air Force record drawings (October 1988) this area appears to have well defined contours indicating positive drainage away from Taxiway G to the NE to the surface drainage swale. Based on the same imagery for review of NWW-1B the low spot appears to have been created during the re-routing of the perimeter road to the taxi-way side of the culvert headwall. It appears the pool area is a result of the re-routed road blocking previous drainage and potentially soil borrowing for road grading. Appropriate corrective action to restore historical drainage should alleviate this condition.

WW-2 Wetland/ Seasonally Inundated Depression - This area occurs relatively in the middle of the D-1 site. Throughout the sites history the aerial photography indicates a confluence of the swales leading from Taxiway A SE through the D-1 Site. 2001 development relocated drainage through the D-1 site approximate 60-100 feet SW of the historic location. Record drawings for the re-grading and creation of an earth channel were not available to review and confirm. Based on 2002 imagery, the north most swale no longer appear to be in line with the channel and its historic drainage pattern potentially blocked off by a dirt access road and/or the earth channel. Image quality is insufficient to confirm any re-grading that occurred to tie the existing north swale to the new channel location. As part of the overall March Global Port this particular area was identified and reviewed in a 2009 fairy shrimp report (LSA Associates Inc, June 2009.) Figure 2 of the report has numerous photographs where it appears the actual ponding/pooling occurs in rutted tire tracks as may have occurred in the aforementioned dirt access road.

PPA-4 Potential Ponding Area - This area occurs in the SE corner of the site. Please see NWW-1A for substantial discussion regarding changes to site drainage as a result of 2001 construction. On-going remediation and soil removals, in conjunction with

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previous change to drainage, appear to have resulted in the development of this area. Particular attention should be made to Final Corrective Action report for surficial soils impacted by lead and petroleum material site FT007, Operable Unit 1, Air Force Action Record 420923, prepared by MWH July 2014. This report details removal and replacement of the contaminated soils and makes reference to the replacement soils being compacted and graded to match existing. In reviewing this report, particularly work notes/photos, it appears the area depicted by RocksBio was routinely subject to heavy equipment travel during stock-piling and haul off procedures as the common access road to Heacock was utilized for truck routing. This routing of equipment may have subjected the area to over-compaction of existing soils. In addition to the soil remediation project there was also a simultaneous implementation for soil vapor extraction. In MWH's January 2014 Soil Vapor Extraction Implementation Report Site FT007, Operable Unit 1 (Air Force Action Record 420487) Figure 2-1 depicts the SVE system treatment pad to be located approximately 50 feet east of the drainage ditch installed in 2001. These two events appear to have further changed site drainage and may have caused the depressed area due to soil compaction from equipment routing and blockage of the intended 2001 flow path for this area of the site to the drainage ditch. Minor corrective grading should restore intended drainage (2001) and alleviate this condition

References Utilized:

Composite Utility System Record Drawings, Prepared for Department of the Air Force by EDAW, Inc. Irvine last revised October 1988
Figure 5A Corps Aquatic Resources, Rocks Biological Consulting 8/28/2020
EDR Aerial Photo Decade Package (select images) EDR inquiry 6056033.5 prepared May 2020
Select imagery via Google Earth various capture dates
Memo to US Fish and Wildlife Service, LSA Associates June 2009
Final Corrective Action Report for Surficial Soils Impacted by Lead and Petroleum material Site FT007, Operable Unit 1; MWH July 2014 (Air Force Action Record 420923)
Soil Vapor Extraction Implementation Report Site FT007, Operable Unit 1; MWH January 2014 (Air Force Action Record 420487)
Field Survey Topography and site visits conducted by DRC March – June 2020

Heacock Street Improvements 89-91

Subsequent Heacock Channel installation from Perris Valley Storm Drain North complete 2018

Perris Valley Storm Drain

Current Fire Training Facility Burn Area

Perimeter Patrol road installed 94-97

Abandoned Road

Overhead Lines

Approximate D1 Boundary

HEACOCK ST

TAXIWAY A

TAXIWAY 12-30 PROTECTION ZONE

TAXIWAY A

LEGEND

BOUNDARIES
EXISTING PROPERTY LINE (IN FEE)
EXISTING FENCE
EXISTING FENCE CHAIN LINK
EXISTING PROPERTY LINE (EASEMENT)

AIRFIELD PAVEMENT
EXISTING
SHOULDER STABILIZATION
OVERRUN

STRUCTURES
EXISTING PERMANENT
EXISTING SEMI-PERMANENT
EXISTING TO BE ABONDONED
EXISTING TEMPORARY

OTHERS
EXISTING ROADS IMPROVED
EXISTING ROADS UNIMPROVED
EXISTING RAILROAD
EXISTING CONTOUR LINE INTERVAL 2 FEET
STREAMS IN GENERAL
EXISTING TRAILS
BLAST DEFLECTORS
ACTIVATED FUELING HYDRANTS

UTILITIES KEY
WATER VALVE
FIRE HYDRANT
METER
MANHOLE
WELL
CATHODIC PROTECTION RECTIFIER
STORM DRAIN CATCH BASIN
ELECTRICAL POWER POLE
TRANSFORMER (POLE MOUNTED / PAD MOUNTED)
STREET LIGHT
NATURAL GAS VALVE
FIRE ALARM TELEPHONE
WATER DISTRIBUTION LINE
WATER MAIN TRANSMISSION LINE
SANITARY SEWER MAIN LINE
STORM DRAIN LINE
SURFACE DRAINAGE
AERIAL POWER LINE
UNDERGROUND POWER LINE
GAS MAIN
POL SUPPLY LINE
POL UNDERGROUND TRANSFER & FUELING LINE
POL DEFUELING LINE
TELEPHONE CABLE – DIRECT BURIAL
TELEPHONE CABLE – CONCRETE ENCASED

KEY PLAN

49	41	33	25			
50	42	34	26	18	10	1
51	43	35	27	19	11	2
52	44	36	28	20	12	3
53	45	37	29	21	13	4
54	46	38	30	22	14	5
55	47	39	31	23	15	6
56	48	40	32	24	16	7
					17	8
						9

REV.	DATE	DESCRIPTION	INITIAL
	30 OCT 88	NO CHANGES	J.H.
	30 OCT 87	NO CHANGES	J.H.
	30 SEP 86	ANNUAL REVISION	M.L.

PLAN REVISIONS

WATER4252

NORTH

MAG DEC – 13°30'42"E
YEAR – 1984
ANNUAL CHANGE – 0°5'24"W

100 50 0 100 200 300

AIRFIELD ELEVATION 1532 FEET

DEPARTMENT OF THE AIR FORCE
DIRECTORATE OF CIVIL ENGINEERING DCS/P&R – WASHINGTON, D.C.

STRATEGIC AIR COMMAND
COMPREHENSIVE PLAN
COMPOSITE UTILITIES SYSTEM
MARCH AIR FORCE BASE
RIVERSIDE , CALIFORNIA

SCALE: 1 INCH=100 FT. DATE: 15 APR. 1985
MASTER PLANNING DIRECTIVE AFR 86-5
EDAW , INC. IRVINE, CALIFORNIA

TAB NO G-11
SHEET 5 OF 56

Ex. Culvert

Heacock Street Improvements 89-91

Approximate D1 Boundary

Perimeter Patrol road installed 94-97

Overhead Lines

Ex. Culvert

Surface drainage re-aligned to berm channel & interceptor V-ditch constructed as part of 2001 warehouse building

Abandoned Road

Approximate location of access road and driveway

Approximate location of warehouse building constructed approximately 2001

Dual 36" SD culvert installed as part of 2004/5 Air Cargo see MJ-011

Overhead Lines

Surface drainage re-aligned to berm channel 2001 warehouse & detention basin as part of Air Cargo Facility 2004/5

Approximate location of Air Cargo facility constructed approximately 2004/5

TAXIWAY A

TAXIWAY G

TAXIWAY B

HEACOCK ST

LEACH FIELD

LEGEND

BOUNDARIES
EXISTING PROPERTY LINE (IN FEE)
EXISTING FENCE
EXISTING FENCE CHAIN LINK
EXISTING PROPERTY LINE (EASEMENT)

AIRFIELD PAVEMENT
EXISTING
EMBANKON STABILIZATION
OVERRUN

STRUCTURES
EXISTING PERMANENT
EXISTING SEMI-PERMANENT
EXISTING TO BE ABANDONED
EXISTING TEMPORARY

OTHERS
EXISTING ROADS IMPROVED
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EXISTING CENTER LINE
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BLAST DEFLECTORS
ACTIVATED FUELING HYDRANTS

UTILITIES KEY
WATER VALVE
FIRE HYDRANT
METER
MANHOLE
WELL
CATHODIC PROTECTION RECTIFIER
STORM DRAIN CATCH BASIN
ELECTRICAL POWER POLE
TRANSFORMER (POLE MOUNTED / PAD MOUNTED)
STREET LIGHT
NATURAL GAS VALVE
FIRE ALARM TELEPHONE
WATER DISTRIBUTION LINE
WATER MAIN TRANSMISSION LINE
SANITARY SEWER MAIN LINE
STORM DRAIN LINE
SURFACE DRAINAGE
AERIAL POWER LINE
UNDERGROUND POWER LINE
GAS MAIN
POL SUPPLY LINE
POL UNDERGROUND TRANSFER & FUELING LINE
POL DEFUELING LINE
TELEPHONE CABLE - DIRECT BURIAL
TELEPHONE CABLE - CONCRETE ENCASED

KEY PLAN

49	41	33	25				
50	42	34	26	18	10	1	
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53	45	37	29	21	13	4	
54	46	38	30	22	14	5	
55	47	39	31	23	15	6	
56	48	40	32	24	16	7	
					17	8	
						9	

REV	DATE	DESCRIPTION	INITIAL
	30OCT98	NO CHANGES	JH
	30OCT97	NO CHANGES	JH
	30SEP96	ANNUAL REVISION	ML

PLAN REVISIONS

WATER4253

NORTH

MAG DEC - 13°30'42"E
YEAR - 1984
ANNUAL CHANGE - 0°5'24"W

AIRFIELD ELEVATION 1535 FEET

DEPARTMENT OF THE AIR FORCE
DIRECTORATE OF CIVIL ENGINEERING BCE / PDN - WASHINGTON, D.C.

STRATEGIC AIR COMMAND
COMPREHENSIVE PLAN
COMPOSITE UTILITY SYSTEM
MARCH AIR FORCE BASE
RIVERSIDE, CALIFORNIA

SCALES: 1 INCH = 500 FT. | DATE: 30 APR 1985
MASTER PLANNING DIRECTIVE AFR 86-5
BDNW, DIC. DIVISION, CALIFORNIA

G-11

Heacock Street
Improvements 89-91

Detention basin as part of Air Cargo Facility 2004
Surface drainage re-aligned w/additional Heacock
improvements @ San Michele road est. 2001/2

Line C Riverside County Flood Control Master
Drainage Plan for the Perris Valley Area (J.F.
Davidson Associates, Rev. June 1991)
Also referenced as:
Heacock Channel (South)
March Air Force Base Reuse Drainage Master
Plan (RBF, September 2004)

HEACOCK ST

TAXIWAY G

TAXIWAY A

RUNWAY 14-32

HOLDING
PAD NO. 1

622,000 N
621,000 N
620,000 N
619,500 N
1,695,000 E
1,696,000 E
1,697,000 E
1,698,000 E

LEGEND

BOUNDARIES
EXISTING PROPERTY LINE (IN FEE)
EXISTING FENCE
EXISTING FENCE CHAIN LINK
EXISTING PROPERTY LINE (EASEMENT)

AIRFIELD PAVEMENT
EXISTING
SHOULDER STABILIZATION
OVERRUN

STRUCTURES
EXISTING PERMANENT
EXISTING SEMI-PERMANENT
EXISTING TO BE ABONDONED
EXISTING TEMPORARY

OTHERS
EXISTING ROADS IMPROVED
EXISTING ROADS UNIMPROVED
EXISTING RAILROAD
EXISTING CONTOUR LINE INTERVAL 2 FEET
STREAMS IN GENERAL
EXISTING TRAILS
BLAST DEFLECTORS
ACTIVATED FUELING HYDRANTS

UTILITIES KEY
WATER VALVE
FIRE HYDRANT
METER
MANHOLE
WELL
CATHODIC PROTECTION RECTIFIER
STORM DRAIN CATCH BASIN
ELECTRICAL POWER POLE
TRANSFORMER (POLE MOUNTED / PAD MOUNTED)
STREET LIGHT
NATURAL GAS VALVE
FIRE ALARM TELEPHONE
WATER DISTRIBUTION LINE
WATER MAIN TRANSMISSION LINE
SANITARY SEWER MAIN LINE
STORM DRAIN LINE
SURFACE DRAINAGE
AERIAL POWER LINE
UNDERGROUND POWER LINE
GAS MAIN
POL SUPPLY LINE
POL UNDERGROUND TRANSFER & FUELING LINE
POL DEFUELING LINE
TELEPHONE CABLE - DIRECT BURIAL
TELEPHONE CABLE - CONRETE ENCASED

KEY PLAN

49	41	33	25			
50	42	34	26	18	10	1
51	43	35	27	19	11	2
52	44	36	28	20	12	3
53	45	37	29	21	13	4
54	46	38	30	22	14	5
55	47	39	31	23	15	6
56	48	40	32	24	16	7
					17	8
						9

REV	DATE	DESCRIPTION	INITIAL
	30OCT85	NO CHANGES	J.H.
	30OCT87	NO CHANGES	J.H.
	30SEP96	ANNUAL REVISION	M.L.

PLAN REVISIONS

WATER4254

NORTH

MAG DEC - 13°30'42"E
YEAR - 1984
ANNUAL CHANGE - 0°5'24"W

100 50 0 100 200 300

AIRFIELD ELEVATION 1532 FEET

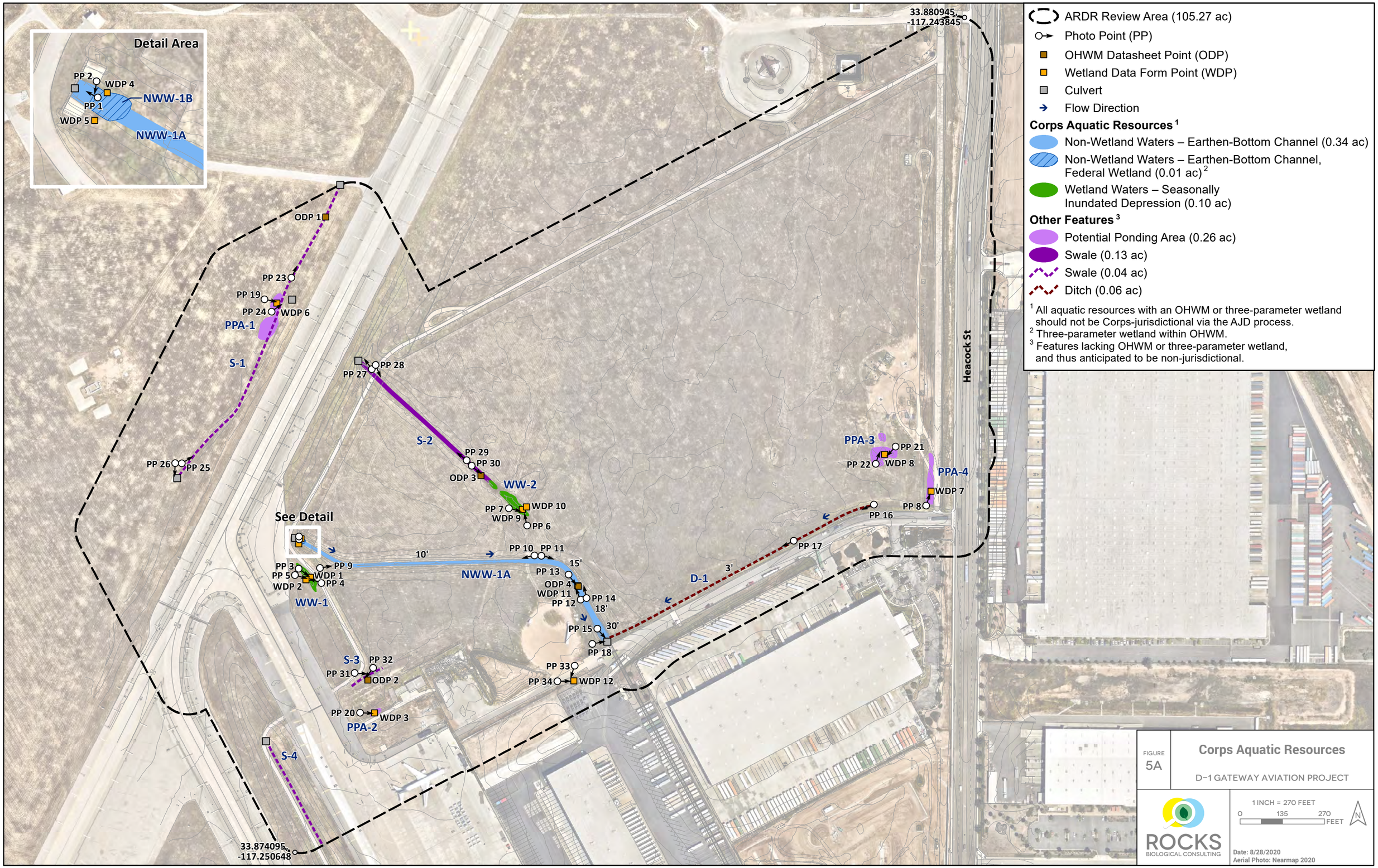
OK

DEPARTMENT OF THE AIR FORCE
DIRECTORATE OF CIVIL ENGINEERING DCS/P&R - WASHINGTON, D.C.

STRATEGIC AIR COMMAND
COMPREHENSIVE PLAN
COMPOSITE UTILITIES SYSTEM
MARCH AIR FORCE BASE
RIVERSIDE, CALIFORNIA

SCALE: 1 INCH=100 FT. DATE: 15 APR. 1985
MASTER PLANNING DIRECTIVE AFR 86-5
EDAW, INC. IRVINE, CALIFORNIA

DRAWING NO. G-11
SHEET 7 OF 56


Detail Area
PP 2
WDP 4
PP 1
NWW-1B
WDP 5
NWW-1A
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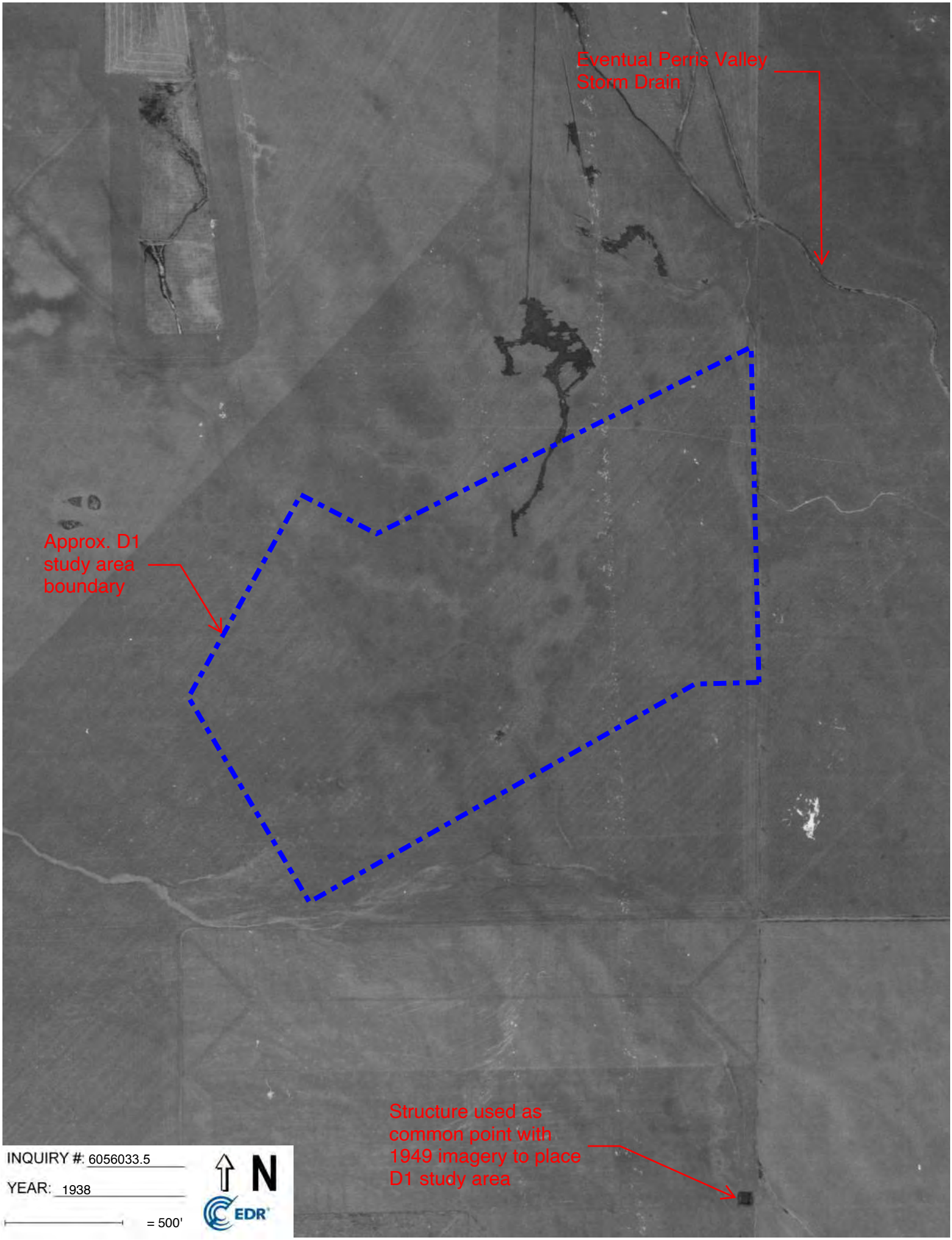
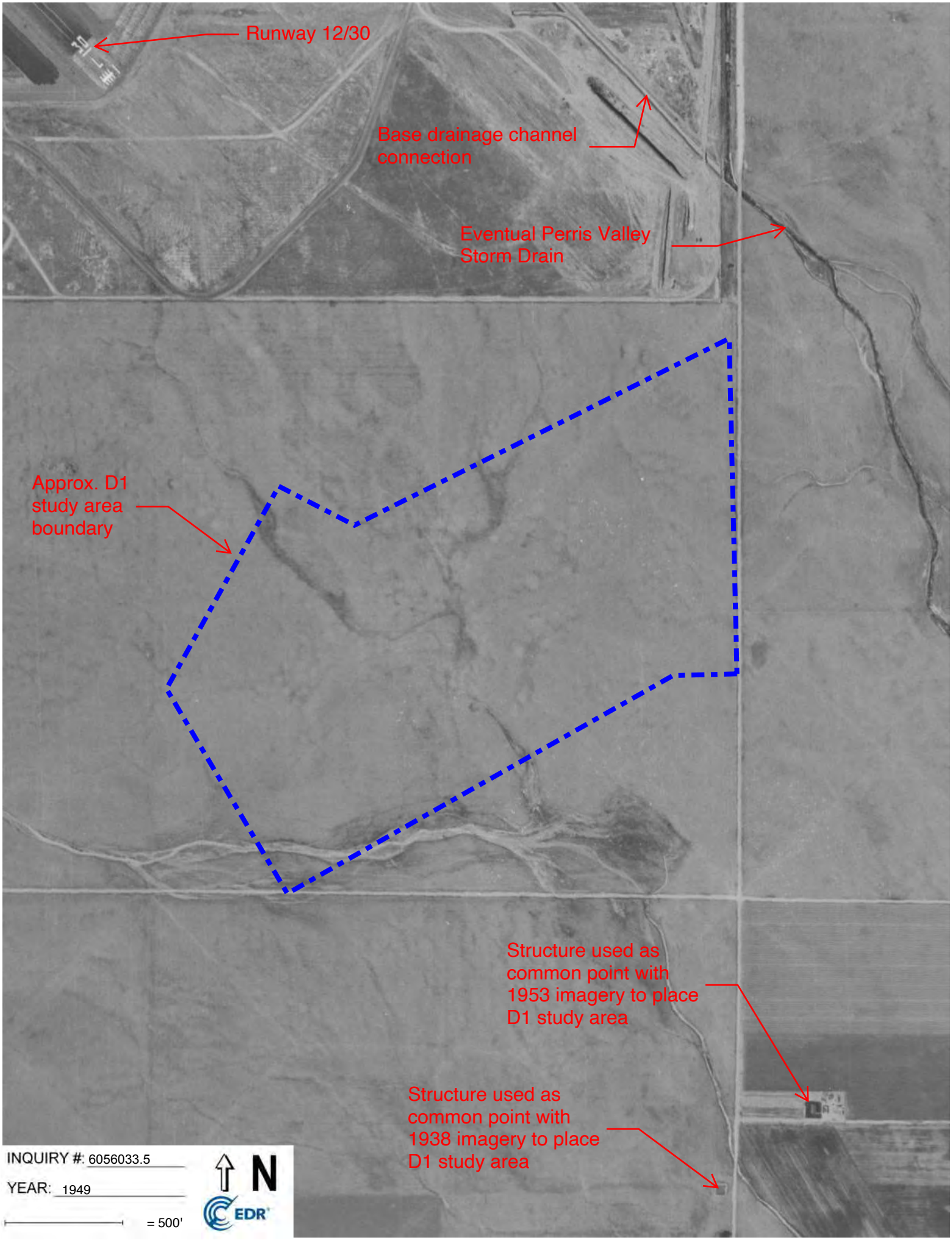
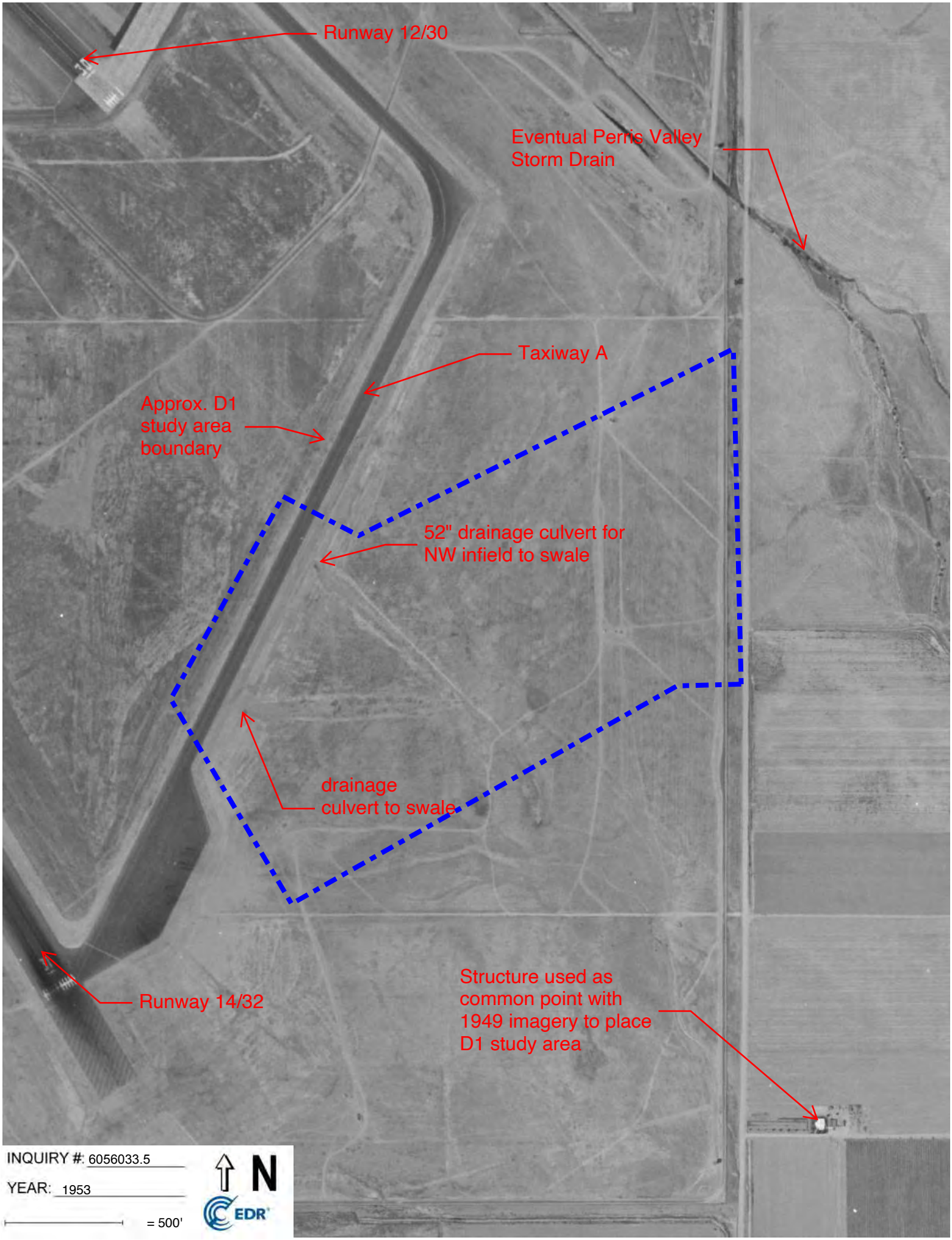
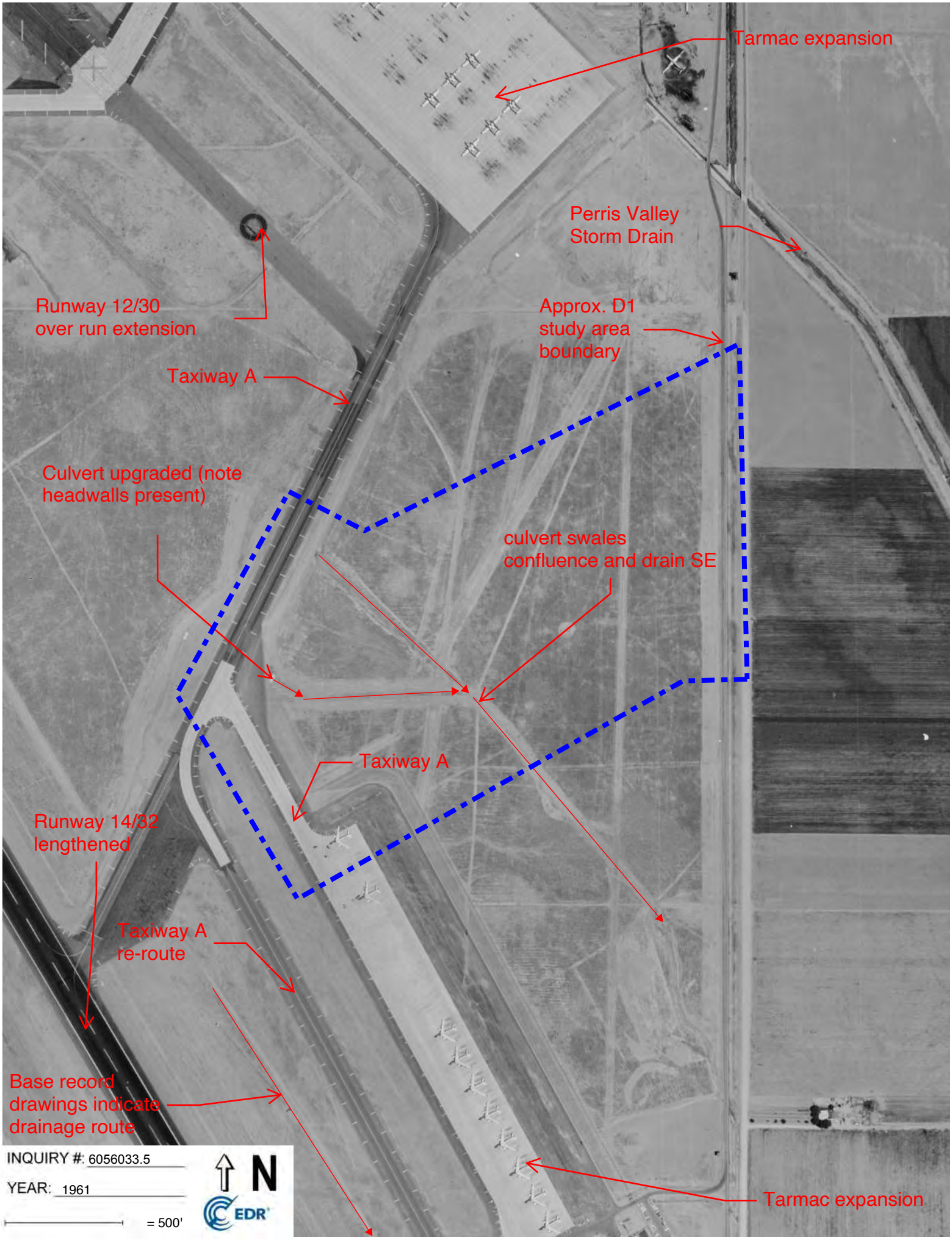
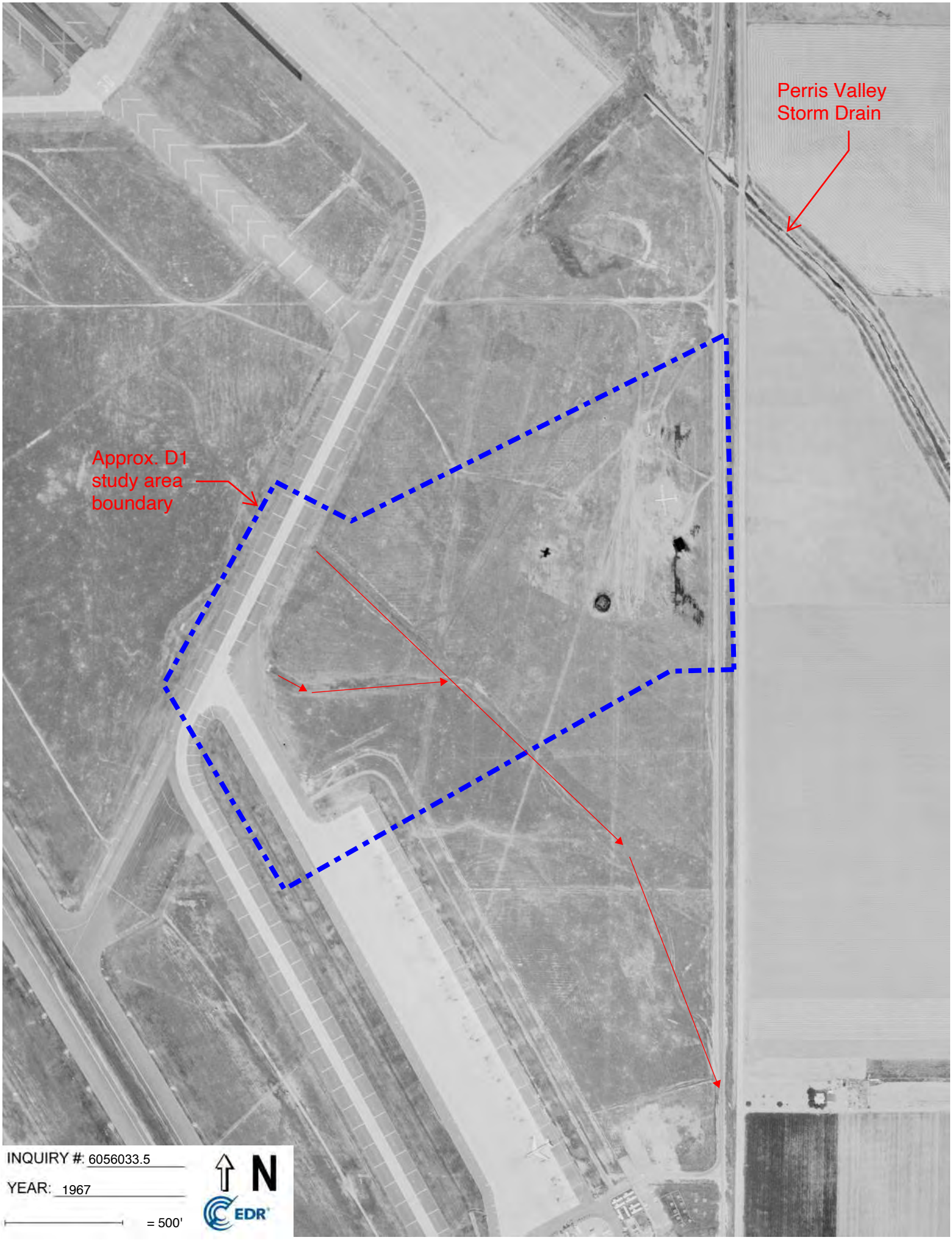
-117.243845
ODP 1
PP 23
PP 19
PP 24
WDP 6
PPA-1
S-1
PP 26
PP 25
PP 27
PP 28
S-2
PP 29
PP 30
ODP 3
WW-2
PP 7
WDP 10
WDP 9
PP 6
See Detail
PP 3
PP 9
PP 5
WDP 1
WDP 2
PP 4
WW-1
10'
NWW-1A
PP 10
PP 11
15'
PP 13
ODP 4
WDP 11
PP 12
PP 14
18'
PP 15
30'
PP 18
D-1
3'
PP 17
PP 16
PP 8
PPA-3
PP 21
PP 22
WDP 8
PPA-4
WDP 7
Heacock St
S-3
PP 32
PP 31
ODP 2
PP 33
PP 34
WDP 12
PP 20
WDP 3
PPA-2
S-4
33.874095
-117.250648
ARDR Review Area (105.27 ac)
Photo Point (PP)
OHWM Datasheet Point (ODP)
Wetland Data Form Point (WDP)
Culvert
Flow Direction
Corps Aquatic Resources [1]
Non-Wetland Waters – Earthen-Bottom Channel (0.34 ac)
Non-Wetland Waters – Earthen-Bottom Channel, Federal Wetland (0.01 ac) [2]
Wetland Waters – Seasonally Inundated Depression (0.10 ac)
Other Features [3]
Potential Ponding Area (0.26 ac)
Swale (0.13 ac)
Swale (0.04 ac)
Ditch (0.06 ac)
[1] All aquatic resources with an OHWM or three-parameter wetland should not be Corps-jurisdictional via the AJD process.
[2] Three-parameter wetland within OHWM.
[3] Features lacking OHWM or three-parameter wetland, and thus anticipated to be non-jurisdictional.
FIGURE 5A
Corps Aquatic Resources
D-1 GATEWAY AVIATION PROJECT
ROCKS BIOLOGICAL CONSULTING
1 INCH = 270 FEET
0 135 270 FEET
N
Date: 8/28/2020
Aerial Photo: Nearmap 2020


Eventual Perris Valley
Storm Drain
Approx. D1
study area
boundary
Structure used as
common point with
1949 imagery to place
D1 study area
INQUIRY #: 6056033.5
YEAR: 1938
= 500'
N
EDR

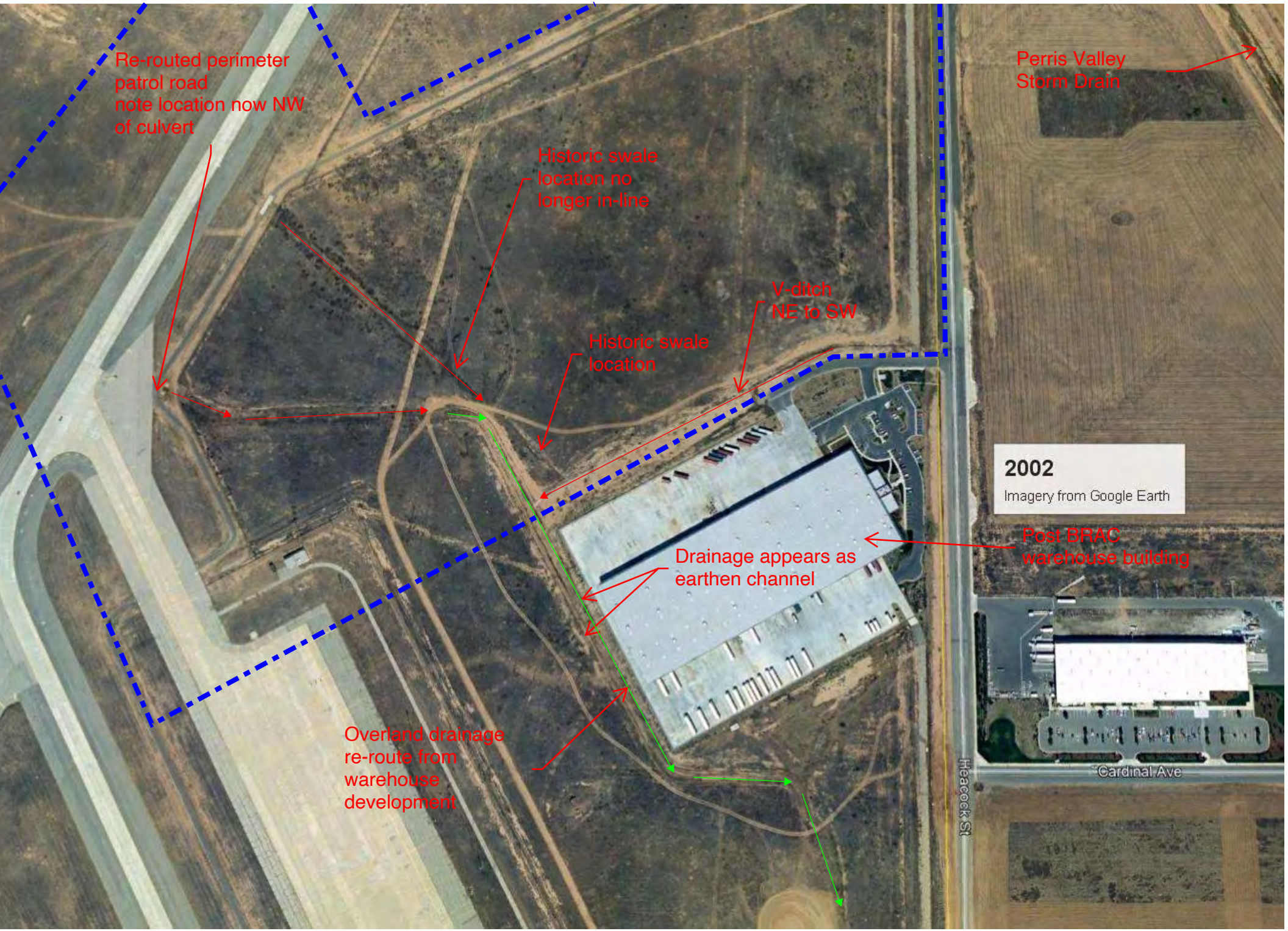

Runway 12/30
Base drainage channel connection
Eventual Perris Valley Storm Drain
Approx. D1 study area boundary
Structure used as common point with 1953 imagery to place D1 study area
Structure used as common point with 1938 imagery to place D1 study area
INQUIRY #: 6056033.5
YEAR: 1949
= 500'
N
EDR

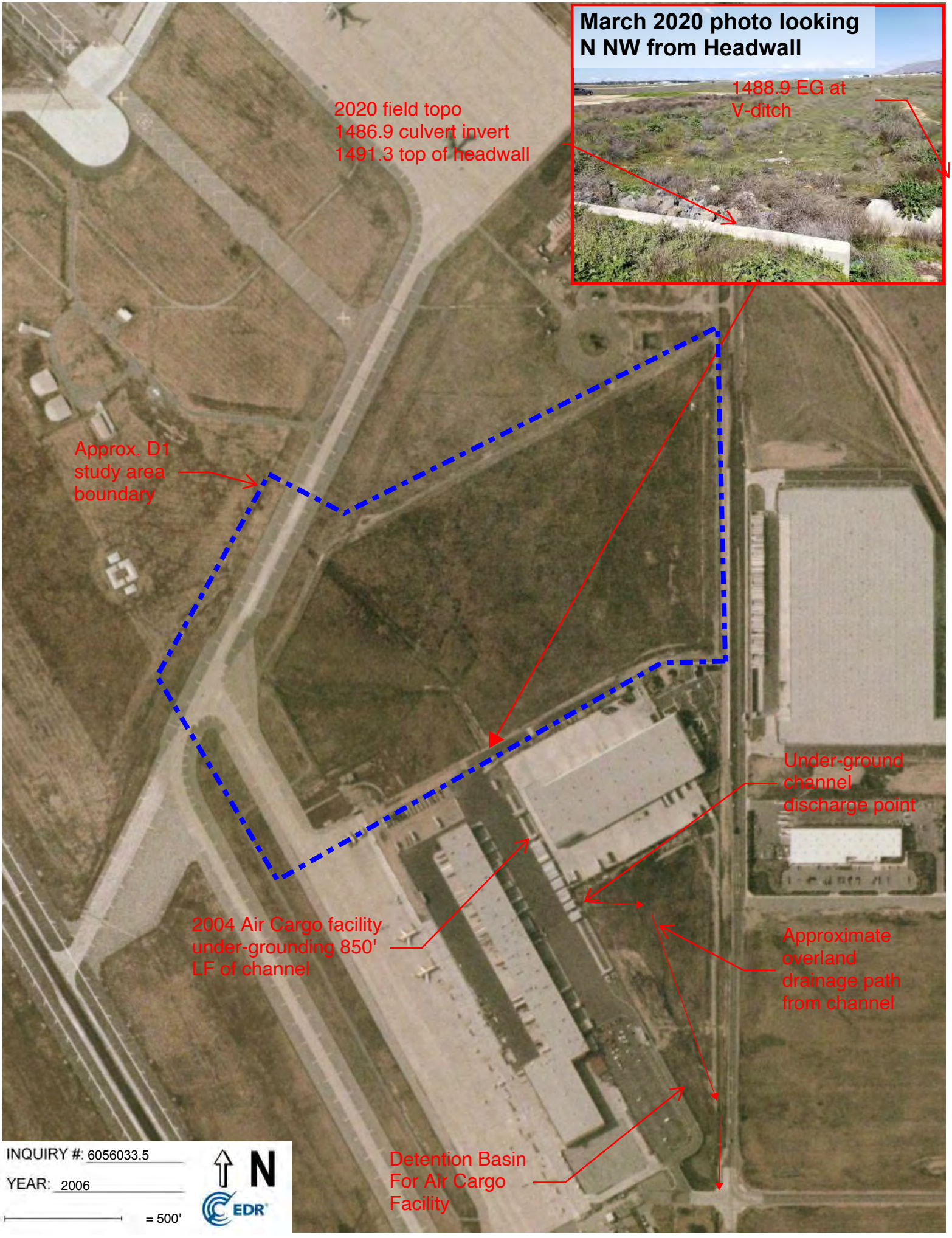

Runway 12/30
Eventual Perris Valley Storm Drain
Taxiway A
Approx. D1 study area boundary
52" drainage culvert for NW infield to swale
drainage culvert to swale
Runway 14/32
Structure used as common point with 1949 imagery to place D1 study area
INQUIRY #: 6056033.5
YEAR: 1953
= 500'
N
EDR


Tarmac expansion
Perris Valley
Storm Drain
Runway 12/30
over run extension
Approx. D1
study area
boundary
Taxiway A
Culvert upgraded (note
headwalls present)
culvert swales
confluence and drain SE
Taxiway A
Runway 14/32
lengthened
Taxiway A
re-route
Base record
drawings indicate
drainage route
Tarmac expansion
INQUIRY #: 6056033.5
YEAR: 1961
= 500'
N
EDR


Perris Valley
Storm Drain
Approx. D1
study area
boundary
INQUIRY #: 6056033.5
YEAR: 1967
= 500'
N
EDR


Perris Valley
Storm Drain
"Infield"
development
Approx. D1
study area
boundary
Perimeter patrol road
note location at SE of
culvert. Current
topography indicates
patrol road blocks off
outlet channel from
culvert
Perimeter patrol road
note location at SE of
culvert
INQUIRY #: 6056033.5
YEAR: 1997
= 500'
N
EDR


Re-routed perimeter patrol road note location now NW of culvert
Historic swale location no longer in-line
V-ditch NE to SW
Historic swale location
Perris Valley Storm Drain
2002
Imagery from Google Earth
Post BRAC warehouse building
Drainage appears as earthen channel
Overland drainage re-route from warehouse development
Heacock St
Cardinal Ave


March 2020 photo looking N NW from Headwall
1488.9 EG at V-ditch
2020 field topo
1486.9 culvert invert
1491.3 top of headwall
Approx. D1 study area boundary
Under-ground channel discharge point
2004 Air Cargo facility under-grounding 850' LF of channel
Approximate overland drainage path from channel
Detention Basin For Air Cargo Facility
INQUIRY #: 6056033.5
YEAR: 2006
= 500'
N
EDR

LSA

LSA ASSOCIATES, INC.
1500 IOWA AVENUE, SUITE 200
RIVERSIDE, CALIFORNIA 92507

951.781.9310 TEL
951.781.4277 FAX

BERKELEY
CARLSBAD
COLMA

FORT COLLINS
IRVINE
PALM SPRINGS

POINT RICHMOND
ROCKLIN
SAN LUIS OBISPO

June 4, 2009

Ms. Sandra Marquez
U.S. Fish and Wildlife Service
Carlsbad Field Office
6010 Hidden Valley Road
Carlsbad, California 92011

Subject: Results of 2008–2009 Wet Season Fairy Shrimp Survey on the March Global Port Project Site at the March Air Reserve Base in Riverside County (LSA Project No. YEA0801)

Dear Ms. Marquez:

This letter provides the results of a 2008–2009 wet season presence/absence survey for vernal pool branchiopods by LSA Associates, Inc. (LSA) on the above-referenced project site in the Riverside area of Riverside County. The project site is located northwest of the intersection of Heacock Street and Nandina Avenue, within portions of Sections 25 and 36, Township 3 South, Range 4 West, as shown on the *Perris, California* and *Sunnymead, California* U.S. Geological Survey (USGS) 7.5' quadrangles (attached Figure 1). The project is a commercial distribution facility.

The 2008–2009 fairy shrimp survey location is within Assessor's Parcel Numbers (APNs) 294-180-041, 294-180-044, and 294-170-007 in the southeast quarter of Section 25, at approximately 33.877° latitude and -117.249° longitude. A single ponding feature was sampled (Figure 2). This is a first-year survey for that location.

METHODS

The fairy shrimp survey was conducted by LSA Senior Biologist Stanley Spencer under LSA Federal 10(a)(1)(A) Permit TE-777965 and in accordance with the April 19, 1996, *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods*. Site checks were made on December 22 and 31, 2008; February 14 and 27; and April 16, 2009, to determine if water was present in the ponding feature following storm events. The focused survey was initiated in December at the direction of Sally Brown of the Carlsbad Fish and Wildlife Office (phone conversation between Sarah Barrera and Sally Brown on December 23, 2008) and continued at required intervals until all features had dried and remained dry. The site check on April 16, following a rain event on April 10, was the last site visit of the season.

The feature was sampled only once, on February 14. It was dry during subsequent site visits. At the time of sampling, the sky was partly cloudy, air temperature was 12°C, and water temperature was 21°C. A datasheet with additional information is attached. The feature was sampled by drawing a handheld net through the water column, occasionally bumping the bottom to stir up any benthic organisms. The net was

periodically removed from the water to check for aquatic species. Sampling was continued until the net was pulled through a sufficient portion of the water body to indicate the probable absence of fairy shrimp.

RESULTS

Water in the feature was 8 centimeters deep and the indundated area was 0.5 meter wide and 6 meters long at the time of sampling. The dominant plant species in the feature were woolly marbles (*Psilocarphus brevissimus*) and paniculate tarweed (*Deinandra paniculata*). Other species observed in the feature were stork's bill (*Erodium* sp.) and vinegar weed (*Trichostema lanceolatum*). The surrounding area was vegetated with non-native grassland and ruderal species. No fairy shrimp or other aquatic animals were observed during the survey.

Please contact me if you require any additional information.

Sincerely,

LSA ASSOCIATES, INC.

Stanley C. Spencer, Ph.D.
Senior Biologist

Attachments: Certification
Figure 1: Regional and Project Location
Figure 2: Photographs
Data Sheets

cc: Matt Denham, TMG Communications, Inc.
Richard Erickson, LSA

I CERTIFY THAT THE INFORMATION IN THIS SURVEY REPORT AND ATTACHED EXHIBITS FULLY AND ACCURATELY REPRESENTS MY WORK:

SURVEYOR:	PERMIT NUMBER	DATE:
Stanley Spencer	TE-777965-7	June 4, 2009

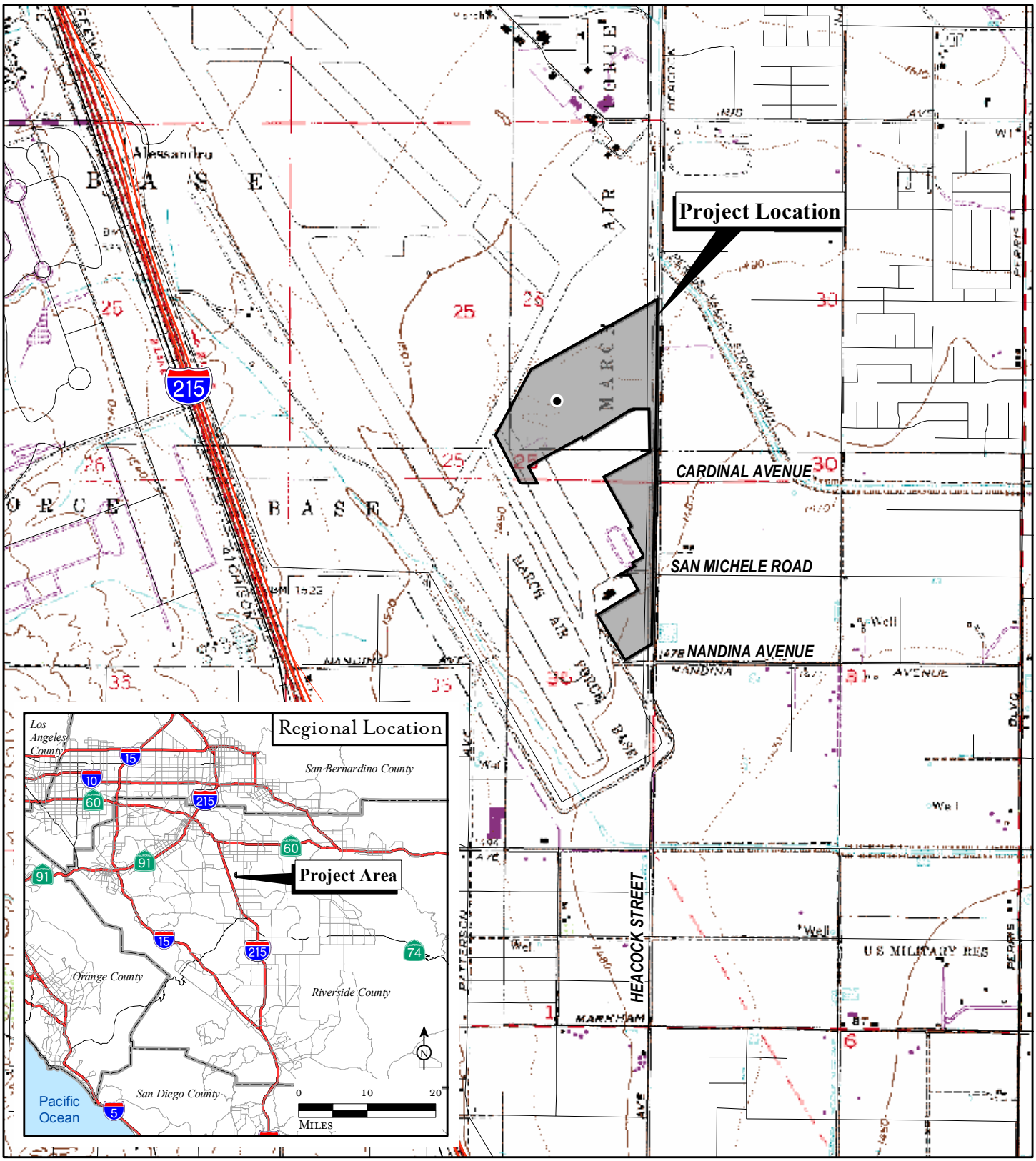


FIGURE 1

LSA

Project Location

Fairy Shrimp Survey Location

0 1,000 2,000

FEET

March Global Port Project

Fairy Shrimp Survey 2008-2009

Regional and Project Location

SOURCE: USGS 7.5' Quads: Reverside East (1980), Sunnymead (1980), Steele Peak (1973), Perris (1979), CA; Thomas Bros., 2007; County of Riverside, 2007

I:\YEA0801A\Reports\Bio\FairyShrimp\fig1_reg_loc.mxd (05/29/09)

PHOTOGRAPH 1: *View looking north showing central portion of sampled feature. Photograph taken 02/14/09 by S. Spencer.*

PHOTOGRAPH 2: *View looking northwest from center of sampled feature. Photograph taken 02/14/09 by S. Spencer.*

PHOTOGRAPH 3: *View looking southeast from center of sampled feature. Photograph taken 02/14/09 by S. Spencer.*

PHOTOGRAPH 4: *View of developing vegetation in central portion of sampled feature. Photograph taken 02/14/09 by S. Spencer.*

LSA

FIGURE 2

March Global Port Project
Fairy Shrimp Survey 2008-2009
Site Photographs

I:\YEA0801A\Reports\Bio\FairyShrimp\fig2_Photos.cdr (05/29/09)

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no __X__ yes

Required color slides and/or photographs for the project site are included: ____ no __X__ yes

Date: 2/14/09 Time: 12:50 County: Riverside Quad: Sunnymead

Collector(s): Stanley Spencer Permit #: 777965

Site/Project Name: March Global Port Pool #: 1

Township: 3 South Range: 4 West Section: 35 33.8769 lat. -117.2485 long.

Temperature: Water: 21 °C Air: 12 °C

Pool Depth:
at time of sampling: 8 cm
estimated maximum: 30 cm

Surface Area:
at time of sampling: 0.5 m x 6 m
estimated maximum: 100 m x 6 m

Habitat Condition: (circle where appropriate)

- undisturbed — disturbed: (tire tracks) garbage discing/plowing
- ungrazed — grazed: cattle horses sheep other_____ light moderate heavy
- land use of habitat: none

(Optional) Water Chemistry Data

Alkalinity (total):_____ppm or mg/l Conductivity:_____uMHO

Dissolved NH_4:_____ppt or ppm Dissolved Oxygen:_____ppm or mg/l

pH:_____ Turbidity: (secchi disc depth)_____cm or: clear to bottom _____

Salinity :_____ppt or ppm Total Dissolved Solids (TDS):_____ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observations: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: None
(note reproductive status)

Notostracans: None
(note reproductive status)

Species Observations (Optional) :

Cladocerans:	yes	no	Insects: (adult or larvae)		
Conchostracans:	yes	no	Anisoptera:	yes	no
Copepods:	yes	no	Zygoptera:	yes	no
Ostracods	yes	no	Hydrophilidae:	yes	no
Fish	yes	no	Dytiscidae:	yes	no
Frogs	yes	no	Corixidae:	yes	no
Salamanders	yes	no	Notonectidae:	yes	no
Waterfowl	yes	no	Belostomatidae:	yes	no
Other (specify) _____			Other (specify) _____		

Voucher Specimens

Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species	# Individuals	Accession/Catalog #	Pool #

MARCH AFB
CALIFORNIA

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 420923

Former March Air Force Base, California

Prepared for
Air Force Civil Engineer Center
Base Conversion Directorate
Lackland Air Force Base, Texas

Contract FA8903-08D-8777
Task Orders 0131 & 0153

FINAL
CORRECTIVE ACTION REPORT FOR SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL SITE FT007, OPERABLE UNIT 1

July 2014

MWH

DEPARTMENT OF THE AIR FORCE
AIR FORCE CIVIL ENGINEER CENTER
JOINT BASE SAN ANTONIO LACKLAND TEXAS

31 July 2014

MEMORANDUM FOR SEE DISTRIBUTION

FROM: AFCEC/CIBW
2261 Hughes Ave, Suite 155
JBSA Lackland, TX 78236

Subject: Final Corrective Action Report for Surficial Soils Impacted by Lead and Petroleum Material, Site FT007, Former March Air Force Base, California

Attached for your files is the Final Corrective Action Report for Surficial Soils Impacted by Lead and Petroleum Material, Site FT007, Former March AFB.

Thank you for your continuing support of the March cleanup program. If you have any questions, please do not hesitate to contact me at (210) 395-9420.

JERRY W BINGHAM, P.E.
Environmental Program Manager

Attachment:
Final Corrective Action Report for Surficial Soils Impacted by Lead and Petroleum Material, Site FT007, Former March Air Force Base, California

DISTRIBUTION LIST

TO:

Ms. Patricia Hannon
California RWQCB, Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3339

Mr. Eric Lehto
452 SPTG/CEV
610 Meyer Drive, Building 2403
March ARB, CA 92518-2166

Mr. Calvin Cox
AFRPA Field Office
18374 Phantom West Street
Victorville, CA 92392

Mr. Geoff Watkin
AFCEC/CIBW
3411 Olson Street
McClellan, CA 95652

Ms. Lori Stone
March Joint Powers Authority
23555 Meyer Drive
Riverside, CA 92518

REPORT DOCUMENTATION PAGE

Form Approved

QMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	July 2014	FINAL

4. TITLE AND SUBTITLE

Final Corrective Action Report for Surficial Soils Impacted by Lead and Petroleum Material, Site FT007
Former March Air Force Base, California

4. FUNDING NUMBERS

FA8903-08-D-8777,
Task Orders 0131 & 0153

6. AUTHOR(S)

MWH

7. PERFORMANCE ORGANIZATION NAMES(S) AND ADDRESS(S)

MWH
2121 N. California Blvd., Suite 600
Walnut Creek, California 94596

8. PERFORMANCE ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(S)

AFCEC/CIBW, Bldg 171
2261 Hughes Ave, Ste 155
Lackland AFB, TX 78236-9853

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

This document presents the details of the excavations conducted at Site FT007 to remove surficial soils impacted by lead and petroleum material in 2012 and 2013. Excavation extents, daily field reports, survey data, waste manifests, and imported fill analytical data are presented within.

14. SUBJECT TERMS

15. NUMBER OF PAGES

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE.	19. SECURITY CLASSIFICATION OF ABSTRACT.	20. LIMITATION OF ABSTRACT

FINAL

CORRECTIVE ACTION REPORT FOR SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL SITE FT007, OPERABLE UNIT 1 FORMER MARCH AIR FORCE BASE, CALIFORNIA

Contract FA8903-08-D-8777
Task Orders 0131 and 0153
CDRL A001E

Prepared for:

Air Force Civil Engineer Center
Former March Air Force Base, California

Prepared by:

MWH
2121 North California Boulevard, Suite 600
Walnut Creek, California 94596

July 2014

FINAL

CORRECTIVE ACTION REPORT FOR SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL SITE FT007, OPERABLE UNIT 1 FORMER MARCH AIR FORCE BASE, CALIFORNIA

July 2014

Contract FA8903-08-D-8777
Task Orders 0131 and 0153
CDRL A001E

Prepared for:

Air Force Civil Engineer Center
Former March Air Force Base, California

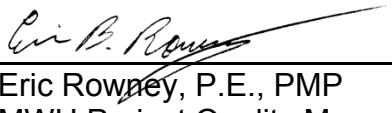
Prepared by:

MWH Americas, Inc.
2121 North California Boulevard, Suite 600
Walnut Creek, California 94596

MWH certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract FA8903-08-D-8777 are complete, accurate, and comply with all requirements of the contract.

Approved By:  Date: 7/31/2014
Nancy Barnes, P.G., PMP
Task Order Manager

Approved By:  Date: 7/31/2014
Marikka Hughes, P.G.
Project Hydrogeologist

Approved By:  Date: 7/31/2014
Eric Rowney, P.E., PMP
MWH Project Quality Manager

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Section **Page**

LIST OF FIGURES
(Located at the end of each section)

LIST OF TABLES
(Located at the end of each section)

LIST OF APPENDICES

LIST OF ABBREVIATIONS AND ACRONYMS

ADR	Analytical Data Report
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
bgs	below ground surface
CHHSL	California Human Health Screening Level
FI-ICP-MS	flow injection inductively coupled plasma mass spectrometry
FOSET	Finding of Suitability for Early Transfer
FS	feasibility study
HHRA	human health risk assessment
HI	hazard index
IC-ICP-MS	ion chromatography inductively coupled plasma mass spectrometry
JPA	March Joint Powers Authority
µg/kg	micrograms per kilogram
mg/kg	milligrams per kilogram
mg/m^3	milligrams per cubic meter
MWH	MWH Americas, Inc.
MWHC	MWH Constructors, Inc.
NFA	no-further-action
OU	operable unit
PAH	polycyclic aromatic hydrocarbon
PID	photoionization detector
ppm	parts per million
PRG	preliminary remediation goal
QA	quality assurance
QC	quality control
QPP	Quality Program Plan
RI	remedial investigation
RP-ICP-MS	reverse phase chromatography inductively coupled plasma mass spectrometry
RSL	regional screening level
STLC	soluble threshold limit concentration
SVE	soil vapor extraction
TCLP	toxicity characteristic leaching procedure
TPH	total petroleum hydrocarbons
TPH-d	total petroleum hydrocarbons as diesel
TPH-g	total petroleum hydrocarbons as gasoline
TPH-mo	total petroleum hydrocarbons as motor oil
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

1.0 INTRODUCTION

MWH Americas, Inc. (MWH) prepared this report to document corrective action activities conducted for surface soils impacted by organic lead and tar material at Site FT007, Former Fire Training Area, Former March Air Force Base (AFB), California between October 2012 and October 2013. The former March AFB is located at the northern end of the Perris Valley, east of the city of Riverside, in Riverside County (Figure 1-1). Site FT007 is located in the southeastern portion of the former March AFB as indicated on Figure 1-2. MWH was authorized by the Air Force Civil Engineer Center (AFCEC) to prepare this document under Task Orders 0131 and 0153, Contract FA8903-08-D-8777.

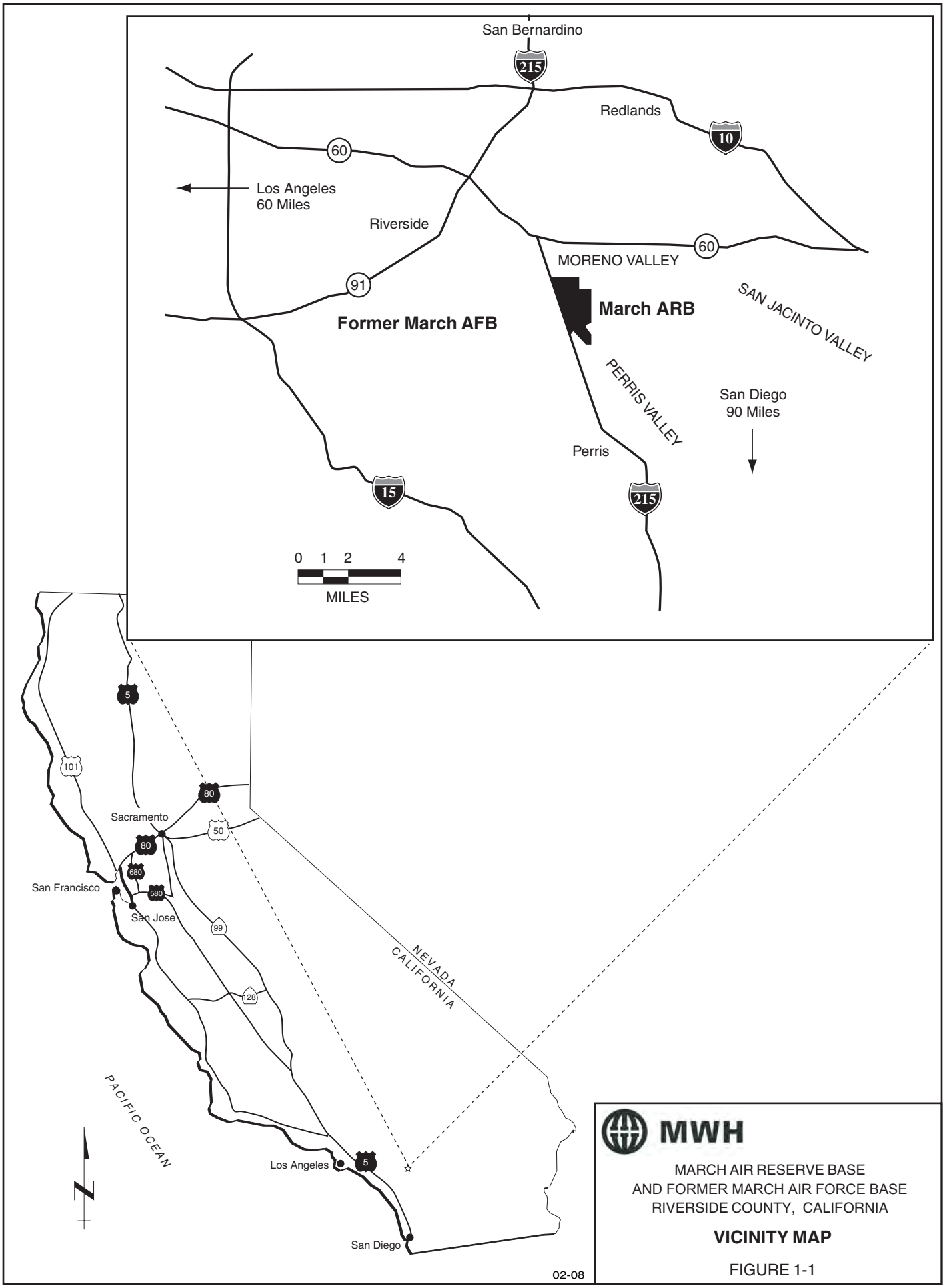
1.1 STUDY SCOPE AND OBJECTIVES

Corrective action activities were conducted in accordance with the *Final Corrective Action Plan for Surficial Soils Impacted by Lead and Petroleum Material, Site FT007, Operable Unit 1* (MWH, 2012) and *Final Corrective Action Plan Addendum for Petroleum-Impacted Soil, Site FT007* (MWH, 2013). The scope of the selected corrective action was to excavate surficial soils impacted by lead and petroleum materials, dispose of those soils off site, and backfill the excavation to return the site back to grade. The purpose of these activities was to remove soils impacted by lead and petroleum material in order to achieve site closure. This work is being performed as a petroleum corrective action under the oversight of the Regional Water Quality Control Board.

1.2 DOCUMENT ORGANIZATION

The remaining sections of this document are organized as follows:

- **Section 2.0, Project Background.** Includes a brief description of the site background, previous investigations, and the nature and extent of contamination.
- **Section 3.0, Corrective Action Activities.** Describes the excavation, sampling, and waste handling activities conducted at Site FT007 in 2012 and 2013.
- **Section 4.0, Results and Discussion.** Presents a summary and description of the collected confirmation sample data.

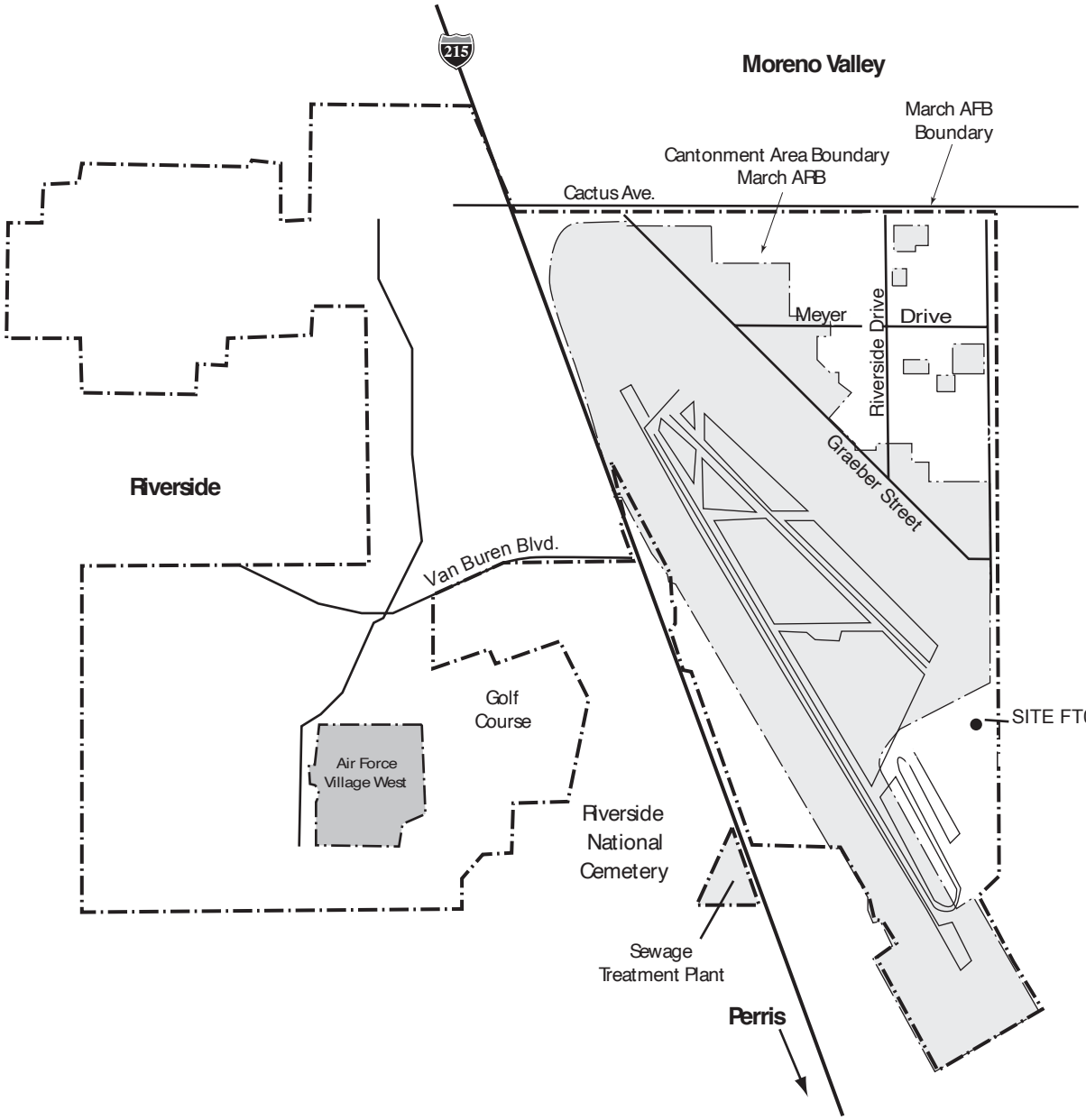


MWH

MARCH AIR RESERVE BASE
AND FORMER MARCH AIR FORCE BASE
RIVERSIDE COUNTY, CALIFORNIA

VICINITY MAP

FIGURE 1-1



Legend

- Site Location
- Former AFB Boundary
- Approximate Boundary of Cantonment Area

0 2,000 4,000

SCALE IN FEET

07-06

MWH

MARCH AIR RESERVE BASE AND
FORMER MARCH AIR FORCE BASE
RIVERSIDE COUNTY, CALIFORNIA

SITE LOCATION MAP

FIGURE 1-2

- **Section 5.0, References**. Lists cited documents.

This document is augmented with the following appendices:

- **Appendix A, Daily Quality Control Reports and Site Photographs:** Includes the daily field reports and site photographs for the corrective action activities.
- **Appendix B, Analytical Data Report (ADR):** Describes data review and validation results for samples collected in support of the corrective action.
- **Appendix C, Full Data Tables:** Includes tabulated data for all confirmation samples and waste profile samples collected during the corrective action activities.
- **Appendix D, Survey Data:** Presents the survey data for confirmation sample locations and the extent of the excavations.
- **Appendix E, Waste Manifests:** Includes the waste manifests and waybills for the material excavated from the site and disposed off site.
- **Appendix F, Imported Fill Analytical Report:** Presents the analytical data for the clean imported fill used to backfill the excavations.
- **Appendix G, Backfill Compaction Report:** Includes the compaction report provided by NorCal Engineering on the backfill compaction activities.

2.0 PROJECT BACKGROUND

This section provides a brief background summary for Site FT007, including previous investigations, remedial actions, site hydrogeology, and the nature and extent of surficial soil contamination at Site FT007, located within the former boundaries of March AFB on property transferred to the March Joint Powers Authority (JPA). A more exhaustive description of Site FT007 can be found in the *Soil and Groundwater Investigation Report, Site 7 (Area of Concern 48)* (MWH, 2008).

2.1 SITE DESCRIPTION

Site FT007 is the former location of a fire training area and disposal/burn site. The facility was active from 1961 through 1978 (Engineering Science, 1988; Earth Tech, 1994), although it is possible that fire training activities began at the site in 1954 (CH2M Hill, 1984). At least three fire training pits were identified in aerial photographs from 1973. These fire training pits were enclosed by berms, but were not lined. Other disturbed areas at the site are also evident on the aerial photographs, but do not appear to have the distinctive characteristics of a burn pit (i.e., dark staining of the ground and a derelict airplane).

Before 1972, Site FT007 was reportedly used as a disposal/burn site for up to 100,000 gallons per year of oil, solvent, and jet fuel wastes generated at the base. Only recovered Jet Propellant No. 4 was burned at the site after 1972 until the facility closed in 1978, at which point another fire training facility was constructed north of the site (Site FT015). It is assumed, based on the large volume of waste liquids burned at the site, that the bermed, unlined training pits were used as storage areas for these uncontained wastes between burning exercises (CH2M Hill, 1984).

During the site's operation as a fire training area, a tar-like material was spread across a portion of the site. This material appears to be visible in the 1973 aerial photograph

(Figure 2-1). Prior to the corrective actions described in this document, some tar-like material remained on the ground surface at the site.

2.2 PREVIOUS SITE ACTIVITIES

Soil investigations started in 1985 at Site FT007 and focused on the potential of subsurface contamination at the site. Descriptions of these subsurface investigations are presented in the *Final Preliminary Assessment and Site Inspection Work Plan* (MWH, 2006) and *Soil and Groundwater Investigation Report* (MWH, 2008). The brief chronology of activities listed below is described in further detail in this section:

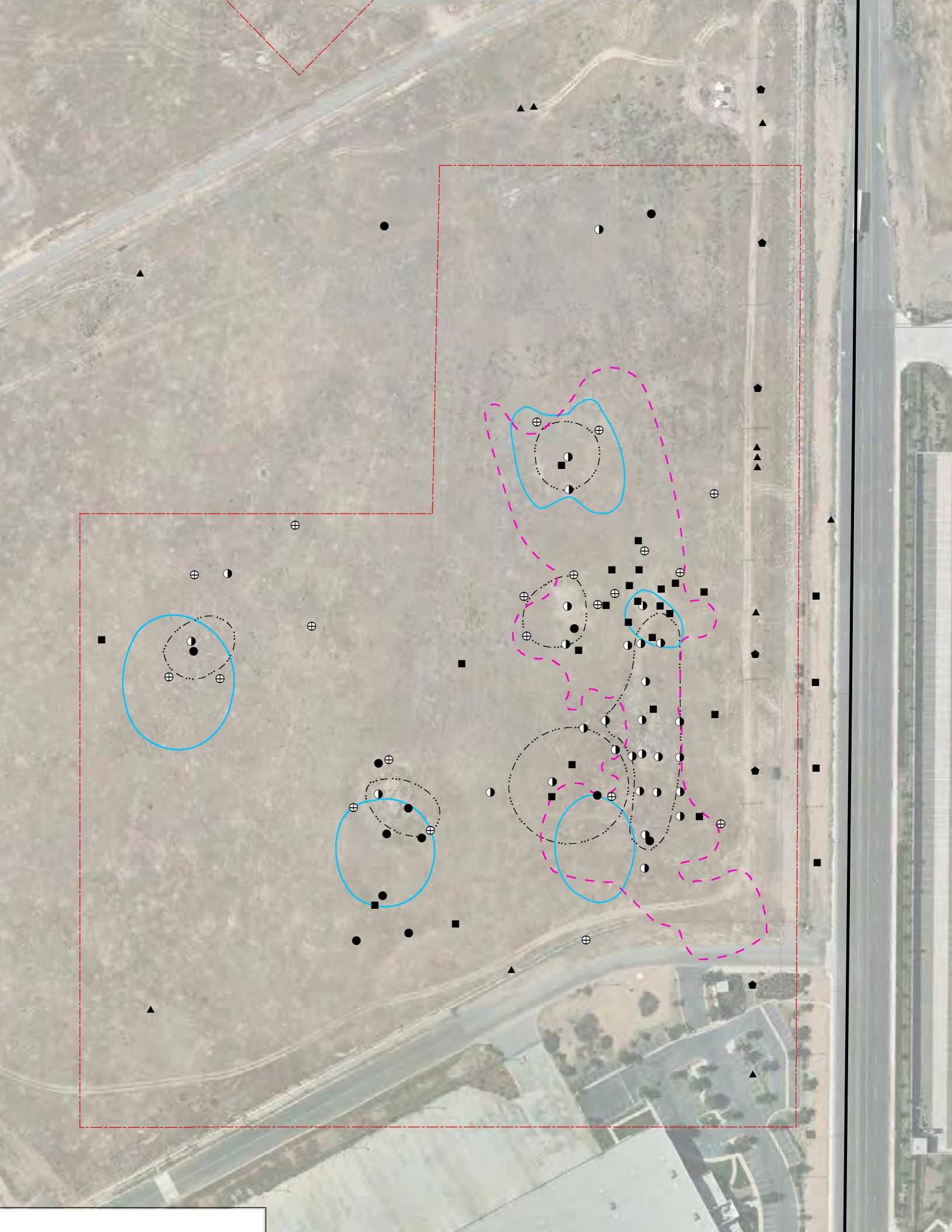
- 1961 – 1978 Site used as a fire training area and disposal area
- 1987 – Phase II Confirmation Quantification Stage 2 investigation activities (Engineering Science, 1988)
- 1992 – 1994 Remedial investigation/feasibility study (RI/FS) activities (Earth Tech, 1994)
- 2007 – Site 7 soil and groundwater investigation (MWH, 2008)
- 2009 – Limited surface soil investigation (MWH, 2008)
- 2011 – Delineation of tar surface and collection of supplemental surface soil samples (MWH, 2012)

Site activities presented in this section focus on surficial and near-surface soil (up to 2 feet below ground surface [bgs]) investigation activities.

In 1987, a soil investigation was conducted at Site FT007 (Figure 2-2), which included advancing 30 soil borings to depths of 5 to 60 feet bgs. Of the 30 soil borings, 18 borings were located approximately within the extent of the tar-impacted area. Total petroleum hydrocarbons (TPH) (undifferentiated hydrocarbons) were detected in all of the surface soil samples at concentrations ranging from 5 milligrams per kilogram (mg/kg) to 26,000 mg/kg, with five detections greater than 1,000 mg/kg.

Between 1992 and 1994, Earth Tech performed RI/FS activities at Site FT007, which included drilling soil borings, installing four groundwater monitoring wells, and the


1
Site FT007



collection of surface soil samples (Figures 2-2 and 2-3). Surface soil samples were collected in a grid from 84 locations across the site to investigate the extent of surface soil contamination associated with the tar-like material covering a portion of the site (Figure 2-3). Beryllium, lead, manganese, and several dioxins were detected at concentrations greater than U.S. Environmental Protection Agency (USEPA) Region 9 residential preliminary remedial goals (PRG) applicable at that time. The petroleum tar material was quantified as both diesel and oil and grease. Maximum concentrations of oil and grease and diesel detected during the RI were 310 mg/kg and 5,300 mg/kg in the area containing the tar, respectively (MWH, 2008). Organic lead was detected at a maximum concentration of 80.2 mg/kg. The results of these investigations are presented in the *RI/FS Report for Operable Unit (OU) 1* (Earth Tech, 1994).

Based on the assumptions that Site FT007 was inaccessible to the public and would not be used for residential purposes in the future, the USEPA Region 9 industrial PRGs were used to determine the need for cleanup at this site. Only lead and manganese were detected at concentrations greater than the USEPA industrial PRGs. However, results of the California Department of Toxic Substances Control lead risk assessment and the OU 1 RI/FS baseline human health risk assessment (HHRA) indicated that these compounds did not require remediation. This led to the selection of a no-further-action (NFA) remedy for Site FT007 in the OU 1 Record of Decision based on proposed industrial use (Earth Tech, 1995). Site FT007 is located on Parcel D-1, which was transferred under a Finding of Suitability for Early Transfer (FOSET) and a quitclaim deed to the March JPA on 5 November 2007.

Increasing concentrations of trichloroethene in groundwater extraction wells on Site FT007 were investigated in 2007 to identify a previously unidentified source area. Based on the HHRA conducted following the 2007 groundwater investigation, organic lead was identified as a non-cancer health hazard using data from the 1994 RI/FS (MWH, 2008). In April 2009, a limited soil investigation was conducted to confirm the presence of lead and organic lead in surface soils at Site FT007. Since organic lead is known to degrade to inorganic lead over time, organic lead detected in samples


7SL89
7SL88
7SL87
7SL84
7SL85
7SL86
7SL83
7SL82
7SL81
7SL78
7SL79
7SL80
7SVE03D
7SL3
7SL4
7SL77
7SL76
7SL75
7SL74
7SL73
7SL72
7SL71
7SL70
7MP02D
7MP01D
7SVE01D
7SVE04D
7SL62
7SL63
7SL64
7SL65
7SL66
7SL67
7SVE02D
7SL69
7SL68
7SS15
7SS14
7MP03D
7SL55
7SO2
7SS12
7SO5
7SS13
7SL61
7SL60
7SL59
7SL58
7SL57
7SL56
7SO1
7SO3
7SL54
7SO4
7SO6
7SO7
7SO9
7SL1
7SO8
7SS10
7SS11
7SL2
7SS07
7SS09
7SS08
7SL46
7SL47
7SL48
7SL49
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7SL10

collected in the early 1990s were not considered to be representative of current site conditions. Composite soil samples were collected from the area surrounding the historical sample location (7SL55) near the disposal area where the elevated organic lead concentration was detected. Inorganic lead was detected in all soil samples with concentrations ranging from 6.9 mg/kg to 96.5 mg/kg (below the residential California Human Health Screening Level [CHHSL] of 150 mg/kg) (California Environmental Protection Agency, 2010). Organic lead was detected in two surface samples at concentrations of 0.994 mg/kg and 1.38 mg/kg (greater than the residential and industrial USEPA Regional Screening Levels [RSL] of 0.00061 mg/kg and 0.0062 mg/kg [USEPA, 2013], respectively [no CHHSLs for organic lead in soil]) (Appendix J in MWH, 2008).

Evaluation of the 2009 analytical results indicated that potential human health risks were possible due to exposure to organic lead. The noncarcinogenic hazard index (HI), the summation of individual chemical hazard quotients, remained above the criterion of 1 (the value below which noncarcinogenic health effects should not occur). The locations of the organic lead detections corresponded with locations of the greatest amount of observed tar material, found discontinuously over much of the Site FT007 surface soil (MWH, 2008). Organic lead was also only noted in the surface soil samples, not the samples collected from 1.5 feet bgs. A removal action was recommended based on these results.

In September 2011, the extent of the tar material was identified at the surface and in the subsurface by hand-augering up to 1 foot in depth in and around the visible area, which revealed tar-impacted materials were located up to 8 inches bgs in the north end and on the ground surface at the south end of the disposal area. The approximate extent of tar material in the surface soils at Site FT007, based on these 2011 data, is shown on Figure 2-3.

3.0 CORRECTIVE ACTION ACTIVITIES

This section presents the corrective action activities conducted at Site FT007 to address lead- and tar-impacted soils. Field activities were conducted in accordance with the *Final Corrective Action Plan for Surficial Soils Impacted by Lead and Petroleum Material* (MWH, 2012) and *Final Corrective Action Plan Addendum for Petroleum-Impacted Soil* (MWH, 2013). Daily field reports from the corrective action activities and photographs are included in Appendix A.

3.1 EXCAVATION ACTIVITIES – OCTOBER 2012

Initial excavation activities took place at Site FT007 between October 8 and October 10, 2012 under the supervision of an MWH Constructors, Inc. (MWHC) superintendent. The excavated area is indicated on Figure 3-1. The excavation was approximately 240 feet long and ranged from 35 feet (in the north) to 80 feet (in the south) wide. The area was excavated to approximately 1 to 2 feet below grade. One area, located approximately 100 feet south of the previously identified burn pit, was excavated to 7 feet bgs based on the presence of discolored soils with hydrocarbon odors, indicating the presence of another disposal area. The second disposal area was approximately 50 feet long and up to 20 feet wide (Figure 3-1).

A total of 470 bank cubic yards (volume measured *in situ*) of soil (790 tons) were excavated and stockpiled in October 2012. The soil stockpile was placed on plastic sheeting and was covered with plastic sheeting following the end of excavation activities.

3.1.1 Air Monitoring and Dust Control

During the excavation, air monitoring for fugitive dust and lead particles were conducted by the MWHC superintendent. Air monitoring activities were conducted in accordance with the *Final Corrective Action Plan for Surficial Soils Impacted by Lead and Petroleum Material* (MWH, 2012).

LEGEND:

EXCAVATION TO 2 FEET BGS

EXCAVATION TO 7 FEET BGS

Dust monitors were in place up- and down-wind of the excavation to monitor for any increases in particulates in the air caused by the excavation. The maximum reading from the down-wind dust monitor was 0.671 milligrams per cubic meter (mg/m^3). All readings collected from the down-wind dust monitor were below the action level of 2.5 mg/m^3. Additionally, to minimize dust generation, a water spray was used for dust suppression.

Additionally, the soil and breathing zones were monitored using a photoionization detector (PID) for an increase in volatile organics. The highest PID reading from the excavated soil was 1.8 parts per million (ppm), while the breathing zone reached a maximum of 0.3 ppm, below the action level for upgrading personal protective equipment (15 ppm).

3.1.2 Confirmation and Stockpile Sampling

Following the excavation, the confirmation soil samples were collected from the excavation floor on October 10 and 11, 2012 by the MWHC superintendent. A total of 42 soil samples (7CS09 through 7CS19, 7CS22 through 7CS25, 7CS28 through 7CS30, 7CS33 through 7CS56) were collected from the approximate center of a 20-foot by 20-foot sampling grid (Figure 3-2). An additional nine soil samples were collected from the floor and walls of the 7-foot excavation (7CS06, 7CS07, 7CS08, 7CS20, 7CS21, 7CS26, 7CS27, 7CS31, and 7CS32). For comparison to background concentrations, five soil samples (7CS01 through 7CS05) were collected from the surface outside of the excavation. Duplicate soil samples were collected at six locations (7CS03, 7CS12, 7CS23, 7CS31, 7CS49, and 7CS55). Confirmation samples were collected in accordance with the *Final Corrective Action Plan for Surficial Soils Impacted by Lead and Petroleum Material, Site FT007, Operable Unit 1* (MWH, 2012), *Final Corrective Action Plan Addendum for Petroleum-Impacted Soil, Site FT007* (MWH, 2013), and *Final Revised Quality Program Plan* (QPP) (MWH, 2010)

Field quality assurance/quality control (QA/QC) activities included the following tasks:

LEGEND:

- CONFIRMATION LOCATION
- EXCAVATION TO 2 FEET BGS
- EXCAVATION TO 7 FEET BGS

- Equipment calibration
- Equipment decontamination
- Collection of QA/QC samples

All decontamination procedures are performed in compliance with the procedures outlined in the QPP (MWH, 2010). The field QA/QC program for the corrective action activities included field duplicate samples. Results of the field QA/QC samples are evaluated in the ADR (Appendix B).

All confirmation soil samples were analyzed for TPH as diesel (TPH-d) (USEPA Method 8015B), TPH as motor oil (TPH-mo) (USEPA Method 8015B), total lead (USEPA Method 6010B), and organic lead (HML Method 939-M) by EMAX Laboratories, Inc. Three soil samples from second disposal area were also analyzed for volatile organic compounds (VOCs) by USEPA Method 8260B and TPH as gasoline (TPH-g) by USEPA Method 8015B. Following the receipt of these results, select confirmation samples with elevated concentrations of organic lead were submitted to Applied Speciation and Consulting, LLC, to analyze for total organic lead, tetraethyl lead, tetramethyl lead, triethyl lead, and trimethyl lead by HML Method 939-M using flow injection inductively coupled plasma mass spectrometry (FI-ICP-MS), reverse phase chromatography inductively coupled plasma mass spectrometry (RP-ICP-MS), and ion chromatography inductively coupled plasma mass spectrometry (IC-ICP-MS).

A composite soil sample was collected from the stockpile of excavated material on October 10, 2012. Soil samples were collected from eight different locations on the stockpile and were composited in the field into one sample. The composite soil sample was analyzed for benzene, toluene, ethylbenzene, and total xylenes (USEPA Method 8260B); TPH-d (USEPA Method 8015B); TPH-g (USEPA Method 8015B); TPH-mo (USEPA Method 8015B); polycyclic aromatic hydrocarbons (PAHs) (USEPA Method 8310); Title 22 Metals (USEPA Methods 6010B and 7471B); total lead using toxicity characteristic leaching procedure (TCLP) and soluble threshold limit concentration (STLC) extractions (USEPA Method 6010B); and organic lead (HML Method 939-M) by

EMAX Laboratories, Inc. Analytical data for the stockpile samples are included in Appendix C.

3.1.3 Data Validation Procedures

Laboratory Data Consultants, Inc. (LDC), Carlsbad, California, was subcontracted to perform data verification. The analytical data were reviewed by LDC to assess the laboratory's adherence to the project-specific requirements, and MWH reviewed the data for quality and usability. The data quality objectives and the QC program that are described in QPP (MWH, 2010) provided the structure for the analytical data review. Approximately 90 percent of the data prepared by the laboratory was submitted to MWH in a baseline format; the remaining 10 percent was submitted in a full format. The baseline packages were reviewed according to the criteria for Level III (equivalent to USEPA Tier 1A) data verification according to USEPA data verification requirements. The remaining data were reviewed according to the requirements for Level IV (equivalent to USEPA Tier 3) data verification. All data packages were reviewed for adherence to project-specific requirements. Based on this review, all analytical data are considered usable for their intended purpose. A detailed presentation of the procedures used for data verification and the data verification results are provided in the ADR (Appendix B). Full data tables are included in Appendix C.

3.1.4 Survey

Confirmation sample locations and the extent of the excavation were surveyed by Calvada Surveying, Inc. on October 11, 2012. The survey included horizontal coordinates and ground surface elevations for each location and the excavation extent. Survey data are included in Appendix D.

3.1.5 Waste Transportation and Disposal

On January 9 and 10, 2013, the stockpile of excavated soil was removed from Site FT007 under the supervision of an MWHC superintendent. The stockpiled soil was

loaded into 31 trucks over the course of two days. Loading and transportation activities were completed according to the *Final Corrective Action Plan for Surficial Soils Impacted by Lead and Petroleum Material* (MWH, 2012). Approximately 470 bank cubic yards (790 tons) of nonhazardous soil were loaded onto the trucks and transported to the Simi Valley Landfill and Recycling Center in Simi Valley, California by Bradley Tanks, Inc. The waste manifests and waybills are included in Appendix E.

Each truck was loaded with approximately 18 cubic yards, inspected, and decontaminated by removing any significant accumulations of soil prior to leaving the site. The trucks beds were covered and the appropriate placards were placed on the trucks.

3.2 EXCAVATION ACTIVITIES – SEPTEMBER 2013

Additional excavation activities took place at Site FT007 between September 9 and September 13, 2013 under the supervision of an MWHC superintendent. The areas excavated were chosen based on the confirmation sample results from October 2012 and targeted areas where organic lead concentrations exceeded 13 micrograms per kilogram (µg/kg), the cleanup goal designated in the Corrective Action Plan (MWH, 2012). Based on the previous organic lead concentrations, the different areas were excavated to approximately 4 feet bgs where organic lead was detected between 13 µg/kg and 100 µg/kg, to approximately 6 feet bgs where organic lead was detected between 100 µg/kg and 1,000 µg/kg, and approximately 10 feet bgs where organic lead was detected greater than 1,000 µg/kg. The excavated areas are indicated on Figure 3-3. For the disposal area with discolored soils and hydrocarbon odors, the excavation was deepened to 10 feet bgs with the same approximate footprint (Figure 3-3).

Approximately 500 bank cubic yards of soil (830 tons) were excavated and stockpiled in September 2013. The soil stockpile was placed on plastic sheeting and was covered with plastic sheeting following the end of excavation activities.

LEGEND:
EXCAVATION TO 4 FEET BGS
EXCAVATION TO 6 FEET BGS
EXCAVATION TO 10 FEET BGS

3.2.1 Air Monitoring and Dust Control

During the excavation, air monitoring for fugitive dust and lead particles were conducted by the MWHC superintendent. Air monitoring activities were conducted in accordance with the *Final Corrective Action Plan for Surficial Soils Impacted by Lead and Petroleum Material* (MWH, 2012).

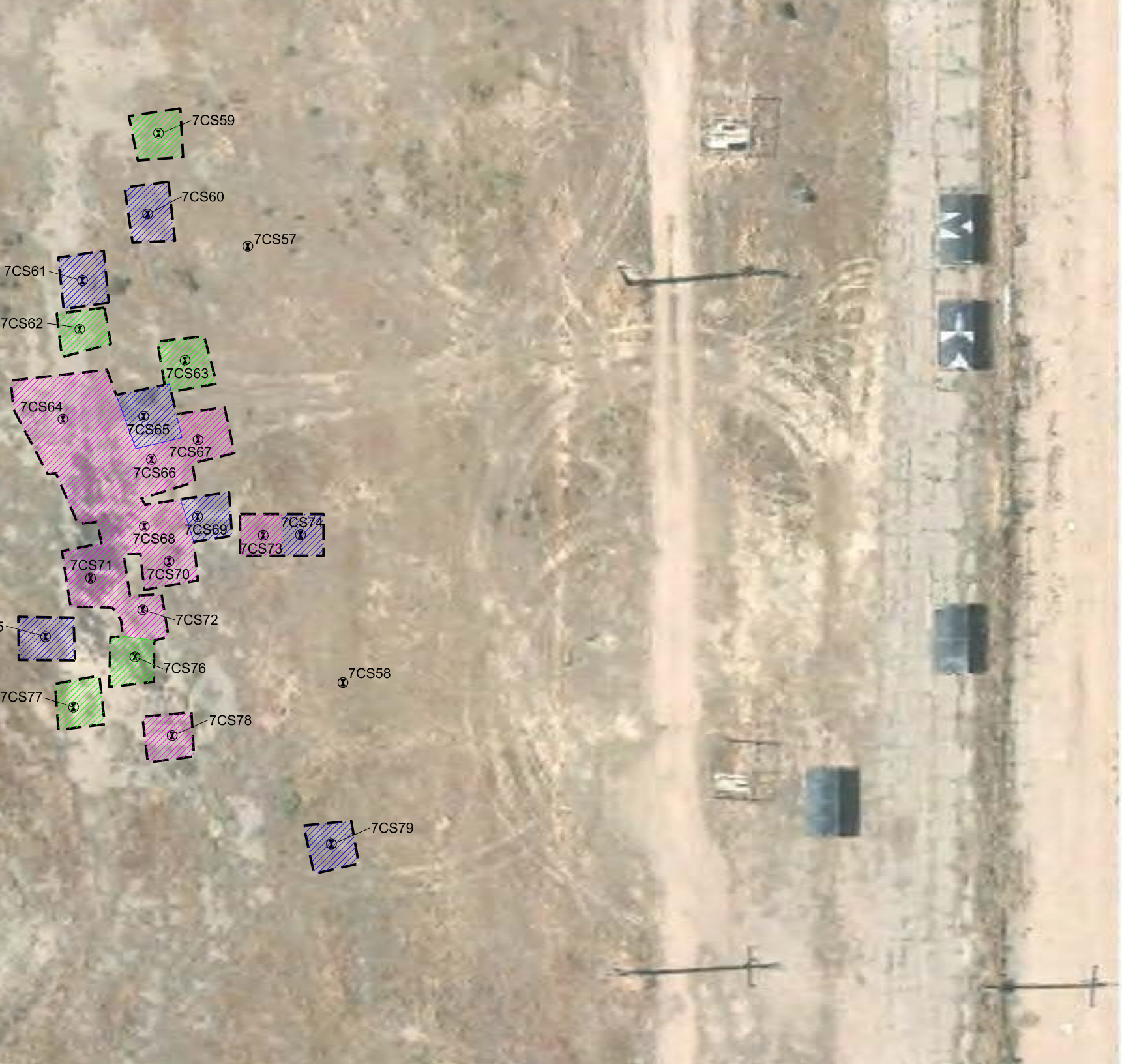
Dust monitors were in place up- and down-wind of the excavation to monitor for any increases in particulates in the air caused by the excavation. All readings collected from the down-wind dust monitor were below the action level of 2.5 mg/m^3. Additionally, to minimize dust generation, a water spray was used for dust suppression. Additionally, the soil and breathing zones were monitored using a PID for an increase in volatile organics.

3.2.2 Confirmation and Stockpile Sampling

Following the excavation activities, confirmation soil samples were collected from the excavation floor on September 12, 2013 by the MWHC superintendent (Figure 3-4). A total of 21 soil samples (7CS59 through 7CS79) were collected from the excavation floors. For comparison to background concentrations, two soil samples (7CS57 and 7CS58) were collected from the surface outside of the excavation. Duplicate soil samples were collected at six locations (7CS58, 7CS69, and 7CS74). Confirmation samples were collected in accordance with the *Final Corrective Action Plan for Surficial Soils Impacted by Lead and Petroleum Material, Site FT007, Operable Unit 1* (MWH, 2012), *Final Corrective Action Plan Addendum for Petroleum-Impacted Soil, Site FT007* (MWH, 2013), and *Final Revised Quality Program Plan* (MWH, 2010)

Field QA/QC activities included the following tasks:

- Equipment calibration
- Equipment decontamination
- Collection of QA/QC samples



LEGEND:

- CONFIRMATION S
  LOCATION
- EXCAVATION
  TO 4 FEET BGS
- EXCAVATION
  TO 6 FEET BGS
- EXCAVATION
  TO 10 FEET BGS

All decontamination procedures are performed in compliance with the procedures outlined in the QPP (MWH, 2010). The field QA/QC program for the corrective action activities included field duplicate samples. Results of the field QA/QC samples are evaluated in the ADR (Appendix B).

All confirmation soil samples were analyzed for TPH-d (USEPA Method 8015B), TPH-mo (USEPA Method 8015B), total lead (USEPA Method 6010B), organic lead (HML Method 939-M), and organic lead using TCLP and STLC extractions (HML Method 939-M) by EMAX Laboratories, Inc. Additionally, split soil samples from eight locations (7CS57, 7CS58, 7CS64, 7CS67, 7CS70, 7CS72, 7CS73, and 7CS78) were sent to Applied Speciation and Consulting, LLC, to analyze for total organic lead, tetraethyl lead, tetramethyl lead, triethyl lead, and trimethyl lead by HML Method 939-M using FI-ICP-MS, RP-ICP-MS, and IC-ICP-MS.

Two composite soil samples were collected from the stockpile of excavated material on September 12, 2013. Soil samples were collected from eight different locations on the stockpile and were composited in the field into two samples. The composite soil samples were analyzed for VOCs (USEPA Method 8260B); TPH-d (USEPA Method 8015B); TPH-g (USEPA Method 8015B); TPH-mo (USEPA Method 8015B); PAHs (USEPA Method 8310); Title 22 Metals (USEPA Methods 6010B and 7471B); total lead using TCLP and STLC extractions (USEPA Method 6010B); and organic lead (HML Method 939-M) by EMAX Laboratories, Inc. Analytical data for the stockpile samples are included in Appendix C.

3.2.3 Data Validation Procedures

LDC was subcontracted to perform data verification. The analytical data were reviewed by LDC to assess the laboratory's adherence to the project-specific requirements, and MWH reviewed the data for quality and usability. The data quality objectives and the QC program that are described in QPP (MWH, 2010) provided the structure for the analytical data review. Approximately 90 percent of the data prepared by the laboratory

was submitted to MWH in a baseline format; the remaining 10 percent was submitted in a full format. The baseline packages were reviewed according to the criteria for Level III (equivalent to USEPA Tier 1A) data verification according to USEPA data verification requirements. The remaining data were reviewed according to the requirements for Level IV (equivalent to USEPA Tier 3) data verification. All data packages were reviewed for adherence to project-specific requirements. Based on this review, all analytical data are considered usable for their intended purpose. A detailed presentation of the procedures used for data verification and the data verification results are provided in the ADR (Appendix B). Full data tables are included in Appendix C.

3.2.4 Survey

Confirmation sample locations and the extent of the excavation were surveyed by Calvada Surveying, Inc. on October 14, 2013. The survey included horizontal coordinates and ground surface elevations for each sample location and the excavation extents. Survey data are included in Appendix D.

3.2.5 Waste Transportation and Disposal

On October 14 and 15, 2013, the stockpile of excavated soil was removed from Site FT007 under the supervision of an MWHC superintendent. The stockpiled soil was loaded into 35 trucks over the course of two days. Loading and transportation activities were completed according to the *Final Corrective Action Plan for Surficial Soils Impacted by Lead and Petroleum Material* (MWH, 2012). Approximately 500 bank cubic yards (830 tons) of nonhazardous soil were loaded onto the trucks and transported to Soil Safe of California – TPST in Adelanto, California by AIS. The waste manifests and waybills are included in Appendix E.

Each truck was loaded with approximately 18 cubic yards, inspected, and decontaminated by removing any significant accumulations of soil prior to leaving the site. The trucks beds were covered and the appropriate placards were placed on the trucks.

3.2.6 Backfilling and Site Restoration Activities

The excavated areas were backfilled on October 14 through 17, 2013 with clean imported fill material. The fill material came from Hanson Aggregates West, Inc. of Corona, California and was transported to the site by West Coast Sand and Gravel of Buena Park, California. The fill material was free of environmental contaminants (including, but not limited to, heavy metals, petroleum hydrocarbons, and VOCs), debris, roots, wood, scrap material, vegetation, refuse, soft unsound particles, and frozen, deleterious, or objectionable materials. Approximately 1100 tons of clean fill were imported onto the site. The laboratory reports for the clean fill are provided in Appendix F.

The clean fill was added to the excavations and compacted in 8-inch loose lifts. Compaction testing was conducted by NorCal Engineering, subcontractor to AIS, on October 14 through 16, 2013. The soil was compacted to 90 to 94 percent of Standard Proctor density. The compaction report is included in Appendix G.

Following soil compaction, the site was graded to match the surrounding surface and grade. The excavated area was reseeded by All Preferred Hydroseed, Inc. with a blend of native grass species.

4.0 RESULTS AND DISCUSSION

This section presents the excavation confirmation sample results and discussion.

4.1 OCTOBER 2012 ANALYTICAL RESULTS

The analytical results for the confirmation samples from the October 2012 excavation are presented in Tables 4-1 and 4-2. Sample locations from the October 2012 excavation are indicated on Figure 3-2.

Total lead, organic lead, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, m,p-xylenes, o-xylene, TPH-d, TPH-g, and TPH-mo were detected in the soil samples. Only concentrations of organic lead and TPH-d exceeded their respective goals in some of the confirmation soil samples. Organic lead exceeded the cleanup goal of 13 mg/kg in 26 samples with a maximum concentration of 6,860 mg/kg (7CS28). TPH-d exceeded the cleanup goal of 1,000 mg/kg in one sample at a concentration of 1,200 mg/kg (7CS28).

Total lead was detected in all 56 confirmation samples with a maximum concentration of 107 mg/kg (7CS01), less than the cleanup goal of 297 mg/kg. TPH-mo was detected in 40 confirmation samples with a maximum concentration of 5,600 mg/kg (7CS28), less than the cleanup goal of 25,000 mg/kg.

Four VOCs (1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, m,p-xylenes, o-xylene) were detected in the soil sample collected from 7CS06, within the previously unidentified disposal area. All of the VOCs were detected were below USEPA Region 9 RSLs. TPH-g was detected in the samples from 7CS06 and 7CS07 at concentrations of 10 mg/kg and 0.81 mg/kg, respectively.

Based on the unusually high concentrations of organic lead detected, eight samples were split and analyzed by Applied Speciation to determine the organic level species present (tetraethyl lead, tetramethyl lead, triethyl lead, and trimethyl lead). Tetraethyl

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	Location ID:	7CS01	7CS02	7CS03	7CS04	7CS05	7CS06	7CS07	7CS08	7CS09	7CS10	7
	Depth Interval (ft bgs):	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	7.8 - 8.3	5.6 - 6.1	6.0 - 6.5	1.6 - 2.1	1.7 - 2.2	1.
	Sample Date:	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/10/2012	10/10/2012	10/
	Sample Type:	Normal	Normal	Normal/Dup	Normal	Normal	Normal	Normal	Normal	Normal	Normal	N
	Cleanup Goal	**Industrial RSL**										
O (ug/kg)												
	13	**6.2**	**751 M**	<10.4 M	<10.3 M / <10.2 M	<10.6 M	<10.3 M	**2360 M**	**469 M**	**502 M**	<10.4	**6480**	<
/kg)												
	1000	--	100	<10	<10 / <10	<11	<10	790	12	110	<10	180	
	--	--	--	--	--	--	--	10	0.81 F	<1	--	--	
	25000	--	350	<10	<10 / <10	8 F	11	2200	120	600	<10	990	
g/kg)												
	297	**800**	107	4.25	4.09 / 4.77	20.5	4.61	16.4	3.73	9.13	6.35	31.2	
g/kg)												
ne	--	**26**	--	--	--	--	--	0.0071	<0.0061	<0.0059	--	--	
ne	--	**1000**	--	--	--	--	--	0.0027 F	<0.0051	<0.0049	--	--	
	--	**250**	--	--	--	--	--	0.0052	<0.0051	<0.0049	--	--	
	--	**300**	--	--	--	--	--	0.0047 F	<0.0051	<0.0049	--	--	

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	Cleanup Goal	Industrial RSL	Location ID:	7CS13	7CS14	7CS15	7CS16	7CS17	7CS18	7CS19	7CS20	7CS21	
			Depth Interval (ft bgs):	2.0 - 2.5	1.7 - 2.2	0.8 - 1.3	0.7 - 1.2	0.3 - 0.8	0.3 - 0.8	0.9 - 1.4	3.8 - 4.3	2.7 - 3.2	
			Sample Date:	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	1
			Sample Type:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
ead by CAPBO (ug/kg)													
lead	**13**	**6.2**		<10.6	**14.3**	**22.7**	**784**	<10.4	<10.4	<10.7	**42.1**	**3690**	
W8015B (mg/kg)													
	1000	--		<11	5.8 F	7.1 F	72	<10	<10	<11	13	250	
	--	--		--	--	--	--	--	--	--	--	--	
	25000	--		48	76	91	480	22	<10	35	100	1900	
SW6010B (mg/kg)													
	297	**800**		7.32	17.7	7.74	15.8	11	5.52	7.96	13.7	22.3	
SW8260B (mg/kg)													
imethylbenzene	--	**26**		--	--	--	--	--	--	--	--	--	
imethylbenzene	--	**1000**		--	--	--	--	--	--	--	--	--	
ene	--	**250**		--	--	--	--	--	--	--	--	--	
e	--	**300**		--	--	--	--	--	--	--	--	--	

FORMER MARCH AFB, CALIFORNIA
(3 of 5)

	Location ID:	7CS23	7CS24	7CS25	7CS26	7CS27	7CS28	7CS29	7CS30	7CS31	7C
	Depth Interval (ft bgs):	0.7 - 1.2	0.4 - 0.9	2.0 - 2.5	3.6 - 4.1	3.2 - 3.7	0.4 - 0.9	0.7 - 1.2	1.5 - 2	3.7 - 4.2	4.4
	Sample Date:	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/1
	Sample Type:	Normal/Dup	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal/Dup	No
	Cleanup Goal / **Industrial RSL**										
APBO (ug/kg)											
	13 / **6.2**	**18.9 J / 166 J**	<10.4	<10.9	<11.2	**14.2**	**6860**	<10.3	**6.51 F**	<11.2 / <11.3	**1**
(mg/kg)											
	1000 / --	6.6 F / 11	<10	<11	<11	<11	**1200**	<10	<11	<11 / <11	
	-- / --	--	--	--	--	--	--	--	--	--	
	25000 / --	93 / 150	6.3 F	<11	13	19	5600	<10	28	<11 / <11	1
B (mg/kg)											
	297 / **800**	41.8 J / 59.7 J	34.5	7.08	5.38	4.81	168	8.48	8.28	5.21 / 4.65	6
(mg/kg)											
enzene	-- / **26**	--	--	--	--	--	--	--	--	--	
enzene	-- / **1000**	--	--	--	--	--	--	--	--	--	
	-- / **250**	--	--	--	--	--	--	--	--	--	
	-- / **300**	--	--	--	--	--	--	--	--	--	

FORMER MARCH AFB, CALIFORNIA
(4 of 5)

	Location ID:	7CS34	7CS35	7CS36	7CS37	7CS38	7CS39	7CS40	7CS41	7CS42	7CS43	
	Depth Interval (ft bgs):	0.7 - 1.2	1.0 - 1.5	0.6 - 1.1	1.1 - 1.6	1.3 - 1.8	1.1 - 1.6	1.3 - 1.8	1.0 - 1.5	2.1 - 2.6	1.2 - 1.7	
	Sample Date:	10/10/2012	10/10/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	1
	Sample Type:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
	Cleanup Goal / Industrial RSL											
BO (ug/kg)												
	13 / 6.2	**66.6**	**1220**	**27.9 M**	**65.3 M**	**4420 M**	<10.5 M	<10.3 M	**342 M**	**725 M**	**7.08 M**	
g/kg)												
	1000 / --	30	67	<10	<11	860	<11	<10	41	23	8.3 F	
	-- / --	--	--	--	--	--	--	--	--	--	--	
	25000 / --	170	420	41	34	2900	42	<10	470	230	100	
ng/kg)												
	297 / 800	16.8	82.8	20.3	16.4	85.3	44.3	4.76	21.2	17.7	12	
g/kg)												
ene	-- / **26**	--	--	--	--	--	--	--	--	--	--	
ene	-- / **1000**	--	--	--	--	--	--	--	--	--	--	
	-- / **250**	--	--	--	--	--	--	--	--	--	--	
	-- / **300**	--	--	--	--	--	--	--	--	--	--	

FORMER MARCH AFB, CALIFORNIA
(5 of 5)

		Location ID:	7CS46	7CS47	7CS48	7CS49	7CS50	7CS51	7CS52	7CS53	7CS54	7
		Depth Interval (ft bgs):	0.9 - 1.4	1.2 - 1.7	1.2 - 1.7	1.1 - 1.6	0.7 - 1.2	0.3 - 0.8	0.3 - 0.8	1.0 - 1.5	0.6 - 1.1	0.
		Sample Date:	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/
		Sample Type:	Normal	Normal	Normal	Normal/Dup	Normal	Normal	Normal	Normal	Normal	Nor
	Cleanup Goal	**Industrial RSL**										
PBO (ug/kg)												
	13	**6.2**	**4570 M**	<10.7 M	<10.4 M	<10.5 M / <10.5 M	**9.92 M**	<10.8 M	**60.7 M**	<10.7 M	<10.7 M	<10.
mg/kg)												
	1000	--	95	<11	<10	<11 / <11	<11	<11	<11	<11	<11	<1
	--	--	--	--	--	--	--	--	--	--	--	
	25000	--	650	<11	<10	<11 / <11	6.3 F	<11	19	5.8 F	6.1 F	<1
(mg/kg)												
	297	**800**	74.6	6.09	4	5.78 / 5.78	8.3	5.55	25.9	6.41	5.61	4.8
mg/kg)												
zene	--	**26**	--	--	--	--	--	--	--	--	--	
zene	--	**1000**	--	--	--	--	--	--	--	--	--	
	--	**250**	--	--	--	--	--	--	--	--	--	
	--	**300**	--	--	--	--	--	--	--	--	--	

Notes:
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
RSL = USEPA Region 9 Regional Screening Level

Qualifiers:
F = The analyte was positively identified, but
the quantitationis below the reporting limit.
J - Numerical value is an estimated quantity
M - Matrix interference

Formatted Chemical Concentrations:
Bold = Detected result greater than cleanup goal (MWH, 2013)
ND = Not detected
< = analyte not detected at detection limit shown
-- = not analyzed

TABLE 4-2

ORGANIC LEAD SPECIATION RESULTS, OCTOBER 2012 EXCAVATION
SITE FT007
FORMER MARCH AFB, CALIFORNIA
(1 of 1)

Location ID:	**7CS01**	**7CS06**	**7CS10**	**7CS21**	**7CS28**	**7CS33**	**7CS38**	**7CS46**
Depth Interval (ft bgs):	0 - 0.5	7.8 - 8.3	1.7 - 2.2	2.7 - 3.2	0.4 - 0.9	0.5 - 1	1.3 - 1.8	0.9 - 1.4
Sample Date	10/9/2012	10/9/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/11/2012	10/11/2012
Sample Type:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Organic Lead Speciation (ug/kg)								
Total Organic Lead (ICP-MS)	**9**	**10**	**49**	**21**	**52**	**64**	**37**	**21**
Tetraethyl Lead (RP-ICP-MS)	< 3	< 3	< 3	< 3	< 3	< 3	**3**	< 3
Tetramethyl Lead (RP-ICP-MS)	**21**	< 14	< 14	< 14	< 14	< 14	**16**	< 14
Triethyl Lead (IC-ICP-MS)	< 9	< 9	< 9	< 9	< 9	< 9	< 9	< 9
Trimethyl Lead (IC-ICP-MS)	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8

Speciation Methods:
ICP = Inductively Coupled Plasma
MS = Mass Spectrometry
RP = Reverse Phase
IC = Ion Chromatography

Units:
ug/kg = micrograms per kilogram

Formatted Chemical Concentrations:
Bold = Detected Result
< = analyte not detected at detection limit shown

lead was detected in one sample (7CS38) at a concentration of 3 µg/kg. Tetramethyl lead was detected in samples 7CS01 and 7CS38 at concentrations of 21 µg/kg and 16 µg/kg, respectively.

4.2 SEPTEMBER 2013 ANALYTICAL RESULTS

Based on the October 2012 confirmation sample results, additional excavation and confirmation sampling were required to meet project objectives. The analytical results for the confirmation samples from the September 2013 excavation are presented in Tables 4-3 and 4-4. Sample locations from the September 2013 excavation are indicated on Figure 3-4.

Total lead and TPH-mo were the only analytes detected in the 23 confirmation samples. Lead was detected in all of the confirmation samples with a maximum concentration of 22.8 mg/kg at 7CS57 (located outside the excavation area), below the cleanup goal. TPH-mo was detected in six confirmation samples with a maximum concentration of 26 mg/kg at 7CS60, below the cleanup goal.

Based on these results from the base of the excavations, it was determined that no further excavation was necessary and the site could be backfilled with clean imported fill.

FORMER MARKET APD, CALIFORNIA
(1 of 2)

	Location ID:	7CS57	7CS58	7CS59	7CS60	7CS61	7CS62	7CS63	7CS64	7CS65	7C
	Depth Interval:	0 - 0.5	0 - 0.5	6 - 6.5	4 - 4.5	4 - 4.5	6 - 6.5	6 - 6.5	10 - 10.5	4 - 4.5	4 -
	Sample Date:	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12
	Sample Type:	Normal	Normal/Dup	Normal	Normal	Normal	Normal	Normal	Normal	Normal	No
	Cleanup Goal	**Industrial RSL**	**Residential RSL**								
g/kg)											
	13	**6.2**	**0.61**	<10.2 M	<10.1 M / <10.1 M	<10.7 M	<20.5 M*	<10.5 M	<10.7 M	<10.6 M	<11.3 M	<10.6 M	<20
y CAPBO (ug/L)											
11)	--	--	--	<5	<5 / <5	<5	<5	<5	<5	<5	<5	<5	
	--	--	--	<5	<5 / <5	<5	<5	<5	<5	<5	<5	<5	
	1000	--	--	<10	<10 / <10	<11	<10	<10	<11	<11	<11	<11	<
	25000	--	--	20	<10 / <10	<11	26	<10	<11	<11	<11	<11	
)													
	297	**800**	**400**	22.8	4.99 / 5.24	5.32	5.76	4.39	5.06	4.89	5.21	5.32	3

FORMER MARKET APD, CALIFORNIA
(2 of 2)

	Cleanup Goal	Industrial RSL	Residential RSL	7CS69	7CS70	7CS71	7CS72	7CS73	7CS74	7CS75	7CS76	7CS
Location ID:				**7CS69**	**7CS70**	**7CS71**	**7CS72**	**7CS73**	**7CS74**	**7CS75**	**7CS76**	**7CS**
Depth Interval:				4 - 4.5	10 - 10.5	6 - 6.5	10 - 10.5	10 - 10.5	4 - 4.5	4 - 4.5	6 - 6.5	6 -
Sample Date:				9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/
Sample Type:				Normal/Dup	Normal	Normal	Normal	Normal	Normal/Dup	Normal	Normal	Nor
ug/kg)												
	13	**6.2**	**0.61**	<10.4 M / <10.3 M	<10.8 M	<10.5 M	<11.2 M	<11.3 M	<10.4 M / <10.4 M	<10.5 M	<10.3 M	<10
y CAPBO (ug/L)												
311)	--	--	--	<5 / <5	<5	<5	<5	<5	<5 / <5	<5	<5	<
)	--	--	--	<5 / <5	<5	<5	<5	<5	<5 / <5	<5	<5	<
	1000	--	--	<10 / <10	<11	<11	<11	<11	<10 / <10	<11	<10	<
	25000	--	--	13 / 17	<11	13	<11	<11	<10 / <10	<11	<10	<
g)												
	297	**800**	**400**	5.43 / 5.73	4.4	4.87	5.4	7.91	4.29 / 4.17	4.43	1.56 F	3.

Units:
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
ug/L = micrograms per Liter
RSL = USEPA Region 9 Regional Screening Level

Formatted Chemical Concentrations:
Bold = Detected result greater than the cleanup goal
< = analyte not detected at detection limit shown

Qualifiers:
F = The analyte was positively identified, but the quantitationis below the reporting limit.
M = A matrix effect was present.
* = Reporting limit raised due to a matrix effect, but method detection limit was 10.2 ug/kg

TABLE 4-4

ORGANIC LEAD SPECIATION RESULTS, SEPTEMBER 2013 EXCAVATION
SITE FT007
FORMER MARCH AFB, CALIFORNIA
(1 of 1)

Location ID:	7CS57	7CS58	7CS64	7CS67	7CS70	7CS72	7CS73	7CS78
Depth Interval (ft bgs):	0 - 0.5	0 - 0.5	10 - 10.5	10 - 10.5	10 - 10.5	10 - 10.5	10 - 10.5	10 - 10.5
Sample Date	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013
Sample Type:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Organic Lead Speciation (ug/kg)								
Total Organic Lead (ICP-MS)	**0.19**	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
Tetraethyl Lead (RP-ICP-MS)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetramethyl Lead (RP-ICP-MS)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Triethyl Lead (IC-ICP-MS)	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3
Trimethyl Lead (IC-ICP-MS)	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1

Speciation Methods:
ICP = Inductively Coupled Plasma
MS = Mass Spectrometry
RP = Reverse Phase
IC = Ion Chromatography

Units:
ug/kg = micrograms per kilogram

Formatted Chemical Concentrations:
Bold = Detected Result
< = analyte not detected at detection limit shown

5.0 SUMMARY AND CONCLUSIONS

In October 2012 and September 2013, approximately 970 bank cubic yards (1,620 tons) of soil was excavated from the lead- and petroleum-related surface at Site FT007. Soil was excavated to approximately 2 feet bgs in October 2012, except where a previously unidentified disposal area was excavated to approximately 7 feet bgs. Confirmation samples collected from the October 2012 indicated that concentrations exceeding the cleanup goals for organic lead and TPH-d. Based on these confirmation samples, an additional excavation was conducted in September 2013 to remove concentrations exceeding the cleanup goals. Confirmation samples collected from the September 2013 excavation floor indicated that detected concentrations of total lead and TPH-mo were below the industrial- or commercial-based cleanup goals. Organic lead was not detected in the confirmation samples from September 2013 and the STLC and TCLP results indicated that organic lead does not pose a threat to groundwater at this site. Petroleum site closure will be recommended following completion of the soil vapor extraction (SVE) activities described in the 2013 CAP Addendum (MWH, 2013) to address benzene concentrations in soil vapor at the south end of Site FT007.

Following both excavations, the excavated soil was transported off site and disposed of at appropriate waste facilities. In October 2013, after receipt of the confirmation sample results, the excavation was backfilled with clean imported fill and the surface was restored to surrounding conditions and reseeded.

Based on these activities, the corrective action for the lead and petroleum site at Site FT007 is considered complete. Note that concentrations within the footprint of Site FT007 SVE system addressing solvent and petroleum contamination in soil north of the petroleum and lead excavation, are being addressed under a separate remediation project. Petroleum-impacted surficial soils are known to be present close to and beneath the SVE system, and these soils may require excavation following completion of SVE activities described in the *Pilot Study and Soil Vapor Extraction Implementation Report* (MWH, 2011).

6.0 REFERENCES

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Earth Tech, 1994. Installation Restoration Program Remedial Investigation/Feasibility Study Report for Operable Unit 1, March AFB, California. July. AR No. 1217, 1218.

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Engineering Science, 1988. Installation Restoration Program Phase II – Confirmation Quantification Stage 2. June. AR No. 15, 16, 17, 18.

MWH, 2006. Final Preliminary Assessment and Site Inspection Work Plan, Area of Concern 48, Former March AFB, California. December.

MWH, 2008. Draft Soil and Groundwater Investigation Report, Site 7 (Area of Concern 48), Former March Air Force Base, California. September.

MWH, 2010. 2010 Revised Quality Program Plan for Long-Term Groundwater Monitoring and Operation, Maintenance, and Monitoring Programs, March Air Reserve Base, California. May.

MWH, 2011. Pilot Study and Soil Vapor Extraction Implementation Report, Site FT007, Operable Unit 1, Former March Air Force Base, California. June.

MWH, 2012. Final Corrective Action Plan for Surficial Soils Impacted by Lead and Petroleum Material, Site FT007, Operable Unit 1, Former March Air Force Base, California. January.

MWH, 2013. Final Corrective Action Plan Addendum for Petroleum-Impacted Soil, Site FT007, Former March Air Force Base, California. September.

USEPA, 2013. Regional Screening Level. November 2013.
http://www.epa.gov/region9/superfund/prg/

APPENDIX A

DAILY QUALITY CONTROL REPORTS AND SITE PHOTOS

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	01	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	08 October 2012				x				
Project Name:	Site FT007 Soil Removal	Weather:	AM Fog / PM Clear			Temperature:		61 - 79	
Project No:	FA8903-08-D-8777 Task Order 0131	Wind:	AM 3-4 mph from SE PM 2-6mph from NE			Humidity:		high	
Project Manager:	Dean Rusciolelli	Start Time:	0700 am			Finish Time:		4:00pm	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	10
March ARB Site FT007 Soil Removal	MWH Americas		1	9
March ARB Site FT007 Soil Removal	BTI / B&D	Contractor	4	26

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	45
Total Hours Worked On-Site Prior to Today	0
Total Hours Worked On-Site	45

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report) HTBI's JSA's	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit) *Shallow excavation less than 2 feet deep*	●	
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
Cat 980F Loader	*1*		●

Cat 330B Excavator	*1*		●
4,000 gallon water truck	*1*		●
Porta John and hand was station	*1*		

MATERIALS RECEIVED

Description	No.	Vendor
No items noted		

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			BTI/B&D	Jensen	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

Crew marking out FT007 excavation area, looking south from the NW corner of the excavation area

Site FT007 grubbed, looking south from the NW corner of the excavation area

Dust Trak II dust monitor located down wind, looking south from 7MP02

Excavating Site FT007 with dust control, looking NW from stockpile location

Excavating Site FT-007, looking South with 7MP03 and OU1MW-21 in the for ground

SUMMARY OF WORK COMPLETED

Description (List in Detail)

I opened up the site at 0630 and the water truck was delivered on a low boy transport. The crew BTI / D&B mobilized crew and equipment to the site this morning and we held our site kick off meeting and the H&S orientation. The Safe start Orientation was followed by Lead hazard Awareness training, review of the H&S plan, AHA's and the MSDS, personal protective equipment, emergency response and procedures, location of first aid and fire protection equipment, reporting near misses and incidents, Hazcom and Injury Illness prevention program, Improve it cards, security requirements and the air monitoring program. Safety inspections were performed on the equipment.

We then walked the site, laid out the staging areas and work area to be excavated. I calibrated the air monitoring equipment and obtained back ground readings and set up the Dust Trak II base downwind of the work area. The work site was grubbed of the tumble weeds and then we completed laying out the excavation boundaries. The crew used the loader and excavator to excavate down about 8 inches while using the water truck for dust suppression. Dust levels were monitored with a hand held Data ram around the equipment and down wind dust monitoring was monitored with the dust trak II base station. Numerous readings were recorded through the day and all levels were way below the action level of 2.5 mg/m3. The crew excavated over half the site today removing the tar / oil impacted surface soil and stockpiled the soil on heavy plastic sheeting and then covered the stockpile at the end of the day. The estimated stock pile volume was measured at 240 cubic yards. Air monitoring reviled a PID high of 1.8 on the soil. Breathing zone was less than 0.3 ppm.

Dust monitoring heist level recorded with Data ram next to loader without water was 1.45 for a few seconds of no water suppression to see max concentrations. Average readings were below 0.075 mg/m3. The downwind Dust Trak II base monitor had a max of 0.671 mg/m3, Average of 0.211 mg/m3 and the TWA was 0.127 mg/m3 all way below the action levels. The equipment, stock pile and site were secured for the night.

Tomorrow, Tuesday we will continue excavating and stockpiling the soil.

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.
No items noted

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	01	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	09 October 2012					x			
Project Name:	Site FT007 Soil Removal	Weather:	AM Fog / PM Clear			Temperature:		61 - 79	
Project No:	FA8903-08-D-8777 Task Order 0131	Wind:	AM 3-4 mph from SE PM 3-8 mph from NW			Humidity:		high	
Project Manager:	Dean Rusciolelli	Start Time:	0700 am			Finish Time:		4:00pm	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	9
March ARB Site FT007 Soil Removal	MWH Americas		1	9
March ARB Site FT007 Soil Removal	BTI / B&D	Contractor	3	27

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	45
Total Hours Worked On-Site Prior to Today	45
Total Hours Worked On-Site	90

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report) HTBI's JSA's	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit) *Shallow excavation*	●	
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
Cat 980F Loader	*1*		●

Cat 330B Excavator	*1*		●
4,000 gallon water truck	*1*		●
Porta John and hand was station	*1*		

MATERIALS RECEIVED

Description	No.	Vendor
No items noted		

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			BTI/B&D	Jensen	Yes	
Verify boundaries of excavation	Figure 7-1			Weston/Vargs	Yes	
Verify stockpile quantity not exceeding estimated volume of 563.				Weston	Yes est 518 yds	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

Excavating Site FT007 area, looking North from the South

Located hot spot of grayish soil with low PID reading average around 15 to 20 ppm

Excavating and removing gray soils down to brown soil with very low odor levels.

Observed grouted up soil boring penetrating gray soil

Looking South along East side of excavation with OU1MW21 in the foreground

Looking South along West side of excavation with 7SVE02 in the foreground

Hot spot area excavated out to brown soil, gray soil max depth observed was 6 feet

Stock pile approx. 8x25x70 feet = 518 cu yards, covered and secured awaiting analytical results

SUMMARY OF WORK COMPLETED

Description (List in Detail)

I opened up the site at 0645 and we held our H&S meeting and performed the equipment inspections and set up the monitoring equipment. Fog and cool moist weather help keep dust to a minimum. Again this morning the slight breeze is from the SE so the Dust Trak II was set up on the NW side of the work site. The crew continued to excavate with the loader and the excavator working their way to the south end of the excavation. Then we walked the site again to locate find any remaining dark soil staining. The excavator was used to remove a few spots and then they located some grayish soil with a slight to moderate petroleum odor. PID in breathing zone was a high of 0.2ppm. The excavator removed the gray soil down to a depth of 6 feet at the north end and 3 feet at the south end of the deeper excavation area. We went an extra foot to make sure we were out of the material and then we obtained 3 bottom soil samples. The excavation was about 6 to 10 feet wide and spans about 55 feet long running north south starting at a location approximately 112 feet south of 7SVE02. The edges of the excavation were sloped and the crew will receive the fencing in the morning to secure the area. The last of the soils were loaded onto the stockpile and the stockpile was secured with heavy Polly sheeting. The stock pile was measured at approximately 8 x 25 x 70 feet for a total of approximately 518 cubic yards. The data ram dust monitor had a high level of 0.352 mg/m3 by the loader and the Dust Trak II had a max of 0.292 mg/m3, Average = 0.205 with a TWA of 0.038mg/m3.

The equipment, stock pile and site were secured for the night.

Tomorrow, Wednesday we will grid out the excavation area and start the confirmation sampling and stockpile sampling. The chain link fencing will be delivered and set up around the deeper excavation area.

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.
No items noted The extra depth will not affect the Sub pricing and we are within the projected volume to be off hauled.

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	03	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	10 October 2012						x		
Project Name:	Site FT007 Soil Removal	Weather:	AM Fog / PM Clear			Temperature:		57-83	
Project No:	FA8903-08-D-8777 Task Order 0131	Wind:	AM 3-4 mph from SE PM 3-5 mph from NW			Humidity:		high	
Project Manager:	Dean Rusciolelli	Start Time:	0700 am			Finish Time:		4:30pm	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	9
March ARB Site FT007 Soil Removal	MWH Americas		1	8
March ARB Site FT007 Soil Removal	BTI / B&D/ United Fence	Contractor	3	8

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	25
Total Hours Worked On-Site Prior to Today	90
Total Hours Worked On-Site	115

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report) HTBI's JSA's	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit) *Shallow excavation*		●
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
Cat 980F Loader	*1*	●	

Cat 330B Excavator	*1*	●	
4,000 gallon water truck	*1*	●	
Porta John and hand was station	*1*		

MATERIALS RECEIVED

Description	No.	Vendor
United Temporary Fence Panels to secure the excavation		*United*

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			BTI/B&D	Jensen	Yes	
Verify boundaries of excavation	Figure 7-1			Weston/Vargs	Yes	
Verify stockpile quantity not exceeding estimated volume of 563.				Weston	Yes est 518 yds	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

Composited stock pile soil sample collected and delivered to lab with ½ the excavation confirmation samples

SW area looking North at the secured deeper excavation using the chain linked fence


NW area looking South at the secured deeper excavation using the chain linked fence


Looking South from 7SVE02 with measuring tape used to grid out site for confirmation sampling

SUMMARY OF WORK COMPLETED

Description (List in Detail)
I opened up the site at 0645 and we held our H&S meeting for today's work.
We collected the composite stock pile sample from 8 different locations in the approximately 518 cubic yard stock pile.
Ivan and I set up and marked out the sample grid for the excavation confirmation soil sampling. The 20 foot grid pattern was set up with a north anchor point at 21 feet south of 7SVE02. BTI had a crew set up the chain link fence panels around the deeper excavation for site security. The panels were set on base plates and metal clips bolted the tops together. We started collecting the excavation confirmation samples by collecting at least one sample at a random location in each 20 foot grid. We used a hand auger to bore down and collect a soil sample into a glass jar with the appropriate label and chain of custody documentation. The samples were packaged and delivered on ice to the lab. We collected approximately half of the excavation confirmation samples today before Ivan had to depart to make it to the lab before closing with the stock pile composite sample.
The BTI / B&D crew demobed today and will return to off haul the soil and backfill the excavation when we have the analytical information and stock pile profiled to the correct disposal facility.

The equipment, stock pile and site were secured for the night.

With the morning fog, and moist soil conditions, no visible dust was generated on site today.

Tomorrow, Thursday we will complete collecting the excavation confirmation sampling and the survey crew will survey in the sampling location and the boundaries of the excavation.

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.
No items noted The extra depth will not affect the Sub pricing and we are within the projected volume to be off hauled.

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	04	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	11 October 2012							x	
Project Name:	Site FT007 Soil Removal	Weather:	Rain / scattered clouds			Temperature:		57-74	
Project No:	FA8903-08-D-8777 Task Order 0131	Wind:	AM 3-4 mph from NW PM 3-5 mph from NW			Humidity:		high	
Project Manager:	Dean Rusciolelli	Start Time:	0700 am			Finish Time:		4:30pm	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	9
March ARB Site FT007 Soil Removal	MWH Americas		1	8
March ARB Site FT007 Soil Removal	BTI / B&D/ United Fence	Contractor	0	0
March ARB Site FT007 Soil Removal	CalVeda Survey	CalVeda Survey	2	5

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	22
Total Hours Worked On-Site Prior to Today	115
Total Hours Worked On-Site	137

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report) HTBI's JSA's	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit) *Shallow excavation*		●
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*

Cat 980F Loader	*1*	●	
Cat 330B Excavator	*1*	●	
4,000 gallon water truck	*1*	●	
Porta John and hand was station	*1*		

MATERIALS RECEIVED

Description	No.	Vendor
No items noted		

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			BTI/B&D	Jensen	Yes	
Verify boundaries of excavation	Figure 7-1			Weston/Vargs	Yes	
Verify stockpile quantity not exceeding estimated volume of 563.				Weston	Yes est 518 yds	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

Surveyed sample location with sample Location description ID

Looking South at the deeper excavation area secured using the chain linked fence

NE corner by OU1MW21 looking South at sampled excavated area

CalVeda Northern control pin location looking West

CalVeda Southern control pin location looking North onto the site from entrance gate

SUMMARY OF WORK COMPLETED

Description (List in Detail)
I opened up the site at 0700 and we held our H&S meeting for today's work.
We continued to collected the excavation confirmation samples by auguring down with in each of the 20 foot grids. We collected additional side wall samples from the deeper excavation by hand auguring down to the correct depth and obtaining the sample. All sample locations were marked with sample ID flagging.
Calveda Surveying located their hard point survey hubs and they used the conventional surveying equipment (not GPS) to survey in the sample locations and the boundaries of the excavation. CalVedas northern hub is located up near the entrance to the SVE system and the southern hub is located in the asphalt by the site entrance gate, see photos above. The surveyors obtained surface elevations around the outside of the main excavation and surveyed locations along the edges of the main excavation. The crew also surveyed in the deeper excavation location. All surveyed sample locations were identified using the sampled ID marked on the sample flagging.
All planned confirmation samples were collected, packaged, and delivered to the lab. I bolted the gate panel closed on the chain link fence. I tightened the stock pile covering and added additional weights to better secure the stock pile while we are off site awaiting analytical data and profiling paperwork for stock pile removal.
.
The loader was demobed to another project site.

The equipment (water truck and excavator), stock pile and site were secured for the night.

With the morning fog, rain, and moist soil conditions, no visible dust was generated on site today.

We expect to return to the site in 2 to 3 weeks to off haul the soil; backfill, and hydro seed the site completing site restoration activities.

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.
No items noted The extra depth will not affect the Sub pricing and we are within the projected volume to be off hauled.

MWH

MWH SAFE START

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	05	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	09 January 2013						x		
Project Name:	Site FT007 Soil Removal	Weather:	Clear			Temperature:		40-58	
Project No:	FA8903-08-D-8777 Task Order 0131	Wind:	AM 2 mph from NW PM 3 mph from NW			Humidity:		low	
Project Manager:	Dean Rusciolelli	Start Time:	0630 am			Finish Time:		3 pm	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	8
March ARB Site FT007 Soil Removal	MWH Americas			
March ARB Site FT007 Soil Removal	BTI / B&D	Contractor	4	24

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	32
Total Hours Worked On-Site Prior to Today	137
Total Hours Worked On-Site	169

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report)	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit) *Shallow excavation*		●
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
Cat 950G Loader	*1*		●
2,000 gallon water truck	*1*		●
Porta John and hand was station	*1*		●

MATERIALS RECEIVED

Description	No.	Vendor
No items noted		

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			BTI/B&D	Jensen	Yes	
Dust Control			BTI / B&D	Weston	Yes	
Verify stockpile quantity not exceeding estimated volume of 563.			BTI / B&D	Weston	Yes est 518 yds	
Verified trucks were fully loaded and tarped prior to departing the site			BTI/B&D	Weston	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

Uncover stockpile

Wet down stockpile and haul routes

Directing truck traffic for one way loop safe truck and equipment movement

Loading trucks out

Loading truck out.

All loads tarped before moving off site

MWH

SAFE START

SUMMARY OF WORK COMPLETED

Description (List in Detail)

I opened up the site at 0625 and we held our H&S meeting for today's work of off hauling soil with Larry Poteet, Brad Vernaci, Adam Carr and Don Jensen. BTI has 13 trucks scheduled for today hauling Non-Hazardous to Simi Valley Landfill 2801 N Madera Road, Simi Valley, Ca. 93065. 805-579-7267.

The equipment was delivered (950G Cat loader and the 2K water truck). Inspections were performed on the equipment and both units were in good shape with all safety features functioning. The stock pile was uncovered and the water truck was filled form the hydrant with the city meter and the backflow preventer unit. The first trucks arrived at 0750. The trucking company is West Coast Sand & gravel operating truck and trailer transfer rigs.

The trucks can haul about 18 cubic yards total. This is the quantity shown on the manifest.

The truck numbers in order of arrival and departure were 74, 898, 91, 1403, 82, 989, 1319, 1400, 20, 23, 774, 985, and 43.

BTI manifests were 0001 through 0012 and number 0025 for the 13 loads. All loads were full loads at approximately 18 cubic yards and at about trucks max weight limits based on the air psi gauges on each rig. All loads were tarped prior to departing the site.

We have removed approximately ½ of the stock pile and we have ordered 14 trucks for tomorrow. BTI had Jerry Bingham sign 25 manifest and they brought them to the site with an additional 10 unsigned manifest. This is very close; BTI should have had Jerry sign all the manifest. Calvin Cox arrived on site today around 0900 and stayed until the last truck left in the afternoon. Calvin talked with Jerry and if needed Calvin can sign a few more manifests for Jerry tomorrow.

The stock pile was recovered and the water truck was used to wet down the site creating a dirt crust to eliminated dust. We secured the site and departed about 3pm.

The equipment (water truck and loader), stock pile, and site were secured for the night.

With use of the water truck, no visible dust was generated on site today.

We expect to off haul the remaining stockpiled soil tomorrow and demob from the site.

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.

No items noted .

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	06	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	10 January 2013							x	
Project Name:	Site FT007 Soil Removal	Weather:	Rain			Temperature:		32-47	
Project No:	FA8903-08-D-8777 Task Order 0131	Wind:	AM 4 mph from W PM 3-5 mph from W			Humidity:		mod	
Project Manager:	Dean Rusciolelli	Start Time:	0630 am			Finish Time:		2:30pm	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	8
March ARB Site FT007 Soil Removal	MWH Americas			
March ARB Site FT007 Soil Removal	BTI / B&D/ United Fence	Contractor	2	16

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	24
Total Hours Worked On-Site Prior to Today	169
Total Hours Worked On-Site	193

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report)	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit) *Shallow excavation*		●
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
Cat 950G Loader	*1*		●
2,000 gallon water truck	*1*		●
Porta John and hand was station	*1*		●

MATERIALS RECEIVED

Description	No.	Vendor
No items noted		

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			BTI/B&D	Jensen	Yes	
Dust Control			BTI / B&D	Weston	Yes	
Verify stockpile quantity not exceeding estimated volume of 563.			BTI / B&D	Weston	Yes est 518 yds	
Verified trucks were fully loaded and tarped prior to departing the site			BTI/B&D	Weston	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

First truck ready to load out.

Manifesting and tarping the last 2 truckloads.

Stockpile loaded out and area cleaned up.

Wet site down to create a dirt crust to help prevent dust and to enhance grass growth

SUMMARY OF WORK COMPLETED

Description (List in Detail)

I opened up the site at 0630 and we held our H&S meeting for today's work of off hauling soil with Larry Poteet and Don Jensen. BTI has 14 trucks scheduled for today (this may be increased to get all soil off today) hauling Non-Hazardous to Simi Valley Landfill 2801 N Madera Road, Simi Valley, Ca. 93065. 805-579-7267.

Inspections were performed on the equipment and both units were in good shape with all safety features functioning. The stock pile was uncovered and the water truck was filled form the hydrant with the city meter and the backflow preventer unit. The first trucks arrived at 0705. The trucking company is West Coast Sand & gravel operating truck and trailer transfer rigs. The trucks can haul about 18 cubic yards total. This is the quantity shown on the manifest. The first truck was a BTI semi end dump number 007.

The transfer truck numbers in order of arrival and departure were 31,992, 88, 898, 775, 91, 1400, 991, 990, 14, 909, 989, 23, 774, 20. Then 2 more BTI Semi end dumps were called in to complete the off haul. Trucks 03 and 501 were the last trucks for a total of 18 trucks today combined with yesterday's 13 loads = a combined total of 31 truckloads. 31 truckloads at a conservative 17 cubic yards per truck would = 527 cubic yards. At about a max of 18 cubic yards per truck we would have off hauled 558 cubic yards so I expect approximately 550 cubic yards were off hauled. We will obtain the landfill weight tickets next week to confirm tonnage shipped off site to the landfill. All plastic used to underlay and cover the stockpile was picked up and off hauled. We also loaded out the tumble weeds and grass grubbed from the site leaving the site clean and free of debris. We found some more tar soil just south of our work area and we were able to load two more loader buckets into the last clean up truck for a full truck load.

The water truck sprayed down the work area again to create a crust to eliminate dust and to enhance grass growth. Calvin signed 6 of the manifest for the total 31 loads off hauled. Calvin was pleased with how clean the site was and we also used the loader to slope the edge of the perimeter excavation area to help reduce sharp edges or drop offs on the site.

Tomorrow United fence rental will come in and remove the fencing around the deeper excavated area, the equipment, porta john and hand wash station will be removed and the water meter will be removed. We will restate and caution tape off the deeper excavation which is about 2.5 to 3 feet deep and sloped and we will secure the site and demob form the project.

We secured the site and departed about 3pm.

The equipment (water truck and loader), and site were secured for the night.

With use of the water truck and the rain, no visible dust was generated on site today.

We expect to demob from the site tomorrow.

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.

No items noted.

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	07	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	11 January 2013								x
Project Name:	Site FT007 Soil Removal	Weather:	Clear			Temperature:		32-45	
Project No:	FA8903-08-D-8777 Task Order 0131	Wind:	AM 1-3 mph from W			Humidity:		mod	
Project Manager:	Dean Rusciolelli	Start Time:	0630 am			Finish Time:		10:30am	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	4
March ARB Site FT007 Soil Removal	MWH Americas			
March ARB Site FT007 Soil Removal	BTI / B&D/ United Fence	Contractor	1	4

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	8
Total Hours Worked On-Site Prior to Today	193
Total Hours Worked On-Site	201

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report)	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit) *Shallow excavation*		●
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*

Cat 950G Loader	*1*		●
2,000 gallon water truck	*1*		●
Porta John and hand was station	*1*		●

MATERIALS RECEIVED

Description	No.	Vendor
No items noted		

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			BTI/B&D	Jensen	Yes	
Dust Control			BTI / B&D	Weston	Yes	
Street entrance to site was washed down removing any sediment tracked off by loaded trucks. Area was left clean.			BTI / B&D	Weston	Yes	
Site was cleaned and gate locked for demob.			MWHC	Weston	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

From SE corner of site looking North where stockpile was located at clean site.

From SE Corner of site looking West along southern end of project excavation area showing clean site

Looking south at the deeper excavation caution taped off

Street entrance cleaned, looking north

Water meter and backflow preventer ready for pickup by agencies, located about 300yd south of site

SUMMARY OF WORK COMPLETED

Description (List in Detail)
I opened up the site at 0630 and we held our H&S meeting for today's work of demobing equipment and fencing and securing the deeper excavation area..
United Fence company had a 2 man crew come in and loaded out the fence panels around the deeper excavated area. This are is about 2 to 3 feet deeper than the surrounding area with sloped sides. I drove in stakes and secured the area with caution tape. United rentals had another truck come in and pick up the Porta John and the hand wash station. The street entrance was washed down and left clean and cleaner than when we arrived.
Heavy Equipment Rentals came in and loaded out the water truck on one low boy and the loader on another low boy.
BTI disassembled the backflow meter (owned by one company) from the city water meter and they are ready for pick up by the city and rental company
The site was left clean with no equipment on site and I secured the gate at 10:45 am demobing from the project.
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POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.
No items noted .

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	08	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	9 September 2013				x				
Project Name:	Site FT007 Soil Removal	Weather:	Clear			Temperature:		70-95	
Project No:	FA8903-08-D-8777, Task/Delivery Order C0153. Job 30500276	Wind:	AM 1-3 mph from NW PM 5-9 mph from NW			Humidity:		mod	
Project Manager:	Dean Rusciolelli	Start Time:	0700 am			Finish Time:		4:30	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	9.5
March ARB Site FT007 Soil Removal	MWH Americas	Project Engineer	1	7.5
March ARB Site FT007 Soil Removal	AIS	Contractor	4	28
March ARB Site FT007 Soil Removal	AIS/Pacific Coast Locators	Utility Locator	1	1

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	46
Total Hours Worked On-Site Prior to Today (The impacted soil excavation and removal efforts 1 & 2)	201
Total Hours Worked On-Site	247

SITE Visitors:

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report)	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit) *Shallow excavation*	●	
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
John Deere 310 Back hoe	*1*		●
Highe psi washer & water tank for dust control	*1*		●
Porta John and hand was station	*1*		●
Chain Link Fencing 26 panels	*1*		●

MATERIALS RECEIVED

Description	No.	Vendor
No items noted		

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			AIS	Sproule	Yes	
Dust Control			AIS	Weston	Yes	
Stock Pile covered and secured. Site and equipment secured for the night			AIS/MWHC	Weston	Yes	
Site was cleaned and gate locked for the night			MWHC	Weston	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

From NE corner of site looking South West at excavation and dust control work

From NE corner of site showing alignment of new electrical line .

SUMMARY OF WORK COMPLETED

Description (List in Detail)

I met with the MWH Project Engineer Marikka Hughes on site at 0650. We opened up the site and inspected the area. Marikka used a hand held GPS and we relocated the previous sample points for our current excavation area. Quite a few of the previous sample points were still visible with the wire flagging in place. The 4 man AIS team arrived at 0800 with their equipment. National delivered the Porta John and hand wash station and the chain link fence panel sections.

We held a project kick off meeting discussing the proposed excavation work and then we held our H&S orientation and tailgate meeting. We used color paint to delineate the excavation areas to match the excavation maps. We marked out all 24 location area and the crew laid out the 10mil plastic sheeting to stockpile the soil on top of. We started excavating from the north end with Location 7CS12. The sandy soil is consolidated like a hard pan so ti was determined that we would need an excavator to help expedite the excavation process. AIS made numerous calls to track down a rental excavator in the area and finally located one that will be delivered mid-morning tomorrow. The crew used the pressure washer to spray down the soil and mist spray down the dust during excavation and transfer of soil to the stockpile area.

Marikka obtained sampling supplies and the sample coolers and containers. By the end of the day the crew had excavated 3 locations, 7CS12, 7CS14, and, 7CS15. We expect faster production with the excavator tomorrow. The excavation area was fenced off with steel fence post and caution tape for the night.

We departed the secured site at 4:30

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POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.

No items noted .

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	09	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	10 September 2013					x			
Project Name:	Site FT007 Soil Removal	Weather:	Clear			Temperature:		70-95	
Project No:	FA8903-08-D-8777, Task/Delivery Order C0153. Job 30500276	Wind:	AM 1-3 mph from NW PM 5-10 mph from NW			Humidity:		mod	
Project MGR	Dean Rusciolelli	Start Time:	0700 am			Finish Time:		5:00	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	10
March ARB Site FT007 Soil Removal	MWH Americas	Project Engineer	0	0
March ARB Site FT007 Soil Removal	AIS	Contractor	3	30
March ARB Site FT007 Soil Removal				

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	40
Total Hours Worked On-Site Prior to Today (The impacted soil excavation and removal efforts1 & 2)	247
Total Hours Worked On-Site	287

SITE Visitors:

Calvin Cox	USAF Representative	Inspecting Project Work
John Lucey	US EPA Representative	Checking Project Status

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report)	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit) *Shallow excavation*	●	
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
John Deere 310 Back hoe	*1*		●
High psi washer & water tank for dust control	*1*		●
Porta John and hand was station	*1*		●
Chain Link Fencing 26 panels	1		●
500 gallon water buffalo	1		●
Kobelco SK 215 SRLC mid-size Excavator	1		●

MATERIALS RECEIVED

Description	No.	Vendor
No items noted		

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			AIS	Banulos/Weeks	Yes	
Dust Control			AIS	Weston	Yes	
Stock Pile covered and secured. Site and equipment secured for the night			AIS/MWHC	Weston	Yes	
Site was cleaned and gate locked for the night			MWHC	Weston	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

Inspecting new Excavator prior to use

Slight gray staining observed. All discolored soil excavated out.

Slight gray staining observed. All discolored soil excavated out.

Excavating & stockpiling soil, using laser to verify depth of excavations

SUMMARY OF WORK COMPLETED

Description (List in Detail)
I met with the 3 man AIS work crew on site at 0650. We discussed todays planned excavation work and held our safety meeting. The crew then inspected their equipment and removed the covering from the stock pile. The crew then continued to excavate using the JD back hoe and excavated 7SC-16 and they used the pressure washer for dust suppression. I obtained my base pass and then 500 gallons of water in the water buffalo. 0850 Trinity delivered the Kobelko excavator. The excavator was inspected and the crew continued to excavate using the excavator for digging and the backhoe to shuttle the soil to the stock pile. The excavator made much better progress digging through the hard pan soils. By the end of the day the crew had excavated 7CS16, 7CS20, 7CS 21, 7CS06, 7CS07, 7CS8A, 7CS37. A couple of yards of soil was removed from 7SC20 and 7SC21 that had grey staining and a slight petroleum odor. The gray staining appeared to be above 8 foot in depth. We removed the soil to 10 foot bgs with no evidence of soil staining or odor on the sidewalls or bottom of the excavation. Another small area of stained soil was observed and removed from the north side of 7CS08A to a depth of 5 foot bgs. The area was excavated to 6 foot as planned and not further staining was observed.

The US Air Force representative, Calvin Cox checked out the excavation work and took photos of work in progress. A US EPA representative, John Lucey also checked out the excavation work and the Site 7 SVE system.

The excavation area was fenced off with steel fence post and caution tape for the night. The stock pile was covered and secured and we departed the secured site at 5:15.

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.
No items noted.

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	10	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	11 September 2013						x		
Project Name:	Site FT007 Soil Removal	Weather:	Clear			Temperature:		70-95	
Project No:	FA8903-08-D-8777, Task/Delivery Order C0153. Job 30500276	Wind:	AM 1-3 mph from NW PM 5-10 mph from NW			Humidity:		mod	
Project MGR	Dean Rusciolelli	Start Time:	0700 am			Finish Time:		5:30	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	10.5
March ARB Site FT007 Soil Removal	MWH Americas	Project Engineer	0	0
March ARB Site FT007 Soil Removal	AIS	Contractor	3	30
March ARB Site FT007 Soil Removal				

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	40.5
Total Hours Worked On-Site Prior to Today (The impacted soil excavation and removal efforts1 & 2)	287
Total Hours Worked On-Site	327.5

SITE Visitors:

Calvin Cox	USAF Representative	Inspecting Project Work

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report)	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit) *Shallow excavation*	●	
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
John Deere 310 Back hoe	*1*		●
High psi washer & water tank for dust control	*1*		●
Porta John and hand was station	*1*		●
Chain Link Fencing 26 panels	1		●
500 gallon water buffalo	1		●
Kobelco SK 215 SRLC mid-size Excavator	1		●

MATERIALS RECEIVED

Description	No.	Vendor
No items noted		

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			AIS	Banulos/Weeks	Yes	
Dust Control			AIS	Weston	Yes	
Stock Pile covered and secured. Site and equipment secured for the night			AIS/MWHC	Weston	Yes	
Site was cleaned and gate locked for the night			MWHC	Weston	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

Dust control during excavation and stockpile work

West side of excavation looking East from deep excavation area

North side of deep excavation area looking South

SUMMARY OF WORK COMPLETED

Description (List in Detail)

I met with the 3 man AIS work crew on site at 0650. We discussed todays planned excavation work and held our safety meeting. The crew then inspected their equipment and removed the covering from the stock pile. We remarked out excavations 22, 28, 27, 32, and 34. The crew then continued to excavate using the excavator and shuttled soil with the JD back hoe. They used the pressure washer for dust suppression. I obtained another 500 gallons of water in the water buffalo. By the end of the day the crew had excavated 7CS23, 7CS22, 7CS 27, 7CS28, 7CS34, 7CS33, 7CS38, 7CS42, 7CS41, 7CS52. The excavations were excavated to their planned depths and no obvious staining was observed.

The US Air Force representative, Calvin Cox checked out the excavation work and took photos of work in progress.

The excavation area was fenced off with steel fence post and caution tape for the night. The stock pile was covered and secured and we departed the secured site at 5:30.

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.

No items noted.

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	11	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	12 September 2013							x	
Project Name:	Site FT007 Soil Removal	Weather:	Clear			Temperature:		70-95	
Project No:	FA8903-08-D-8777, Task/Delivery Order C0153. Job 30500276	Wind:	AM 1-3 mph from NW PM 5-8 mph from NW			Humidity:		mod	
Project MGR	Dean Rusciolelli	Start Time:	0700 am			Finish Time:		5:00	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	10
March ARB Site FT007 Soil Removal	MWH Americas	Project Engineer	0	0
March ARB Site FT007 Soil Removal	AIS	Contractor	3	30
March ARB Site FT007 Soil Removal				

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	40
Total Hours Worked On-Site Prior to Today (The impacted soil excavation and removal efforts1 & 2)	327.5
Total Hours Worked On-Site	367.5

SITE Visitors:

RPM Team Group	RPM Team Group	Checking Project Work

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report)	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit) *Shallow excavation*	●	
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
John Deere 310 Back hoe	*1*		●
High psi washer & water tank for dust control	*1*		●
Porta John and hand was station	*1*		●
Chain Link Fencing 26 panels	1		●
500 gallon water buffalo	1		●
Kobelco SK 215 SRLC mid-size Excavator	1		●

MATERIALS RECEIVED

Description	No.	Vendor
No items noted		

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			AIS	Banulos/Weeks	Yes	
Dust Control			AIS	Weston	Yes	
Stock Pile covered and secured. Site and equipment secured for the night			AIS/MWHC	Weston	Yes	
Site was cleaned and gate locked for the night			MWHC	Weston	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

Excavating and site dust control

Obtaining confirmation samples and installing security fencing

SUMMARY OF WORK COMPLETED

Description (List in Detail)

I met with the 3 man AIS work crew on site at 0650. We discussed todays planned excavation work and held our safety meeting. The crew then inspected their equipment and removed the covering from the stock pile. We remarked out excavations 7SC35, 7SC 36, and 7SC 46. The crew then continued to excavate using the excavator and shuttled soil with the JD back hoe. They used the pressure washer for dust suppression. I obtained another 500 gallons of water in the water buffalo from the fire hydrant on base. By the end of the day the crew had excavated 7CS35, 7CS36, and 7CS46, completing all of the excavations. The excavations were excavated to their planned depths and no obvious staining was observed. The excavator was then used to obtain the bottom confirmations samples from each excavation. I also collected the composite stock pile samples. All samples were labeled and packed on ice with chain of custody forms and delivered to FedEx to be delivered Friday to the 2 different analytical laboratories.

The US Air Force representatives and the RPM group personnel visited the site to observe operations and check on project status.

The excavation area was fenced off with steel fence post and caution tape for the night. The stock pile was covered and secured and we departed the secured site at 5:00. I delivered the sample coolers to the FedEx station at the Ontario

airport.

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.
No items noted.

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	12	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	13 September 2013								x
Project Name:	Site FT007 Soil Removal	Weather:	Clear			Temperature:		70-95	
Project No:	FA8903-08-D-8777, Task/Delivery Order C0153. Job 30500276	Wind:	AM 1-3 mph from NW PM 5-6 mph from NW			Humidity:		mod	
Project MGR	Dean Rusciolelli	Start Time:	0700 am			Finish Time:		11:00	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	4
March ARB Site FT007 Soil Removal	MWH Americas	Project Engineer	0	0
March ARB Site FT007 Soil Removal	AIS	Contractor	1	4
March ARB Site FT007 Soil Removal				

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	8
Total Hours Worked On-Site Prior to Today (The impacted soil excavation and removal efforts1 & 2)	367.5
Total Hours Worked On-Site	375.5

SITE Visitors:

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report)	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit) *Shallow excavation*		●
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log		●
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
John Deere 310 Back hoe	*1*		●
High psi washer & water tank for dust control	*1*		●
Porta John and hand was station	*1*		●
Chain Link Fencing 26 panels	1		●
500 gallon water buffalo	1		●
Kobelco SK 215 SRLC mid-size Excavator	1		●

MATERIALS RECEIVED

Description	No.	Vendor
No items noted		

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			AIS	Banulos/Weeks	Yes	
Dust Control			AIS	Weston	Yes	
Stock Pile covered and secured. Site and equipment secured for the night			AIS/MWHC	Weston	Yes	
Site was cleaned and gate locked for the night			MWHC	Weston	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

From NE corner of site looking South over secured excavation areas.

From NE corner of site looking South over secured excavation areas and secured Stockpile.

Looking SW at secured Stockpile

MWH

SUMMARY OF WORK COMPLETED

Description (List in Detail)

I met with the AIS work crew on site at 0650. Today the equipment was cleaned, fueled and demobed from the site. The fencing around the excavation was secured. Extra sand bags were placed on top of the stockpiled soil covering to secure the plastic for the few weeks we will be off site awaiting the analytical results of the excavation and stockpile samples. The site street entrance was cleaned of the little bit of soil tracked off by the equipment transport trucks.

The Porta john and hand was station will remain on site but all equipment was demobed from the site today.

After we obtain the analytical and profile the soil and obtain landfill acceptance and obtain AF signed manifest, we will return in approximately 3 weeks to off haul the stockpiled soil and then import and backfill the excavations.

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.

No items noted.

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	13	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	14 October 2013				x				
Project Name:	Site FT007 Soil Removal	Weather:	Clear			Temperature:		65-82	
Project No:	FA8903-08-D-8777, Task/Delivery Order C0153. Job 30500276	Wind:	AM 1-3 mph from NW PM 5-6 mph from NW			Humidity:		mod	
Project MGR	Dean Rusciolelli	Start Time:	0645 am			Finish Time:		5:15 pm	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	10
March ARB Site FT007 Soil Removal	AIS	Contractor	5	50
March ARB Site FT007 Soil Removal	AIS/Norcal	Soil Compaction test	1	8
March ARB Site FT007 Soil Removal	Calvada	Surveying	2	12

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	80
Total Hours Worked On-Site Prior to Today (The impacted soil excavation and removal efforts1 & 2)	375.5
Total Hours Worked On-Site	407.5

SITE Visitors:

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report)	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit)		●
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
Case Back hoe	*1*		●
Case 821 E loader with 4 yard bucket	*1*		●
2,000 Water truck for dust control	*1*		●
Chain Link Fencing 26 panels	1		●
Porta John and hand was station	1		●
AIS support work trucks	3		●
Norcal Geotech truck and compaction testing equipment	1		●

MATERIALS RECEIVED

Description	No.	Vendor
Clean import soil for backfilling excavations,	266 Tons,	West Coast Sand & Gravel

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			AIS	Banulos/Weeks	Yes	
Dust Control			AIS	Weston	Yes	
Stock Pile covered and secured. Site and equipment secured for the night			AIS/MWHC	Weston	Yes	
Each load manifested and driver signs off.			AIS/MWH	Weston/Banulos	Yes	
Site was cleaned and gate locked for the night			MWHC	Weston	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

Loading out trucks to TPS in Adelanto Ca.

Signing Manifest for trucks hauling to Soil Safe of Ca.TPST in Adelanto Ca.

Tarpping loads and loading out trucks

Soil conditioning and compacting excavation

Surveyed in excavations perimeters, sample locations, and well locations

Loading out soil, dust control and excavation compaction and backfilling

Importing soil from West Coast Sand and Gravel for backfilling the excavations.

SUMMARY OF WORK COMPLETED

Description (List in Detail)
I met with the AIS 5 man work crew on site at 0645 and 8 of the 11 semi-trucks were staged just off site for today's off hauling of soils. We held a project work meeting discussing todays and the weeks expected work and then we held our health and safety meeting. The crew inspected their equipment and uncovered the stock pile in preparation to load out the tucks. 0715 the 2 man Calvada surveying crew arrived and I provided them with maps and went over the surveying requirement to survey in the confirmation sample locations, excavation perimeters and the wells we need surveyed in today and we had a H&S meeting. The biggest safety issue is equipment and truck movement today.
The AIS crew used the water truck for dust control and wet down the stock pile and the movement area. AIS had the different agencies install a water meter and the back flow device on a fire hydrant just down the street and they were even able to get it inspected and opened up for today's use. The first truck was loaded out, manifested and departed to Soil Safe of Ca. -TPST in Adelanto at 0745. Lyman Logan of Norcal Geotec arrived on site for compaction testing. He is working under AIS to provide testing and to document that we are obtaining the required compaction requirements. Calveda completed surveying in the sample locations and the excavation perimeters and then they surveyed in the monitoring wells before departing the site in the afternoon. After the first round of trucks departed the AIS crew focused on preparing and backfilling the excavations. The subgrade was wet down blended and compacted. Compaction test were performed on the base of the excavations. West Coast Sand and Gravel imported the clean backfill soil and stockpiled close to the excavation.

Today we off hauled 31 loads for a total of approximately 725 tons to Soil Safe of Ca. –TPST.
West Coast Sand and Gravel imported 266 tons of clean back fill material.

Tomorrow we will complete the off haul of the stock piles impacted soil to TPST and continue backfilling, compacting and performing compaction testing.

The crew departed the site and I secured the gate at 5:30

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.
No items noted.

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	14	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	15 October 2013					x			
Project Name:	Site FT007 Soil Removal	Weather:	Clear			Temperature:		65-82	
Project No:	FA8903-08-D-8777, Task/Delivery Order C0153. Job 30500276	Wind:	AM 0-3 mph from NW PM 6- 8 mph from NW			Humidity:		mod	
Project MGR	Dean Rusciolelli	Start Time:	0645 am			Finish Time:		5:15 pm	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	10
March ARB Site FT007 Soil Removal	AIS	Contractor	3	30
March ARB Site FT007 Soil Removal	AIS/Norcal	Soil Compaction test	1	7.5
March ARB Site FT007 Soil Removal				

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	47.5
Total Hours Worked On-Site Prior to Today (The impacted soil excavation and removal efforts1 & 2)	407.5
Total Hours Worked On-Site	454

SITE Visitors:

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report)	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit)		●
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
Case Back hoe	*1*		●
Case 821 E loader with 4 yard bucket	*1*		●
2,000 Water truck for dust control	*1*		●
Chain Link Fencing 26 panels	1		●
Porta John and hand was station	1		●
AIS support work trucks	3		●
Norcal Geotech truck and compaction testing equipment	1		●

MATERIALS RECEIVED

Description	No.	Vendor
Clean import soil for backfilling excavations,	409 Tons,	West Coast Sand & Gravel

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			AIS	Banulos/Weeks	Yes	
Dust Control			AIS	Weston	Yes	
Stock Pile covered and secured. Site and equipment secured for the night			AIS/MWHC	Weston	Yes	
Each load manifested and driver signs off.			AIS/MWH	Weston/Banulos	Yes	
Site was cleaned and gate locked for the night			MWHC	Weston	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

Importing soil from West Coast Sand and Gravel for backfilling the excavations.

Signing Manifest for the last 2 trucks hauling to Soil Safe of Ca. TPST in Adelanto Ca.

Norcal performing soil compaction testing

Soil conditioning and compacting excavation

SUMMARY OF WORK COMPLETED

Description (List in Detail)
I met with the AIS 3 man work crew on site at 0645 and 3 of the West Coast Sand and gravel trucks waiting to dump their first import loads of the day and the 2 off haul trucks. We held a project work meeting discussing todays expected work and then we held our health and safety meeting. The crew inspected their equipment and uncovered the stock pile in preparation to load out the off haul tucks.
The AIS crew used the water truck for dust control and wet down the stock pile and the movement area. The first truck was loaded out, manifested and departed to Soil Safe of Ca. -TPST in Adelanto at 0800. Lyman Logan of Norcal Geotec continued to perform compaction testing for the backfilling of the excavation. He is working under AIS to provide testing and to document that we are obtaining the required compaction requirements. The AIS crew continued backfilling and compacting the excavations in shallow 8" loose lifts and compacting to greater than the 90% requirement.

West Coast Sand and Gravel imported the clean backfill soil and stockpiled close to the excavation. Today they imported 409 tons for a combined total of 675 tons.

Today we off hauled 4 Loads completing the soil removal. A total of 35 truckloads off-hauled for a combined total of 825.7 tons to Soil Safe of Ca. –TPST.

Tomorrow we will continue backfilling, compacting and performing compaction testing.

The crew departed the site and I secured the gate at 5:20

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.
No items noted.

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	15	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	16 October 2013						x		
Project Name:	Site FT007 Soil Removal	Weather:	Clear			Temperature:		65-80	
Project No:	FA8903-08-D-8777, Task/Delivery Order C0153. Job 30500276	Wind:	AM 0-3 mph from NW PM 6- 8 mph from NW			Humidity:		mod	
Project MGR	Dean Rusciolelli	Start Time:	0645 am			Finish Time:		5:15 pm	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	10
March ARB Site FT007 Soil Removal	AIS	Contractor	3	30
March ARB Site FT007 Soil Removal	AIS/Norcal	Soil Compaction test	1	7
March ARB Site FT007 Soil Removal	National Rent a Fence	Chain link fencing	2	4

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	51
Total Hours Worked On-Site Prior to Today (The impacted soil excavation and removal efforts1 & 2)	454
Total Hours Worked On-Site	505

SITE Visitors:

Calvin Cox	USAF Representative	Inspecting work in progress

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report)	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit)		●
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
Case Back hoe	*1*		●
Case 821 E loader with 4 yard bucket	*1*		●
2,000 Water truck for dust control	*1*		●
Chain Link Fencing 26 panels	1		●
Porta John and hand was station	1		●
AIS support work trucks	2		●
Norcal Geotech truck and compaction testing equipment	1		●

MATERIALS RECEIVED

Description	No.	Vendor
Clean import soil for backfilling excavations,	320 Tons,	West Coast Sand & Gravel

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			AIS	Banulos/Weeks	Yes	
Dust Control			AIS	Weston	Yes	
Site and equipment secured for the night			AIS/MWHC	Weston	Yes	
Site was cleaned and gate locked for the night			MWHC	Weston	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

Importing soil, moisture conditioning and compacting 8" lifts to >90%

National Rent a Fence picking up the fence panels

Soil conditioning and compacting excavation with Norcal performing soil compaction testing

SUMMARY OF WORK COMPLETED

Description (List in Detail)
I met with the AIS 3 man work crew on site at 0645 and 4 of the West Coast Sand and gravel trucks waiting to dump their first import loads of the day. We held a project work meeting discussing todays expected work and then we held our health and safety meeting. The crew inspected their equipment and filled up the water truck up for dust suppression and soil conditioning for compaction.
The AIS crew used the water truck for dust control in the movement area and for conditioning the soil for compaction in the excavations. Lyman Logan of Norcal Geotec continued to perform compaction testing for the backfilling of the excavations. He is working under AIS to provide testing and to document that we are obtaining the required compaction requirements.
The AIS crew continued backfilling and compacting the excavations in shallow 8" loose lifts and compacting to greater than the 90% requirement.

National Rent a Fence 2 man crew cam on site and picked up all of the chain link fence panels.

Most of the small excavations are completed to the surface. We still need a little more import soil and trucks are scheduled again for tomorrow. The excavations were secured with fence post and caution tape for the night.

West Coast Sand and Gravel imported the clean backfill soil and stockpiled close to the excavation. Today they imported 320 tons for a combined total of 1000 tons.

Tomorrow we will continue backfilling, compacting and performing compaction testing.

The crew departed the site and I secured the gate at 5:15

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.
No items noted.

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	16	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	17 October 2013							x	
Project Name:	Site FT007 Soil Removal	Weather:	Clear			Temperature:		58-85	
Project No:	FA8903-08-D-8777, Task/Delivery Order C0153. Job 30500276	Wind:	AM 0-3 mph from NW PM 4-6 mph from NW			Humidity:		mod	
Project MGR	Dean Rusciolelli	Start Time:	0645 am			Finish Time:		5:00 pm	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	10
March ARB Site FT007 Soil Removal	AIS	Contractor	3	30
March ARB Site FT007 Soil Removal	AIS/Norcal	Soil Compaction test	1	7

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	47
Total Hours Worked On-Site Prior to Today (The impacted soil excavation and removal efforts1 & 2)	505
Total Hours Worked On-Site	552

SITE Visitors:

Calvin Cox	USAF Representative	Inspecting work in progress

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report)	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit)		●
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log	●	
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
Case Back hoe	*1*		●
Case 821 E loader with 4 yard bucket	*1*		●
2,000 Water truck for dust control	*1*		●
Porta John and hand was station	1		●
AIS support work trucks	2		●
Norcal Geotech truck and compaction testing equipment	1		●

MATERIALS RECEIVED

Description	No.	Vendor
Clean import soil for backfilling excavations,		West Coast Sand & Gravel

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			AIS	Banulos/Weeks	Yes	
Dust Control			AIS	Weston	Yes	
Site and equipment secured for the night			AIS/MWHC	Weston	Yes	
Site was cleaned and gate locked for the night			MWHC	Weston	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

Soil conditioning and compacting excavation with Norcal performing soil compaction testing, Looking South

Soil conditioning and compacting excavation with Norcal performing soil compaction testing, Looking North

Backfill completed, looking South from NW corner

Backfill completed, looking North from SW corner

SUMMARY OF WORK COMPLETED

Description (List in Detail)

I met with the AIS 3 man work crew on site at 0645. We held a project work meeting discussing todays expected work and then we held our health and safety meeting. The crew inspected their equipment and filled up the water truck up for dust suppression and soil conditioning for compaction.

The AIS crew used the water truck for dust control in the movement area and for conditioning the soil for compaction in the excavations. Lyman Logan of Norcal continued to perform compaction testing for the backfilling of the excavations. He is working under AIS to provide testing and to document that we are obtaining the required compaction requirements. The AIS crew continued backfilling and compacting the excavations in shallow 8" loose lifts and compacting to greater than the 90% requirement up to about 4 inches from the surface. Compaction testing verified 90 % or greater on all test completing this QC objective.

West Coast Sand and Gravel imported 4 truck and trailer loads today completing the soil import for this project. The crew graded the area smooth and matched the surrounding grade levels.

After completing the backfill, compaction and surface grading, the crew worked on cleaning up the equipment for demobilizing from the project. They will complete this tomorrow and demob all equipment. They Hydro seeding company is scheduled to arrive tomorrow and complete the hydro seeding the excavation area.

National picked up the Porta John and the hand wash station.

The crew departed the site and I secured the gate at 5 pm

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.

No items noted.

MWHC DAILY CONSTRUCTION AND CQC REPORT

March Air Reserve Base

Site FT007 Corrective Action Soil Excavation and Removal

Report No:	17	Day	Sa	Su	Mo	Tu	We	Th	Fr
Date:	18 October 2013								x
Project Name:	Site FT007 Soil Removal	Weather:	Clear			Temperature:		56-87	
Project No:	FA8903-08-D-8777, Task/Delivery Order C0153. Job 30500276	Wind:	AM 0-3 mph from NW PM 4-6 mph from NW			Humidity:		mod	
Project MGR	Dean Rusciolelli	Start Time:	0645 am			Finish Time:		2:15 pm	

PERSONNEL ON SITE

Work Location / Task Description	Employer	Trade	No.	Hrs.
March ARB Site FT007 Soil Removal	MWH Constructors	Superintendent OSO	1	7
March ARB Site FT007 Soil Removal	AIS	Contractor	1	7
March ARB Site FT007 Soil Removal	All Preferred Hydroseed, Inc.	Hydro Seeding	2	3

ON-SITE LABOR SUMMARY

Total Hours Worked On-Site Today	17
Total Hours Worked On-Site Prior to Today (The impacted soil excavation and removal efforts1 & 2)	552
Total Hours Worked On-Site	569

SITE Visitors:

JOB SAFETY

Activity	Yes	No
Daily Safety Meeting? (Attach to DFR. If no , provide explanation on Safety Report)	●	
STAR Cards completed for all tasks? (Attach to report. If no, explain on Safety Report)	●	
Any Trenching / Excavation / Elevated / High Voltage / Confined Space Entry (CSE) work done today? (If yes, attach completed inspection checklist and CSE Permit)		●
Any welding/hot work performed today? (If yes, attach completed hot work permit)		●
Any lost time accidents today? (If yes, attach copy of completed OSHA / accident report) *No accidents*		●
Any near miss accidents today? (If yes, attach detailed report and corrective / preventive actions taken) *No near miss accidents*		●
Any accidents requiring first aid or medical attention? (If yes, attach incident report) *No*		●
Any Hazardous Materials / Waste Released into Environment? (If yes, attach report / corrective actions) *No*		●
Personnel exposure monitoring / ambient air monitoring completed today? (If yes, attach log		●
Safety inspections conducted today? (If yes, list and attach report, if not, explain why)	●	
Everyone off the site safely? *All crew safely off.*	●	

EQUIPMENT ON-SITE

Description	*No.*	*Idle*	*In-Use*
Case Back hoe, (Demobed from project today)	*1*		●
Case 821 E loader with 4 yard bucket, (Demobed from project today)	*1*		●
2,000 Water truck for dust control, (Demobed from project today)	*1*		●
AIS support work trucks, (Demobed from project today)	1		●

MATERIALS RECEIVED

Description	No.	Vendor

SUMMARY OF DAILY CONSTRUCTION QUALITY CONTROL ACTIVITIES

(Attach Inspection / Test Report)

Inspections / Tests Completed Today	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Accept	Fail
Equipment Inspection			AIS	Banulos/Weeks	Yes	
Dust Control			AIS	Weston	Yes	
Site and equipment secured for the night			AIS/MWHC	Weston	Yes	
Site was cleaned and gate locked for the night			MWHC	Weston	Yes	

Non-Compliance Issue	Design Sheet	Spec. Section	Subcontractor / Vendor	Inspector	Status
No items noted					

Corrective Actions Taken (Describe)	Subcontractor / Vendor	Status
No items noted		

Preventive Actions Taken to Mitigate CQC Issue	Subcontractor / Vendor	Status
	No items noted	

Additional Comments / Information: (Include photographs taken and identification)

Preparing for Hydro Seeding, Looking NW

Hydro Seeding the excavation area, looking NW

Hydro Seeding the excavation area, looking S from NW Corner

Hydro Seeding completed, Site cleaned and equipment demobed, Looking N.

SUMMARY OF WORK COMPLETED

Description (List in Detail)
I met with the AIS project Forman on site at 0645. We held a project work meeting discussing todays expected work and then we held our health and safety meeting. He inspected their equipment and filled up the water truck up for dust suppression and soil conditioning in preparation of Hydro Seeding.

The AIS low boy came on site and loaded out the backhoe. The loader was fueled and a transport truck came in and loaded out the 821E Case loader.
They Hydro seeding company arrived on site and we discussed the work today and had a H&S meeting. They had material to Hydro Seed 6,000 sq ft of area. Our disturbed area is larger than this so the crew went to their shop to obtain more material while I worked on getting authorization to add more material and cost to the site. Decision was made to spread the material a little thinner over the excavation area like the Hydro seeding crew suggested. The Hydro seeding crew came back on site and they were able to give a pretty good coating over the entire excavation area. Prior to hydro seeding the area, the area was sprayed down with clean water using the water truck. 4 truckloads were sprayed on the site today for approximately 8,000 gallons of water. This will also help create a soil crust over the non-hydro seeded areas to help minimize dust. After the equipment was off hauled, the water truck was used to wash down the little bit of dirt at the site entrance and then the water truck was demobed from the site. I obtained final photos of the site showing the completed work.

The crew departed the site and I secured the gate and departed at 3:pm

POTENTIAL CHANGE ORDERS

List any out-of scope work completed and attach copy of client field directive authorizing work.
No items noted.

APPENDIX B

ANALYTICAL DATA REPORT

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LIST OF TABLES

LIST OF ACRONYMS

ADR	analytical data report
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
AFRC	Air Force Reserve Command
AFRPA	Air Force Real Property Agency
CCV	continuing calibration verification
ºC	degrees Celsius
DTSC	California Department of Toxic Substances Control
EMAX	EMAX Laboratories, Inc.
HML	Hazardous Materials Laboratory
LCS/LCSD	laboratory control sample/laboratory control sample duplicate
LDC	Laboratory Data Consultants, Inc.
LTGM	long-term groundwater monitoring
LTO	long-term operation
LTO&M	long-term operation & maintenance
MS/MSD	matrix spike/matrix spike duplicate
%D	percent difference
QAPP	quality assurance project plan
QA/QC	quality assurance/quality control
QPP	quality program plan
RPD	relative percent difference
RSD	relative standard deviation
STLC	soluble threshold limit concentration
TCLP	toxicity characteristic leaching procedure
TPH-d/mo	total petroleum hydrocarbons as diesel/motor oil
USEPA	United States Environmental Protection Agency

APPENDIX B
ANALYTICAL DATA REPORT

B.1 INTRODUCTION

This Analytical Data Report (ADR) includes a summary of the review and validation of analytical data associated with samples collected in support of corrective action activities conducted for surface soils impacted by organic lead and tar material at Site FT007, Former Fire Training Area, Former March Air Force Base (AFB), California between October 2012 and October 2013. MWH was authorized by the Air Force Civil Engineer Center (AFCEC) to prepare this document under Task Orders 0131 and 0153, Contract FA8903-08-D-8777.

In 2010, a Final Revised Quality Program Plan (QPP) (MWH, 2010) was prepared for use with all Air Force Reserve Command (AFRC) and Air Force Real Property Agency (AFRPA) long-term groundwater monitoring (LTGM), long-term operation (LTO), and long-term operation & maintenance (LTO&M) programs at March ARB. A project-specific Quality Assurance Project Plan (QAPP) Addendum was prepared as an appendix to the Corrective Action Plan for Surficial Soils Impacted by Lead and Petroleum Material for Site FT007 (MWH, 2012). In addition, a QAPP Addendum was prepared as an appendix to the Corrective Action Plan Addendum for Petroleum-Impacted Soil for Site FT007 (MWH, 2013). The QAPP Addenda provided project-specific information and addressed any exceptions or additions to the Final Revised QPP. The QAPP Addendums established the sampling and analytical protocols that were followed during the Site FT007 activities. This ADR describes the quality assurance/quality control (QA/QC) program and data quality results.

B.2 FIELD PROGRAM

Soil samples were collected during two separate events; samples were collected on October 9, 10 and 11, 2012 and on September 12, 2013.

The following samples were collected on October 9, 10, and 11, 2012:

- Fifty-six soil field samples
- Six field duplicate samples
- Thirteen matrix spike/matrix spike duplicate (MS/MSD) pairs for the analysis of one or more parameters

The following samples were collected on September 12, 2013:

- Twenty-three soil field samples
- Three field duplicate samples
- Four MS/MSD pairs for the analysis of one or more parameters

Samples were submitted for analysis of one or more of the following parameters:

- Total lead by United States Environmental Protection Agency (USEPA) SW6010B
- Organic lead by California Department of Toxic Substances Control (DTSC) Hazardous Materials Laboratory ((HML) Method 939-M
- Soluble threshold limit concentration (STLC) organic lead by the Waste Extraction Test/CA DTSC HML Method 939-M
- Toxicity characteristic leaching procedure (TCLP) organic lead by SW1311/ CA DTSC HML Method 939-M
- Total petroleum hydrocarbons quantified as diesel/motor oil (TPH-d/mo) by USEPA SW8015B

Table B-1 summarizes the field sample identifications and analyses for each sample and provides a cross-reference with laboratory identifications.

B.3 ANALYTICAL PROGRAM

Analytical chemistry services were provided by EMAX Laboratories, Inc. (EMAX), located in Torrance, California. EMAX is certified by the California Environmental

Protection Agency Department of Health Services through the Environmental Laboratory Accreditation Program to perform hazardous waste analyses.

B.4 DATA VERIFICATION AND VALIDATION

Laboratory Data Consultants, Inc. (LDC) performed data verification for all samples analyzed for all parameters. Data were reviewed against the QC and calibration requirements specified in the QAPP Addendums (MWH, 2013; MWH, 2012).

LDC used verification flags to qualify data. The definitions of these qualifier flags are as follows:

J Indicates an estimated value.

M A matrix effect is present.

UJ Undetected; reporting limit is an estimated quantity.

Additionally, the qualifiers for data flagged with "F" (value quantified between the method detection limit and reporting limit) by the laboratory were retained by the data verifiers. All final qualified data are summarized in Table B-2, with the exception of those values that were only flagged with an "F."

B.5 QUALITY CONTROL RESULTS

The following sections summarize the data review process and results in terms of the data quality indicators of precision, accuracy, representativeness, completeness, comparability, and sensitivity criteria as defined in Section 2.3.3 of the QPP (MWH, 2010).

B.5.1 Precision

Precision was evaluated based on the results of QC samples collected by the field team and QC samples that originated in the laboratory. The calculated relative percent difference (RPD) for MS/MSD pairs, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) pairs, and field duplicate pairs provides information on precision of sampling and analytical procedures. Findings from the data verification process include the following.

Field Duplicate Samples

Field duplicate collection is required at a frequency of 10 percent. Six field duplicates were collected for the analysis of lead, organic lead, and TPH-d/mo for the October 2012 sampling event and three field duplicates were collected for the analysis of lead, organic lead, TPH-d/mo, STLC organic lead, and TCLP organic lead for the September 2013 sampling event. This field duplicate sampling frequency exceeded the 10 percent criteria for both sampling events.

Table B-3 summarizes the RPD between the parent and field duplicate samples. An RPD was calculated when a given parameter was detected above the reporting limit in both the primary field sample and its associated field duplicate sample. A few parameters had RPDs outside the control limit (see Table B-3). These parameters were qualified as estimated (“J”) for the duplicate pairs.

MS/MSDs

Site-specific MS/MSD pairs are required to be collected at a frequency of five percent. Thirteen MS/MSD pairs were collected for the October 2012 sampling event, and four MS/MSD pairs were collected for the September 2013 sampling event. Several parameters had RPDs outside the control limit. These parameters were qualified with “M” for a matrix effect (see Table B-2).

LCS/LCSDs

All RPDs for LCS/LCSD pairs were within control limits.

B.5.2 Accuracy

Data were reviewed for accuracy based on surrogate spike and LCS recoveries. Spike recoveries were also reviewed for MS/MSD pairs. Relative standard deviations (RSDs) generated from initial calibrations and percent differences (%Ds) calculated from continuing calibration verification (CCV) standards were evaluated. Findings include the following.

Surrogate Recoveries

Each sample analyzed for TPH-d/mo was spiked with representative surrogate compounds. All surrogate recoveries were within control limits.

Laboratory Control Samples

The percent recoveries for all LCSs were within control limits.

Matrix Spike/Matrix Spike Duplicates

Parameters in several MS and MSD samples had percent recoveries outside control limits; sample results associated with recoveries outside the control limits were qualified with “M” for a matrix effect as shown on Table B-2.

Initial Calibrations

Initial calibrations for all parameters for all samples were within control limits.

Initial Calibration Verifications

Initial calibration verifications for all parameters for all samples were within control limits.

Continuing Calibration Verification

The %D calculated for the CCVs were within control limits for all parameters.

B.5.3 Representativeness

Representativeness was evaluated through the analysis of method blank samples. Additionally, the cooler receipt documents were reviewed. All sample bottles were received in good condition and were preserved according to the criteria specified in the QAPP. A temperature blank accompanied each cooler. All samples were received at a temperature of 4 degrees Celsius (°C) ± 2°C.

Method blanks are processed through the same analytical procedures as the field samples. Method blanks are analyzed with each batch of samples in order to provide information on contamination originating in the analytical process. All method blanks were free of contamination above the reporting limit.

B.5.4 Completeness

Completeness is defined as the number of valid results (i.e., those not rejected) divided by the total number of possible results, which includes samples that could not be collected or analyzed for any reason not anticipated in the QPP. Completeness is calculated for each method and matrix. The overall completeness for samples is summarized in Table B-4.

B.5.5 Comparability

Comparability was evaluated for the samples by analyzing all samples according to the specified USEPA analytical methods, which utilize standard units of measurement. Necessary sample dilutions, due to the presence of elevated target compound concentrations, did not affect data usability and comparability.

B.5.6 Analytical Sensitivity

Analytical sensitivity is achieved by spiking the low-level standard in the initial calibration at or below the reporting limit and by performing method detection limit studies to set a limit on detected results reported below the reporting limit.

B.6 SUMMARY OF DATA RELIABILITY

As a result of this evaluation, all data for the field sampling program are of known and acceptable quality and are considered usable as qualified for the intended purposes.

B.7 REFERENCES

MWH, 2013. Final, Corrective Action Plan Addendum for Petroleum-Impacted Soil, Site FT007, Former March Air Force Base, California. September.

MWH, 2012. Final, Corrective Action Plan for Surficial Soils Impacted by Lead and Petroleum Material, Site FT007, Operable Unit 1, Former March Air Force Base, California. January.

MWH, 2010. Revised Quality Program Plan, Long-Term Groundwater Monitoring and Operation, Maintenance, and Monitoring Programs, March ARB, California. May.

TABLE B-1

SAMPLE IDENTIFICATIONS AND ANALYSES
SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL
SITE FT007
FORMER MARCH AIR FORCE BASE, CALIFORNIA
(Page 1 of 5)

Sample Identification	Date Sampled	Sample Type	Field Duplicate of	Laboratory	Laboratory Identification	Analysis				
						Total Lead	Organic Lead	TPH-d/mo	STLC Organic Lead	TCLP Organic Lead
7CS01	10/09/2012	Field Sample		EMAX	12J058-01	X	X	X		
7CS02	10/09/2012	Field Sample		EMAX	12J058-02	X	X	X		
7CS03	10/09/2012	Field Sample		EMAX	12J058-03	X	X	X		
7CS03 (MS)	10/09/2012	Matrix Spike		EMAX	12J058-03M		X	X		
7CS03 (MSD)	10/09/2012	Matrix Spike Duplicate		EMAX	12J058-03S		X	X		
7CS903	10/09/2012	Field Duplicate	7CS03	EMAX	12J058-04	X	X	X		
7CS04	10/09/2012	Field Sample		EMAX	12J058-05	X	X	X		
7CS05	10/09/2012	Field Sample		EMAX	12J058-06	X	X	X		
7CS06	10/09/2012	Field Sample		EMAX	12J058-07	X	X	X		
7CS07	10/09/2012	Field Sample		EMAX	12J058-08	X	X	X		
7CS08	10/09/2012	Field Sample		EMAX	12J058-09	X	X	X		
7CS09	10/10/2012	Field Sample		EMAX	12J069-21	X	X	X		
7CS09 (MS)	10/10/2012	Matrix Spike		EMAX	12J069-21M		X			
7CS09 (MSD)	10/10/2012	Matrix Spike Duplicate		EMAX	12J069-21S		X			
7CS10	10/10/2012	Field Sample		EMAX	12J069-22	X	X	X		
7CS11	10/10/2012	Field Sample		EMAX	12J069-23	X	X	X		
7CS12	10/10/2012	Field Sample		EMAX	12J069-24	X	X	X		
7CS912	10/10/2012	Field Duplicate	7CS12	EMAX	12J069-25	X	X	X		
7CS13	10/10/2012	Field Sample		EMAX	12J069-26	X	X	X		
7CS14	10/10/2012	Field Sample		EMAX	12J069-27	X	X	X		
7CS15	10/10/2012	Field Sample		EMAX	12J069-28	X	X	X		
7CS16	10/10/2012	Field Sample		EMAX	12J069-29	X	X	X		
7CS17	10/10/2012	Field Sample		EMAX	12J069-30	X	X	X		
7CS17 (MS)	10/10/2012	Matrix Spike		EMAX	12J069-30M	X				
7CS17 (MSD)	10/10/2012	Matrix Spike Duplicate		EMAX	12J069-30S	X				
7CS18	10/10/2012	Field Sample		EMAX	12J069-11	X	X	X		

TABLE B-1

SAMPLE IDENTIFICATIONS AND ANALYSES
SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL
SITE FT007
FORMER MARCH AIR FORCE BASE, CALIFORNIA
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Sample Identification	Date Sampled	Sample Type	Field Duplicate of	Laboratory	Laboratory Identification	Analysis				
						Total Lead	Organic Lead	TPH-d/mo	STLC Organic Lead	TCLP Organic Lead
7CS19	10/10/2012	Field Sample		EMAX	12J069-12	X	X	X		
7CS20	10/10/2012	Field Sample		EMAX	12J069-13	X	X	X		
7CS20 (MS)	10/10/2012	Matrix Spike		EMAX	12J069-13M		X			
7CS20 (MSD)	10/10/2012	Matrix Spike Duplicate		EMAX	12J069-13S		X			
7CS21	10/10/2012	Field Sample		EMAX	12J069-14	X	X	X		
7CS22	10/10/2012	Field Sample		EMAX	12J069-15	X	X	X		
7CS23	10/10/2012	Field Sample		EMAX	12J069-16	X	X	X		
7CS923	10/10/2012	Field Duplicate	7CS23	EMAX	12J069-17	X	X	X		
7CS24	10/10/2012	Field Sample		EMAX	12J069-18	X	X	X		
7CS25	10/10/2012	Field Sample		EMAX	12J069-19	X	X	X		
7CS26	10/10/2012	Field Sample		EMAX	12J069-20	X	X	X		
7CS26 (MS)	10/10/2012	Matrix Spike		EMAX	12J069-20M	X				
7CS26 (MSD)	10/10/2012	Matrix Spike Duplicate		EMAX	12J069-20S	X				
7CS27	10/10/2012	Field Sample		EMAX	12J069-01	X	X	X		
7CS28	10/10/2012	Field Sample		EMAX	12J069-02	X	X	X		
7CS29	10/10/2012	Field Sample		EMAX	12J069-03	X	X	X		
7CS29 (MS)	10/10/2012	Matrix Spike		EMAX	12J069-03M		X			
7CS29 (MSD)	10/10/2012	Matrix Spike Duplicate		EMAX	12J069-03S		X			
7CS30	10/10/2012	Field Sample		EMAX	12J069-04	X	X	X		
7CS31	10/10/2012	Field Sample		EMAX	12J069-05	X	X	X		
7CS931	10/10/2012	Field Duplicate	7CS31	EMAX	12J069-06	X	X	X		
7CS32	10/10/2012	Field Sample		EMAX	12J069-07	X	X	X		
7CS33	10/10/2012	Field Sample		EMAX	12J069-08	X	X	X		
7CS33 (MS)	10/10/2012	Matrix Spike		EMAX	12J069-08M			X		
7CS33 (MSD)	10/10/2012	Matrix Spike Duplicate		EMAX	12J069-08S			X		
7CS34	10/10/2012	Field Sample		EMAX	12J069-09	X	X	X		

TABLE B-1

SAMPLE IDENTIFICATIONS AND ANALYSES
SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL
SITE FT007
FORMER MARCH AIR FORCE BASE, CALIFORNIA
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Sample Identification	Date Sampled	Sample Type	Field Duplicate of	Laboratory	Laboratory Identification	Analysis				
						Total Lead	Organic Lead	TPH-d/mo	STLC Organic Lead	TCLP Organic Lead
7CS35	10/10/2012	Field Sample		EMAX	12J069-10	X	X	X		
7CS36	10/11/2012	Field Sample		EMAX	12J083-01	X	X	X		
7CS37	10/11/2012	Field Sample		EMAX	12J083-02	X	X	X		
7CS38	10/11/2012	Field Sample		EMAX	12J083-03	X	X	X		
7CS39	10/11/2012	Field Sample		EMAX	12J083-04	X	X	X		
7CS40	10/11/2012	Field Sample		EMAX	12J083-05	X	X	X		
7CS41	10/11/2012	Field Sample		EMAX	12J083-06	X	X	X		
7CS41 (MS)	10/11/2012	Matrix Spike		EMAX	12J083-06M			X		
7CS41 (MSD)	10/11/2012	Matrix Spike Duplicate		EMAX	12J083-06S			X		
7CS42	10/11/2012	Field Sample		EMAX	12J083-07	X	X	X		
7CS43	10/11/2012	Field Sample		EMAX	12J083-08	X	X	X		
7CS44	10/11/2012	Field Sample		EMAX	12J083-09	X	X	X		
7CS44 (MS)	10/11/2012	Matrix Spike		EMAX	12J083-09M		X			
7CS44 (MSD)	10/11/2012	Matrix Spike Duplicate		EMAX	12J083-09S		X			
7CS45	10/11/2012	Field Sample		EMAX	12J083-10	X	X	X		
7CS46	10/11/2012	Field Sample		EMAX	12J083-11	X	X	X		
7CS47	10/11/2012	Field Sample		EMAX	12J083-12	X	X	X		
7CS47 (MS)	10/11/2012	Matrix Spike		EMAX	12J083-12M		X			
7CS47 (MSD)	10/11/2012	Matrix Spike Duplicate		EMAX	12J083-12S		X			
7CS48	10/11/2012	Field Sample		EMAX	12J083-13	X	X	X		
7CS49	10/11/2012	Field Sample		EMAX	12J083-14	X	X	X		
7CS949	10/11/2012	Field Duplicate	7CS49	EMAX	12J083-15	X	X	X		
7CS50	10/11/2012	Field Sample		EMAX	12J083-16	X	X	X		
7CS51	10/11/2012	Field Sample		EMAX	12J083-17	X	X	X		
7CS52	10/11/2012	Field Sample		EMAX	12J083-18	X	X	X		
7CS53	10/11/2012	Field Sample		EMAX	12J083-19	X	X	X		

TABLE B-1

SAMPLE IDENTIFICATIONS AND ANALYSES
SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL
SITE FT007
FORMER MARCH AIR FORCE BASE, CALIFORNIA
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						Analysis				
Sample Identification	Date Sampled	Sample Type	Field Duplicate of	Laboratory	Laboratory Identification	Total Lead	Organic Lead	TPH-d/mo	STLC Organic Lead	TCLP Organic Lead
7CS54	10/11/2012	Field Sample		EMAX	12J083-20	X	X	X		
7CS54 (MS)	10/11/2012	Matrix Spike		EMAX	12J083-20M	X				
7CS54 (MSD)	10/11/2012	Matrix Spike Duplicate		EMAX	12J083-20S	X				
7CS55	10/11/2012	Field Sample		EMAX	12J083-21	X	X	X		
7CS55 (MS)	10/11/2012	Matrix Spike		EMAX	12J083-21M		X			
7CS55 (MSD)	10/11/2012	Matrix Spike Duplicate		EMAX	12J083-21S		X			
7CS955	10/11/2012	Field Duplicate	7CS55	EMAX	12J083-22	X	X	X		
7CS56	10/11/2012	Field Sample		EMAX	12J083-23	X	X	X		
7CS56 (MS)	10/11/2012	Matrix Spike		EMAX	12J083-23M	X				
7CS56 (MSD)	10/11/2012	Matrix Spike Duplicate		EMAX	12J083-23S	X				
7CS57	09/12/2013	Field Sample		EMAX	13I107-01	X	X	X	X	X
7CS58	09/12/2013	Field Sample		EMAX	13I107-02	X	X	X	X	X
7CS958	09/12/2013	Field Duplicate	7CS58	EMAX	13I107-03	X	X	X	X	X
7CS59	09/12/2013	Field Sample		EMAX	13I107-04	X	X	X	X	X
7CS60	09/12/2013	Field Sample		EMAX	13I107-05	X	X	X	X	X
7CS61	09/12/2013	Field Sample		EMAX	13I107-06	X	X	X	X	X
7CS61 (MS)	09/12/2013	Matrix Spike		EMAX	13I107-06M	X	X	X	X	X
7CS61 (MSD)	09/12/2013	Matrix Spike Duplicate		EMAX	13I107-06S	X	X	X	X	X
7CS62	09/12/2013	Field Sample		EMAX	13I107-07	X	X	X	X	X
7CS63	09/12/2013	Field Sample		EMAX	13I107-08	X	X	X	X	X
7CS64	09/12/2013	Field Sample		EMAX	13I107-09	X	X	X	X	X
7CS65	09/12/2013	Field Sample		EMAX	13I107-10	X	X	X	X	X
7CS66	09/12/2013	Field Sample		EMAX	13I107-11	X	X	X	X	X
7CS67	09/12/2013	Field Sample		EMAX	13I107-12	X	X	X	X	X
7CS68	09/12/2013	Field Sample		EMAX	13I108-01	X	X	X	X	X

TABLE B-1

SAMPLE IDENTIFICATIONS AND ANALYSES
SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL
SITE FT007
FORMER MARCH AIR FORCE BASE, CALIFORNIA
(Page 5 of 5)

Sample Identification	Date Sampled	Sample Type	Field Duplicate of	Laboratory	Laboratory Identification	Analysis				
						Total Lead	Organic Lead	TPH-d/mo	STLC Organic Lead	TCLP Organic Lead
7CS68 (MS)	09/12/2013	Matrix Spike		EMAX	13I108-01M				X	X
7CS68 (MSD)	09/12/2013	Matrix Spike Duplicate		EMAX	13I108-01S				X	X
7CS69	09/12/2013	Field Sample		EMAX	13I108-02	X	X	X	X	X
7CS969	09/12/2013	Field Duplicate	7CS69	EMAX	13I108-03	X	X	X	X	X
7CS70	09/12/2013	Field Sample		EMAX	13I108-04	X	X	X	X	X
7CS71	09/12/2013	Field Sample		EMAX	13I108-05	X	X	X	X	X
7CS72	09/12/2013	Field Sample		EMAX	13I108-06	X	X	X	X	X
7CS73	09/12/2013	Field Sample		EMAX	13I108-07	X	X	X	X	X
7CS74	09/12/2013	Field Sample		EMAX	13I108-08	X	X	X	X	X
7CS74 (MS)	09/12/2013	Matrix Spike		EMAX	13I108-08M		X			
7CS74 (MSD)	09/12/2013	Matrix Spike Duplicate		EMAX	13I108-08S		X			
7CS974	09/12/2013	Field Duplicate	7CS74	EMAX	13I108-09	X	X	X	X	X
7CS75	09/12/2013	Field Sample		EMAX	13I108-10	X	X	X	X	X
7CS76	09/12/2013	Field Sample		EMAX	13I108-11	X	X	X	X	X
7CS77	09/12/2013	Field Sample		EMAX	13I108-12	X	X	X	X	X
7CS78	09/12/2013	Field Sample		EMAX	13I108-13	X	X	X	X	X
7CS79	09/12/2013	Field Sample		EMAX	13I108-14	X	X	X	X	X
7CS79 (MS)	09/12/2013	Matrix Spike		EMAX	13I108-14M		X		X	X
7CS79 (MSD)	09/12/2013	Matrix Spike Duplicate		EMAX	13I108-14S		X		X	X

MS - matrix spike
MSD - matrix spike duplicate
STLC - soluble threshold limit concentration
TCLP - toxicity characteristic leaching procedure
TPH-d/mo - total petroleum hydrocarbons as diesel/motor oil

TABLE B-2

FINAL QUALIFIED DATA SUMMARY
SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL
SITE FT007
FORMER MARCH AIR FORCE BASE, CALIFORNIA

Sample Identification	Sample Date	Laboratory Identification	Method	Parameter	Lab Result	Lab Qualifier	Units	Final Validation Qualifier	Reason
G No. 12J058									
7CS01	10/09/2012	12J058-01	939-M	Organic lead	0.751		mg/kg	M	MS or MSD %R < lower control limit
7CS02	10/09/2012	12J058-02	939-M	Organic lead	0.0104	U	mg/kg	M	MS or MSD %R < lower control limit
7CS03	10/09/2012	12J058-03	939-M	Organic lead	0.0103	U	mg/kg	M	MS or MSD %R < lower control limit
7CS903	10/09/2012	12J058-04	939-M	Organic lead	0.0102	U	mg/kg	M	MS or MSD %R < lower control limit
7CS04	10/09/2012	12J058-05	939-M	Organic lead	0.0106	U	mg/kg	M	MS or MSD %R < lower control limit
7CS05	10/09/2012	12J058-06	939-M	Organic lead	0.0103	U	mg/kg	M	MS or MSD %R < lower control limit
7CS06	10/09/2012	12J058-07	939-M	Organic lead	2.36		mg/kg	M	MS or MSD %R < lower control limit
7CS07	10/09/2012	12J058-08	939-M	Organic lead	0.469		mg/kg	M	MS or MSD %R < lower control limit
7CS08	10/09/2012	12J058-09	939-M	Organic lead	0.502		mg/kg	M	MS or MSD %R < lower control limit
G No. 12J069									
7CS23	10/10/2012	12J069-16	939-M	Organic lead	0.0189		mg/kg	J	Field duplicate RPD > control limit
7CS23	10/10/2012	12J069-16	SW6010B	Lead	41.8		mg/kg	J	Field duplicate RPD > control limit
7CS923	10/10/2012	12J069-17	939-M	Organic lead	0.166		mg/kg	J	Field duplicate RPD > control limit
7CS923	10/10/2012	12J069-17	SW6010B	Lead	59.7		mg/kg	J	Field duplicate RPD > control limit
7CS12	10/10/2012	12J069-24	939-M	Organic lead	0.517		mg/kg	J	Field duplicate RPD > control limit
7CS12	10/10/2012	12J069-24	SW6010B	Lead	34.8		mg/kg	J	Field duplicate RPD > control limit
7CS12	10/10/2012	12J069-24	SW8015B	TPH-d	100		mg/kg	J	Field duplicate RPD > control limit
7CS12	10/10/2012	12J069-24	SW8015B	TPH-mo	550		mg/kg	J	Field duplicate RPD > control limit
7CS912	10/10/2012	12J069-25	939-M	Organic lead	0.329		mg/kg	J	Field duplicate RPD > control limit
7CS912	10/10/2012	12J069-25	SW6010B	Lead	20.1		mg/kg	J	Field duplicate RPD > control limit
7CS912	10/10/2012	12J069-25	SW8015B	TPH-d	43		mg/kg	J	Field duplicate RPD > control limit
7CS912	10/10/2012	12J069-25	SW8015B	TPH-mo	310		mg/kg	J	Field duplicate RPD > control limit
G No. 12J083									
7CS36	10/11/2012	12J083-01	939-M	Organic lead	0.0279		mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS37	10/11/2012	12J083-02	939-M	Organic lead	0.0653		mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS38	10/11/2012	12J083-03	939-M	Organic lead	4.42		mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS39	10/11/2012	12J083-04	939-M	Organic lead	0.0105	U	mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS40	10/11/2012	12J083-05	939-M	Organic lead	0.0103	U	mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS41	10/11/2012	12J083-06	939-M	Organic lead	0.342		mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS42	10/11/2012	12J083-07	939-M	Organic lead	0.725		mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS43	10/11/2012	12J083-08	939-M	Organic lead	0.00708		mg/kg	MF	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS44	10/11/2012	12J083-09	939-M	Organic lead	0.0103	U	mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS45	10/11/2012	12J083-10	939-M	Organic lead	0.0107	U	mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS46	10/11/2012	12J083-11	939-M	Organic lead	4.57		mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit

TABLE B-2

FINAL QUALIFIED DATA SUMMARY
SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL
SITE FT007
FORMER MARCH AIR FORCE BASE, CALIFORNIA

Sample Identification	Sample Date	Laboratory Identification	Method	Parameter	Lab Result	Lab Qualifier	Units	Final Validation Qualifier	Reason
7CS47	10/11/2012	12J083-12	939-M	Organic lead	0.0107	U	mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS48	10/11/2012	12J083-13	939-M	Organic lead	0.0104	U	mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS49	10/11/2012	12J083-14	939-M	Organic lead	0.0105	U	mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS949	10/11/2012	12J083-15	939-M	Organic lead	0.0105	U	mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS50	10/11/2012	12J083-16	939-M	Organic lead	0.00992		mg/kg	MF	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS51	10/11/2012	12J083-17	939-M	Organic lead	0.0108	U	mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS52	10/11/2012	12J083-18	939-M	Organic lead	0.0607		mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS53	10/11/2012	12J083-19	939-M	Organic lead	0.0107	U	mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS54	10/11/2012	12J083-20	939-M	Organic lead	0.0107	U	mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
7CS56	10/11/2012	12J083-23	939-M	Organic lead	0.0106	U	mg/kg	M	MS or MSD %R < lower control limit; MS/MSD RPD > control limit
G No. 13I107									
7CS57	09/12/2013	13I107-01	939-M	Organic lead	0.0102	U	mg/kg	M	MS or MSD %R < lower control limit
7CS58	09/12/2013	13I107-02	939-M	Organic lead	0.0101	U	mg/kg	M	MS or MSD %R < lower control limit
7CS958	09/12/2013	13I107-03	939-M	Organic lead	0.0101	U	mg/kg	M	MS or MSD %R < lower control limit
7CS59	09/12/2013	13I107-04	939-M	Organic lead	0.0107	U	mg/kg	M	MS or MSD %R < lower control limit
7CS60	09/12/2013	13I107-05	939-M	Organic lead	0.0205	U	mg/kg	M	MS or MSD %R < lower control limit
7CS61	09/12/2013	13I107-06	939-M	Organic lead	0.0105	U	mg/kg	M	MS or MSD %R < lower control limit
7CS62	09/12/2013	13I107-07	939-M	Organic lead	0.0107	U	mg/kg	M	MS or MSD %R < lower control limit
7CS63	09/12/2013	13I107-08	939-M	Organic lead	0.0106	U	mg/kg	M	MS or MSD %R < lower control limit
7CS64	09/12/2013	13I107-09	939-M	Organic lead	0.0113	U	mg/kg	M	MS or MSD %R < lower control limit
7CS65	09/12/2013	13I107-10	939-M	Organic lead	0.0106	U	mg/kg	M	MS or MSD %R < lower control limit
7CS66	09/12/2013	13I107-11	939-M	Organic lead	0.0205	U	mg/kg	M	MS or MSD %R < lower control limit
7CS67	09/12/2013	13I107-12	939-M	Organic lead	0.0103	U	mg/kg	M	MS or MSD %R < lower control limit
G No. 13I108									
7CS68	09/12/2013	13I108-01	939-M	Organic lead	0.0106	U	mg/kg	M	MS or MSD %R < lower control limit
7CS69	09/12/2013	13I108-02	939-M	Organic lead	0.0104	U	mg/kg	M	MS or MSD %R < lower control limit
7CS969	09/12/2013	13I108-03	939-M	Organic lead	0.0103	U	mg/kg	M	MS or MSD %R < lower control limit
7CS70	09/12/2013	13I108-04	939-M	Organic lead	0.0108	U	mg/kg	M	MS or MSD %R < lower control limit
7CS71	09/12/2013	13I108-05	939-M	Organic lead	0.0105	U	mg/kg	M	MS or MSD %R < lower control limit
7CS72	09/12/2013	13I108-06	939-M	Organic lead	0.0112	U	mg/kg	M	MS or MSD %R < lower control limit
7CS73	09/12/2013	13I108-07	939-M	Organic lead	0.0113	U	mg/kg	M	MS or MSD %R < lower control limit
7CS74	09/12/2013	13I108-08	939-M	Organic lead	0.0104	U	mg/kg	M	MS or MSD %R < lower control limit
7CS974	09/12/2013	13I108-09	939-M	Organic lead	0.0104	U	mg/kg	M	MS or MSD %R < lower control limit
7CS75	09/12/2013	13I108-10	939-M	Organic lead	0.0105	U	mg/kg	M	MS or MSD %R < lower control limit
7CS76	09/12/2013	13I108-11	939-M	Organic lead	0.0103	U	mg/kg	M	MS or MSD %R < lower control limit

TABLE B-2

FINAL QUALIFIED DATA SUMMARY
SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL
SITE FT007
FORMER MARCH AIR FORCE BASE, CALIFORNIA

Sample Identification	Sample Date	Laboratory Identification	Method	Parameter	Lab Result	Lab Qualifier	Units	Final Validation Qualifier	Reason
7CS77	09/12/2013	13I108-12	939-M	Organic lead	0.0107	U	mg/kg	M	MS or MSD %R < lower control limit
7CS78	09/12/2013	13I108-13	939-M	Organic lead	0.0114	U	mg/kg	M	MS or MSD %R < lower control limit
7CS79	09/12/2013	13I108-14	939-M	Organic lead	0.00998	U	mg/kg	M	MS or MSD %R < lower control limit

Detected concentration is less than reporting limit and greater than method detection limit
Result is qualified as estimated
The result(s) of associated quality control indicates possible matrix interference
- Matrix spike
D - Matrix spike duplicate
kg - milligrams per kilogram
- Percent recovery
D - Relative percent difference
G - Sample delivery group
Result is nondetect at the reporting limit
Greater than
Less than

TABLE B-3

FIELD DUPLICATE RPD SUMMARY
SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL
SITE FT007
FORMER MARCH AIR FORCE BASE, CALIFORNIA
(Page 1 of 2)

Location Identification	Sample Date	Method	Parameter	Primary Sample Concentration	Primary Sample Flag	Field Duplicate Concentration	Field Duplicate Flag	Units	RPD Percent	Maximum RPD
7CS03	10/09/2012	SW6010B	Lead	4.09		4.77		mg/kg	15	30
7CS03	10/09/2012	939-M	Organic lead	< 0.0103	M	< 0.0102	M	mg/kg	na	na
7CS03	10/09/2012	SW8015B	TPH-d	< 10		< 10		mg/kg	na	na
7CS03	10/09/2012	SW8015B	TPH-mo	< 10		< 10		mg/kg	na	na
7CS12	10/10/2012	SW6010B	**Lead**	**34.8**	**J**	**20.1**	**J**	**mg/kg**	**54**	**30**
7CS12	10/10/2012	939-M	**Organic lead**	**0.517**	**J**	**0.329**	**J**	**mg/kg**	**44**	**30**
7CS12	10/10/2012	SW8015B	**TPH-d**	**100**	**J**	**43**	**J**	**mg/kg**	**80**	**50**
7CS12	10/10/2012	SW8015B	**TPH-mo**	**550**	**J**	**310**	**J**	**mg/kg**	**56**	**50**
7CS23	10/10/2012	SW6010B	**Lead**	**41.8**	**J**	**59.7**	**J**	**mg/kg**	**35**	**30**
7CS23	10/10/2012	939-M	**Organic lead**	**0.0189**	**J**	**0.166**	**J**	**mg/kg**	**159**	**30**
7CS23	10/10/2012	SW8015B	TPH-d	6.6	F	11		mg/kg	na	na
7CS23	10/10/2012	SW8015B	TPH-mo	93		150		mg/kg	47	50
7CS31	10/10/2012	SW6010B	Lead	5.21		4.65		mg/kg	11	30
7CS31	10/10/2012	939-M	Organic lead	< 0.0112		< 0.0113		mg/kg	na	na
7CS31	10/10/2012	SW8015B	TPH-d	< 11		< 11		mg/kg	na	na
7CS31	10/10/2012	SW8015B	TPH-mo	< 11		< 11		mg/kg	na	na
7CS49	10/11/2012	SW6010B	Lead	5.78		5.78		mg/kg	0.0	30
7CS49	10/11/2012	939-M	Organic lead	< 0.0105	M	< 0.0105	M	mg/kg	na	na
7CS49	10/11/2012	SW8015B	TPH-d	< 11		< 11		mg/kg	na	na
7CS49	10/11/2012	SW8015B	TPH-mo	< 11		< 11		mg/kg	na	na
7CS55	10/11/2012	SW6010B	Lead	4.88		5.48		mg/kg	12	30
7CS55	10/11/2012	939-M	Organic lead	< 0.0105		< 0.0106		mg/kg	na	na
7CS55	10/11/2012	SW8015B	TPH-d	< 10		< 11		mg/kg	na	na
7CS55	10/11/2012	SW8015B	TPH-mo	< 10		< 11		mg/kg	na	na
7CS58	09/12/2013	SW6010B	Lead	4.99		5.24		mg/kg	4.9	30
7CS58	09/12/2013	939-M	Organic lead	< 0.0101	M	< 0.0101	M	mg/kg	na	na
7CS58	09/12/2013	939-M	Organic lead, Leachate (SW1311)	< 5		< 5		ug/L	na	na
7CS58	09/12/2013	939-M	Organic lead, Leachate (WET)	< 5		< 5		ug/L	na	na
7CS58	09/12/2013	SW8015B	TPH-d	< 10		< 10		mg/kg	na	na

TABLE B-3

FIELD DUPLICATE RPD SUMMARY
SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL
SITE FT007
FORMER MARCH AIR FORCE BASE, CALIFORNIA
(Page 2 of 2)

Location Identification	Sample Date	Method	Parameter	Primary Sample Concentration	Primary Sample Flag	Field Duplicate Concentration	Field Duplicate Flag	Units	RPD Percent	Maximum RPD
7CS58	09/12/2013	SW8015B	TPH-mo	< 10		< 10		mg/kg	na	na
7CS69	09/12/2013	SW6010B	Lead	5.43		5.73		mg/kg	5.4	30
7CS69	09/12/2013	939-M	Organic lead	< 0.0104	M	< 0.0103	M	mg/kg	na	na
7CS69	09/12/2013	939-M	Organic lead, Leachate (SW1311)	< 5		< 5		ug/L	na	na
7CS69	09/12/2013	939-M	Organic lead, Leachate (WET)	< 5		< 5		ug/L	na	na
7CS69	09/12/2013	SW8015B	TPH-d	< 10		< 10		mg/kg	na	na
7CS69	09/12/2013	SW8015B	TPH-mo	13		17		mg/kg	27	50
7CS74	09/12/2013	SW6010B	Lead	4.29		4.17		mg/kg	2.8	30
7CS74	09/12/2013	939-M	Organic lead	< 0.0104	M	< 0.0104	M	mg/kg	na	na
7CS74	09/12/2013	939-M	Organic lead, Leachate (SW1311)	< 5		< 5		ug/L	na	na
7CS74	09/12/2013	939-M	Organic lead, Leachate (WET)	< 5		< 5		ug/L	na	na
7CS74	09/12/2013	SW8015B	TPH-d	< 10		< 10		mg/kg	na	na
7CS74	09/12/2013	SW8015B	TPH-mo	< 10		< 10		mg/kg	na	na

Note: RPDs in bold are greater than the control limit

F - Detected concentration is less than reporting limit and greater than method detection limit
J - Result is qualified as estimated
M - The result(s) of associated quality control indicates possible matrix interference
ug/L - micrograms per liter
mg/kg - milligrams per kilogram
na - Not applicable. The RPD was not calculated when a given parameter was not detected in both the primary field sample and its associated field duplicate sample above the reporting limit.
RPD - Relative percent difference
TPH-d - total petroleum hydrocarbons quantified as diesel
TPH-mo - total petroleum hydrocarbons quantified as motor oil
< - less than

TABLE B-4

COMPLETENESS SUMMARY
SURFICIAL SOILS IMPACTED BY LEAD AND PETROLEUM MATERIAL
SITE FT007
FORMER MARCH AIR FORCE BASE, CALIFORNIA

Parameter	Method	Total Number of Possible Results	Total Number of Sample Results	Number of Rejected Data	Percent Completeness
Lead	SW6010B	79	79	0	100
Organic lead	939-M	79	79	0	100
Organic lead, Leachate (STLC)	939-M	23	23	0	100
Organic lead, Leachate (TCLP)	939-M	23	23	0	100
TPH-d	SW8015B	79	79	0	100
TPH-mo	SW8015B	79	79	0	100

Note: See discussion in Section B.5.4 for completeness.
Only results for primary samples (not field duplicates or field blank samples) are included in the calculation of percent completeness.

STLC - soluble threshold limit concentration
TCLP - toxicity characteristic leaching procedure
TPH-d - total petroleum hydrocarbons quantified as diesel
TPH-mo - total petroleum hydrocarbons quantified as motor oil

APPENDIX C

FULL DATA TABLES

Location ID:	7CS01	7CS02	7CS03	7CS04	7CS05	7CS06	7CS07	7CS08	7CS09	7CS10	7CS11	
Depth Interval (ft bgs):	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	7.8 - 8.3	5.6 - 6.1	6.0 - 6.5	1.6 - 2.1	1.7 - 2.2	1.8 - 2.3	
Sample Date:	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/10/2012	10/10/2012	10/10/2012	
Sample Type:	Normal	Normal	Normal/Dup	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	
(ug/kg)												
	751 M	<10.4 M	<10.3 M / <10.2 M	<10.6 M	<10.3 M	**2360 M**	**469 M**	**502 M**	<10.4	**6480**	<10.4	**5**
g)												
	100	<10	<10 / <10	<11	<10	**790**	**12**	**110**	<10	**180**	<10	
	--	--	--	--	--	**10**	**0.81 F**	<1	--	--	--	
	350	<10	<10 / <10	**8 F**	**11**	**2200**	**120**	**600**	<10	**990**	<10	**5**
kg)												
	107	**4.25**	**4.09 / 4.77**	**20.5**	**4.61**	**16.4**	**3.73**	**9.13**	**6.35**	**31.2**	**4.87**	**3**
g)												
ne	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
ne	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0058	<0.0061	<0.0059	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	**0.0071**	<0.0061	<0.0059	--	--	--	
opane	--	--	--	--	--	<0.0096	<0.01	<0.0098	--	--	--	
ylene Dibromide)	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	**0.0027 F**	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0058	<0.0061	<0.0059	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--	
	--	--	--	--	--	<0.0058	<0.0061	<0.0059	--	--	--	

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Location ID:	7CS01	7CS02	7CS03	7CS04	7CS05	7CS06	7CS07	7CS08	7CS09	7CS10	7CS11
Depth Interval (ft bgs):	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	7.8 - 8.3	5.6 - 6.1	6.0 - 6.5	1.6 - 2.1	1.7 - 2.2	1.8 - 2.3
Sample Date:	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	10/10/2012	10/10/2012	10/10/2012
Sample Type:	Normal	Normal	Normal/Dup	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
g) (continued)											
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
e	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
e	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
e	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
ene)	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	**0.0052**	<0.0051	<0.0049	--	--	--
er	--	--	--	--	--	<0.019	<0.02	<0.02	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	**0.0047 F**	<0.0051	<0.0049	--	--	--
oluene)	--	--	--	--	--	<0.0058	<0.0061	<0.0059	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
CE)	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
e	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
ne	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--
	--	--	--	--	--	<0.0048	<0.0051	<0.0049	--	--	--

FORMER MARCH AFB, CALIFORNIA
(3 of 10)

Location ID:	7CS14	7CS15	7CS16	7CS17	7CS18	7CS19	7CS20	7CS21	7CS22
Depth Interval (ft bgs):	1.7 - 2.2	0.8 - 1.3	0.7 - 1.2	0.3 - 0.8	0.3 - 0.8	0.9 - 1.4	3.8 - 4.3	2.7 - 3.2	1.1 - 1.6
Sample Date:	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/201
Sample Type:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
ganic Lead by CAPBO (ug/kg)									
Organic lead	**14.3**	**22.7**	**784**	<10.4	<10.4	<10.7	**42.1**	**3690**	**23.1**
Hs by SW8015B (mg/kg)									
TPH-d	**5.8 F**	**7.1 F**	**72**	<10	<10	<11	**13**	**250**	**15**
TPH-g	--	--	--	--	--	--	--	--	--
TPH-mo	**76**	**91**	**480**	**22**	<10	**35**	**100**	**1900**	**110**
tals by SW6010B (mg/kg)									
Lead	**17.7**	**7.74**	**15.8**	**11**	**5.52**	**7.96**	**13.7**	**22.3**	**12.3**
Cs by SW8260B (mg/kg)									
1,1,1,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene Dibromide)	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--
1-chlorohexane	--	--	--	--	--	--	--	--	--
2,2-dichloropropane	--	--	--	--	--	--	--	--	--
2-chlorotoluene	--	--	--	--	--	--	--	--	--
4-chlorotoluene	--	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	--	--	--	--	--
Bromobenzene	--	--	--	--	--	--	--	--	--
Bromochloromethane	--	--	--	--	--	--	--	--	--
Bromodichloromethane	--	--	--	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--	--	--	--

FORMER MARCH AFB, CALIFORNIA
(4 of 10)

Location ID:	7CS14	7CS15	7CS16	7CS17	7CS18	7CS19	7CS20	7CS21	7CS22
Depth Interval (ft bgs):	1.7 - 2.2	0.8 - 1.3	0.7 - 1.2	0.3 - 0.8	0.3 - 0.8	0.9 - 1.4	3.8 - 4.3	2.7 - 3.2	1.1 - 1.6
Sample Date:	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/20
Sample Type:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Cs by SW8260B (mg/kg) (continued)									
Chloroethane	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethylene	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--	--	--	--
Dibromomethane	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	--	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	--	--	--	--	--
Isopropylbenzene (Cumene)	--	--	--	--	--	--	--	--	--
m,p-Xylene	--	--	--	--	--	--	--	--	--
Methyl tertiary-butyl ether	--	--	--	--	--	--	--	--	--
Methylene chloride	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--	--
n-Butylbenzene	--	--	--	--	--	--	--	--	--
n-Propylbenzene	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	--	--	--	--	--
p-Cymene (p-isopropyltoluene)	--	--	--	--	--	--	--	--	--
Sec-butylbenzene	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--
t-Butylbenzene	--	--	--	--	--	--	--	--	--
Tetrachloroethylene (PCE)	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--	--	--	--
Trichloroethylene (TCE)	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	--	--	--	--	--	--	--

Location ID:	7CS23	7CS24	7CS25	7CS26	7CS27	7CS28	7CS29	7CS30	7CS31
Depth Interval (ft bgs):	0.7 - 1.2	0.4 - 0.9	2.0 - 2.5	3.6 - 4.1	3.2 - 3.7	0.4 - 0.9	0.7 - 1.2	1.5 - 2	3.7 - 4.2
Sample Date:	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012
Sample Type:	Normal/Dup	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal/Dup
(ug/kg)									
	18.9 J / 166 J	<10.4	<10.9	<11.2	**14.2**	**6860**	<10.3	**6.51 F**	<11.2 / <11.3
g)									
	6.6 F / 11	<10	<11	<11	<11	**1200**	<10	<11	<11 / <11
	--	--	--	--	--	--	--	--	--
	93 / 150	**6.3 F**	<11	**13**	**19**	**5600**	<10	**28**	<11 / <11
kg)									
	41.8 J / 59.7 J	**34.5**	**7.08**	**5.38**	**4.81**	**168**	**8.48**	**8.28**	**5.21 / 4.65**
g)									
ne	--	--	--	--	--	--	--	--	--
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FORMER MARCH AFB, CALIFORNIA
(6 of 10)

Location ID:	7CS23	7CS24	7CS25	7CS26	7CS27	7CS28	7CS29	7CS30	7CS31
Depth Interval (ft bgs):	0.7 - 1.2	0.4 - 0.9	2.0 - 2.5	3.6 - 4.1	3.2 - 3.7	0.4 - 0.9	0.7 - 1.2	1.5 - 2	3.7 - 4.2
Sample Date:	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012
Sample Type:	Normal/Dup	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal/Dup
g) (continued)									
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FORMER MARCH AFB, CALIFORNIA
(7 of 10)

Location ID:	7CS34	7CS35	7CS36	7CS37	7CS38	7CS39	7CS40	7CS41	7CS42	7CS43	7
Depth Interval (ft bgs):	0.7 - 1.2	1.0 - 1.5	0.6 - 1.1	1.1 - 1.6	1.3 - 1.8	1.1 - 1.6	1.3 - 1.8	1.0 - 1.5	2.1 - 2.6	1.2 - 1.7	0.
Sample Date:	10/10/2012	10/10/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/
Sample Type:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	N
APBO (ug/kg)											
	66.6	**1220**	**27.9 M**	**65.3 M**	**4420 M**	<10.5 M	<10.3 M	**342 M**	**725 M**	**7.08 M**	<
mg/kg)											
	30	**67**	<10	<11	**860**	<11	<10	**41**	**23**	**8.3 F**	
	--	--	--	--	--	--	--	--	--	--	
	170	**420**	**41**	**34**	**2900**	**42**	<10	**470**	**230**	**100**	
(mg/kg)											
	16.8	**82.8**	**20.3**	**16.4**	**85.3**	**44.3**	**4.76**	**21.2**	**17.7**	**12**	
(mg/kg)											
oethane	--	--	--	--	--	--	--	--	--	--	
ane	--	--	--	--	--	--	--	--	--	--	
oethane	--	--	--	--	--	--	--	--	--	--	
ane	--	--	--	--	--	--	--	--	--	--	
e	--	--	--	--	--	--	--	--	--	--	
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zene	--	--	--	--	--	--	--	--	--	--	
pane	--	--	--	--	--	--	--	--	--	--	
zene	--	--	--	--	--	--	--	--	--	--	
nzene	--	--	--	--	--	--	--	--	--	--	
oropropane	--	--	--	--	--	--	--	--	--	--	
e (Ethylene Dibromide)	--	--	--	--	--	--	--	--	--	--	
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FORMER MARCH AFB, CALIFORNIA
(8 of 10)

Location ID:	7CS34	7CS35	7CS36	7CS37	7CS38	7CS39	7CS40	7CS41	7CS42	7CS43	7
Depth Interval (ft bgs):	0.7 - 1.2	1.0 - 1.5	0.6 - 1.1	1.1 - 1.6	1.3 - 1.8	1.1 - 1.6	1.3 - 1.8	1.0 - 1.5	2.1 - 2.6	1.2 - 1.7	0.
Sample Date:	10/10/2012	10/10/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/
Sample Type:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	N
(mg/kg) (continued)											
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thane	--	--	--	--	--	--	--	--	--	--	
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ethane	--	--	--	--	--	--	--	--	--	--	
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(Cumene)	--	--	--	--	--	--	--	--	--	--	
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FORMER MARCH AFB, CALIFORNIA
(9 of 10)

Location ID:	7CS46	7CS47	7CS48	7CS49	7CS50	7CS51	7CS52	7CS53	7CS54	7CS
Depth Interval (ft bgs):	0.9 - 1.4	1.2 - 1.7	1.2 - 1.7	1.1 - 1.6	0.7 - 1.2	0.3 - 0.8	0.3 - 0.8	1.0 - 1.5	0.6 - 1.1	0.8 -
Sample Date:	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/
Sample Type:	Normal	Normal	Normal	Normal/Dup	Normal	Normal	Normal	Normal	Normal	Norma
APBO (ug/kg)										
	4570 M	<10.7 M	<10.4 M	<10.5 M / <10.5 M	**9.92 M**	<10.8 M	**60.7 M**	<10.7 M	<10.7 M	<10.5 /
(mg/kg)										
	95	<11	<10	<11 / <11	<11	<11	<11	<11	<11	<10 /
	--	--	--	--	--	--	--	--	--	--
	650	<11	<10	<11 / <11	**6.3 F**	<11	**19**	**5.8 F**	**6.1 F**	<10 /
B (mg/kg)										
	74.6	**6.09**	**4**	**5.78 / 5.78**	**8.3**	**5.55**	**25.9**	**6.41**	**5.61**	**4.88 /**
(mg/kg)										
roethane	--	--	--	--	--	--	--	--	--	--
hane	--	--	--	--	--	--	--	--	--	--
roethane	--	--	--	--	--	--	--	--	--	--
hane	--	--	--	--	--	--	--	--	--	--
ne	--	--	--	--	--	--	--	--	--	--
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ene	--	--	--	--	--	--	--	--	--	--
enzene	--	--	--	--	--	--	--	--	--	--
opane	--	--	--	--	--	--	--	--	--	--
enzene	--	--	--	--	--	--	--	--	--	--
enzene	--	--	--	--	--	--	--	--	--	--
hloropropane	--	--	--	--	--	--	--	--	--	--
ne (Ethylene Dibromide)	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
hane	--	--	--	--	--	--	--	--	--	--
ethane	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--

FORMER MARCH AFB, CALIFORNIA
(10 of 10)

Location ID:	7CS46	7CS47	7CS48	7CS49	7CS50	7CS51	7CS52	7CS53	7CS54	7CS
Depth Interval (ft bgs):	0.9 - 1.4	1.2 - 1.7	1.2 - 1.7	1.1 - 1.6	0.7 - 1.2	0.3 - 0.8	0.3 - 0.8	1.0 - 1.5	0.6 - 1.1	0.8 -
Sample Date:	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/2012	10/11/
Sample Type:	Normal	Normal	Normal	Normal/Dup	Normal	Normal	Normal	Normal	Normal	Norma
3 (mg/kg) (continued)										
	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
thylene	--	--	--	--	--	--	--	--	--	--
ropene	--	--	--	--	--	--	--	--	--	--
ethane	--	--	--	--	--	--	--	--	--	--
e	--	--	--	--	--	--	--	--	--	--
nethane	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
liene	--	--	--	--	--	--	--	--	--	--
e (Cumene)	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
utyl ether	--	--	--	--	--	--	--	--	--	--
de	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
e	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
propyltoluene)	--	--	--	--	--	--	--	--	--	--
e	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
ene (PCE)	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
oethene	--	--	--	--	--	--	--	--	--	--
opropene	--	--	--	--	--	--	--	--	--	--
e (TCE)	--	--	--	--	--	--	--	--	--	--
ethane	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--

Units:
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram

Formatted Chemical Concentrations:
Bold = Detected Result

Qualifiers:
F = The analyte was positively identified, but the quantitationis below the reporting limit.

APPENDIX C

CONFIRMATION SAMPLE ORGANIC LEAD SPECIATION ANALYTICAL RESULTS, OCTOBER 2012
SITE FT007
FORMER MARCH AFB, CALIFORNIA
(1 of 1)

Location ID:	**7CS01**	**7CS06**	**7CS10**	**7CS21**	**7CS28**	**7CS33**	**7CS38**	**7CS46**
Depth Interval (ft bgs):	0 - 0.5	7.8 - 8.3	1.7 - 2.2	2.7 - 3.2	0.4 - 0.9	0.5 - 1	1.3 - 1.8	0.9 - 1.4
Sample Date	10/9/2012	10/9/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/11/2012	10/11/2012
Sample Type:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Organic Lead Speciation (ug/kg)								
Total Organic Lead (ICP-MS)	9	**10**	**49**	**21**	**52**	**64**	**37**	**21**
Tetraethyl Lead (RP-ICP-MS)	< 3	< 3	< 3	< 3	< 3	< 3	3	< 3
Tetramethyl Lead (RP-ICP-MS)	**21**	< 14	< 14	< 14	< 14	< 14	**16**	< 14
Triethyl Lead (IC-ICP-MS)	< 9	< 9	< 9	< 9	< 9	< 9	< 9	< 9
Trimethyl Lead (IC-ICP-MS)	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8

Speciation Methods:
ICP = Inductively Coupled Plasma
MS = Mass Spectrometry
RP = Reverse Phase
IC = Ion Chromatography

Units:
ug/kg = micrograms per kilogram

Formatted Chemical Concentrations:
Bold = Detected Result
< = analyte not detected at detection limit shown

FORMER MARKHAM AFB, CALIFORNIA
(1 of 2)

Location ID:	7CS57	7CS58	7CS59	7CS60	7CS61	7CS62	7CS63	7CS64	7CS65	7CS66	7CS67	7CS68	7CS6
Depth Interval:	0 - 0.5	0 - 0.5	6 - 6.5	4 - 4.5	4 - 4.5	6 - 6.5	6 - 6.5	10 - 10.5	4 - 4.5	4 - 4.5	10 - 10.5	6 - 6.5	4 - 4.5
Sample Date:	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/20
Sample Type:	Normal	Normal/Dup	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal/D
/kg)													
	<10.2 M	<10.1 M / <10.1 M	<10.7 M	<20.5 M	<10.5 M	<10.7 M	<10.6 M	<11.3 M	<10.6 M	<20.5 M	<10.3 M	<10.6 M	<10.4 M / <
CAPBO (ug/L)													
	<5	<5 / <5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 / <5
	<5	<5 / <5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 / <5
	<10	<10 / <10	<11	<10	<10	<11	<11	<11	<11	<10	<10	<11	<10 / <
	20	<10 / <10	<11	**26**	<10	<11	<11	<11	<11	**17**	<10	**9.7 F**	**13 / 1**
	22.8	**4.99 / 5.24**	**5.32**	**5.76**	**4.39**	**5.06**	**4.89**	**5.21**	**5.32**	**3.4**	**2.14 F**	**4.42**	**5.43 / 5.**

FORMER MARKET APB, CALIFORNIA
(2 of 2)

Location ID:	7CS72	7CS73	7CS74	7CS75	7CS76	7CS77	7CS78	7CS79
Depth Interval:	10 - 10.5	10 - 10.5	4 - 4.5	4 - 4.5	6 - 6.5	6 - 6.5	10 - 10.5	4 - 4.5
Sample Date:	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013
Sample Type:	Normal	Normal	Normal/Dup	Normal	Normal	Normal	Normal	Normal
Organic Lead by CAPBO (ug/kg)								
Organic lead	<11.2 M	<11.3 M	<10.4 M / <10.4 M	<10.5 M	<10.3 M	<10.7 M	<11.4 M	<9.98 M
Organic Lead, Leachates by CAPBO (ug/L)								
Organic lead (SW1311)	<5	<5	<5 / <5	<5	<5	<5	<5	<5
Organic lead (WET)	<5	<5	<5 / <5	<5	<5	<5	<5	<5
TPHs by SW8015B (mg/kg)								
TPH-d	<11	<11	<10 / <10	<11	<10	<11	<11	<10
TPH-mo	<11	<11	<10 / <10	<11	<10	<11	<11	<10
Metals by SW6010B (mg/kg)								
Lead	**5.4**	**7.91**	**4.29 / 4.17**	**4.43**	**1.56 F**	**3.75**	**6.06**	**3.24**

Units:
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
ug/L = micrograms per Liter

Formatted Chemical Concentrations:
Bold = Detected Result
< = analyte not detected at detection limit shown

Qualifiers:
F = The analyte was positively identified, but the quantitationis below the reporting limit.
M = A matrix effect was present.

APPENDIX C

CONFIRMATION SAMPLE ORGANIC LEAD SPECIATION ANALYTICAL RESULTS, OCTOBER 2012
SITE FT007
FORMER MARCH AFB, CALIFORNIA
(1 of 1)

Location ID:	7CS57	7CS58	7CS64	7CS67	7CS70	7CS72	7CS73	7CS78
Depth Interval (ft bgs):	0 - 0.5	0 - 0.5	10 - 10.5	10 - 10.5	10 - 10.5	10 - 10.5	10 - 10.5	10 - 10.5
Sample Date	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013	9/12/2013
Sample Type:	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Organic Lead Speciation (ug/kg)								
Total Organic Lead (ICP-MS)	**0.19**	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
Tetraethyl Lead (RP-ICP-MS)	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetramethyl Lead (RP-ICP-MS)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Triethyl Lead (IC-ICP-MS)	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3
Trimethyl Lead (IC-ICP-MS)	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1	< 2.1

Speciation Methods:
ICP = Inductively Coupled Plasma
MS = Mass Spectrometry
RP = Reverse Phase
IC = Ion Chromatography

Units:
ug/kg = micrograms per kilogram

Formatted Chemical Concentrations:
Bold = Detected Result
< = analyte not detected at detection limit shown

Location ID:	7SP01	7SP02	7SP03
Event:	Stockpiles	Stockpiles	Stockpiles
Sample Date:	10/10/2012	9/12/2013	9/12/2013
Sample Type:	Normal	Normal	Normal
Organic Lead by CAPBO (ug/kg)			
Organic lead	**3450**	<10.4	**969**
Leachates by SW6010B (mg/L)			
Chromium (WET)	**0.0377 F**	--	--
Lead (SW1311)	**0.0307 F**	<0.05	<0.05
Lead (WET)	**3.32**	**0.849**	**0.806**
TPHs by SW8015B (mg/kg)			
TPH-d	**770**	**14**	**100**
TPH-g	**17**	<1	<1.1
TPH-mo	**2600**	**150**	**1100**
Metals by SW6010B (mg/kg)			
Antimony	<10.7	<10.2	<10.6
Arsenic	**1.92**	**1.85**	**2.48**
Barium	**156**	**137**	**185**
Beryllium	**0.464 F**	**0.425 F**	**0.549 F**
Cadmium	<1.07	<1.02	<1.06
Chromium	**17.8**	**15.3**	**18.5**
Cobalt	**8.43**	**7.33**	**8.69**
Copper	**19.1**	**10.5**	**12.4**
Lead	**81.3**	**23.4**	**24.8**
Molybdenum	<5.36	<5.09	<5.31
Nickel	**9.78**	**8.7**	**10.6**
Selenium	<1.07	<1.02	<1.06
Silver	**1.26**	<1.02	<1.06
Thallium	<1.07	<1.02	<1.06
Vanadium	**43.7**	**36.7**	**47.9**
Zinc	**65**	**49.9**	**63**
Metals by SW7470A/SW7471A (mg/kg)			
Mercury	<0.109	<0.104	<0.107
VOCs by SW8260B (mg/kg)			
1,1,1,2-Tetrachloroethane	--	<0.0049	<0.0051
1,1,1-Trichloroethane	--	<0.0049	<0.0051
1,1,2,2-Tetrachloroethane	--	<0.0049	<0.0051
1,1,2-Trichloroethane	--	<0.0049	<0.0051
1,1-Dichloroethane	--	<0.0049	<0.0051
1,1-Dichloroethene	--	<0.0059	<0.0061
1,1-Dichloropropene	--	<0.0049	<0.0051
1,2,3-Trichlorobenzene	--	<0.0049	<0.0051
1,2,3-Trichloropropane	--	<0.0049	<0.0051
1,2,4-Trichlorobenzene	--	<0.0049	<0.0051
1,2,4-Trimethylbenzene	--	<0.0059	<0.0061
1,2-Dibromo-3-chloropropane	--	<0.0099	<0.01
1,2-Dibromoethane (Ethylene Dibromide)	--	<0.0049	<0.0051
1,2-Dichlorobenzene	--	<0.0049	<0.0051
1,2-Dichloroethane	--	<0.0049	<0.0051
1,2-Dichloropropane	--	<0.0049	<0.0051
1,3,5-Trimethylbenzene	--	<0.0049	<0.0051
1,3-Dichlorobenzene	--	<0.0059	<0.0061
1,3-Dichloropropane	--	<0.0049	<0.0051
1,4-Dichlorobenzene	--	<0.0049	<0.0051
1-chlorohexane	--	<0.0049	<0.0051
2,2-dichloropropane	--	<0.0049	<0.0051
2-chlorotoluene	--	<0.0049	<0.0051
4-chlorotoluene	--	<0.0049	<0.0051

Location ID:	7SP01	7SP02	7SP03
Event:	Stockpiles	Stockpiles	Stockpiles
Sample Date:	10/10/2012	9/12/2013	9/12/2013
Sample Type:	Normal	Normal	Normal
VOCs by SW8260B (mg/kg) (continued)			
Bromomethane	--	<0.0099	<0.01
Carbon tetrachloride	--	<0.0049	<0.0051
Chlorobenzene	--	<0.0049	<0.0051
Chloroethane	--	<0.0049	<0.0051
Chloroform	--	<0.0049	<0.0051
Chloromethane	--	<0.0049	<0.0051
cis-1,2-Dichloroethylene	--	<0.0049	<0.0051
cis-1,3-Dichloropropene	--	<0.0049	<0.0051
Dibromochloromethane	--	<0.0049	<0.0051
Dibromomethane	--	<0.0049	<0.0051
Dichlorodifluoromethane	--	<0.0049	<0.0051
Ethylbenzene	<0.0052	<0.0049	<0.0051
Hexachlorobutadiene	--	<0.0049	<0.0051
Isopropylbenzene (Cumene)	--	<0.0049	<0.0051
m,p-Xylene	**0.0024 F**	<0.0049	<0.0051
Methyl tertiary-butyl ether	--	<0.02	<0.02
Methylene chloride	--	<0.0049	<0.0051
Naphthalene	--	<0.0049	<0.0051
n-Butylbenzene	--	<0.0049	<0.0051
n-Propylbenzene	--	<0.0049	<0.0051
o-Xylene	<0.0052	<0.0049	<0.0051
p-Cymene (p-isopropyltoluene)	--	<0.0059	<0.0061
Sec-butylbenzene	--	<0.0049	<0.0051
Styrene	--	<0.0049	<0.0051
t-Butylbenzene	--	<0.0049	<0.0051
Tetrachloroethylene (PCE)	--	<0.0049	<0.0051
Toluene	<0.0052	<0.0049	<0.0051
trans-1,2-Dichloroethene	--	<0.0049	<0.0051
trans-1,3-Dichloropropene	--	<0.0049	<0.0051
Trichloroethylene (TCE)	--	<0.0049	<0.0051
Trichlorofluoromethane	--	<0.0049	<0.0051
Vinyl chloride	--	<0.0049	<0.0051
PAHs by SW8310 (mg/kg)			
Acenaphthene	<0.036	<0.035	<0.036
Acenaphthylene	<0.072	<0.069	<0.071
Anthracene	<0.0036	<0.0035	<0.0036
Benzo(a)anthracene	**0.027**	**0.0058**	**0.0061**
Benzo(a)pyrene	**0.039**	<0.0035	<0.0036
Benzo(b)fluoranthene	**0.02**	<0.0069	<0.0071
Benzo(g,h,i)perylene	**0.052**	<0.0069	**0.01**
Benzo(k)fluoranthene	**0.028**	<0.0035	<0.0036
Chrysene	<0.0036	<0.0035	<0.0036
Dibenz(a,h)anthracene	**0.032**	<0.0069	<0.0071
Fluoranthene	**0.37**	<0.0069	<0.0071
Fluorene	**0.14**	<0.0069	<0.0071
Indeno(1,2,3-c,d)pyrene	**0.025**	<0.0035	<0.0036
Naphthalene	**0.14**	<0.035	<0.036
Phenanthrene	**0.14**	<0.0035	<0.0036
Pyrene	**0.76**	**0.0024 F**	**0.0064**

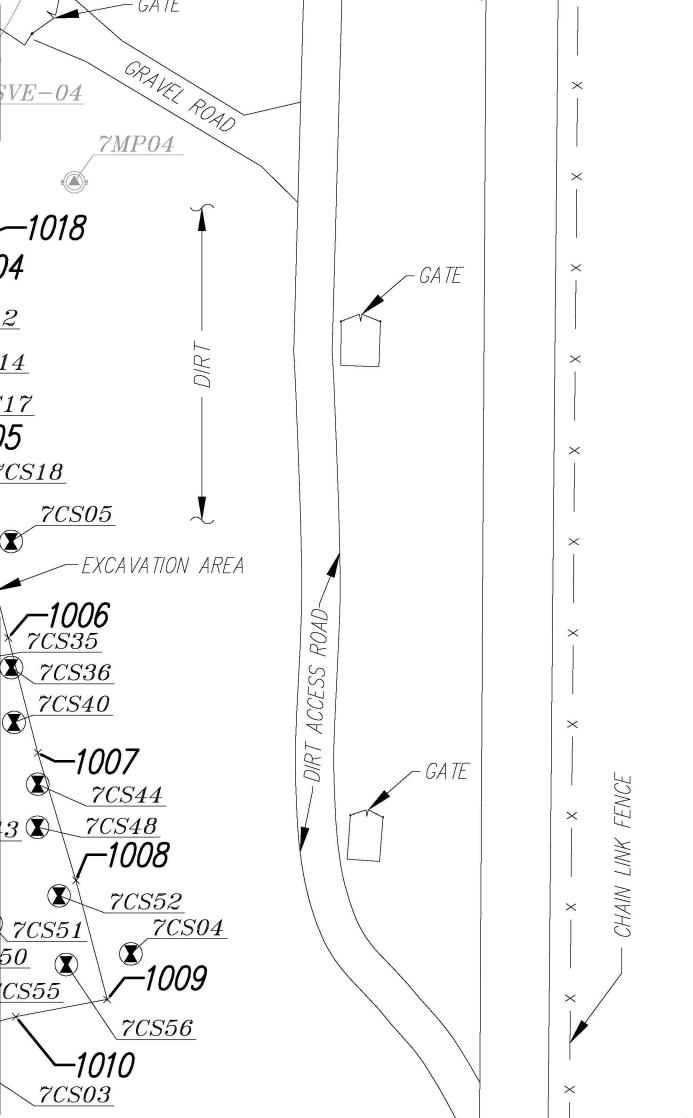
Units:
mg/kg = milligrams per kilogram

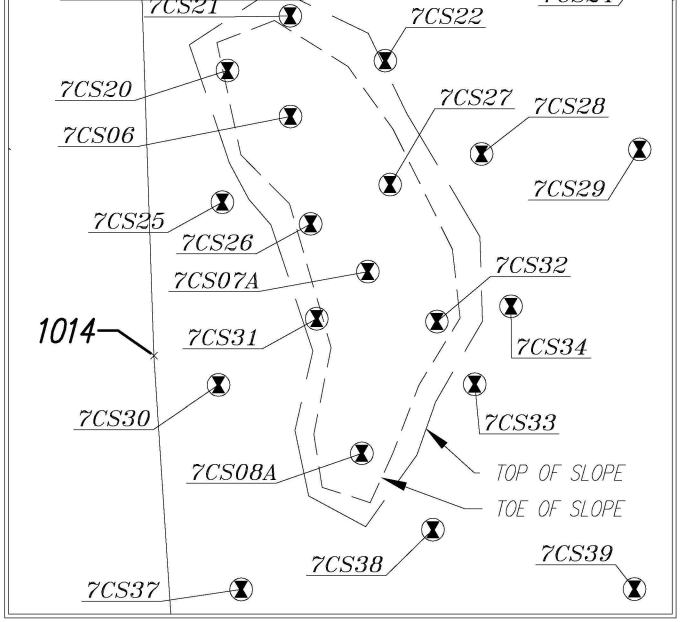
Qualifiers:
F = The analyte was positively identified,

APPENDIX D

SURVEY DATA

PROJECT: MARCH AIR FOR
17131 HEACOCK ST., MORENO





HEACOCK STREET

GRADING LIMITS

POINT	NORTH	EAST	LATITUDE (DD)	LONGITUDE (DD)	NG (ELEVATION)
1004	2264526.34	6259784.68	33.5240600	-117.1440489	1490.88
1005	2264473.69	6259796.84	33.5240080	-117.1440339	1490.49
1006	2264417.14	6259811.36	33.5239522	-117.1440160	1490.26
1007	2264381.23	6259820.56	33.5239168	-117.1440047	1489.84
1008	2264341.52	6259832.48	33.5238776	-117.1439901	1489.53
1009	2264304.28	6259842.25	33.5238409	-117.1439781	1489.19
1010	2264298.88	6259813.69	33.5238353	-117.1440119	1489.94
1011	2264292.01	6259788.46	33.5238282	-117.1440418	1489.53
1012	2264297.15	6259759.80	33.5238330	-117.1440758	1489.30
1013	2264355.82	6259752.80	33.5238910	-117.1440848	1489.16
1014	2264410.70	6259749.19	33.5239453	-117.1440897	1489.44
1015	2264464.91	6259747.38	33.5239989	-117.1440924	1489.73
1016	2264532.09	6259749.35	33.5240653	-117.1440909	1490.79
1017	2264536.25	6259769.37	33.5240697	-117.1440672	1490.84
1018	2264536.59	6259787.56	33.5240702	-117.1440456	1490.73

SURVEYED OCTOBER 11, 2012

SOIL BORINGS

WELL	NORTH	EAST	LATITUDE (DD)	LONGITUDE (DD)	NG (ELEVATION)
7CS01	2264458.12	6259736.12	33.8777557	-117.2447381	1490.48
7CS02	2264378.99	6259741.01	33.8775384	-117.2447195	1489.86
7CS03	2264285.99	6259797.09	33.8772843	-117.2445318	1489.56
7CS04	2264318.54	6259849.63	33.8773751	-117.2443597	1489.48
7CS05	2264447.27	6259812.26	33.8777279	-117.2444869	1490.27
7CS06	2264435.60	6259763.41	33.8776945	-117.2446474	1482.43
7CS07A	2264419.45	6259771.46	33.8776503	-117.2446204	1484.56
7CS08A	2264400.56	6259770.84	33.8775984	-117.2446219	1484.21
7CS09	2264525.65	6259756.85	33.8779418	-117.2446719	1490.24
7CS10	2264523.93	6259770.60	33.8779374	-117.2446265	1490.14
7CS11	2264503.28	6259754.56	33.8778803	-117.2446787	1490.09
7CS12	2264508.40	6259779.92	33.8778950	-117.2445954	1490.03
7CS13	2264487.16	6259759.37	33.8778361	-117.2446624	1489.90
7CS14	2264490.58	6259776.47	33.8778459	-117.2446062	1490.23
7CS15	2264473.07	6259761.34	33.8777974	-117.2446554	1489.69
7CS16	2264463.64	6259761.62	33.8777715	-117.2446542	1489.75
7CS17	2264467.62	6259774.91	33.8777828	-117.2446106	1489.99
7CS18	2264470.12	6259794.12	33.8777902	-117.2445474	1490.03
7CS19	2264453.08	6259755.67	33.8777423	-117.2446735	1489.40
7CS20	2264440.39	6259756.85	33.8777075	-117.2446692	1486.46
7CS21	2264446.08	6259763.39	33.8777233	-117.2446479	1487.80
7CS22	2264441.41	6259773.28	33.8777107	-117.2446151	1489.17
7CS23	2264452.46	6259781.41	33.8777413	-117.2445887	1489.59
7CS24	2264451.87	6259801.24	33.8777402	-117.2445233	1489.86
7CS25	2264426.68	6259756.32	33.8776698	-117.2446705	1488.50
7CS26	2264424.42	6259765.51	33.8776638	-117.2446402	1486.90
7CS27	2264428.51	6259773.78	33.8776753	-117.2446131	1487.07
7CS28	2264431.70	6259783.31	33.8776843	-117.2445818	1489.88
7CS29	2264432.18	6259799.78	33.8776861	-117.2445275	1489.54
7CS30	2264407.65	6259755.92	33.8776175	-117.2446712	1488.78
7CS31	2264414.54	6259766.15	33.8776367	-117.2446378	1486.63
7CS32	2264414.24	6259778.65	33.8776362	-117.2445966	1485.95
7CS33	2264407.72	6259782.60	33.8776184	-117.2445834	1489.71
7CS34	2264415.83	6259786.38	33.8776408	-117.2445712	1489.48
7CS35	2264410.73	6259804.03	33.8776272	-117.2445128	1489.30
7CS36	2264407.88	6259812.36	33.8776196	-117.2444853	1489.72
7CS37	2264386.38	6259758.27	33.8775591	-117.2446628	1488.84
7CS38	2264392.60	6259778.24	33.8775768	-117.2445972	1488.62
7CS39	2264386.42	6259799.24	33.8775603	-117.2445279	1489.21
7CS40	2264390.76	6259813.13	33.8775726	-117.2444823	1488.96
7CS41	2264368.22	6259763.74	33.8775094	-117.2446442	1488.94
7CS42	2264375.46	6259778.12	33.8775297	-117.2445971	1487.82
7CS43	2264375.42	6259799.50	33.8775301	-117.2445267	1489.05
7CS44	2264371.45	6259820.54	33.8775197	-117.2444572	1489.25
7CS45	2264345.75	6259759.24	33.8774475	-117.2446584	1489.01
7CS46	2264355.78	6259783.31	33.8774757	-117.2445794	1489.07
7CS47	2264349.05	6259804.24	33.8774578	-117.2445102	1489.09
7CS48	2264358.08	6259820.43	33.8774830	-117.2444572	1489.07
7CS49	2264323.46	6259764.43	33.8773864	-117.2446406	1488.49
7CS50	2264329.13	6259785.27	33.8774025	-117.2445721	1488.89
7CS51	2264328.01	6259806.10	33.8774000	-117.2445034	1489.23
7CS52	2264336.67	6259827.21	33.8774244	-117.2444342	1489.20
7CS53	2264300.12	6259764.87	33.8773223	-117.2446384	1488.55
7CS54	2264302.17	6259783.34	33.8773284	-117.2445776	1488.92
7CS55	2264307.36	6259800.84	33.8773431	-117.2445201	1488.74
7CS56	2264315.20	6259829.46	33.8773654	-117.2444261	1489.02

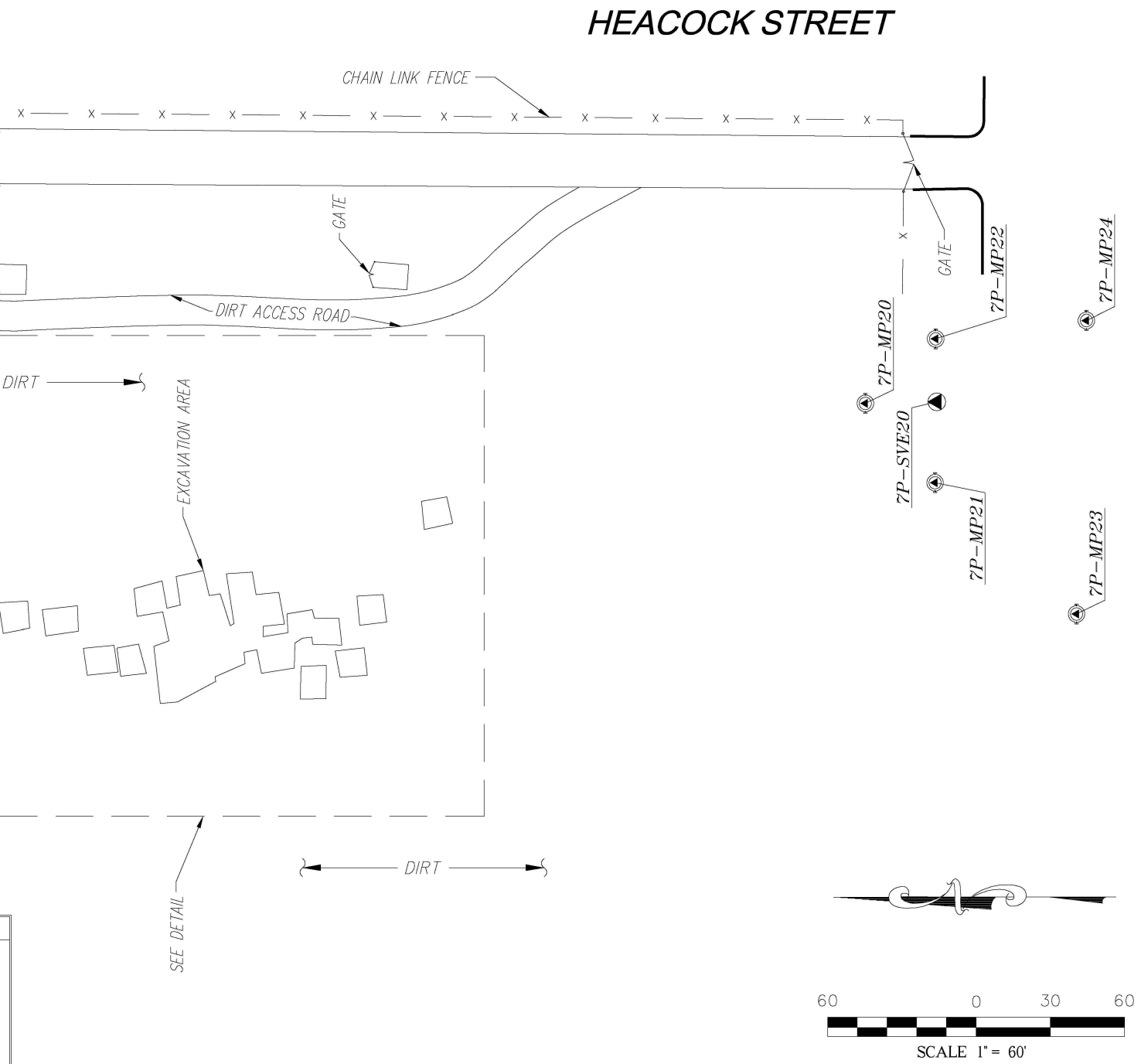
RISER_HT – RISER HEIGHT
RISER HEIGHT DEFINITION: THE MEASURED DISTANCE FROM GROUND SURFACE TO TOP OF WELL CASING.

DD: DECIMAL DEGREES

ON THE
IFORNIA

NO.	DATE	REVISIONS

PROJECT: MARCH AIR FOR
17131 HEACOCK ST., MORENO



SURVEYED OCTOBER 14, 2013

SOIL BORINGS

WELL	NORTH	EAST	LATITUDE (DD)	L
[illegible]				

MONITORIN

WELL	NORTH	EAST	LATITUDE (DD)	LO
7P-MP20S	2264162.84	6259671.36	33.8769479	
7P-MP20D	2264162.84	6259671.36	33.8769479	
7P-MP21S	2264134.66	6259639.32	33.8769386	
7P-MP21D	2264134.66	6259639.32	33.8769386	
7P-MP22S	2264134.42	6259697.44	33.8768705	
7P-MP22D	2264134.42	6259697.44	33.8768705	
7P-MP23S	2264077.47	6259756.27	33.8767111	
7P-MP23D	2264077.47	6259756.27	33.8767111	
7P-MP24S	2264073.48	6259904.83	33.8767082	
7P-MP24D	2264073.48	6259904.83	33.8767082	
7P-MP25S	2263868.94	6259709.11	33.8761855	
7P-MP25D	2263868.94	6259709.11	33.8761855	

RISER_HT – RISER HEIGHT
RISER HEIGHT DEFINITION: THE MEASURED DISTANCE FROM GROUNI

DD: DECIMAL DEGREES

* = SEE SHEET 2

LICENSED LAND SURVEYOR
Armando D. DuPont
L.S. 7780
Exp. 12-31-13
STATE OF CALIFORNIA

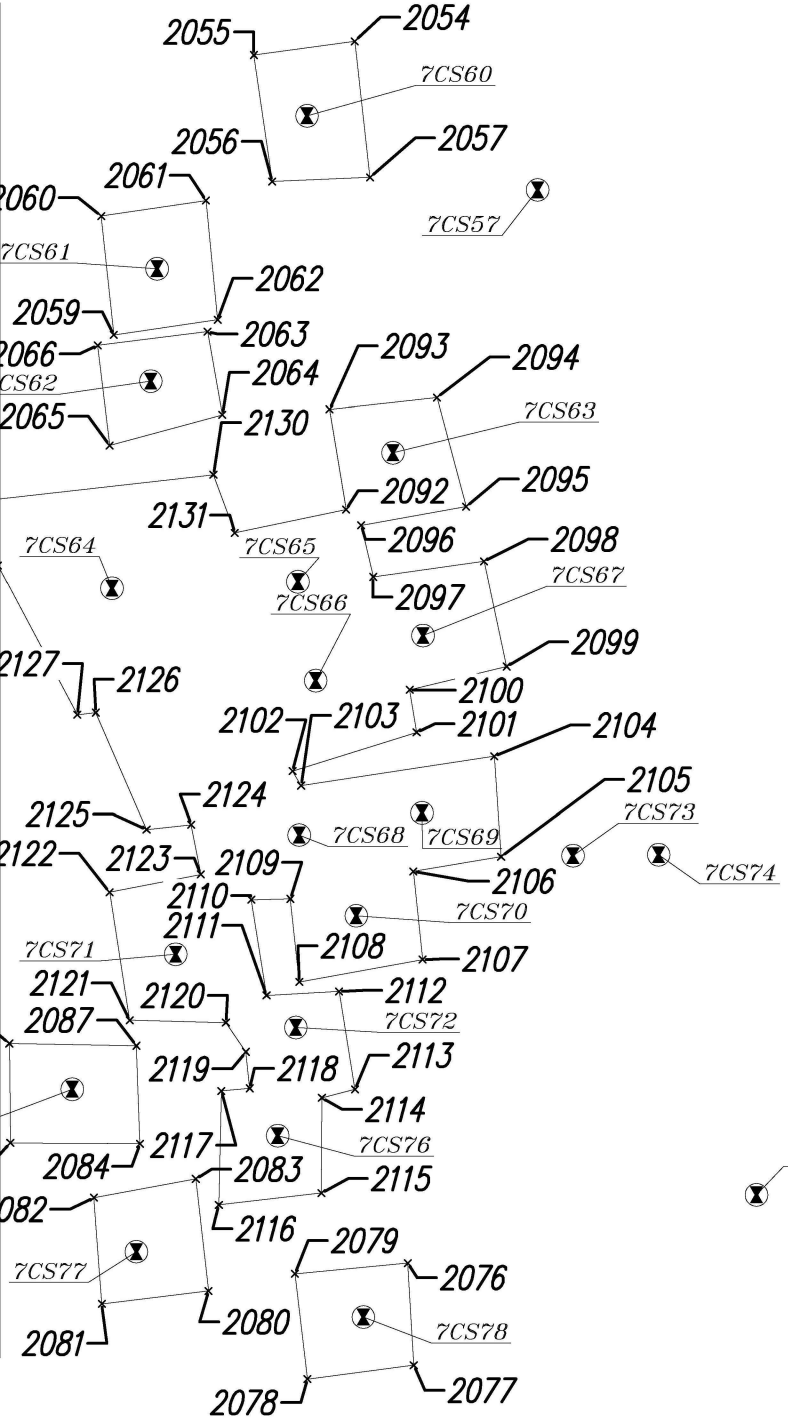
NO.	DATE	REVISIONS

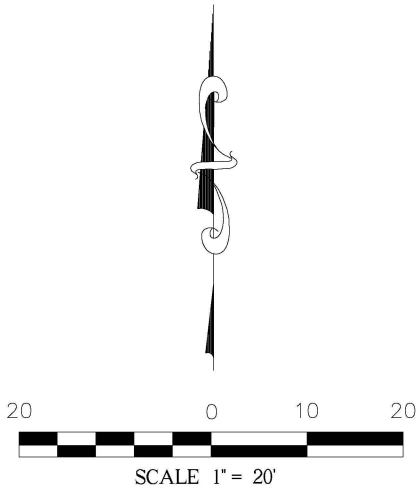
BENCH MARK

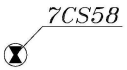
COORDINATES

PREPARED FOR

PROJECT: MARCH AIR FOR
17131 HEACOCK ST., MORENO







SURVEYED OCTOBER 14, 2013

GRADING LIMITS

POINT	NORTH	EAST	LATITUDE (DD)	LONGITUDE (DD)	NG (ELEVATION)
2051	2264511.23	6259778.52	33.8779027	-117.2446001	1490.50
2052	2264500.62	6259780.65	33.8778736	-117.2445927	1490.72
2053	2264501.41	6259791.51	33.8778761	-117.2445570	1490.88
2054	2264495.55	6259787.99	33.8778599	-117.2445684	1490.79
2055	2264494.13	6259777.47	33.8778557	-117.2446030	1490.59
2056	2264480.96	6259779.38	33.8778196	-117.2445963	1490.78
2057	2264481.39	6259789.58	33.8778210	-117.2445627	1490.52
2058	2264513.13	6259790.84	33.8779083	-117.2445595	1491.24
2059	2264464.98	6259762.89	33.8777752	-117.2446501	1490.07
2060	2264477.36	6259761.58	33.8778092	-117.2446548	1490.06
2061	2264478.97	6259772.48	33.8778139	-117.2446189	1490.44
2062	2264466.55	6259773.71	33.8777798	-117.2446145	1490.23
2063	2264465.32	6259772.65	33.8777764	-117.2446179	1490.10
2064	2264456.67	6259774.19	33.8777527	-117.2446126	1490.20
2065	2264453.49	6259762.46	33.8777436	-117.2446511	1490.04
2066	2264463.90	6259761.21	33.8777722	-117.2446556	1490.12
2069	2264341.18	6259820.39	33.8774366	-117.2444568	1489.92
2070	2264342.31	6259831.82	33.8774400	-117.2444192	1489.55
2071	2264332.07	6259833.61	33.8774119	-117.2444129	1489.66
2072	2264329.63	6259822.91	33.8774049	-117.2444481	1489.80
2076	2264368.40	6259793.50	33.8775106	-117.2445462	1488.81
2077	2264357.76	6259794.13	33.8774814	-117.2445438	1489.33
2078	2264356.31	6259783.05	33.8774772	-117.2445803	1489.54
2079	2264367.28	6259781.76	33.8775073	-117.2445849	1489.13
2080	2264365.50	6259772.75	33.8775021	-117.2446145	1489.50
2081	2264364.15	6259761.63	33.8774981	-117.2446511	1489.25
2082	2264375.18	6259760.81	33.8775284	-117.2446541	1489.36
2083	2264377.14	6259771.43	33.8775341	-117.2446192	1489.30
2084	2264380.80	6259765.61	33.8775440	-117.2446385	1489.61
2085	2264380.88	6259752.12	33.8775439	-117.2446829	1489.36
2086	2264391.23	6259752.02	33.8775723	-117.2446836	1489.38
2087	2264391.00	6259765.24	33.8775720	-117.2446400	1489.50
2092	2264446.83	6259787.09	33.8777260	-117.2445698	1490.12
2093	2264457.24	6259785.35	33.8777546	-117.2445758	1490.17
2094	2264458.46	6259796.55	33.8777582	-117.2445390	1490.16
2095	2264447.12	6259799.58	33.8777271	-117.2445287	1490.19
2096	2264445.17	6259788.66	33.8777215	-117.2445646	1490.12
2097	2264439.80	6259789.92	33.8777067	-117.2445603	1490.04
2098	2264441.42	6259801.45	33.8777115	-117.2445223	1490.20
2099	2264430.47	6259803.81	33.8776815	-117.2445142	1490.08
2100	2264428.05	6259793.71	33.8776746	-117.2445474	1489.78
2101	2264423.62	6259794.43	33.8776624	-117.2445449	1490.14
2102	2264419.58	6259781.50	33.8776510	-117.2445873	1489.14
2103	2264418.07	6259782.40	33.8776468	-117.2445843	1489.13
2104	2264421.13	6259802.52	33.8776558	-117.2445181	1490.11
2105	2264410.69	6259803.23	33.8776271	-117.2445155	1489.68
2106	2264409.16	6259794.09	33.8776227	-117.2445456	1489.67
2107	2264399.97	6259795.06	33.8775975	-117.2445421	1489.56
2108	2264397.65	6259782.21	33.8775907	-117.2445843	1489.62
2109	2264408.30	6259781.28	33.8776145	-117.2445877	1489.80
2110	2264408.21	6259777.21	33.8776141	-117.2446011	1489.01
2111	2264396.25	6259778.80	33.8775868	-117.2445955	1489.00
2112	2264396.66	6259786.35	33.8775881	-117.2445707	1489.41
2113	2264386.46	6259788.00	33.8775601	-117.2445649	1489.44
2114	2264385.58	6259784.57	33.8775576	-117.2445762	1489.03
2115	2264375.66	6259784.50	33.8775304	-117.2445761	1488.51
2116	2264374.43	6259773.83	33.8775267	-117.2446112	1489.18
2117	2264386.30	6259774.09	33.8775593	-117.2446107	1489.27
2118	2264386.57	6259777.03	33.8775601	-117.2446010	1488.90
2119	2264390.37	6259776.65	33.8775706	-117.2446024	1489.17
2120	2264393.42	6259774.57	33.8775789	-117.2446094	1489.11
2121	2264393.66	6259764.54	33.8775793	-117.2446424	1489.17
2122	2264407.00	6259762.46	33.8776159	-117.2446497	1489.34
2123	2264408.84	6259771.95	33.8776212	-117.2446185	1488.13
2124	2264414.01	6259770.94	33.8776354	-117.2446220	1487.48
2125	2264413.51	6259766.30	33.8776339	-117.2446372	1487.86
2126	2264425.67	6259761.01	33.8776672	-117.2446550	1488.05
2127	2264425.45	6259759.08	33.8776665	-117.2446614	1488.82
2128	2264440.97	6259750.85	33.8777090	-117.2446890	1489.36
2129	2264447.85	6259750.21	33.8777278	-117.2446913	1489.70
2130	2264450.45	6259773.26	33.8777356	-117.2446155	1490.01
2131	2264444.39	6259775.48	33.8777190	-117.2446080	1490.17

RISER_HT – RISER HEIGHT
RISER HEIGHT DEFINITION: THE MEASURED DISTANCE FROM GROUND SURFACE TO TOP OF WELL CASING.

DD: DECIMAL DEGREES

NO.	DATE	REVISIONS

PREPARED FOR

APPENDIX E

WASTE MANIFESTS

Bradley Tanks, Inc
MWH
March AFB
1/9/13-1/10/13

Loads 31
Tons 790.39

Ticket Date	Ticket ID	Generator	Manifest	Profile	Truck	Tons
1/9/2013	1043611	144-FORMER MARCH AIRFORCE BASE	BTI0002	611883CA	898	26.66
1/9/2013	1043614	144-FORMER MARCH AIRFORCE BASE	BTI0001	611883CA	74	25.23
1/9/2013	1043617	144-FORMER MARCH AIRFORCE BASE	BTI0003	611883CA	91	26.83
1/9/2013	1043635	144-FORMER MARCH AIRFORCE BASE	NA	611883CA	1403	26.32
1/9/2013	1043649	144-FORMER MARCH AIRFORCE BASE	BTI0007	611883CA	1319	24.04
1/9/2013	1043650	144-FORMER MARCH AIRFORCE BASE	BTI0006	611883CA	989	26.27
1/9/2013	1043656	144-FORMER MARCH AIRFORCE BASE	BTI0008	611883CA	1400	25.61
1/9/2013	1043657	144-FORMER MARCH AIRFORCE BASE	BTI0009	611883CA	20	26.08
1/9/2013	1043658	144-FORMER MARCH AIRFORCE BASE	BTI0010	611883CA	23	24.77
1/9/2013	1043690	144-FORMER MARCH AIRFORCE BASE	BTI0005	611883CA	82	27.15
1/9/2013	1043731	144-FORMER MARCH AIRFORCE BASE	BTI0025	611883CA	774	26.75
1/9/2013	1043903	144-FORMER MARCH AIRFORCE BASE	BTI0011	611883CA	985	26.32
1/10/2013	1043947	144-FORMER MARCH AIRFORCE BASE	BTI0012	611883CA	43	27.29
1/10/2013	1044080	144-FORMER MARCH AIRFORCE BASE	BTI0013	611883CA	7	23.22
1/10/2013	1044107	144-FORMER MARCH AIRFORCE BASE	BTI0015	611883CA	992	25.52
1/10/2013	1044109	144-FORMER MARCH AIRFORCE BASE	BTI 0016	611883CA	88	25.06
1/10/2013	1044112	144-FORMER MARCH AIRFORCE BASE	BTI 0014	611883CA	31	25.44
1/10/2013	1044113	144-FORMER MARCH AIRFORCE BASE	BTI0017	611883CA	898	25.49
1/10/2013	1044128	144-FORMER MARCH AIRFORCE BASE	BTI 0020	611883CA	1400	24.49
1/10/2013	1044129	144-FORMER MARCH AIRFORCE BASE	BTI0021	611883CA	991	25.69
1/10/2013	1044130	144-FORMER MARCH AIRFORCE BASE	BTI 0018	611883CA	775	24.35
1/10/2013	1044150	144-FORMER MARCH AIRFORCE BASE	BTI0023	611883CA	990	24.88
1/10/2013	1044180	144-FORMER MARCH AIRFORCE BASE	bti0026	611883CA	23	26.09
1/10/2013	1044181	144-FORMER MARCH AIRFORCE BASE	NA	611883CA	989	25.56
1/10/2013	1044199	144-FORMER MARCH AIRFORCE BASE	BTI0024	611883CA	14	25.04
1/10/2013	1044200	144-FORMER MARCH AIRFORCE BASE	BTI0022	611883CA	1319	22.47
1/10/2013	1044238	144-FORMER MARCH AIRFORCE BASE	BTI0029	611883CA	20	23.98
1/10/2013	1044239	144-FORMER MARCH AIRFORCE BASE	BTI0027	611883CA	774	25.82
1/10/2013	1044297	144-FORMER MARCH AIRFORCE BASE	BTI 0031	611883CA	501	26.62
1/10/2013	1044298	144-FORMER MARCH AIRFORCE BASE	BTI0030	611883CA	3	25.51
1/11/2013	1044375	144-FORMER MARCH AIRFORCE BASE	BTI0019	611883CA	91	25.84
Material Total	31					790.39

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1043611

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/09/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 898
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0002

	Time	Scale	Operator		
In	01/09/2013 10:43:57	1	Teresa	Gross	79200 lb
Out	01/09/2013 11:30:49	3	Brandy	Tare	25880 lb
				Net	53320 lb
				Tons	26.66

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	26.66	Tons				MORENO VA

Driver's Signature

Total Tax
Total Ticket

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 548-5850	RTI 0002

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRE-9
2261 Hughes Ave., Ste 133
Lackland AFB, TX 78236-9853 Jerry Bingham, (210) 395-9240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT-07, Fuel Cell Cluster
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: WC Logistics Inc. — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93063 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: #611983CA — Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 9 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Paul Vesel — Signature — Month 1 Day 9 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Marisa Magaña — Signature — Month 1 Day 9 Year 13

169-BLC-O 5 11977 (Rev. 9/09)

TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1043614

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/09/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 74
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0001

	Time	Scale	Operator		
In	01/09/2013 10:45:04	2	Teresa	Gross	75420 lb
Out	01/09/2013 11:28:47	3	Brandy	Tare	24960 lb
				Net	50460 lb
				Tons	25.23

Comments

Customer assumes all risks & liability to self and vehicle.

Product		LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	25.23	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 548-5859	RTT 0001

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
1861 Hughes Ave, Ste 155
Lackland AFB, TX 78236 Jerry Bingham (210) 395-8340

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: WC LOGISTICS INC — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: #611893CA

Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 9 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: CHARLIE — Signature — Month 1 Day 9 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Rebecca Avila — Signature — Month 1 Day 9 Year 13

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1043617

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/09/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 91
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0003

	Time	Scale	Operator		
In	01/09/2013 10:46:55	2	Teresa	Gross	79680 lb
Out	01/09/2013 11:20:18	3	Teresa	Tare	26020 lb
				Net	53660 lb
				Tons	26.83

Comments

Customer assumes all risks & liability to self and vehicle.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 CSC-Unspecified Special	100	26.83	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707-548-5950	PTT 0003

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave., Ste 155
Lackland AFB, TX 78236 Larry Bingham, (210) 395-8240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: WC Logistics Inc 91 — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: #61183CA

Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 9 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Alice Bennett — Signature — Month 1 Day 9 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Marisa Maguren — Signature — Month 1 Day 9 Year 13

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1043635

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/09/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 1403
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# NA

	Time	Scale	Operator
In	01/09/2013 11:01:23	2	Teresa
Out	01/09/2013 11:42:48	2	Brandy

Gross	78380 lb
Tare	25740 lb
Net	52640 lb
Tons	26.32

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	26.32	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

1403 1403

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 548-5859	BTI 0004

GENERATOR

5. Generator's Name and Mailing Address
Dept. of the Air Force AFCEC/CZRB
[illegible]

Generator's Site Address (if different than mailing address)
Travis Mesh AFB
Site FT07, Peacock Street
Moore Valley, CA 94534

Generator's Phone: [illegible]

6. Transporter 1 Company Name: W.C. Logistic Inc
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Simi Valley Landfill
2801 Madera Road
Simi Valley, CA 93063 805-579-7267
U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Approval Code #111993CA
Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham
Signature:
Month: 1 Day: 9 Year: 13

INTL

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Randy Rivera
Signature:
Month: 1 Day: 9 Year: 13

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name: Rebecca Avila
Signature:
Month: 1 Day: 9 Year: 13

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TRANSPORTER #1

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Ticket# 1043649

Customer Name:	BradleyTanksInc #629 - BRADLE	Carrier	WEST COAST SAND West Coast Sand & Gr
Ticket Date	01/09/2013	Vehicle#	1319
Payment Type	Credit Account	Container	
Billing#	0000629	Generator Name	144-FORMER MARCH AIRFORCE BASE
Manual Ticket#		Profile	611883CA (FORMER MARCH AIR FORCE BAS
PO#	NA	Manifest#	BTI0007
Contract			

	Time	Scale	Operator		
In	01/09/2013 11:14:51	1	Teresa	Gross	73820 lb
Out	01/09/2013 11:47:40	1	Brandy	Tare	25740 lb
				Net	48080 lb
				Tons	24.04

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	24.04	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707-548-5859	BTI 0002

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave., Ste 155
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: West Coast Sand & Gravel #1319 — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: 861183CA

Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month: 1 Day: 9 Year: 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jeff Higginbotham — Signature — Month: 1 Day: 9 Year: 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Marisa Magana — Signature — Month: 1 Day: 9 Year: 13

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1043650

Customer Name:BradleyTanksInc #629 - BRADLE
Ticket Date 01/09/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 989
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0006

	Time	Scale	Operator
In	01/09/2013 11:15:18	2	Teresa
Out	01/09/2013 11:41:25	3	Brandy

Gross	77960 lb
Tare	25420 lb
Net	52540 lb
Tons	26.27

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	26.27	Tons				MORENO VA

RD

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707-548-5859	BTI 0006

GENERATOR

5. Generator's Name and Mailing Address
Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave, Ste 155
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240

Generator's Site Address (if different than mailing address)
Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: WC Logistics 989 — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Approval Code: 661883CA
Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 9 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Rick Dohren — Signature — Month 1 Day 9 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Teresa Wilson — Signature — Month 1 Day 9 Year 13

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1043656

Customer Name:BradleyTanksInc #629 - BRADLE
Ticket Date 01/09/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 1400
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0008

	Time	Scale	Operator		
In	01/09/2013 11:19:54	2	Teresa	Gross	77260 lb
Out	01/09/2013 11:59:04	1	Brandy	Tare	26040 lb
				Net	51220 lb
				Tons	25.61

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	25.61	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

1400

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707-548-5859	BTI 0008

GENERATOR

5. Generator's Name and Mailing Address
Dept of the Air Force AFCEC/CZRB
[illegible]
Travis AFB, CA 94535 Larry Bingham, (210) 395-8242

Generator's Site Address (if different than mailing address)
Former March AFB
Site FT007, Hancock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name
W.C. Logistics Inc

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267

U.S. EPA ID Number
N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Approval Code: #61493CA
Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 9 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Bill Ervin — Signature — Month 1 Day 9 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: James Allen — Signature — Month 1 Day 9 Year 13

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TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1043657

Customer Name:BradleyTanksInc #629 - BRADLE
Ticket Date 01/09/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 20
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0009

	Time	Scale	Operator		
In	01/09/2013 11:22:10	1	Brandy	Gross	77740 lb
Out	01/09/2013 12:03:35	1	Brandy	Tare	25580 lb
				Net	52160 lb
				Tons	26.08

Comments

Customer assumes all risks & liability to self and vehicle.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 CSC-Unspecified Special	100	26.08	Tons				MORENO VA

Driver's Signature 

Total Tax
Total Ticket

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 548-5959	PTT 0009

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave, Ste 155
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240

Generator's Site Address (if different than mailing address)

Travis March AFB
Site PTT07, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: WC logistics Inc #20 — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: #11883CA

Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 9 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name — Signature — Month 1 Day 9 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Brandy Thorne — Signature: Brandy Thorne — Month 1 Day 9 Year 13

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1043658

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/09/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 23
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0010

	Time	Scale	Operator		
In	01/09/2013 11:23:37	2	Brandy	Gross	77120 lb
Out	01/09/2013 12:05:39	1	Brandy	Tare	27580 lb
				Net	49540 lb
				Tons	24.77

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	24.77	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 548 5959	BTI 0010

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
1261 Hughes Ave, Ste 153
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT-07, Hitchcock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: WC Logistics INC #23

U.S. EPA ID Number:

7. Transporter 2 Company Name

U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 H Madera Road
Simi Valley, CA 93065 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: #11883CA

Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 9 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Brian Cleary — Signature — Month 1 Day 9 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Marisa Megara — Signature — Month 1 Day 9 Year 13

169-BLC-O 5 11977 (Rev. 9/09)

TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1043690

Customer Name:BradleyTanksInc #629 - BRADLE
Ticket Date 01/09/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 82
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0005

	Time	Scale	Operator		
In	01/09/2013 11:08:36	2	Brandy	Gross	80140 lb*
Out	01/09/2013 11:08:36	2	Brandy	Tare	25840 lb
			* Manual Weight	Net	54300 lb
				Tons	27.15

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	27.15	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 548 5959	BTT 0005

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave, Ste 155
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: West Coast Logistics inc #82 — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93063 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00018	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: #611883CA

Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 9 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: John Landrum — Signature — Month 1 Day 9 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Marisa Magana — Signature — Month 1 Day 9 Year 13

169-BLC-O 5 11977 (Rev. 9/09)

TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065
Ph: (805) 579-7267

Original
Ticket# 1043731

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/09/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 774
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0025

	Time	Scale	Operator		
In	01/09/2013 12:59:43	3	Teresa	Gross	80020 lb
Out	01/09/2013 13:48:16	1	Brandy	Tare	26520 lb
				Net	53500 lb
				Tons	26.75

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	26.75	Tons				MORENO VA

Louis Ferguson

Driver's Signature

Total Tax
Total Ticket

203WM

7-19-13

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 548-5850	BTT-0025

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
7261 Ruppe Ave, Ste 153
Lackland AFB, TX 78236 Larry Singhara, (210) 395-8240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Peacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: WEST COAST LOGISTICS INC — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93063 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00018	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: 661188RCA

Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 7 Day 9 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: LOU KINGMA — Signature — Month 7 Day 9 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Teresa Avila — Signature — Month 7 Day 19 Year 13

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065

Ph: (805) 579-7267

Ticket# 1043903

Customer Name:	BradleyTanksInc #629 - BRADLE	Carrier	WEST COAST SAND West Coast Sand & Gr
Ticket Date	01/09/2013	Vehicle#	985
Payment Type	Credit Account	Container	
Billing#	0000629	Generator Name	144-FORMER MARCH AIRFORCE BASE
Manual Ticket#		Profile	611883CA (FORMER MARCH AIR FORCE BAS
PO#	NA	Manifest#	BTI0011
Contract			

	Time	Scale	Operator		
In	01/09/2013 15:44:35	2	Teresa	Gross	77460 lb
Out	01/09/2013 16:20:06	1	Brandy	Tare	24820 lb
				Net	52640 lb
				Tons	26.32

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	26.32	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature
Silvert Garcia

203WM

985

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 568 5850	EFI 0011

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave, Ste 155
Lackland AFB, TX 78236 Jerry Bingham (210) 395 9240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: U.C. Logistics 985 — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 Madera Road
Simi Valley, CA 93063 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: 861168CA — Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 9 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Silvert. Garcia — Signature: Silvert. Garcia — Month 1 Day 9 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Teresa Avila — Signature: T Avila — Month 1 Day 9 Year 13

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065

AR# 420923

Ph: (805) 579-7267

Original
Page 195 of 324
Ticket# 1043947

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 43
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0012

	Time	Scale	Operator
In	01/10/2013 07:12:46	1	Brandy
Out	01/10/2013 08:09:42	1	Teresa

Gross	80940 lb
Tare	26360 lb
Net	54580 lb
Tons	27.29

Comments

Customer assumes all risks & liability to self and vehicle.

Product	LDS	Qty	UOM	Rate	Tax	Amount	Origin
1 CSC-Unspecified Special	100	27.29	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 548 5850	BTT 0013

GENERATOR

5. Generator's Name and Mailing Address
Dept. of the Air Force AFCEC/CZEB
2261 Hughes Ave, Ste 155
Lackland AFB, TX 78236-9853 Jerry Bingham (210) 395-8240
Generator's Phone:

Generator's Site Address (if different than mailing address)
Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

6. Transporter 1 Company Name
West Coast Logics Inc

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93063 805-579-7267

U.S. EPA ID Number
N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Approval Code: 861883CA
Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham
Signature:
Month: 1 Day: 9 Year: 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Kevin J Yeazel
Signature:
Month: 1 Day: 9 Year: 13

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Teresa Hill
Signature:
Month: 1 Day: 10 Year: 13

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TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1044080

Customer Name:	BradleyTanksInc #629 - BRADLE	Carrier	Rodriguez Rodriguez
Ticket Date	01/10/2013	Vehicle#	007
Payment Type	Credit Account	Container	
Billing#	0000629	Generator Name	144-FORMER MARCH AIRFORCE BASE
Manual Ticket#		Profile	611883CA (FORMER MARCH AIR FORCE BAS
PO#	NA	Manifest#	BTI0013
Contract			

	Time	Scale	Operator		
In	01/10/2013 10:06:04	2	Shawn	Gross	75960 lb
Out	01/10/2013 10:26:59	3	Brandy	Tare	29520 lb
				Net	46440 lb
				Tons	23.22

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	23.22	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A		707-548-5850	RTI 0013

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
7261 Hughes Ave, Ste 153
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

A. Rodriguez Trans

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93063 805-579-7267

Facility's Phone: N/A

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: 861483CA

Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 10 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Armando Rodriguez — Signature — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Shawn Brown — Signature — Month 1 Day 10 Year 13

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1044107

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 992
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0015

	Time	Scale	Operator
In	01/10/2013 10:26:07	1	Brandy
Out	01/10/2013 10:26:07		Brandy

Gross	77060 lb
Tare	26020 lb
Net	51040 lb
Tons	25.52

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	25.52	Tons				MORENO VA

#992

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707-562-5650	BTT-0015

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave, Ste 155
Lackland AFB, TX 78236-9853 Jerry Bingham, (210) 395-8240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: WEST COAST LOGISTICS INC — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 Madera Road
Simi Valley, CA 93063 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00018	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: 861183CA

Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 10 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jon Louis Martinez — Signature — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Marisa Mrgana — Signature — Month 1 Day 10 Year 13

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TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1044109

Customer Name:BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 88
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI 0016

	Time	Scale	Operator
In	01/10/2013 10:27:59	2	Brandy
Out	01/10/2013 11:15:53	2	Teresa

Gross	76160 lb
Tare	26040 lb
Net	50120 lb
Tons	25.06

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	25.06	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature Randy

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 562 5850	BTT 9016

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave, Ste 155
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-9240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267

N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: #611883CA

Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 10 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Randy Bland — Signature — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Brandy Holmes — Signature — Month Day Year 10 13

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TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1044112

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 31
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI 0014

	Time	Scale	Operator
In	01/10/2013 10:31:11	2	Brandy
Out	01/10/2013 11:22:34	2	Teresa

Gross	76860 lb
Tare	25980 lb
Net	50880 lb
Tons	25.44

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	25.44	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 548-9850	BTL 0014

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
661 Hughes Ave, Ste 153
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: West Coast Logistics — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: #611893CA

Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 10 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Brian Van Hoogen — Signature — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Brady Helms — Signature — Month 1 Day 10 Year 13

169-BLC-O 5 11977 (Rev. 9/09)

TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1044113

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 898
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0017

	Time	Scale	Operator
In	01/10/2013 10:32:31	1	Brandy
Out	01/10/2013 10:32:31		Brandy

Gross	76860 lb
Tare	25880 lb
Net	50980 lb
Tons	25.49

Comments

Customer assumes all risks & liability to self and vehicle.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 CSC-Unspecified Special	100	25.49	Tons				MORENO VA

Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707-548-5850	BTL 0017

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
7261 Hughes Ave., Ste 119
Lackland AFB, TX 78236 Jerry Bingham (210) 395-8240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: WC Logistics Inc. — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 H Madera Road
Simi Valley, CA 93063 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00016	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code #5111003A — Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 10 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Paul Vosel — Signature — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Maria Magnuson — Signature — Month 1 Day 10 Year 13

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TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1044128

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 1400
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI 0020

	Time	Scale	Operator		
In	01/10/2013 10:42:00	3	Brandy	Gross	75020 lb
Out	01/10/2013 10:42:00		Brandy	Tare	26040 lb
				Net	48980 lb
				Tons	24.49

Comments

Customer assumes all risks & liability to self and vehicle.

Product		LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	24.49	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 548 5850	BTT 0020

GENERATOR

5. Generator's Name and Mailing Address
Dept. of the Air Force AFCEC/CZEB
2261 Hughes Ave, Ste 155
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240

Generator's Site Address (if different than mailing address)
Travis March AFB
Site FT007, Hancock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name
W.C. Logistics Inc. 1400

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Simi Valley Landfill
2801 H Madera Road
Simi Valley, CA 93065 805-579-7267

U.S. EPA ID Number
N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Approval Code: #611883CA
Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 10 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Billy Earl — Signature — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Brandy Adams — Signature: Brandy Adams — Month 1 Day 10 Year 13

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TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1044129

Customer Name:BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 991
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0021

	Time	Scale	Operator
In	01/10/2013 10:43:41	1	Brandy
Out	01/10/2013 11:25:03	2	Teresa

Gross	77720 lb
Tare	26340 lb
Net	51380 lb
Tons	25.69

Comments

Customer assumes all risks & liability to self and vehicle.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 CSC-Unspecified Special	100	25.69	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

991

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A		760 [illegible]	[illegible] 0021

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave, Ste 155
Lackland AFB, TX 78236-9853 Jerry Bingham (210) 395-8240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name

WC Corp. Svc Inc #991

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 Madera Road
Simi Valley, CA 93065 805-579-7267

U.S. EPA ID Number

Facility's Phone:

N/A

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: 861183CA

Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 10 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jim Cavanaugh — Signature — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Marisa Magana — Signature — Month 1 Day 10 Year 13

991

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TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1044130

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 775
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI 0018

	Time	Scale	Operator
In	01/10/2013 10:44:14	2	Brandy
Out	01/10/2013 11:27:02	2	Teresa

Gross	74900 lb
Tare	26200 lb
Net	48700 lb
Tons	24.35

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	24.35	Tons				MORENO VA

Driver's Signature

Total Tax
Total Ticket

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 546 5850	FTT 0018

GENERATOR

5. Generator's Name and Mailing Address

Dept of the Air Force AFCEC/CZRB
2261 Hughes Ave, Ste 155
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-9240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: HC Hauling, Inc 775 — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 W Madera Road
Simi Valley, CA 93063 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: #811683CA

Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 10 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Crush Smith — Signature — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Brady Helms — Signature: Brady Helms — Month 1 Day 10 Year 13

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center AR#
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1044150

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 990
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0023

	Time	Scale	Operator
In	01/10/2013 11:00:36	2	Brandy
Out	01/10/2013 11:54:25	1	Teresa

Gross	75720 lb
Tare	25960 lb
Net	49760 lb
Tons	24.88

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	24.88	Tons				MORENO VA

Driver's Signature 

Total Tax
Total Ticket

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707-548-5850	FTT 0023

GENERATOR

5. Generator's Name and Mailing Address
Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave, Ste 133
Lackland AFB, TX 78236-9853 Larry Bingham, (210) 395-8240
Generator's Phone:

Generator's Site Address (if different than mailing address)
Former March AFB
Site FT007, Hearock Street
Moreno Valley, CA 92518

6. Transporter 1 Company Name: W.C. LOGISTICS — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Simi Valley Landfill
2801 Madera Road
Simi Valley, CA 93065 805-579-7267
Facility's Phone: — U.S. EPA ID Number: N/A

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Approval Code: #011883CA
Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month: 1 Day: 10 Year: 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gilbert Hughes — Signature — Month: 1 Day: 10 Year: 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Brady Holmes — Signature: Brady Holmes — Month: 1 Day: 10 Year: 13

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WASTE MANAGEMENT

2801 Madera Road
Simi Valley, CA, 93065
Ph: (805) 579-7267

Ticket# 1044180

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# na
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 23
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# bti0026

	Time	Scale	Operator
In	01/10/2013 11:38:46	3	Teresa
Out	01/10/2013 11:38:46		Teresa

Gross	79760 lb
Tare	27580 lb
Net	52180 lb
Tons	26.09

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	26.09	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	N/A	1	707-548-5859	BTI 0026

GENERATOR

5. Generator's Name and Mailing Address
Dept. of the Air Force AFCEC/CZFB
1261 Hughes Ave, Ste 155
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240
Generator's Phone:

Generator's Site Address (if different than mailing address)
Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

6. Transporter 1 Company Name: WC Logistics, Inc. — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267
Facility's Phone:
U.S. EPA ID Number: N/A

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Approval Code: #611883CA
Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Calvin Cox for Jerry Bingham — Signature — Month 1 Day 10 Year 2013

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Brian Carew — Signature — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month 1 Day 10 Year 13

169-BLC-O 5 11977 (Rev. 9/09) TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1044181

Customer Name:BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 989
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# NA

	Time	Scale	Operator
In	01/10/2013 11:39:04	2	Teresa
Out	01/10/2013 11:39:04		Teresa

Gross	76540 lb
Tare	25420 lb
Net	51120 lb
Tons	25.56

Comments

Customer assumes all risks & liability to self and vehicle.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 CSC-Unspecified Special	100	25.56	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707-548-5959	BTI 0028

GENERATOR

5. Generator's Name and Mailing Address
Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave., Ste 155
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240
Generator's Phone:

Generator's Site Address (if different than mailing address)
Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

6. Transporter 1 Company Name: WC Logistics 959 — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267
Facility's Phone: — U.S. EPA ID Number: N/A

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00018	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Approval Code: #11693CA
Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Arthur C Cox for Jerry Bingham — Signature — Month 1 Day 10 Year 2013

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Rick Lohan — Signature — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Teresa Ailg — Signature — Month 1 Day 10 Year 13

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1044199

Customer Name:BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 14
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0024

	Time	Scale	Operator		
In	01/10/2013 12:25:54	1	Teresa	Gross	77660 lb*
Out	01/10/2013 12:25:54		Teresa	Tare	27580 lb*
			* Manual Weight	Net	50080 lb
				Tons	25.04

Comments

Customer assumes all risks & liability to self and vehicle.

Product		LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	25.04	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

TRUCK #14

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 548 5850	FTT 0024

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave, Ste 119
Lackland AFB, TX 78236-9853 Jerry Bingham, (210) 395-9240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93063 805-579-7267

Facility's Phone: N/A

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00018	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: 861183GA — Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 10 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name — Signature — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Teresa Avila — Signature — Month 1 Day 10 Year 13

WASTE MANAGEMENT

2801 Madera Road
Simi Valley, CA, 93065

Ticket# 1044200

Ph: (805) 579-7267

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 1319
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0022

	Time	Scale	Operator
In	01/10/2013 12:28:03	2	Teresa
Out	01/10/2013 12:28:03		Teresa

* Manual Weight

Gross	70680 lb*
Tare	25740 lb*
Net	44940 lb
Tons	22.47

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	22.47	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

B17 Truck

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 548 5850	BTT 0022

GENERATOR

5. Generator's Name and Mailing Address
Dept. of the Air Force AFCEC/CZRB
7261 Hughes Ave, Ste 155
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240
Generator's Phone:

Generator's Site Address (if different than mailing address)
Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address
Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267
Facility's Phone: N/A — U.S. EPA ID Number

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Approval Code: 8611883CA
Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month 1 Day 10 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: JEFF HAGGINBOTTOM — Signature — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Teresa Avila — Signature — Month 1 Day 10 Year 13

WASTE MANAGEMENT

2801 Madera Road
Simi Valley, CA, 93065

Ph: (805) 579-7267

Ticket# 1044238

Customer Name:	BradleyTanksInc #629 - BRADLE	Carrier	WEST COAST SAND West Coast Sand & Gr
Ticket Date	01/10/2013	Vehicle#	20
Payment Type	Credit Account	Container	
Billing#	0000629	Generator Name	144-FORMER MARCH AIRFORCE BASE
Manual Ticket#		Profile	611883CA (FORMER MARCH AIR FORCE BAS
PO# NA		Manifest#	BTI0029
Contract			

	Time	Scale	Operator		
In	01/10/2013 13:14:43	1	Shawn	Gross	73540 lb*
Out	01/10/2013 13:14:43		Shawn	Tare	25580 lb*
			* Manual Weight	Net	47960 lb
				Tons	23.98

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	23.98	Tons				MORENO VA

Driver's Signature

Total Tax
Total Ticket

203WM

TRUCK 20

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707-548-5859	BTI 0029

GENERATOR

5. Generator's Name and Mailing Address
Dept. of the Air Force AFCEC/CZPB
7261 Hughes Ave., Ste 155
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240

Generator's Site Address (if different than mailing address)
Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: WC Logistics Inc. — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93063 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Approval Code: #611883CA
Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Danny C Cox for Tracy Dunham — Signature: Danny C Cox — Month 1 Day 10 Year 2013

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Robert Magat — Signature: [signature] — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Teresa Avila — Signature: [signature] — Month 1 Day 10 Year 13

169-BLC-O 5 11977 (Rev. 9/09) TRANSPORTER #

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065

Ph: (805) 579-7267

Original
Ticket# 1044239

Customer Name: BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 774
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0027

	Time	Scale	Operator
In	01/10/2013 13:16:25	1	Shawn
Out	01/10/2013 13:16:25		Shawn
			* Manual Weight

Gross	78160 lb*
Tare	26520 lb*
Net	51640 lb
Tons	25.82

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	25.82	Tons				MORENO VA

Driver's Signature LOU KINGMA

Total Tax
Total Ticket

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707-548-5859	BTI 0027

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave., Ste 155
Lackland AFB, TX 78236 Terry Bingham, (210) 395-8240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: WEST COAST LOGISTICS INC — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00015	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: #611883CA

Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Calvin C. Cox for Terry Bingham — Signature: Calvin C. Cox — Month: 1 — Day: 10 — Year: 2013

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Louis Kingma — Signature: Louis Kingma — Month: 1 — Day: 10 — Year: 13

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Shaun Brown — Signature: Shaun Brown — Month: 1 — Day: 10 — Year: 12

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1044297

Customer Name:BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier LOS GOMEZ TRUCKING
Vehicle# 501
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI 0031

	Time	Scale	Operator		
In	01/10/2013 14:29:51	2	Brandy	Gross	84560 lb
Out	01/10/2013 14:29:51		Brandy	Tare	31320 lb
				Net	53240 lb
				Tons	26.62

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	26.62	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707 548-5850	BTT 0031

GENERATOR

5. Generator's Name and Mailing Address
Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave, Ste 155
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240

Generator's Site Address (if different than mailing address)
Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: Los Gomez Trucking — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	001	DT	00018	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Approval Code: #11993CA
Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Carlos Gomez for Tony Burgum — Signature — Month 1 Day 10 Year 2013

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Carlos Gomez — Signature — Month 1 Day 10 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Brady Holmes — Signature: Brady Holmes — Month 1 Day 10 Year 13

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065
Ph: (805) 579-7267

Original
Ticket# 1044298

Customer Name:BradleyTanksInc #629 - BRADLE
Ticket Date 01/10/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NA
Contract

Carrier ARAIZA TRUCKING
Vehicle# 03
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0030

	Time	Scale	Operator
In	01/10/2013 14:30:09	1	Teresa
Out	01/10/2013 14:30:09		Teresa

Gross	81460 lb
Tare	30440 lb
Net	51020 lb
Tons	25.51

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	CSC-Unspecified Special	100	25.51	Tons				MORENO VA

Driver's Signature

Total Tax
Total Ticket

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707-548-5850	BTI 6030

GENERATOR

5. Generator's Name and Mailing Address
Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave., Ste 155
Lackland AFB, TX 78236 Jerry Bingham, (210) 395-8240
Generator's Phone:

Generator's Site Address (if different than mailing address)
Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

6. Transporter 1 Company Name
ARAIZA TRUCKING
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Simi Valley Landfill
2801 Madera Road
Simi Valley, CA 93063 805-579-7267
Facility's Phone:
U.S. EPA ID Number
N/A

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Soil	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Approval Code: 861883CA
Please wear proper PPE when handling material

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
HERIBERTO ARAIZA		1	10	13
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name	Signature	Month	Day	Year
Teresa Avila		1	10	13

WASTE MANAGEMENT

Valley Landfill and Recycling Center
2[illegible] Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1044375

Customer Name:BradleyTanksInc #629 - BRADLE
Ticket Date 01/11/2013
Payment Type Credit Account
Billing# 0000629
Manual Ticket#
PO# NONE
Contract

Carrier WEST COAST SAND West Coast Sand & Gr
Vehicle# 91
Container
Generator Name 144-FORMER MARCH AIRFORCE BASE
Profile 611883CA (FORMER MARCH AIR FORCE BAS
Manifest# BTI0019

	Time	Scale	Operator		
In	01/11/2013 07:01:31	1	Bonnie	Gross	77700 lb
Out	01/11/2013 07:01:31		Bonnie	Tare	26020 lb
				Net	51680 lb
				Tons	25.84

Comments

Customer assumes all risks & liability to self and vehicle.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 CSC-Unspecified Special	100	25.84	Tons				MORENO VA

Total Tax
Total Ticket

Driver's Signature

203WM

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	707-968-3850	BTI 0010

GENERATOR

5. Generator's Name and Mailing Address

Dept. of the Air Force AFCEC/CZRB
2261 Hughes Ave, Ste 155
Lackland AFB, TX 78236 Jerry Bingham (210) 395-8240

Generator's Site Address (if different than mailing address)

Former March AFB
Site FT007, Heacock Street
Moreno Valley, CA 92518

Generator's Phone:

6. Transporter 1 Company Name: MC Logistics Inc — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Simi Valley Landfill
2801 N Madera Road
Simi Valley, CA 93065 805-579-7267

U.S. EPA ID Number: N/A

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil 25 84	001	DT	00018	T	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Approval Code: 861183CA

Please wear proper PPE when handling material

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Jerry W Bingham — Signature — Month: 1 — Day: 10 — Year: 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Alice Bennett — Signature — Month: 1 — Day: 10 — Year: 13

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Connie Miller — Signature — Month: 1 — Day: 11 — Year: 13

Manifest

SOIL SAFE OF CA - TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	4	M07	41787	001

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	
Dept. of the Air Force AFCEC/CIBV 2261 Hughes Ave., Suite 136 Lackland AFB, TX 78236	210-395-8240	
	Person to Contact: Jerry Bingham	
	FAX#:	Customer Account Number:

Consultant's Name and Billing Address:	Consultant's Phone #:	
	Person to Contact:	
	FAX#:	Customer Account Number:

Generation Site (Transport from): *(name & address)*	Site Phone #:	
Former March Air Force Base Site FT007, Heacock Street Moreno Valley, CA 92518	Person to Contact:	
	FAX#:	

Designated Facility (Transport to): *(name & address)*	Facility Phone #: (800) 862-5001	
Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1709	Person to Contact: Dolores Jeffrey	
	FAX#: (760) 246-8804	

Transporter Name and Mailing Address:	Transporter's Phone #: (310) 522-1160	CAR000140338
American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	Person to Contact: Jennifer Sherman	
	FAX#: (310) 522-0474	Customer Account Number: 7704998

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			77460	26900	50560
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					2528

List any exception to items listed above: AIS Project # 33215 Scale Ticket # 116263

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐	Signature and date:	Month	Day	Year
TERRY W. BINGHAM		10	14	13

Transporter

Transporte:'s certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
Juan F. Paz		10	14	13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
D Jeffrey/J. Provanzal	10-14-13

Please print or type.

Soil Safe of California, Inc. **ADE** 110763

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 1 10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 9:23:22 AM

J Provansal **Time out:** 9:26:39 AM

	Lbs	Tons
Gross Weight:	79480	39.74 Manual Wt
Tare Weight:	28920	14.46 Manual Wt
Net Weight:	50560	25.28

Truck Number: 4

Trailer Number: 4

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: J&R PAZ - JUAN

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	165	A07	41757	002

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CIBW
2261 Hughes Ave., Suite 136
Lackland AFB, TX 78236

Generator's Phone #: 210-395-9240
Person to Contact: Jerry Brigham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12320 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 952-8001
Person to Contact: Debora Jaffey
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1168
CAR000140338
Person to Contact: Jennifer Sherman
FAX#: (310) 522-0474
Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			74980	32160	42820
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					21.41

List any exception to items listed above:
AIS Project # 33215

Scale Ticket # 11026

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ TERRY W. BENHAM
Signature and date:
Month: 10 Day: 14 Year: 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Carlos Serrat
Signature and date:
Month: 10 Day: 14 Year: 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jeffrey J. Provansal
Signature and date: 10-14-13

Please print or type.

TRANSPORTER COPY

Soil Safe of California, Inc.

12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110766

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 2

10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 9:41:16 AM

J Provansal **Time out:** 9:45:40 AM

	Lbs	Tons	
Gross Weight:	74980	37.49	Manual Wt
Tare Weight:	32160	16.08	Manual Wt
Net Weight:	42820	21.41	

Truck Number: 165

Trailer Number: 165

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: CARTAGENAS - CARLOS

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	40	A07	41787	003

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CZRW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-395-8240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 552-6001
Person to Contact: Dellano Jeffrey
FAX#: (760) 246-0004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92315
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1160
CAR000148338
Person to Contact: Jennifer Sherman
FAX#: (310) 522-0474
Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			78960	34020	44740
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					22.37

List any exception to items listed above:
AIS Project # 33215

Scale Ticket # 110764

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐
JERRY W. BINGHAM

Signature and date:

Month: 10 Day: 14 Year: 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Jesus Munoz

Signature and date:

Month: 10 Day: 14 Year: 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:
D. Jeffrey/J. Provensal

Signature and date: 10-14-13

Please print or type.

Soil Safe of California, Inc. **ADE** 110764

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 3 10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 9:23:44 AM

J Provansal **Time out:** 9:28:45 AM

	Lbs	Tons	
Gross Weight:	78980	39.49	Manual Wt
Tare Weight:	34240	17.12	Manual Wt
Net Weight:	44740	22.37	

Truck Number: 40

Trailer Number: 40

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: MUNOZ - JESUS

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	15	AD7	41787	004

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	
Dept. of the Air Force AFCEC/CIBW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	210-395-9240 Person to Contact: Jerry Bingham FAX#:	Customer Account Number
Consultant's Name and Billing Address:	**Consultant's Phone #:**	
	Person to Contact:	
	FAX#:	Customer Account Number
Generation Site (Transport from): *(name & address)*	**Site Phone #:**	
Former March Air Force Base Site FTD07, Heacock Street Moreno Valley, CA 92518	Person to Contact: FAX#:	
Designated Facility (Transport to): *(name & address)*	**Facility Phone #:** (800) 862-9001	
Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1700	Person to Contact: Dellena Jaffray FAX#: (760) 246-8004	
Transporter Name and Mailing Address:	**Transporter's Phone #:** (310) 522-1168	CAR000148338
American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	Person to Contact: Jennifer Sherman FAX#: (310) 522-0474	Customer Account Number 770408

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			78780	34600	44180
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					22.09

List any exception to items listed above: AIS Project # 33215 — Scale Ticket # 110765

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☐	Signature and date:	Month	Day	Year
JERRY W. BINGHAM		10	14	13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
RIGOBERTO MUNOZ		10	14	13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
D Jeffrey/J. Provanzal	10-14-13

Please print or type.

TRANSPORTER COPY

Soil Safe of California, Inc.

12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110765

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 4

10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 9:31:27 AM

J Provansal **Time out:** 9:35:55 AM

	Lbs	Tons	
Gross Weight:	78780	39.39	Manual Wt
Tare Weight:	34600	17.30	Manual Wt
Net Weight:	44180	22.09	

Truck Number: 15

Trailer Number: 15

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: RM MUNOZ - RIGOBERTO

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	102	AD7	41787	005

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CIBW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-395-9240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 852-8001
Person to Contact: Dollene Jolley
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1168
CAR000148338
Person to Contact: Jennifer Sherman
FAX#: (310) 522-0474
Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			81760	30160	51600
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					25.80

List any exception to items listed above: AIS Project # 33215
Scale Ticket # 110770

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JERRY W. BINGHAM
Signature and date:
Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Edgar Mejia
Signature and date:
Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jolley/J. Provencal
Signature and date: 10-14-13

Please print or type.

Soil Safe of California, Inc.
12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110770

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 5

10/14/2013

Generator Site Information:
FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:
SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 10:04:48 AM
J Provansal **Time out:** 10:14:04 AM

	Lbs	Tons	
Gross Weight:	81760	40.88	Manual Wt
Tare Weight:	30160	15.08	Manual Wt
Net Weight:	51600	25.8	

Truck Number: 102
Trailer Number: 102
Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: HELEAR - RDGAR

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	101	A07	41787	006

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CIBW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-395-9240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Hancock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 862-3001
Person to Contact: Dellane Jeffrey
FAX#: (760) 246-9804

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1168
CAR000148338
Person to Contact: Jennifer Shannon
FAX#: (310) 522-0474
Customer Account Number: 7704306

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			50960	30580	50380
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					2518

List any exception to items listed above:
AIS Project# 33215

Scale Ticket # 110771

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐
JERRY W. BINGHAM

Signature and date:

Month: 10 Day: 14 Year: 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:
CARLOS SOMOZA

Signature and date:

Month: 10 Day: 14 Year: 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:
D Jeffrey/J. Provensal

Signature and date:
10/14/13

Please print or type.

TRANSPORTER COPY

Soil Safe of California, Inc. **ADE** 110771

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 6

10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 10:07:28 AM

J Provansal **Time out:** 10:16:08 AM

	Lbs	Tons
Gross Weight:	80960	40.48 Manual Wt
Tare Weight:	30580	15.29 Manual Wt
Net Weight:	50380	25.19

Truck Number: 101

Trailer Number: 101

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: HELEAR - CARLOS

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	1606	All7	41787	007

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CZEW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-395-9240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 862-8001
Person to Contact: Delinna Jaffrey
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1168
CAR000148338
Person to Contact: Jennifer Sherman
FAX#: (310) 522-0474
Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			79880	34460	45420
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					221

List any exception to items listed above: AIS Project # 33215
Scale Ticket # 110768

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☐
JERRY W. BINGHAM
Signature and date:
Month: 10 Day: 14 Year: 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: ENGSTROM CASTRO
Signature and date:
Month: 10 Day: 14 Year: 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jaffrey/J. Provencal
Signature and date: 10/16-13

Please print or type.

Soil Safe of California, Inc.
12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110768

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 7

10/14/2013

Generator Site Information:
FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:
SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 9:52:56 AM
J Provansal **Time out:** 9:59:39 AM

	Lbs	Tons
Gross Weight:	79880	39.94 Manual Wt
Tare Weight:	34460	17.23 Manual Wt
Net Weight:	45420	22.71

Truck Number: 166
Trailer Number: 166
Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: FC AND SONS - FAUSTO

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	4	A07	41787	008

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CIEW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-395-8240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Hancock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 862-8001
Person to Contact: Dolleen Jaffrey
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1168
CAR000146338
Person to Contact: Jennifer Sherman
FAX#: (310) 522-0474
Customer Account Number 7704906

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			80680	31460	49220
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					24.61

List any exception to items listed above:
AIS Project # 33215

Scale Ticket # 110767

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☐
JERRY W. BINGHAM

Signature and date:

Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Pedro Valdez

Signature and date:

Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:
D Jaffrey/J. Provencal

Signature and date: 10-14-13

Please print or type.

Soil Safe of California, Inc. **ADE** 110767

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 8 10/14/2013

Generator Site Information:
FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:
SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 9:48:49 AM
J Provansal **Time out:** 9:55:13 AM

	Lbs	Tons
Gross Weight:	80680	40.34 Manual Wt
Tare Weight:	31460	15.73 Manual Wt
Net Weight:	49220	24.61

Truck Number: 4
Trailer Number: 4
Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: P VALDEZ - PEDRO

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	03	A07	41787	009

Generator and/or Consultant

Generator's Name and Billing Address: Dept. of the Air Force AFCEC/CIBW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	Generator's Phone #: 210-395-8240 Person to Contact: Jerry Bingham FAX#:	Customer Account Number
Consultant's Name and Billing Address:	Consultant's Phone #: Person to Contact: FAX#:	Customer Account Number
Generation Site (Transport from): *(name & address)* Former March Air Force Base Site FT007, Heacock Street Moreno Valley, CA 92518	Site Phone #: Person to Contact: FAX#:	
Designated Facility (Transport to): *(name & address)* Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1700	Facility Phone #: (800) 852-8001 Person to Contact: Debora Jeffrey FAX#: (760) 246-8004	
Transporter Name and Mailing Address: American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	Transporter's Phone #: (310) 522-1168 Person to Contact: Jennifer Sherman FAX#: (310) 522-0474	CAR000146338 Customer Account Number 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			77080	30640	46440
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					23.22

List any exception to items listed above: AIS Project # 33215

Scale Ticket # 110769

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐	Signature and date:	Month	Day	Year
JERRY W. BINGHAM		10	14	13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
MURAD MIKE HINDSYAT		10	14	13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
D Jeffrey/J. Provencal	10-14-13

Please print or type.

Soil Safe of California, Inc. **ADE** 110769

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 9

10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 10:02:18 AM

J Provansal **Time out:** 10:08:49 AM

	Lbs	Tons
Gross Weight:	77080	38.54 Manual Wt
Tare Weight:	30640	15.32 Manual Wt
Net Weight:	46440	23.22

Truck Number: 3

Trailer Number: 3

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: BINGO - MURAD

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	25	A07	41787	0 1 0

Generator and/or Consultant

Generator's Name and Billing Address:
Dept of the Air Force AFCEC/CIBW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-805-0240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 862-8001
Person to Contact: Dolleen Jeffrey
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1169
CAR000148338
Person to Contact: Jennifer Shuman
FAX#: (310) 522-0474
Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			77220	30760	46460
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					23140

List any exception to items listed above:
AIS Project # 33215

Scale Ticket # 110772

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☐
JERRY W. BINGHAM

Signature and date:

Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:

Signature and date:

Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:
D Jeffrey

Signature and date:
10-21-13

Please print or type.

Soil Safe of California, Inc. **ADE** 110772

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 10 10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 10:19:28 AM

J Provansal **Time out:** 10:27:50 AM

	Lbs	Tons
Gross Weight:	77220	38.61 Manual Wt
Tare Weight:	30940	15.47 Manual Wt
Net Weight:	46280	23.14

Truck Number: 25

Trailer Number: 25

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: TARAHUMARA - SAUL

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	05	A07	41787	011

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CZSW
2261 Hughes Ave., Suite 136
Lackland AFB, TX 78236

Generator's Phone #: 210-926-5240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Hancock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (760) 862-6301
Person to Contact: Dellarn Jeffrey
FAX#: (760) 246-6004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1169
CAR000146338
Person to Contact: Jennifer Sherman
FAX#: (310) 522-0474
Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			79000	33380	45620
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					20.39

List any exception to items listed above:
AIS Project # 33215

Scale Ticket # 110784

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐
JERRY W. BINGHAM

Signature and date:

Month: 10 Day: 14 Year: 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:
ALEJANDRO RODRIGUEZ

Signature and date:

Month: 10 Day: 14 Year: 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above.

Print or Type Name:
D. Jeffrey/J. Provencal

Signature and date:
10-14-13

Please print or type.

Soil Safe of California, Inc.
12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110784

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 11

10/14/2013

Generator Site Information:
FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:
SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 11:56:08 AM
J Provansal **Time out:** 12:00:48 PM

	Lbs	Tons	
Gross Weight:	79000	39.50	Manual Wt
Tare Weight:	33220	16.61	Manual Wt
Net Weight:	45780	22.89	

Truck Number: 5
Trailer Number: 5
Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: AMMCO - ALEJANDRO

Manifest

SOIL SAFE OF CA - TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	4	A07	41787	012

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	
Dept. of the Air Force AFCEC/CKBW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	210-395-8240 Person to Contact: Jerry Bingham FAX#:	Customer Account Number
Consultant's Name and Billing Address:	Consultant's Phone #: Person to Contact: FAX#:	Customer Account Number
Generation Site (Transport from): *(name & address)* Former March Air Force Base Site FT007, Heacock Street Moreno Valley, CA 92518	Site Phone #: Person to Contact: FAX#:	
Designated Facility (Transport to): *(name & address)* Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1700	Facility Phone #: (800) 862-8001 Person to Contact: Dellene Jeffrey FAX#: (760) 246-8004	
Transporter Name and Mailing Address: American Integrated Services, Inc. P.O. Box 92315 Long Beach, CA 90809-2315	Transporter's Phone #: (310) 522-1168 Person to Contact: Jennifer Sherman FAX#: (310) 522-0474	CAR000148338 Customer Account Number 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			80960	29020	51940
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					25.97

List any exception to items listed above: AIS Project # 33215 Scale Ticket # 110786

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JERRY W. BINGHAM — Signature and date: — Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: JUAN F. PAZ — Signature and date: — Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jeffrey/J. Provanzal — Signature and date: 10-14-13

Please print or type.

Soil Safe of California, Inc.

ADE 110786

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 12

10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 12:15:04 PM

J Provansal **Time out:** 12:19:34 PM

	Lbs	Tons
Gross Weight:	80960	40.48 Manual Wt
Tare Weight:	29020	14.51 Manual Wt
Net Weight:	51940	25.97

Truck Number: 4

Trailer Number: 4

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: J&R PAZ - JUAN

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	40	A07	41787	013

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CIEW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-395-8240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 862-8001
Person to Contact: Dollene Jeffrey
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1168
CAR000148338
Person to Contact: Jennifer Sherman
FAX#: (310) 522-0474
Customer Account Number: 7704905

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			81000	34180	45820
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					22.91

List any exception to items listed above:
MS Project # 33215

Scale Ticket # 110787

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐
JERRY W. BINGHAM

Signature and date:

Month: 10 Day: 14 Year: 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:
JESUS MUNOZ

Signature and date:

Month: 10 Day: 14 Year: 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:
D Jeffrey/J. Prevonsal

Signature and date:
10-14-13

Please print or type.

Soil Safe of California, Inc. **ADE** 110787

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 13

10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 12:21:24 PM

J Provansal **Time out:** 12:24:50 PM

	Lbs	Tons	
Gross Weight:	80000	40.00	Manual Wt
Tare Weight:	34180	17.09	Manual Wt
Net Weight:	45820	22.91	

Truck Number: 40

Trailer Number: 40

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: MUNOZ - JESUS

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	15	A07	41787	01 1 4

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	
Dept. of the Air Force AFCEC/CIBW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	210-395-9240	
	Person to Contact: Jerry Bingham	
	FAX#:	Customer Account Number

Consultant's Name and Billing Address:	Consultant's Phone #:	
	Person to Contact:	
	FAX#:	Customer Account Number

Generation Site (Transport from): *(name & address)*	Site Phone #:	
Former March Air Force Base Site FT007, Heacock Street Moreno Valley, CA 92518	Person to Contact:	
	FAX#:	

Designated Facility (Transport to): *(name & address)*	Facility Phone #: (800) 852-8001	
Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1709	Person to Contact: Dellann Jeffrey	
	FAX#: (760) 246-9004	

Transporter Name and Mailing Address:	Transporter's Phone #: (310) 522-1168	CAR000148330
American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	Person to Contact: Jennifer Sherman	
	FAX#: (310) 522-6474	Customer Account Number 7704903

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			78460	31780	46680
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					21.64

List any exception to items listed above: AIS Project # 33215 Scale Ticket # 110786

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☐	Signature and date:	Month	Day	Year
JERRY W. BINGHAM		10	14	13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
~~JERRY~~ ROBERTO MUÑOZ		10	14	13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
D Jeffrey/J. Provencal	10-14-13

Please print or type.

Soil Safe of California, Inc.

12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110788

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 14

10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 12:26:59 PM

J Provansal **Time out:** 12:31:27 PM

	Lbs	Tons
Gross Weight:	78460	39.23 Manual Wt
Tare Weight:	34780	17.39 Manual Wt
Net Weight:	43680	21.84

Truck Number: 15

Trailer Number: 15

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: RM MUNOZ - RIGEBERTO

Manifest

SOIL SAFE OF CA - TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	165	A07	41787	015

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CIEW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-395-8240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 862-8001
Person to Contact: Dellana Jeffrey
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1159
CAR000146936
Person to Contact: Jennifer Shorman
FAX#: (310) 522-0474
Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			75960	31860	44100
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					20.05

List any exception to items listed above:
AIS Project # 33215

Scale Ticket # 110797

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐
JERRY W. BINGHAM

Signature and date:

Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:
Carlos Bernal

Signature and date:

Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:
D Jeffrey/J. Provanzal

Signature and date:
10-14-13

Please print or type.

Soil Safe of California, Inc.
12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110797

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 15

10/14/2013

Generator Site Information:
FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:
SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 1:06:23 PM
J Provansal **Time out:** 1:16:40 PM

	Lbs	Tons
Gross Weight:	75960	37.98 Manual Wt
Tare Weight:	31860	15.93 Manual Wt
Net Weight:	44100	22.05

Truck Number: 168
Trailer Number: 168
Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: CARTAGENAS - CARLOS

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	47	A07	41787	016

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	
Dept. of the Air Force AFCEC/CIBW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	210-395-9240 Person to Contact: Jerry Bingham FAX#:	Customer Account Number
Consultant's Name and Billing Address:	**Consultant's Phone #:**	
	Person to Contact: FAX#:	Customer Account Number
Generation Site (Transport from): *(name & address)*	**Site Phone #:**	
Former March Air Force Base Site FT007, Hancock Street Moreno Valley, CA 92518	Person to Contact: FAX#:	
Designated Facility (Transport to): *(name & address)*	**Facility Phone #:** (800) 862-8001	
Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1700	Person to Contact: Dellano Jeffrey FAX#: (760) 246-8004	
Transporter Name and Mailing Address:	**Transporter's Phone #:** (310) 522-1168	CAR000148338
American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	Person to Contact: Jennifer Sherman FAX#: (310) 522-0474	Customer Account Number 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			79200	31340	47860
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					23.93

List any exception to items listed above: AIS Project # 33215 Scale Ticket # 110794

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JERRY W. BINGHAM — Signature and date: — Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: ~~JERRY W. BINGHAM~~ DONALD P. VELDEZ — Signature and date: — Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jeffrey/J. Provanzal — Signature and date: 10-14-13

Please print or type.

Soil Safe of California, Inc. **ADE** 110794

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 16 10/14/2013

Generator Site Information:
FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:
SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 12:51:37 PM
J Provansal **Time out:** 12:57:40 PM

	Lbs	Tons
Gross Weight:	79200	39.60 Manual Wt
Tare Weight:	31340	15.67 Manual Wt
Net Weight:	47860	23.93

Truck Number: 4
Trailer Number: 4
Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: P VALDEZ - PEDRO

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	1610	AD7	41787	017

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	
Dept. of the Air Force AFCEC/CIBW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	210-395-8240 Person to Contact: Jerry Bingham FAX#:	Customer Account Number

Consultant's Name and Billing Address:	Consultant's Phone #:	
	Person to Contact:	
	FAX#:	Customer Account Number

Generation Site (Transport from): *(name & address)*	Site Phone #:	
Former March Air Force Base Site FT007, Heacock Street Moreno Valley, CA 92518	Person to Contact: FAX#:	

Designated Facility (Transport to): *(name & address)*	Facility Phone #:	
Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1700	(800) 862-9001 Person to Contact: Dellena Jaffrey FAX#: (760) 246-8004	

Transporter Name and Mailing Address:	Transporter's Phone #:	
American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	(310) 522-1168 Person to Contact: Jennifer Sherman FAX#: (310) 522-0474	CAR000148338 Customer Account Number 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			80380	34340	46040
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					23.00

List any exception to items listed above: AIS Project # 33215 Scale Ticket # 110795

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐	Signature and date:	Month	Day	Year
JERRY W. BINGHAM		10	14	13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
FAUSTO CASTRO G	Fausto Castro G	10	14	13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
D Jaffrey/J. Provanzal	10-14-13

Please print or type.

Soil Safe of California, Inc. **ADE** 110795

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 17 10/14/2013

Generator Site Information:
FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:
SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 1:00:16 PM
J Provansal **Time out:** 1:08:15 PM

	Lbs	Tons	
Gross Weight:	80380	40.19	Manual Wt
Tare Weight:	34340	17.17	Manual Wt
Net Weight:	46040	23.02	

Truck Number: 166
Trailer Number: 166
Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: FC SONS - FAUSTO

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment: 10/14/13 | Responsible for Payment: Transporter | Transport Truck #: 03 | Facility #: AD7 | Approval Number: 41787 | Load #: 01 | 8

Generator and/or Consultant

Generator's Name and Billing Address:
Dept of the Air Force AFCEC/CIBW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-866-0240
Person to Contact: Jeny Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 862-8001
Person to Contact: Dellana Jolley
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1160
CAR000148338
Person to Contact: Jennifer Sherrery
FAX#: (310) 522-0474
Customer Account Number: 7704903

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			75580	30480	45100
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					22.55

Scale Ticket # 110796

List any exception to items listed above:
AIS Project # 33215

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JERRY W. BINGHAM
Signature and date:
Month 10 | Day 14 | Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: MURAD MIKE MINASYAN
Signature and date:
Month 10 | Day 14 | Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: Jeffery J. Provencal
Signature and date: 10-14-13

Soil Safe of California, Inc. **ADE** 110796

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 18 10/14/2013

Generator Site Information:
FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:
SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 1:04:34 PM
J Provansal **Time out:** 1:12:29 PM

	Lbs	Tons	
Gross Weight:	75580	37.79	Manual Wt
Tare Weight:	30480	15.24	Manual Wt
Net Weight:	45100	22.55	

Truck Number: 3
Trailer Number: 3
Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: BINGO - MURAD

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	102	A07	41787	011

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CIBW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-395-8240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd
Adelanto, CA 92301-1700

Facility Phone #: (800) 892-4001
Person to Contact: Dolleva Jeffrey
FAX#: (760) 246-8804

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1168
CAR000148338
Person to Contact: Jennifer Sherren
FAX#: (310) 522-0474
Customer Account Number: 7704906

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			50660	30220	50440
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					25 24

List any exception to items listed above:
AIS Project # 32215

Scale Ticket # 110798

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐
JERRY W. BINGHAM

Signature and date:

Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:
EDGAR MEJIA

Signature and date:

Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:
D. Jeffrey/J. Provanzal

Signature and date:
10/14/13

Please print or type.

Soil Safe of California, Inc. **ADE** 110798

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 19

10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 1:10:59 PM

J Provansal **Time out:** 1:19:24 PM

	Lbs	Tons
Gross Weight:	80680	40.34 Manual Wt
Tare Weight:	30200	15.10 Manual Wt
Net Weight:	50480	25.24

Truck Number: 102

Trailer Number: 102

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: HELEAR - EDGAR

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	101	ADI	41787	020

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CIBW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-395-8240
Person to Contact: Jony Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 862-8001
Person to Contact: DeBorah Jeffrey
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1168
CAR000148338
Person to Contact: Jennifer Stratman
FAX#: (310) 522-0474
Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			77520	30640	48880
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					24440

List any exception to items listed above: AIS Project # 33215
Scale Ticket # 110779

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JEFFREY W. BINGHAM
Signature and date:
Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: ESAU GUEVARA
Signature and date:
Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jeffrey/J. Provencal
Signature and date: 10-14-13

Please print or type.

Soil Safe of California, Inc. **ADE 110799**

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 20

10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 1:15:15 PM
J Provansal **Time out:** 1:23:00 PM

	Lbs	Tons	
Gross Weight:	79500	39.75	Manual Wt
Tare Weight:	30600	15.30	Manual Wt
Net Weight:	48900	24.45	

Truck Number: 101

Trailer Number: 101

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: HELEAR - CARLOS

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Generator and/or Consultant

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	4	AD7	41787	012

Generator's Name and Billing Address: Dept. of the Air Force AFCEC/CIBW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	Generator's Phone #: 210-808-9240 Person to Contact: Jerry Bingham FAX#:	Customer Account Number:
Consultant's Name and Billing Address:	Consultant's Phone #: Person to Contact: FAX#:	Customer Account Number:
Generation Site (Transport from): *(name & address)* Former March Air Force Base Site FT007, Heacock Street Moreno Valley, CA 92518	Site Phone #: Person to Contact: FAX#:	
Designated Facility (Transport to): *(name & address)* Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1709	Facility Phone #: (800) 862-8001 Person to Contact: Dellena Jeffrey FAX#: (760) 246-8004	
Transporter Name and Mailing Address: American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	Transporter's Phone #: (310) 522-1160 Person to Contact: Jennifer Shannon FAX#: (310) 522-0474	CAR000148338 Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			30740	25820	5176
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					25.88

List any exception to items listed above: AIS Project # 33215 Scale Ticket # 116901

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JERRY W. BINGHAM — Signature and date: — Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: JUAN F. PAZ — Signature and date: — Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above.

Print or Type Name: D Jeffery/J. Provencal — Signature and date: 10-14-13

Please print or type.

Soil Safe of California, Inc.

ADE 110801

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 22 10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

			Lbs	Tons	
J Provansal	**Time In:** 3:16:05 PM	**Gross Weight:**	80740	40.37	Manual Wt
J Provansal	**Time out:** 3:20:31 PM	**Tare Weight:**	28980	14.49	Manual Wt
		Net Weight:	51760	25.88	

Truck Number: 4

Trailer Number: 4

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: J&R PAZ - JUAN

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	25	A07	41727	021

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEE/ACBBM
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-926-5240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Hasecock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 852-9001
Person to Contact: Debbie Jeffrey
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1168
CAR000148336
Person to Contact: Jerrolles Brannan
FAX#: (310) 522-0474
Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			75440	27630	47810
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					23580

List any exception to items listed above:
AIS Project # 33216

Scale Ticket # 110750

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐
JERRY W. BINGHAM

Signature and date:

Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:

Signature and date:

Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:
D Jeffrey/J. Provencal

Signature and date:
10-14-13

Please print or type.

Soil Safe of California, Inc.

12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110800

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 21 10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

			Lbs	Tons	
J Provansal	**Time In:** 1:38:54 PM	**Gross Weight:**	78540	39.27	Manual Wt
J Provansal	**Time out:** 1:44:36 PM	**Tare Weight:**	30780	15.39	Manual Wt
		Net Weight:	47760	23.88	

Truck Number: 25

Trailer Number: 25

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: TARAHUMARA - SAUL

Manifest

SOIL SAFE OF CA - TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	40	A07	41787	023

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CIEW
2261 Hughes Ave., Suite 136
Lackland AFB, TX 78236

Generator's Phone #: 210-395-9240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 952-6001
Person to Contact: Dallena Jeffrey
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1168
CAR000140333
Person to Contact: Jennifer Sherman
FAX#: (310) 522-0474
Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			79300	33520	45560
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					2275

List any exception to items listed above:
AIS Project # 33215

Scale Ticket # 110802

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐
JERRY W. BINGHAM

Signature and date:

Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:
JESUS MUNOZ

Signature and date:

Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:
D. Jeffrey/J. Prownsel

Signature and date:
10-14-13

Please print or type.

Soil Safe of California, Inc.

12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110802

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 23

10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 3:22:57 PM

J Provansal **Time out:** 3:27:22 PM

	Lbs	Tons	
Gross Weight:	79320	39.66	Manual Wt
Tare Weight:	33820	16.91	Manual Wt
Net Weight:	45500	22.75	

Truck Number: 40

Trailer Number: 40

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: MUNOZ - JESUS

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	05	AD7	41707	0 2 4

Generator and/or Consultant

Generator's Name and Billing Address: Dept. of the Air Force AFCEC/CIBW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	Generator's Phone #: 210-395-8240 Person to Contact: Jerry Bingham FAX#:	
Consultant's Name and Billing Address:	Consultant's Phone #: Person to Contact: FAX#:	Customer Account Number:
Generation Site (Transport from): *(name & address)* Former March Air Force Base Site FT007, Heacock Street Moreno Valley, CA 92518	Site Phone #: Person to Contact: FAX#:	
Designated Facility (Transport to): *(name & address)* Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1760	Facility Phone #: (800) 952-8001 Person to Contact: Dallana Jeffrey FAX#: (760) 246-8004	
Transporter Name and Mailing Address: American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	Transporter's Phone #: (310) 522-1151 Person to Contact: Jennifer Sherman FAX#: (310) 522-0474	CARD0014939 Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			77650	33602	44048
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					22.04

List any exception to items listed above: AIS Project # 33215 Scale Ticket # 111804

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JERRY W. BINGHAM | Signature and date: | Month 10 | Day 14 | Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: ALEJANDRO RODRIGUEZ | Signature and date: | Month 10 | Day 14 | Year 13

Recycling Facility

Discrepancies: J

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jeffrey/J. Provensal | Signature and date: 10-14-13

Please print or type.

Soil Safe of California, Inc.

ADE 110804

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 24 10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

			Lbs	Tons	
J Provansal	**Time In:** 3:32:54 PM	**Gross Weight:**	77680	38.84	Manual Wt
J Provansal	**Time out:** 3:45:36 PM	**Tare Weight:**	33600	16.80	Manual Wt
		Net Weight:	44080	22.04	

Truck Number: 5

Trailer Number: 5

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: AMMCO - ALEJANDRO

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	15	A07	41707	025

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	
Dept. of the Air Force AFCEC/CIERW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	210-395-8240 Person to Contact: Jerry Bingham FAX#:	Customer Account Number

Consultant's Name and Billing Address:	Consultant's Phone #:	
	Person to Contact:	
	FAX#:	Customer Account Number

Generation Site (Transport from): *(name & address)*	Site Phone #:	
Former March Air Force Base Site FT007, Heacock Street Moreno Valley, CA 92518	Person to Contact: FAX#:	

Designated Facility (Transport to): *(name & address)*	Facility Phone #:	
Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1709	(800) 862-8001 Person to Contact: Debora Jaffey FAX#: (760) 246-8004	

Transporter Name and Mailing Address:	Transporter's Phone #:	
American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	(310) 522-1169 Person to Contact: Jennifer Sherman FAX#: (310) 522-0474	CAR000148338 Customer Account Number 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			76760	32820	43940
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐	44				20.13

List any exception to items listed above: AIS Project # 33215 Scale Ticket # 110815

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☐	Signature and date:	Month	Day	Year
JERRY W. BINGHAM		10	14	13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
ROBERTO MUÑOZ		10	14	13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
D Jaffey/J. Provansal	10/14/13

Please print or type.

Soil Safe of California, Inc.

12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110805

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 25 10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 3:48:20 PM

J Provansal **Time out:** 3:53:03 PM

	Lbs	Tons	
Gross Weight:	76780	38.39	Manual Wt
Tare Weight:	36520	18.26	Manual Wt
Net Weight:	40260	20.13	

Truck Number: 15

Trailer Number: 15

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: RM MUNOZ - RIGEBERTO

Soil Safe of California, Inc. **ADE** 110806

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 26 10/14/2013

Generator Site Information:
FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:
SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 4:05:02 PM
J Provansal **Time out:** 4:10:58 PM

	Lbs	Tons
Gross Weight:	79300	39.65 Manual Wt
Tare Weight:	31480	15.74 Manual Wt
Net Weight:	47820	23.91

Truck Number: 4
Trailer Number: 4
Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: P VALDEZ - PEDRO

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	43	A07	41767	0 2 6

Generator and/or Consultant

Generator's Name and Billing Address: Dept. of the Air Force AFCEC/CIBW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	Generator's Phone #: 210-[illegible]-8240 Person to Contact: Jerry Bingham FAX#:	 Customer Account Number
Consultant's Name and Billing Address:	Consultant's Phone #: Person to Contact: FAX#:	 Customer Account Number
Generation Site (Transport from): *(name & address)* Former March Air Force Base Site FTD07, Hancock Street Moreno Valley, CA 92518	Site Phone #: Person to Contact: FAX#:	
Designated Facility (Transport to): *(name & address)* Soil Safe 12326 Hibiscus Rd. Adelanto, CA 92301-1700	Facility Phone #: (760) 952-9001 Person to Contact: DeAnna Jeffrey FAX#: (760) 246-8004	
Transporter Name and Mailing Address: American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	Transporter's Phone #: (310) 522-1160 Person to Contact: Jennifer Sherman FAX#: (310) 522-0474	CAR000148338 Customer Account Number 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			77300	31480	45820
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					2391

List any exception to items listed above: AIS Project # 33215 Scale Ticket # 110806

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JERRY W. BINGHAM — Signature and date: [signature] — Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: PEDRO VALDEZ — Signature and date: [signature] — Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jeffrey/J. Prevansal — Signature and date: [signature] 10-14-13

Please print or type.

TRANSPORTER COPY

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	1604	A07	41787	027

Generator and/or Consultant

Generator's Name and Billing Address: Dept. of the Air Force AFCEC/CIBW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	Generator's Phone #: 210-395-8240 Person to Contact: Jerry Bingham FAX#:	
Consultant's Name and Billing Address:	Consultant's Phone #: Person to Contact: FAX#:	Customer Account Number:
Generation Site (Transport from): *(name & address)* Former March Air Force Base Site FT007, Heacock Street Moreno Valley, CA 92518	Site Phone #: Person to Contact: FAX#:	
Designated Facility (Transport to): *(name & address)* Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1700	Facility Phone #: (800) 862-6001 Person to Contact: Delilena Jolley FAX#: (760) 246-8004	
Transporter Name and Mailing Address: American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	Transporter's Phone #: (310) 522-1168 Person to Contact: Jennifer Sherman FAX#: (310) 522-0474	CAR000140335 Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			78840	34160	44680
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					2234

List any exception to items listed above: AIS Project # 33215 Scale Ticket # 110807

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ — Jerry W. Bingham — Signature and date: — Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Fausto Castro Jr. — Signature and date: Fausto Castro Jr. — Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jolley/J. Provensal — Signature and date: 10-14-13

Please print or type.

Soil Safe of California, Inc.

12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110807

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 27

10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 4:13:34 PM

J Provansal **Time out:** 4:22:04 PM

	Lbs	Tons	
Gross Weight:	78840	39.42	Manual Wt
Tare Weight:	34160	17.08	Manual Wt
Net Weight:	44680	22.34	

Truck Number: 166

Trailer Number: 166

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: FC & SONS - FAUSTO

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter		A07	41787	028

Generator and/or Consultant

Generator's Name and Billing Address: Dept. of the Air Force AFCEC/CIBW 2261 Hughes Ave., Suite 136 Lackland AFB, TX 78236	Generator's Phone #: 210-395-6240 Person to Contact: Jerry Bingham FAX#:	Customer Account Number:
Consultant's Name and Billing Address:	Consultant's Phone #: Person to Contact: FAX#:	Customer Account Number:
Generation Site (Transport from): *(name & address)* Former March Air Force Base Site FT007, Heacock Street Moreno Valley, CA 92518	Site Phone #: Person to Contact: FAX#:	
Designated Facility (Transport to): *(name & address)* Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1700	Facility Phone #: (800) 862-8001 Person to Contact: Dellena Jaffey FAX#: (760) 246-9004	
Transporter Name and Mailing Address: American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	Transporter's Phone #: (310) 522-1160 Person to Contact: Jennifer Sherman FAX#: (310) 522-0474	CAR000148338 Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			77640	36160	41480
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					23.59

List any exception to items listed above: AIS Project # 33215 Scale Ticket # 110808

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JERRY W. BINGHAM

Signature and date: [signature] Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: MURAD MIKE MINASIAN

Signature and date: [signature] Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jaffey/J. Provencal

Signature and date: [signature] 11-14-13

Please print or type.

Soil Safe of California, Inc. **ADE** 110808

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 28 10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 4:16:41 PM

J Provansal **Time out:** 4:26:19 PM

	Lbs	Tons
Gross Weight:	77640	38.82 Manual Wt
Tare Weight:	30460	15.23 Manual Wt
Net Weight:	47180	23.59

Truck Number: 3

Trailer Number: 3

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: BINGO - MURAD

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	165	807	41787	092

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CIBW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-395-0240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-4700

Facility Phone #: (500) 562-8001
Person to Contact: Dellene Jaffey
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1166
CAR000168338
Person to Contact: Jennifer Sherman
FAX#: (310) 522-0474
Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			71520	31840	39680
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					19.84

List any exception to items listed above: AIS Project # 33215
Scale Ticket # 110809

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐
TERRY W. BINGHAM
Signature and date:
Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Carlos Serrano
Signature and date:
Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jeffrey J. Provencal
Signature and date: 10-14-13

Please print or type.

Soil Safe of California, Inc. **ADE** 110809

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 29 10/14/2013

Generator Site Information:
FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:
SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 4:20:20 PM
J Provansal **Time out:** 4:30:27 PM

	Lbs	Tons	
Gross Weight:	71520	35.76	Manual Wt
Tare Weight:	31840	15.92	Manual Wt
Net Weight:	39680	19.84	

Truck Number: 168
Trailer Number: 168
Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: CARTAGENAS - CARLOS

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	102	A07	41787	030

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CIBW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-395-8240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Hancock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12326 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 952-8001
Person to Contact: Dallana Jaffray
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1168
CAR000149336
Person to Contact: Jennifer Sherman
FAX#: (310) 522-0474
Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			79820	29940	49880
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					24.93

List any exception to items listed above: AIS Project # 33215
Scale Ticket # 110810

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JERRY W. BINGHAM
Signature and date:
Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Edgar Mejia
Signature and date:
Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D. Jaffray/J. Provanzal
Signature and date: 10-14-13

Please print or type.

Soil Safe of California, Inc. **ADE 110810**

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 30

10/14/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

J Provansal **Time In:** 4:24:47 PM

J Provansal **Time out:** 4:32:47 PM

	Lbs	Tons	
Gross Weight:	79800	39.90	Manual Wt
Tare Weight:	29940	14.97	Manual Wt
Net Weight:	49860	24.93	

Truck Number: 102

Trailer Number: 102

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: HELEAR - EDGAR

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/14/13	Transporter	101	A07	41767	031

Generator and/or Consultant

Generator's Name and Billing Address: Dept. of the Air Force AFCEC/CIBW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	Generator's Phone #: 210-395-8249 Person to Contact: Jerry Bingham FAX#:	
Consultant's Name and Billing Address:	Consultant's Phone #: Person to Contact: FAX#:	Customer Account Number
Generation Site (Transport from): *(name & address)* Former March Air Force Base Site FT007, Heacock Street Moreno Valley, CA 92518	Site Phone #: Person to Contact: FAX#:	
Designated Facility (Transport to): *(name & address)* Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1700	Facility Phone #: (800) 862-8001 Person to Contact: Dallona Jeffrey FAX#: (760) 246-8004	
Transporter Name and Mailing Address: American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	Transporter's Phone #: (310) 522-1168 Person to Contact: Jennifer Shannon FAX#: (310) 522-0474	CAR000146338 Customer Account Number 7704508

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			80580	30110	50470
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					25.66

List any exception to items listed above: AIS Project # 33215

Scale Ticket # 110611

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JERRY W. BINGHAM

Signature and date: [signature]

Month 10 Day 14 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil refefenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: CESAR SALAZAR

Signature and date: [signature]

Month 10 Day 14 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jeffrey/J. Provanzal

Signature and date: [signature] 10-14-13

Please print or type.

Soil Safe of California, Inc.
12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110811

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 31

10/14/2013

Generator Site Information:
FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:
SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 4:29:12 PM
J Provansal **Time out:** 4:36:39 PM

	Lbs	Tons
Gross Weight:	80520	40.26 Manual Wt
Tare Weight:	30400	15.20 Manual Wt
Net Weight:	50120	25.06

Truck Number: 101
Trailer Number: 101
Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: HELEAR - CESAR

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/15/13	Transporter	101	A07	41787	032

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	
Dept. of the Air Force AFCEC/CIBW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	210-395-8240	
	Person to Contact: Jerry Bingham	
	FAX#:	Customer Account Number

Consultant's Name and Billing Address:	Consultant's Phone #:	
	Person to Contact:	
	FAX#:	Customer Account Number

Generation Site (Transport from): *(name & address)*	Site Phone #:	
Former March Air Force Base Site FT007, Heacock Street Moreno Valley, CA 92518	Person to Contact:	
	FAX#:	

Designated Facility (Transport to): *(name & address)*	Facility Phone #: (800) 862-3001	
Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1700	Person to Contact: Dellena Jeffrey	
	FAX#: (760) 246-8004	

Transporter Name and Mailing Address:	Transporter's Phone #: (310) 522-1160	CAR000149338
American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	Person to Contact: Jennifer Sherman	
	FAX#: (310) 522-0474	Customer Account Number 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			81240	30700	50540
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					25.27

List any exception to items listed above: AIS Project # 33215

Scale Ticket # 110818

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐	Signature and date:	Month	Day	Year
JERRY W. BINGHAM		10	15	13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
Sergio Alonso		10	15	13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
D Jeffrey/J. Provencal	10-15-13

Please print or type.

Soil Safe of California, Inc. **ADE** 110818

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 32 10/15/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

			Lbs	Tons	
J Provansal	**Time In:** 9:45:49 AM	**Gross Weight:**	81240	40.62	Manual Wt
J Provansal	**Time out:** 9:52:49 AM	**Tare Weight:**	30700	15.35	Manual Wt
		Net Weight:	50540	25.27	

Truck Number: 101

Trailer Number: 101

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: MONROY - SERGIO

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10-15-13	Transporter	J&R pkg #4	A07	41787	013

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CZRW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-395-8240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 862-8091
Person to Contact: Dolleva Jeffrey
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1168
CAR000146399
Person to Contact: Jennifer Sherman
FAX#: (310) 522-0474
Customer Account Number: 7704900

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			77580	28730	48850
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					24.45

List any exception to items listed above: AIS Project # 33215
Scale Ticket # 110819

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JERRY W. BINGHAM
Signature and date:
Month: 10 Day: 15 Year: 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: JUAN F PAZ
Signature and date:
Month: 10 Day: 15 Year: 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jeffrey/J. Provencal
Signature and date: 10-15-13

Please print or type.

TRANSPORTER COPY

Soil Safe of California, Inc. **ADE** 110819

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 33 10/15/2013

Generator Site Information:

FORMER MARCH AIR FORCE BASE

SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

			Lbs	Tons	
J Provansal	**Time In:** 9:47:12 AM	**Gross Weight:**	77580	38.79	Manual Wt
J Provansal	**Time out:** 9:54:45 AM	**Tare Weight:**	28720	14.36	Manual Wt
		Net Weight:	48860	24.43	

Truck Number: 4

Trailer Number: 4

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: J&R PAZ - JUAN

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10-15-13	Transporter	JRR QAZ #4	A07	41787	0 3 4

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	
Dept. of the Air Force AFCEC/CIBW 2261 Hughes Ave., Suite 135 Lackland AFB, TX 78236	210-395-9240 Person to Contact: Jerry Bingham FAX#:	Customer Account Number
Consultant's Name and Billing Address:	**Consultant's Phone #:**	
	Person to Contact:	
	FAX#:	Customer Account Number
Generation Site (Transport from): *(name & address)* Former March Air Force Base Site FT007, Hoecock Street Moreno Valley, CA 92518	Site Phone #: Person to Contact: FAX#:	
Designated Facility (Transport to): *(name & address)* Soil Safe 12328 Hibiscus Rd. Adelanto, CA 92301-1700	Facility Phone #: (800) 862-8001 Person to Contact: Dellana Jeffrey FAX#: (760) 246-8004	
Transporter Name and Mailing Address: American Integrated Services, Inc. P.O. Box 92316 Long Beach, CA 90809-2316	Transporter's Phone #: (310) 522-1168 Person to Contact: Jennifer Sherman FAX#: (310) 522-0474	CAR000148338 Customer Account Number 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			81740	28440	53300
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					26600

List any exception to items listed above: AIS Project # 33215 — Scale Ticket # 110836

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JERRY W. BINGHAM — Signature and date: [signature] — Month 10 Day 15 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: JUAN F. PAZ — Signature and date: [signature] — Month 10 Day 15 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jeffrey/J. Provanzal — Signature and date: [signature] 10-15-13

Please print or type.

Soil Safe of California, Inc.

12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110836

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 34 10/15/2013

Generator Site Information:
FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:
SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 1:14:41 PM
J Provansal **Time out:** 1:21:46 PM

	Lbs	Tons	
Gross Weight:	81740	40.87	Manual Wt
Tare Weight:	28540	14.27	Manual Wt
Net Weight:	53200	26.6	

Truck Number: 4
Trailer Number: 4
Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: J&R PAZ - JUAN

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
10/15/13	Transporter	101	A07	41787	035

Generator and/or Consultant

Generator's Name and Billing Address:
Dept. of the Air Force AFCEC/CIBW
2261 Hughes Ave., Suite 135
Lackland AFB, TX 78236

Generator's Phone #: 210-395-9240
Person to Contact: Jerry Bingham
FAX#:
Customer Account Number:

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number:

Generation Site (Transport from): *(name & address)*
Former March Air Force Base
Site FT007, Heacock Street
Moreno Valley, CA 92518

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
Soil Safe
12328 Hibiscus Rd.
Adelanto, CA 92301-1700

Facility Phone #: (800) 862-8001
Person to Contact: Dellene Jaffray
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
American Integrated Services, Inc.
P.O. Box 92316
Long Beach, CA 90809-2316

Transporter's Phone #: (310) 522-1168
CAR000149338
Person to Contact: Jennifer Sherman
FAX#: (310) 522-0474
Customer Account Number: 7704908

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐			79340	30580	48760
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					21.38

List any exception to items listed above: All Project # 33215
Scale Ticket # 110835

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐ JERRY W. BINGHAM
Signature and date:
Month 10 Day 15 Year 13

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Craig D Gray
Signature and date:
Month 10 Day 15 Year 13

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: D Jaffray/J. Provanzal
Signature and date: 10.15.13

Please print or type.

Soil Safe of California, Inc.
12328 Hibiscus Ave. Adelanto, CA 92301

ADE 110835

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A4-1787 Load #: 35

10/15/2013

Generator Site Information:
FORMER MARCH AIR FORCE BASE
SITE FT007, HEACOCK ST

MORENO VALLEY, CA 92518

Weighmaster Weighed at:
SOIL SAFE OF CALIFORNIA, INC..
12328 HIBISCUS AVE
ADELANTO, CA 92301

J Provansal **Time In:** 1:12:52 PM
J Provansal **Time out:** 1:20:00 PM

	Lbs	Tons	
Gross Weight:	79340	39.67	Manual Wt
Tare Weight:	30580	15.29	Manual Wt
Net Weight:	48760	24.38	

Truck Number: 101
Trailer Number: 101
Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: MONROY - SERGIO

APPENDIX F

IMPORTED FILL ANALYTICAL REPORT

Alpha Scientific Corporation
Environmental Laboratories

10-10-2013

Mr. Richard Ko
American Integrated Services
1502 E. Opp Street
Wilmington, CA 90744

Project: 33215
Project Site: Former March AFB, Site FT007
Sample Date: 10-03-2013
Lab Job No.: A310006

Dear Mr. Ko:

Enclosed please find the analytical report for the sample(s) received by Alpha Scientific Corporation on 10-03-2013 and analyzed by the following EPA methods:

EPA 8015M (Total Petroleum Hydrocarbons)
EPA 8260B (VOCs & Oxygenates by GC/MS)
EPA 7000 Series for CAM Metals

CAM Metal analyses were subcontracted to Americhem Testing Laboratory (ELAP No. 1758). Their original report will be attached.

All analyses have met the QA/QC criteria of this laboratory.

The sample(s) arrived in good conditions (i.e., chilled, intact) and with a chain of custody record attached.

Alpha Scientific Corporation is a CA DHS certified laboratory (Certificate Number 2633). Thank you for giving us the opportunity to serve you. Please feel free to call me at (562) 809-8880 if our laboratory can be of further service to you.

Sincerely,

Roger Wang, Ph.D.
Laboratory Director

Enclosures

This cover letter is an integral part of this analytical report.

Alpha Scientific Corporation
Environmental Laboratories

10-10-2013

Client:	American Integrated Services	Lab Job No.:	A310006
Project:	33215		
Project Site:	Former March AFB, Site FT007	Date Sampled:	10-03-2013
Matrix:	Sand	Date Received:	10-03-2013
Batch No. for TPH-g:	EMJ04-GS1	Date Analyzed:	10-04-2013
Batch No. for TPH-d:	BJ04-DS1	Date Analyzed:	10-04-2013

EPA 8015M (Total Petroleum Hydrocarbons)
Reporting Unit: **mg/kg (ppm)**

Sample ID	Lab ID	Gasoline Range (C4-C12)*	Diesel Range (C13-C23)	Oil Range (C24-C40)
MDL		0.2	1	20
PQL		0.5	5	40
Method Blank		ND	ND	ND
WCS-01	A310006-1	ND	ND	ND
WCS-02	A310006-2	ND	ND	ND

* Gasoline Range TPH result is obtained from purge and trap analysis using LUFT-GC/MS method.
MDL: Method Detection Limit.
PQL: Practical Quantitation Limit.
ND: Not Detected (below MDL).

Alpha Scientific Corporation
Environmental Laboratories

Client: American Integrated Services | Lab Job No.: A310006 | Date Reported: 10-10-2013
Project: 33215 | Matrix: Sand | Date Sampled: 10-03-2013

EPA 8260B (VOCs by GC/MS, Page 1 of 2)
Reporting Unit: µg/kg(ppb)

DATE ANALYZED			10-04	10-04-13	10-04-13			
DILUTION FACTOR			1	1	1			
LAB SAMPLE I.D.				A310006-1	A310006-2			
CLIENT SAMPLE I.D.				WCS-01	WCS-02			
COMPOUND	**MDL**	**PQL**	MB					
Dichlorodifluoromethane	2	5	ND	ND	ND			
Chloromethane	2	5	ND	ND	ND			
Vinyl Chloride	2	5	ND	ND	ND			
Bromomethane	2	5	ND	ND	ND			
Chloroethane	2	5	ND	ND	ND			
Trichlorofluoromethane	2	5	ND	ND	ND			
1,1-Dichloroethene	2	5	ND	ND	ND			
Iodomethane	2	5	ND	ND	ND			
Methylene Chloride	5	10	ND	ND	ND			
trans-1,2-Dichloroethene	2	5	ND	ND	ND			
1,1-Dichloroethane	2	5	ND	ND	ND			
2,2-Dichloropropane	2	5	ND	ND	ND			
cis-1,2-Dichloroethene	2	5	ND	ND	ND			
Bromochloromethane	2	5	ND	ND	ND			
Chloroform	2	5	ND	ND	ND			
1,2-Dichloroethane (EDC)	2	5	ND	ND	ND			
1,1,1-Trichloroethane	2	5	ND	ND	ND			
Carbon tetrachloride	2	5	ND	ND	ND			
1,1-Dichloropropene	2	5	ND	ND	ND			
Benzene	1	2	ND	ND	ND			
Trichloroethene	2	5	ND	ND	ND			
1,2-Dichloropropane	2	5	ND	ND	ND			
Bromodichloromethane	2	5	ND	ND	ND			
Dibromomethane	2	5	ND	ND	ND			
Trans-1,3-Dichloropropene	2	5	ND	ND	ND			
cis-1,3-Dichloropropene	2	5	ND	ND	ND			
1,1,2-Trichloroethane	2	5	ND	ND	ND			
1,3-Dichloropropane	2	5	ND	ND	ND			
Dibromochloromethane	2	5	ND	ND	ND			
2-Chloroethylvinyl ether	2	10	ND	ND	ND			
Bromoform	2	5	ND	ND	ND			
Isopropylbenzene	2	5	ND	ND	ND			
Bromobenzene	2	5	ND	ND	ND			
Toluene	1	2	ND	ND	ND			

Alpha Scientific Corporation
Environmental Laboratories

Client: American Integrated Services | Lab Job No.: A310006 | Date Reported: 10-10-2013
Project:33215 | Matrix: Sand | Date Sampled: 10-03-2013

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: ppb

COMPOUND	MDL	PQL	MB	WCS-01	WCS-02			
Tetrachloroethene	2	5	ND	ND	ND			
1,2-Dibromoethane(EDB)	2	5	ND	ND	ND			
Chlorobenzene	2	5	ND	ND	ND			
1,1,1,2-Tetrachloroethane	2	5	ND	ND	ND			
Ethylbenzene	1	2	ND	ND	ND			
Total Xylenes	2	4	ND	ND	ND			
Styrene	2	5	ND	ND	ND			
1,1,2,2-Tetrachloroethane	2	5	ND	ND	ND			
1,2,3-Trichloropropane	2	5	ND	ND	ND			
n-Propylbenzene	2	5	ND	ND	ND			
2-Chlorotoluene	2	5	ND	ND	ND			
4-Chlorotoluene	2	5	ND	ND	ND			
1,3,5-Trimethylbenzene	2	5	ND	ND	ND			
tert-Butylbenzene	2	5	ND	ND	ND			
1,2,4-Trimethylbenzene	2	5	ND	ND	ND			
Sec-Butylbenzene	2	5	ND	ND	ND			
1,3-Dichlorobenzene	2	5	ND	ND	ND			
p-Isopropyltoluene	2	5	ND	ND	ND			
1,4-Dichlorobenzene	2	5	ND	ND	ND			
1,2-Dichlorobenzene	2	5	ND	ND	ND			
n-Butylbenzene	2	5	ND	ND	ND			
1,2,4-Trichlorobenzene	2	5	ND	ND	ND			
1,2-Dibromo-3-Chloropropane	2	5	ND	ND	ND			
Hexachlorobutadiene	2	5	ND	ND	ND			
Naphthalene	2	5	ND	ND	ND			
1,2,3-Trichlorobenzene	2	5	ND	ND	ND			
Acetone	75	100	ND	ND	ND			
2-Butanone (MEK)	50	50	ND	ND	ND			
Carbon disulfide	50	50	ND	ND	ND			
4-Methyl-2-pentanone	50	50	ND	ND	ND			
2-Hexanone	50	50	ND	ND	ND			
Vinyl Acetate	25	50	ND	ND	ND			
Ethanol	500	1000	ND	ND	ND			
MTBE	2	5	ND	ND	ND			
ETBE	2	5	ND	ND	ND			
DIPE	2	5	ND	ND	ND			
TAME	2	5	ND	ND	ND			
TBA	20	50	ND	ND	ND			

MB=Method Blank; MDL=Method Detection Limit; PQL=Practical Quantitation Limit; ND=Not Detected (below DF × MDL); J=Result is between DF × MDL and DF × PQL; * Obtained from a higher dilution analysis.

Alpha Scientific Corporation
Environmental Laboratories

Client: American Integrated Services
Project: 33215
Project Site: Former March AFB, Site FT007
Matrix: Sand
Digestion Method: EPA 3050B
Batch No.: 1010-MS1

Lab Job No.: A310006

Date Sampled: 10-03-2013
Date Received: 10-03-2013
Date Digested: 10-08-2013
Date Analyzed: 10-10-2013
Date Reported: 10-10-2013

EPA 6010B/7471A for Cam Metals (TTLC)
Reporting Units: mg/kg (ppm)

Element	EPA Method	Method Blank	A310006-1 WCS-01	A310006-2 WCS-02				PQL
Antimony (Sb)	7040	ND	ND	ND				10
Arsenic (As)	7060	ND	ND	ND				0.05
Barium (Ba)	7080	ND	520	364				2.5
Beryllium (Be)	7090	ND	ND	ND				2.5
Cadmium (Cd)	7120	ND	ND	ND				2.5
Chromium (Cr)	7190	ND	24.8	18.0				2.5
Cobalt (Co)	7200	ND	6.4	4.8				2.5
Copper (Cu)	7210	ND	22.4	22.1				2.5
Lead (Pb)	7420	ND	26.4	13.6				2.5
Mercury (Hg)	7471A	ND	ND	ND				0.2
Molybdenum (Mo)	7480	ND	ND	ND				5.0
Nickel (Ni)	7520	ND	11.2	7.6				2.5
Selenium (Se)	7740	ND	ND	ND				0.05
Silver (Ag)	7760	ND	9.6	6.4				2.5
Thallium (Tl)	7840	ND	ND	ND				2.5
Vanadium (V)	7910	ND	ND	ND				10
Zinc (Zn)	7950	ND	99.4	92.8				2.5

PQL: Practical Quantitation Limit.
ND: Not Detected (less than PQL).

Alpha Scientific Corporation
Environmental Laboratories

10-10-2013

TPH-Gasoline
Batch QA/QC Report

Client:	American Integrated Services	Lab Job No:	A310006
Project:	33215		
Matrix:	Sand	Lab Sample ID:	UR301014-1
Batch No:	EMJ04-GS1	Date Analyzed:	10-04/05-2013

I. MS/MSD Report
Unit: ppb

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
TPH-g	ND	1,000	1,030	875	103.0	87.5	16.3	30	70-130

II. LCS Result
Unit: ppb

Analyte	LCS Value	True Value	Rec.%	Accept. Limit
TPH-g	1,050	1,000	105.0	80-120

ND: Not Detected (at the specified limit).

Alpha Scientific Corporation
Environmental Laboratories

10-10-2013

EPA 8015M (TPH)
Batch QA/QC Report

Client: American Integrated Services
Project: 33215
Matrix: Sand
Batch No. for TPH-d: BJ04-DS1

Lab Job No: A310006
Lab Sample ID: UR310004-2
Date Analyzed: 10-05-2013

I. MS/MSD Report
Unit: ppm

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
TPH-d	ND	200	208	218	104.0	109.0	4.7	30	70-130

II. LCS Result
Unit: ppm

Analyte	LCS Value	True Value	Rec.%	Accept. Limit
TPH-d	205	200	102.5	80-120

ND: Not Detected.

Alpha Scientific Corporation
Environmental Laboratories

10-10-2013

EPA 8260B
Batch QA/QC Report

Client:	American Integrated Services	Lab Job No:	A310006
Project:	33215		
Matrix:	Sand	Lab Sample ID:	UR310014-1
Batch No:	1004-VOES1	Date Analyzed:	10-04/05-2013

I. MS/MSD Report
Unit: ppb

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
1,1-Dichloroethene	ND	20	18.3	17.5	91.5	87.5	4.5	30	70-130
Benzene	ND	20	25.8	21.4	129.0	107.0	18.6	30	70-130
Trichloro-ethene	ND	20	22.1	19.9	110.5	99.5	10.5	30	70-130
Toluene	ND	20	19.2	18.2	96.0	91.0	5.3	30	70-130
Chlorobenzene	ND	20	19.2	17.8	96.0	89.0	7.6	30	70-130

II. LCS Result
Unit: ppb

Analyte	LCS Value	True Value	Rec.%	Accept. Limit
1,1-Dichloroethene	54.3	50.0	108.6	80-120
Benzene	58.0	50.0	116.0	80-120
Trichloro-ethene	57.9	50.0	115.8	80-120
Toluene	52.5	50.0	105.0	80-120
Chlorobenzene	52.5	50.0	105.0	80-120

ND: Not Detected (at the specified limit).

RAZMIK GOZALIANS / RGOZALIANS@AMERICANINTEGRATED.COM

ALPHA SCIENTIFIC CORPORATION

CHAIN OF CUSTODY RECORD

Lab Job Number A310006

Client: American Integrated Services

Address: 1502 E. Opp St. Wilmington, CA 90744

Report Attention: Razmik Gozalians | Phone: 310 522-1168 | Fax: 310 522-0474 | Sampled by: Jose Banuelos

Project Name/No.: 33215 | Project Site: Former March AFB Site FT007

T.A.T. Requested: ☐ 8 hrs ☐ 24 hrs ☐ 48 hrs ☐ 3 days ☒ Normal

Sample Condition: ☒ Chilled ☒ Intact ☐ Sample seals

Client Sample ID	Lab Sample ID	Sample Collection Date	Sample Collection Time	Matrix Type	Sample Preserv	No.,type* & size of container	TPH-Gasoline	TPH-Diesel	8260B (BTEX, Oxygenates)	8260B (VOCs)	8270C (SVOCs)	CAM Metals	8082 (PCBs)	6010B Metals	8015 Full range Gas, Diesel, oil				Remark
WCS-01	A310006-1	10-03-13	0656	Sand	N/A	402 JAR			X	X				X	X				
WCS-02	-2	10-03-13	0710	Sand	N/A	402 JAR			X	X				X	X				

Analyses Requested

Relinquished by	Company	Date	Time	Received by	Company	Date	Time
Jose Banuelos	AIS	10-03-13	0845	Meilingli	ASL	10-3-13	8:45 am
Relinquished by	Company	Date	Time	Received by	Company	Date	Time

Container types: M=Metal Tube, A=Air Bag, P=Plastic bottle, G=Glass bottle, V=VOA vial

March AR# 420923 Page 312 of 324

Alpha Scientific Corporation
16760 Gridley Road
Cerritos, CA 90703

Email: ascorp@verizon.net
Tel: (562) 809-8880
Fax: (562) 809-8801

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.
Distribution: WHITE with report, PINK to courier.

APPENDIX G

BACKFILL COMPACTION REPORT

NorCal Engineering
Soils and Geotechnical Consultants
10641 Humbolt Street Los Alamitos, CA 90720
(562) 799-9469 Fax (562) 799-9459

October 24, 2013 Project Number 17079-13

American Integrated Services, Inc.
P.O. Box 92316
Long Beach, California 90809-2316

Re: **Report of Geotechnical Observation and Testing of eXCAVATION Backfill Operations** – Located Westerly of Heacock Street, Lot 7 (Formerly March Air Reserve Base), Moreno Valley, California

Dear Sirs:

Pursuant to your request, this firm has provided this geotechnical report to summarize the observation and testing performed by this firm for the excavation backfill operations at the above referenced project. Our geotechnical services pertaining to the backfill of the excavations are summarized in the subsequent sections of this report.

Backfill Operations

The fill areas consisted of nine excavations with approximate dimensions listed below. The excavations were cleansed of all demolition debris and low density soils to expose competent native soils. The excavation bottoms were observed and approved by this firm prior to placement of fill. Fill material placed was compacted to a minimum of 90% of the laboratory standard in lifts not in excess of eight inches in thickness. A backhoe mounted sheepsfoot wheel and rubber tire loader were utilized for compaction control. A water truck provided moisture control.

Excavation	Approximate Dimension	Approximate Depth
#1	11 ft by 13 ft	6'
#2	10 ft by 14 ft	4'
#3	10 ft by 23 ft	6'
#4	35 ft by 100 ft	4 to 10'
#5	12 ft by 22 ft	10'
#6	11 ft by 12 ft	4'
#7	12 ft by 12 ft	10'
#8	12 ft by 13 ft	7'
#9	12 ft by 12 ft	5'

Laboratory/Field Testing

The relative compaction was determined by Sand Cone Method (ASTM: D1556-07) and by the Drive Tube Method (ASTM: D2937-04). The maximum density of the fill soils was obtained by the laboratory standard (ASTM: D1557-07) and results are shown on Table I. Tests were performed a minimum of every 500 cubic yards placed and every two feet in depth of fill placed. A summary of the compaction tests are included with locations shown on the accompanying plan.

No chemical analysis of soils were performed by this firm and is not within the scope of our services.

We appreciate this opportunity to be of service to you. If you have any further questions, please do not hesitate to contact the undersigned.

Respectfully submitted,
NORCAL ENGINEERING

Keith D. Tucker
Project Engineer
R.G.E. 841

Walter K. Mott
Project Manager

APPENDICES

(In order of appearance)

Appendix A

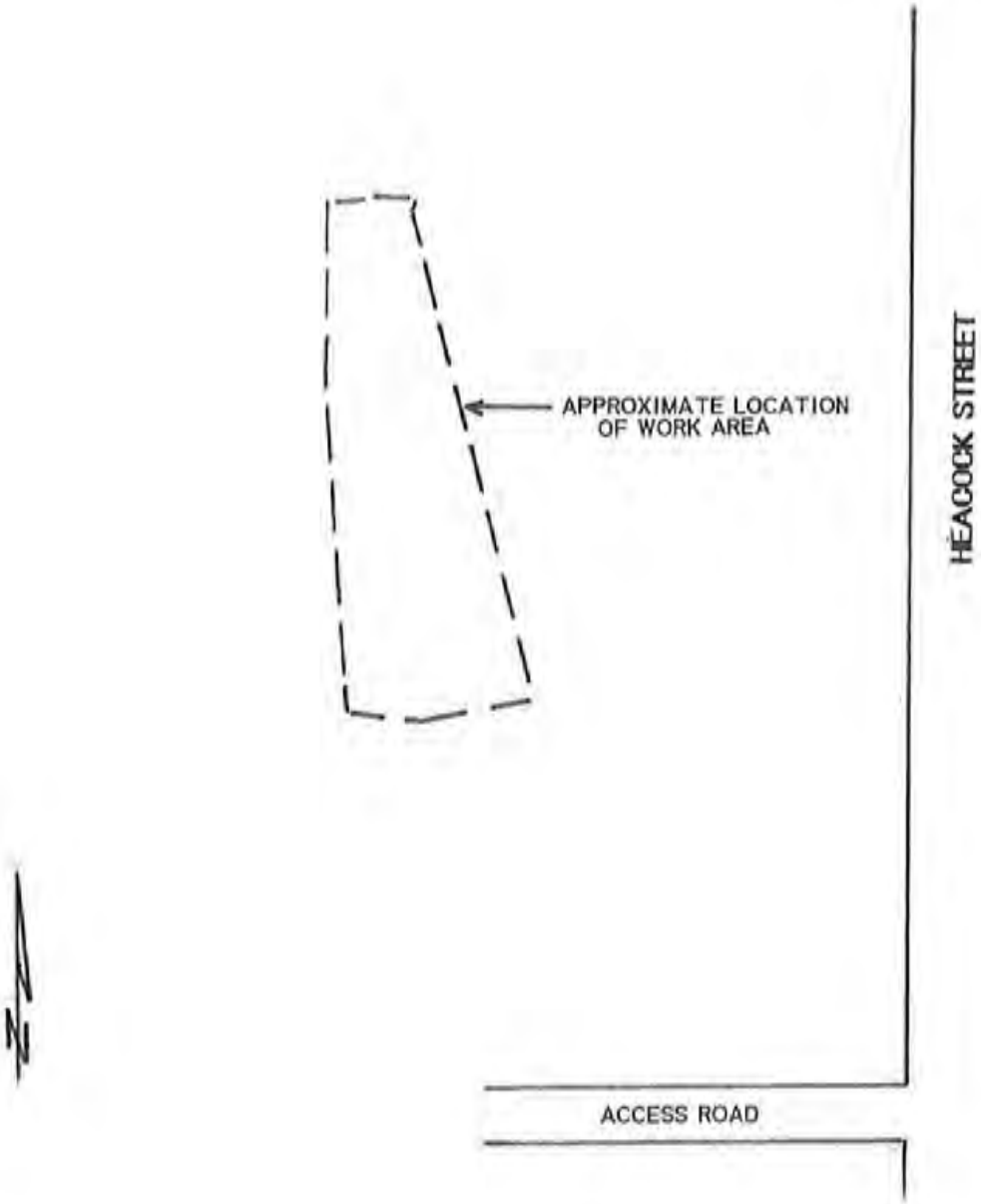
NorCal Engineering

TABLE I
MAXIMUM DENSITY TESTS
(ASTM: D1557-07)

Sample	Classification	Optimum Moisture	Maximum Dry Density (lbs./cu.ft.)
I	Silty SAND	9.5	123.0
II	Silty SAND	9.0	128.0

Appendix B

NorCal Engineering



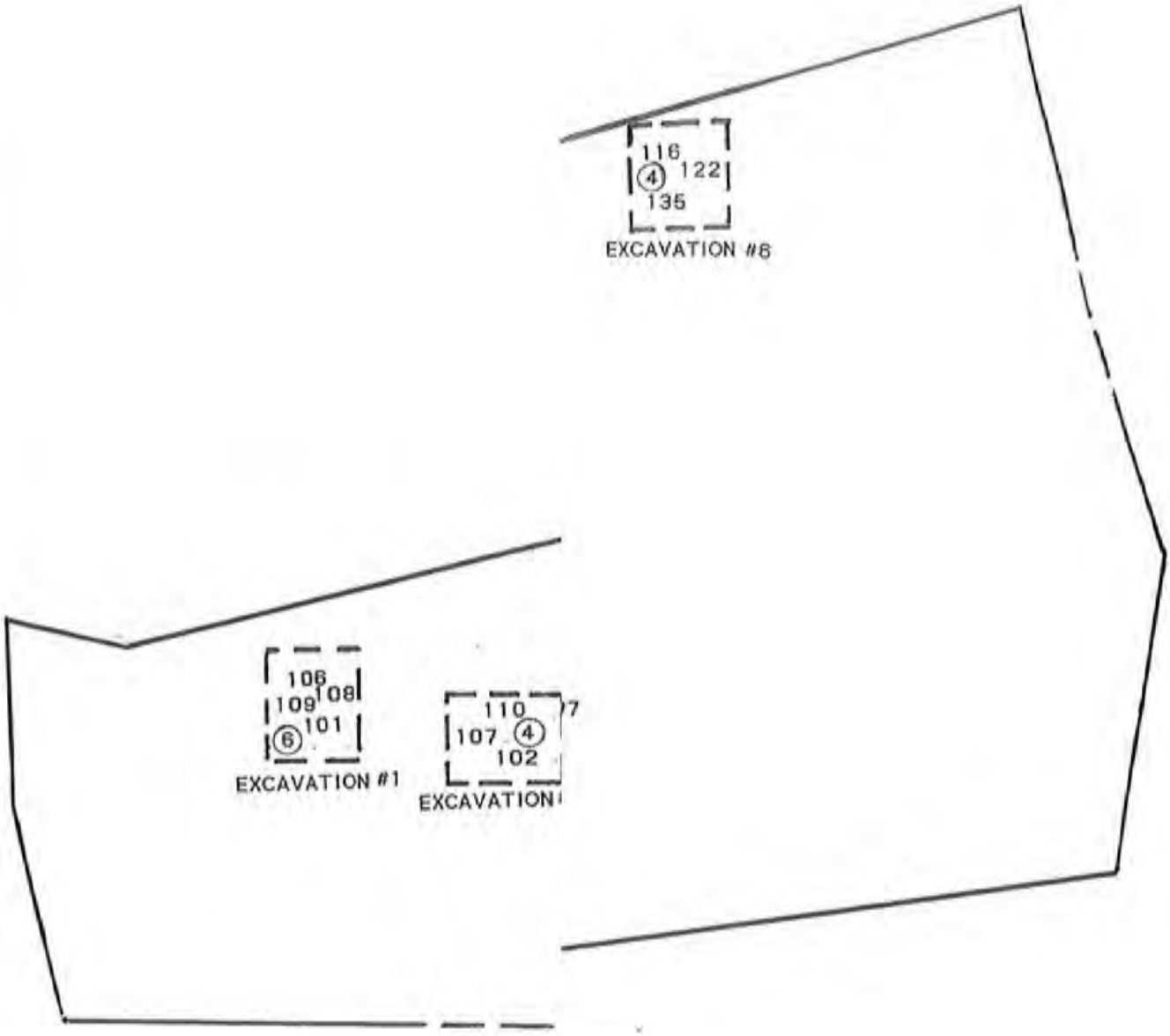
NorCal Engineering
SOILS AND GEOTECHNICAL CONSULTANTS

AIS

PROJECT 17079-13 | DATE OCTOBER 2013

SITE PLAN

SHEET 1



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NTS

LOCATION OF COMPACTION TESTS

13

SHEET 2

Project Number 17079-13

SUMMARY OF COMPACTION TEST RESULTS

Date of Test	Test No.	Location	Depth	Percent Moisture	Unit Wt. lbs./cu.ft.	Relative Compaction	Soil Type	Test S/D
10/14/13	101	Excavation Btm #1	6.0-6.5	9.3	114.0	93	I	D
10/14/13	102	Excavation Btm #2	4.0-4.5	8.4	116.2	94	I	S
10/14/13	103	Excavation Btm #3	6.0-6.5	8.9	113.5	92	I	D
10/14/13	104	Excavation Btm #4	6.0-6.5	9.7	116.2	94	I	D
10/14/13	105	Excavation Btm #5	10.0-10.5	8.9	112.1	91	I	D
10/14/13	106	Excavation Bkfl #1	4.0-4.5	9.7	116.1	91	II	S
10/14/13	107	Excavation Bkfl #2	2.0-2.5	8.9	119.0	93	II	S
10/14/13	108	Excavation Bkfl #1	2.0-2.5	8.2	117.5	92	II	D
10/15/13	109	Excavation Bkfl #1	0.0-0.5	9.2	117.8	92	II	D
10/15/13	110	Excavation Bkfl #2	0.0-0.5	9.4	120.0	94	II	D
10/15/13	111	Excavation Bkfl #4	4.0-4.5	9.5	119.6	93	II	S
10/15/13	112	Excavation Btm #4	10.0-10.5	9.1	113.2	92	I	D
10/15/13	113	Excavation Bkfl #5	8.0-8.5	9.4	119.4	93	II	D
10/15/13	114	Excavation Bkfl #4	2.0-2.5	9.8	117.5	92	II	D
10/15/13	115	Excavation Bkfl #4	0.0-0.5	9.2	120.8	94	II	S
10/15/13	116	Excavation Btm #6	4.0-4.5	8.6	113.2	92	I	S
10/15/13	117	Excavation Btm #7	10.0-10.5	9.8	112.7	92	I	D
10/15/13	118	Excavation Btm #4	10.0-10.5	9.3	116.0	94	I	D
10/15/13	119	Excavation Btm #8	7.0-7.5	9.0	116.2	94	I	D
10/15/13	120	Excavation Btm #9	5.0-5.5	9.4	112.7	92	I	S
10/15/13	121	Excavation Btm #4	7.0-7.5	8.8	113.5	92	I	D
10/16/13	122	Excavation Bkfl #6	2.0-2.5	8.5	120.7	94	II	S
10/16/13	123	Excavation Bkfl #7	8.0-8.5	9.1	115.2	90	II	D
10/16/13	124	Excavation Bkfl #7	6.0-6.5	9.0	116.9	91	II	D
10/16/13	125	Excavation Bkfl #4	8.0-8.5	9.5	119.4	93	II	D
10/16/13	126	Excavation Bkfl #4	6.0-6.5	8.7	117.3	92	II	S
10/16/13	127	Excavation Bkfl #4	5.0-5.5	8.8	117.9	92	II	D
10/16/13	128	Excavation Bkfl #5	6.0-6.5	9.2	119.7	94	II	D
10/16/13	129	Excavation Bkfl #4	4.0-4.5	8.2	116.7	91	II	S
10/16/13	130	Excavation Bkfl #4	2.0-2.5	8.9	119.0	93	II	S
10/16/13	131	Excavation Bkfl #4	8.0-8.5	9.1	120.0	94	II	D
10/16/13	132	Excavation Btm #4	10.0-10.5	9.9	116.1	94	I	D

**Retest of failing tests after area reworked
S= Sand Cone Method
D= Drive Tube Method

Project Number 17079-13

SUMMARY OF COMPACTION TEST RESULTS

Date of Test	Test No.	Location	Depth	Percent Moisture	Unit Wt. lbs./cu.ft.	Relative Compaction	Soil Type	Test S/D
10/16/13	133	Excavation Bkfl #4	8.0-8.5	8.6	118.5	93	II	D
10/16/13	134	Excavation Bkfl #4	6.0-6.5	10.0	118.2	92	II	S
10/16/13	135	Excavation Bkfl #6	0.0-0.5	8.9	120.3	94	II	D
10/16/13	136	Excavation Bkfl #4	4.0-4.5	11.4	119.4	93	II	S
10/16/13	137	Excavation Bkfl #4	2.0-2.5	9.3	120.1	94	II	D
10/16/13	138	Excavation Bkfl #5	6.0-6.5	8.4	117.6	92	II	D
10/16/13	139	Excavation Bkfl #5	4.0-4.5	8.6	119.7	94	II	D
10/16/13	140	Excavation Bkfl #5	2.0-2.5	8.2	118.0	92	II	D
10/16/13	141	Excavation Bkfl #5	2.0-2.5	8.8	120.4	94	II	S
10/16/13	142	Excavation Bkfl #4	0.0-0.5	9.3	116.7	91	II	D
10/16/13	143	Excavation Bkfl #4	0.0-0.5	9.2	118.9	93	II	D
10/16/13	144	Excavation Bkfl #8	5.0-5.5	9.7	116.7	91	II	D
10/16/13	145	Excavation Bkfl #8	3.0-3.5	9.0	120.1	94	II	S
10/16/13	146	Excavation Bkfl #8	1.0-1.5	9.1	119.1	93	II	D
10/16/13	147	Excavation Bkfl #7	4.0-4.5	8.2	118.3	92	II	D
10/16/13	148	Excavation Bkfl #7	2.0-2.5	9.1	119.9	94	II	D
10/16/13	149	Excavation Bkfl #8	0.0-0.5	9.2	118.9	93	II	S
10/16/13	150	Excavation Bkfl #9	3.0-3.5	8.8	117.6	92	II	D
10/16/13	151	Excavation Bkfl #9	1.0-1.5	9.1	120.4	94	II	D
10/16/13	152	Excavation Bkfl #9	0.0-0.5	9.0	119.3	93	II	D
10/16/13	153	Excavation Bkfl #7	0.0-0.5	9.3	117.6	92	II	D
10/16/13	154	Excavation Bkfl #4	3.0-3.5	8.6	118.8	93	II	D
10/17/13	155	Excavation Bkfl #3	4.0-4.5	9.0	120.1	94	II	S
10/17/13	156	Excavation Bkfl #3	2.0-2.5	8.7	117.8	92	II	D
10/17/13	157	Excavation Bkfl #3	0.0-0.5	8.9	118.7	93	II	S
10/17/13	158	Excavation Bkfl #4	6.0-6.5	9.1	118.2	92	II	D
10/17/13	159	Excavation Bkfl #4	4.0-4.5	8.8	120.4	94	II	D
10/17/13	160	Excavation Bkfl #4	2.0-2.5	9.0	119.2	93	II	S
10/17/13	161	Excavation Bkfl #4	1.0-1.5	9.7	117.3	92	II	D
10/17/13	162	Excavation Bkfl #4	0.0-0.5	9.9	113.5	92	I	D
10/17/13	163	Excavation Bkfl #4	0.0-0.5	9.5	116.4	91	II	D

**Retest of failing tests after area reworked
S= Sand Cone Method
D= Drive Tube Method

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE

MARCH AFB
CALIFORNIA

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 420487

Former March Air Force Base, California

Prepared for
Air Force Civil Engineer Center
Base Conversion Directorate
Lackland Air Force Base, Texas

Contract FA8903-08D-8777
Task Order 0153

SOIL VAPOR EXTRACTION IMPLEMENTATION REPORT SITE FT007, OPERABLE UNIT 1

January 2014

MWH

DEPARTMENT OF THE AIR FORCE
AIR FORCE CIVIL ENGINEER CENTER
JOINT BASE SAN ANTONIO LACKLAND TEXAS!

14 January 2014

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Subject: Soil Vapor Extraction Implementation Report, Site FT007, Former March Air Force Base, California

Attached for your review and concurrence is the Soil Vapor Extraction Implementation Report, Site FT007, Former March AFB.

Thank you for your continuing support of the March cleanup program. If you have any questions, please do not hesitate to contact me at (210) 395-8240.

JERRY W BINGHAM, P.E.
Environmental Program Manager

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Soil Vapor Extraction Implementation Report, Site FT007,
Former March Air Force Base, California

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13. ABSTRACT (Maximum 200 words)

This document presents the details of the installation of the SVE system at Site FT007 and initial operations. As-built drawings, well completion logs, and baseline analytical data are presented within.

14. SUBJECT TERMS	15. NUMBER OF PAGES
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE.	19. SECURITY CLASSIFICATION OF ABSTRACT.	20. LIMITATION OF ABSTRACT

SOIL VAPOR EXTRACTION IMPLEMENTATION REPORT
SITE FT007, OPERABLE UNIT 1
FORMER MARCH AIR FORCE BASE, CALIFORNIA

Contract FA8903-08-D-8777
Task Order 0153
CDRL A001F

Prepared for:

Air Force Civil Engineer Center
Former March Air Force Base, California

Prepared by:

MWH
2121 North California Boulevard, Suite 600
Walnut Creek, California 94596

January 2014

SOIL VAPOR EXTRACTION IMPLEMENTATION REPORT
SITE FT007, OPERABLE UNIT 1
FORMER MARCH AIR FORCE BASE, CALIFORNIA

January 2014

Contract FA8903-08-D-8777
Task Order 0153
CDRL A001F

Prepared for:

Air Force Civil Engineer Center
Former March Air Force Base, California

Prepared by:

MWH Americas, Inc.
2121 North California Boulevard, Suite 600
Walnut Creek, California 94596

MWH certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract FA8903-08-D-8777 are complete, accurate, and comply with all requirements of the contract.

Approved By: _____ Date: 1/14/2014
Nancy Barnes, P.G., PMP
Task Order Manager

Approved By: _____ Date: 1/14/2014
Marikka Hughes, P.G.
Project Hydrogeologist

Approved By: _____ Date: 1/14/2014
Eric Rowney, P.E.
Project Engineer

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LIST OF ABBREVIATIONS AND ACRONYMS

AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
bgs	below ground surface
CAP	Corrective Action Plan
CHHSL	California Human Health Screening Level
Cornerstone	Cornerstone Environmental Contractors, Inc.
EGETS	Expanded Groundwater Extraction Treatment System
EPA	U.S. Environmental Protection Agency
°F	degrees Fahrenheit
GAC	granular activated carbon
MWH	MWH Americas, Inc.
O&M	operations and maintenance
PID	photoionization detector
ppbv	parts per billion by volume
ppm	parts per million
ppmv	parts per million by volume
PVC	polyvinyl chloride
ROI	radius of influence
scfm	standard cubic feet per minute
SVE	soil vapor extraction
SVMP	soil vapor monitoring point
TCE	trichloroethene
TPH	total petroleum hydrocarbons
USAF	U.S. Air Force
VOC	volatile organic compound

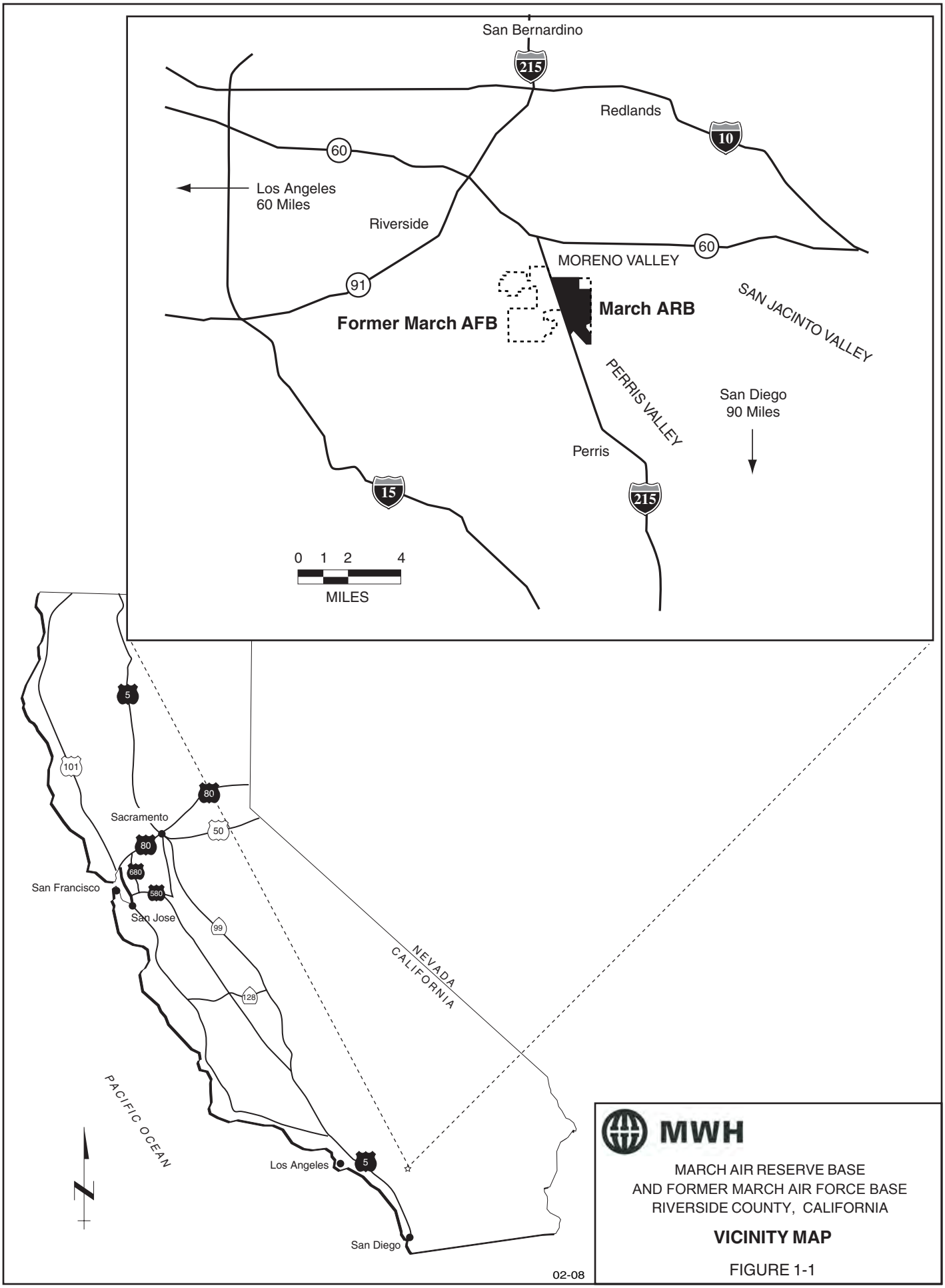
1.0 INTRODUCTION

MWH Americas, Inc. (MWH) has prepared this Soil Vapor Extraction (SVE) Implementation Report to document the procedures used to conduct SVE as part of the remedial action at the petroleum-impacted portion of Site FT007, Former Fire Training Area, Former March Air Force Base (AFB), California. Former March AFB is located at the northern end of the Perris Valley, east of the city of Riverside, in Riverside County (Figure 1-1). MWH was authorized by the Air Force Civil Engineer Center (AFCEC) to prepare this report under Task Order 0153, Contract FA8903-08-D-8777. The contract was issued by AFCEC at Lackland AFB, Texas. The location of Site FT007, Former Fire Training Area, is shown on Figure 1-2.

1.1 SITE DESCRIPTION

Site FT007 is the former location of a fire training area and disposal/burn site. The facility was active from 1961 through 1978 (Engineering Science, 1988; Earth Tech, 1994), although it is possible that fire training activities began at the site in 1954 (CH2M Hill, 1984). At least three fire training pits were identified in aerial photographs from 1973. These fire training pits were enclosed by berms, but were not lined. Other disturbed areas at the site are also evident on the aerial photographs, but do not appear to have the distinctive characteristics of a burn pit (i.e., dark staining of the ground and a derelict airplane). This report describes activities performed on the south side of Site FT007, which included areas of benzene vapor in soil.

Before 1972, Site FT007 was reportedly used as a disposal/burn site for up to 100,000 gallons per year of oil, solvent, and jet fuel wastes generated at the base. Only recovered Jet Propellant No. 4 was burned at the site after 1972 until the facility closed in 1978, at which point another fire training facility was constructed north of the site (Site FT015). It is assumed, based on the large volume of waste liquids burned at the site, that the bermed training pits were used as storage areas for these wastes between burning exercises (CH2M Hill, 1984).

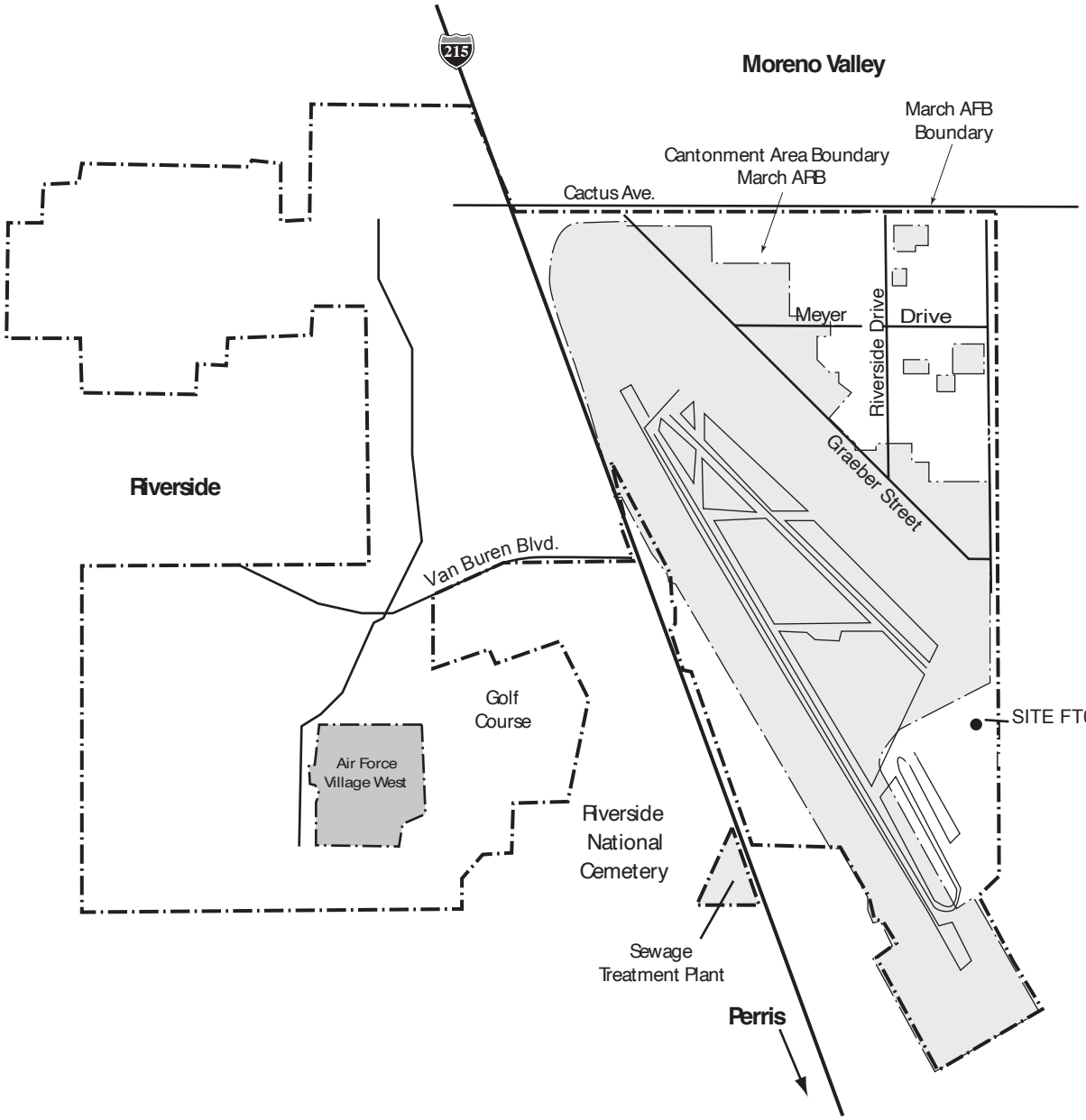


MWH

MARCH AIR RESERVE BASE
AND FORMER MARCH AIR FORCE BASE
RIVERSIDE COUNTY, CALIFORNIA

VICINITY MAP

FIGURE 1-1



Legend

- Site Location
- Former AFB Boundary
- Approximate Boundary of Cantonment Area

0 2,000 4,000

SCALE IN FEET

01-14

MWH

MARCH AIR RESERVE BASE AND
FORMER MARCH AIR FORCE BASE
RIVERSIDE COUNTY, CALIFORNIA

SITE LOCATION MAP

FIGURE 1-2

During the site's operation as a fire training area, a tar-like material was spread across a portion of the site. Some tar-like material remained on the ground surface at the site until a 2013 removal action, reported separately.

1.2 PREVIOUS SITE ACTIVITIES

Soil investigations started in 1985 at Site FT007 and focused on the potential of subsurface contamination at the site. Descriptions of these subsurface investigations are presented in the *Final Preliminary Assessment and Site Inspection Work Plan* (MWH, 2006) and *Soil and Groundwater Investigation Report* (MWH, 2008). The brief chronology of activities listed below is described in further detail in the *Final Corrective Action Plan (CAP) for Surficial Soils Impacted by Lead and Petroleum Material* (MWH, 2012a).

- 1961 – 1978 Site used as a fire training area and disposal area
- 1992 – 1994 Remedial investigation/feasibility study activities (Earth Tech, 1994)
- 2007 – Site 7 soil and groundwater investigation (MWH, 2008)
- 2009 – Limited surface soil investigation (MWH, 2008)
- 2010 – SVE pilot study at the trichloroethene (TCE) source area (MWH, 2011)
- 2011 – Delineation of tar surface and collection of supplemental surface soil samples (MWH, 2013); installation of SVE system at TCE source area (MWH, 2011); and soil vapor investigation south of the SVE system (MWH, 2012b)

In September 2011, soil vapor probes were installed at 20 locations across the southern portion of Site FT007 at depths up to 25 feet below ground surface (bgs) in order to investigate concerns raised by the owner of the property south of Site FT007 regarding concentrations of benzene in soil vapor (Stantec, 2011a and 2011b; MWH, 2012b). Results of the investigation indicated that soil vapor concentrations exceeded the commercial/industrial California Human Health Screening Level (CHHSL) for benzene at 7SV18, located on the southeast corner of Site FT007, at a depth of 15 feet bgs, immediately north of the southern warehouse. No other volatile organic compounds

(VOCs) were detected above their respective commercial CHHSLs in the southeast corner of Site FT007. Soil vapor locations are presented on Figure 1-3.

1.3 PURPOSE AND OBJECTIVES

The purpose of this SVE Implementation Report is to document and present the results of the SVE implementation activities conducted for the petroleum-impacted soil at Site FT007 associated with the benzene detection at 7SV18. The following objectives are established for this report:

- Summarize background information for Site FT007.
- Document field activities performed, including installation of SVE wells and vapor monitoring points, the SVE system, and sampling for the southern petroleum area.
- Present the results of the startup of the petroleum SVE system.
- Present conclusions and recommendations from the petroleum SVE system installation and initial sampling.

The project consisted of the installation of an SVE well and six soil vapor monitoring points (SVMPs) and the construction and startup of the petroleum SVE system. The purpose of the SVE operations is to remove petroleum hydrocarbons from the vadose zone at the area identified with petroleum-impacted soil vapor at Site FT007. SVE is being implemented at this portion of Site FT007 as a corrective action.

1.4 DOCUMENT ORGANIZATION

The remaining sections of the report are organized as follows:

- **Section 2.0, Field Activities.** Describes the fieldwork activities carried out at Site FT007, including SVE well and vapor monitoring point construction, SVE system installation and operation, and sampling for the southern petroleum area.
- **Section 3.0, Baseline and Initial Results.** Discusses and evaluates the baseline well sampling data, and performance monitoring of the petroleum SVE system.


7SV02
7SV01
7SV04
7SV03
7SV08
7SV07
7SV06
7SV05
7SV14
7SV12
7SV10
7SV09
7SV13
7SV11
7SV15
7SV16
7SV17
7SV18
7SV19
7SV20
SV-1
SV-2
SV-3
SITE FT007
SV-6
SV-5
SV-4

- **Section 4.0, Conclusions and Recommendations.** Presents the conclusions of the petroleum SVE system installation and recommendations based on the baseline data.
- **Section 5.0, References**. Lists cited documents.

This document is augmented with the following appendices:

- Appendix A, Daily Quality Control Reports and Site Photos
- Appendix B, As-Built Drawings
- Appendix C, Soil Boring and Well Construction Logs
- Appendix D, SVE System Field Logs and Radius of Influence Calculations
- Appendix E, Survey Data
- Appendix F, Full Data Tables

2.0 FIELD ACTIVITIES

The following sections describe the field activities associated with the petroleum SVE system and well installation at Site FT007 southern petroleum area, as well as operation of the system and associated sampling events. Field activities were performed in accordance with the *Corrective Action Plan Addendum for Petroleum-Impacted Soil* (MWH, 2013). The locations of the petroleum SVE system and associated SVE wells and monitoring points are shown on Figure 2-1. Photo-documentation and daily field reports for the site activities and the petroleum SVE system are included in Appendix A. The as-built drawings for the petroleum SVE system are contained in Appendix B.

2.1 WELL INSTALLATION

One SVE well (7P-SVE20) and six SVMPs (7P-MP20 through 7PMP25), each with two nested wells, were installed from 24 through 27 June 2013. The wells were installed using the hollow-stem auger method in accordance with the *Final Well Installation and Destruction Work Plan* (MWH, 2004) and applicable California Well Standards (California Department of Water Resources, 1991). Soil was logged by an MWH geologist from a continuous core and drill cuttings using the visual-manual guidance for the Unified Soil Classification System. Well construction and boring logs with detailed lithology are included in Appendix C.

The wells were installed in locations and at depths identified in the *Corrective Action Plan Addendum for Petroleum-Impacted Soil* (MWH, 2013). Well construction details are included in Table 2-1. These new well locations are included on Figure 2-1. The nested wells were each constructed using 2-inch-diameter Schedule 40 polyvinyl chloride (PVC) casing with 5 or 10 feet of 0.020-inch slotted PVC screen. For each well, annular well materials were installed following placement of the well casing and screen, which were suspended above the base of the borehole. The filterpack (#3 sand) was installed to extend at least 1 foot above the top of the well screen and was placed by pouring down the inside of the drive casing. The top of the filterpack was maintained


SVE SYSTEM
TREATMENT PAD
7SV16
7P-MP20
7SV17
7P-MP21
7P-SVE20
7SV18
7P-MP22
7SV19
7P-MP23
7P-MP24
SV-1
7P-MP25
SV-3
SV-2
SV-6

TABLE 2-1

SOIL VAPOR WELL AND MONITORING POINT CONSTRUCTION DETAILS
PETROLEUM SITE FT007
FORMER MARCH AIR FORCE BASE, CALIFORNIA

Monitoring Point Name (-)	Minimum Borehole Diameter (inches)	Total Borehole Depth (feet bgs)	Casing Material and Diameter (-)	Total Casing Depth (feet bgs)	Screened Interval (feet bgs)	Screen Material (-)	Filter Pack Interval (feet bgs)	Mesh Sand Interval (feet bgs)	Bentonite Interval (feet bgs)	Grout Interval (feet bgs)	Type of Surface
7P-SVE20	12	32	2" Sch. 40 PVC	10	5-10	2" Sch. 40 PVC	4-11	3-4	1-3	NA	Flushmount
			2" Sch. 40 PVC	25	15-25	2" Sch. 40 PVC	14-26	13-14	11-13	NA	
7P-MP20	12	25	2" Sch. 40 PVC	10	5-10	2" Sch. 40 PVC	4-11	3-4	1-3	NA	Flushmount
			2" Sch. 40 PVC	25	15-25	2" Sch. 40 PVC	14-26	13-14	11-13	NA	
7P-MP21	12	25	2" Sch. 40 PVC	10	5-10	2" Sch. 40 PVC	4-11	3-4	1-3	NA	Flushmount
			2" Sch. 40 PVC	25	15-25	2" Sch. 40 PVC	14-26	13-14	11-13	NA	
7P-MP22	12	25	2" Sch. 40 PVC	10	5-10	2" Sch. 40 PVC	4-11	3-4	1-3	NA	Flushmount
			2" Sch. 40 PVC	25	15-25	2" Sch. 40 PVC	14-26	13-14	11-13	NA	
7P-MP23	12	30	2" Sch. 40 PVC	10	5-10	2" Sch. 40 PVC	4-11	3-4	1-3	NA	Flushmount
			2" Sch. 40 PVC	25	15-25	2" Sch. 40 PVC	14-26	13-14	11-13	NA	
7P-MP24	12	25	2" Sch. 40 PVC	10	5-10	2" Sch. 40 PVC	4-11	3-4	1-3	NA	Flushmount
			2" Sch. 40 PVC	25	15-25	2" Sch. 40 PVC	14-26	13-14	11-13	NA	
7P-MP25	12	32	2" Sch. 40 PVC	15	5-15	2" Sch. 40 PVC	4-16	3-4	1-3	NA	Flushmount
			2" Sch. 40 PVC	30	20-30	2" Sch. 40 PVC	19-32	18-19	16-18	NA	

bgs - below ground surface
MP - monitoring point
NA - not applicable
PVC - polyvinyl chloride
Sch. - Schedule
SVE - soil vapor extraction

above the base of the augers. The augers were gradually retracted as the filterpack installation progressed. A fine sand layer (#1C sand) was installed overlying the filterpack by pouring the materials down the inside of the drive casing.

An annular bentonite seal consisting of hydrated bentonite chips was placed above the fine sand layer. The bentonite seal was placed by pouring bentonite chips down the inside of the augers, followed by the addition of adequate water for hydration. The bentonite seal was allowed to hydrate for at least 30 minutes before installation of the overlying grout seal. All SVE wells and vapor monitoring points were constructed with flushmount traffic-rated monuments surrounded by a 4-foot-square concrete pad.

Deviations from the *Corrective Action Plan Addendum for Petroleum-Impacted Soil* (MWH, 2013) included installing only two nested wells per borehole and installing well screens at different depths at 7P-MP25. The CAP Addendum called for three well screens to be installed within each borehole, but due to the presence of moist soils at 32 feet bgs and rising groundwater in the area, the deepest interval (30 to 35 feet bgs) was eliminated from the SVE well and SVMPs. Additionally, the placement of well screens at 7P-MP25 was changed from 5 to 10 feet bgs and 15 to 25 feet bgs due to the presence of odors and PID readings elevated above ambient conditions noted during drilling. In order to screen the SVMP while taking those field conditions into account, the screens were placed at 5 to 15 feet bgs and 20 to 30 feet bgs.

2.2 SVE SYSTEM INSTALLATION

Construction activities for the petroleum SVE system, including trenching, piping, and installation of the SVE system and treatment pad, were conducted between 9 July and 19 July 2013. Before the start of work, a geophysical survey was conducted by SubSurface Surveys to identify and mark existing underground utilities along the planned electrical utility corridor from the new petroleum SVE system to the existing Site FT007 SVE system located to the north. Site activities were also coordinated with the March Joint Powers Authority, March ARB, and the Federal Aviation Administration.

Cornerstone Environmental Contractors, Inc. (Cornerstone) was contracted to install the electrical conduit for the SVE system (Appendix B). Electrical power is supplied from a control panel located at the existing northern Site FT007 SVE system. An approximately 40-inch deep trench was dug from the planned location of the SVE treatment pad to the electrical tie-in location at the existing northern Site FT007 SVE system. During trenching activities, an underground telephone line was severed. MWH and the U.S. Air Force (USAF) established that the telephone line was abandoned and it was subsequently not repaired. A minimum 4-inch sand bedding was placed on the bottom of the trench. A single two-inch, nominal diameter, PVC conduit and two electrical pull-boxes were installed in the trench to house the 480-volt, single-phase electrical line. Additional sand was placed around the conduit and a minimum of 4 inches above the conduit. The trench was then backfilled with 32 inches of soil compacted in 6-inch lifts to match the existing grade. Magnetic identification tape was place in the backfill at approximately 20 inches below finished grade.

The gravel pad for the SVE treatment system was constructed by Cornerstone. First, the proposed area was excavated to 6 inches below grade. Then, the aggregate base material was placed in two 4-inch lifts and roller compacted to the required compaction density of 95 percent. The gravel pad is slightly sloped to the south to match the natural grade and to divert water off of and away from the treatment pad. In addition, a temporary chain-link security fence with a gate was installed to enclose the petroleum SVE system, along with installation of a new control panel within this enclosure. The electrical line was then connected to this control panel.

The 2-inch-diameter Schedule 80 PVC aboveground conveyance piping, 2-inch-diameter flex hose, and wellheads for the SVE well were constructed by Cornerstone to connect the SVE well to the treatment system. A water collection sump was also installed at the treatment pad. The wellheads were built above grade. The manifold at the wellhead consists of two 2-inch Schedule 80 PVC inlet pipes, with each having a

ball valve for isolation and velocicalc and sampling ports (Appendix B). All PVC piping was painted with a water-based latex paint to shield it against ultraviolet radiation.

A new SVE system skid was installed by Cornerstone at the southern portion of Site FT007 for the remedy. The skid is equipped with a 250-standard cubic feet per minute (scfm) positive displacement rotary-lobe blower integrated with two 1,000-pound granular activated carbon (GAC) vessels, an air/water separator tank with transfer pump, air-to-air heat exchanger, and control panel with fully automated operations. This skid was connected to the newly installed conveyance piping. The existing electrical supply that serviced the SVE pilot study unit is also being used to provide service to the new SVE system skid.

The air/water separator tank removes condensate water from the vapor stream before entering the blower, heat exchanger, and carbon vessels. The air/water separator tank includes level sensors and a visual sight glass to determine the water level within the tank. The transfer pump transfers water to the 500-gallon storage tank, which has a high-level interlock to prevent overflow. The piping for both filling the tank from the air/water separator and emptying the tank are plumbed into the top of the tank. Upstream from the air/water separator, an inline flow polyester filter removes 99 percent of all particulates 5 microns or greater.

The air-to-air heat exchanger lowers the temperature of the process vapor coming out of the blower before entering the carbon vessels. The heat exchanger is intended to maintain the operating temperature of the influent to the carbon vessels between 90 degrees Fahrenheit (°F) and 120 °F. At high temperatures, sorbed volatile hydrocarbons are susceptible to desorption and subsequent release to the atmosphere. The heat exchanger is thermostatically controlled for automatic operation. Two new 1,000-pound vapor-phase GAC vessels were filled with virgin coconut carbon by Carbon Resources and plumbed into the new system.

2.3 BASELINE DATA COLLECTION

During the installation of the SVE well and soil vapor monitoring points (Section 2.1), photoionization detector (PID) readings greater than 100 ppm were noted in grab soil samples from 7P-MP25. Soil samples were collected from 6.5, 11, 15.5, and 22.5 to 24 feet bgs at 7P-MP25 based on PID readings. The soil samples were analyzed for VOCs using United States Environmental Protection Agency (EPA) Method 8260B by EMAX Laboratories, Inc.

Following completion of well installation and petroleum SVE system installation described in Sections 2.1 and 2.2, baseline vapor samples from the SVE well and vapor monitoring points were collected on 17 July 2013 to establish initial conditions at the site. These samples were analyzed for total petroleum hydrocarbons (TPH) and VOCs using Methods TO-15 and TO-3, respectively. Samples were collected in SUMMA canisters and submitted to Air Toxics Ltd. for analysis.

The baseline results from 7P-SVE20 indicated the presence of acetone, 2-butanone, methylene chloride, and tetrahydrofuran, which were unexpected contaminants and possibly related to the construction components. An additional soil vapor sample was collected on 16 August 2013 to verify the baseline results from 7P-SVE20 and indicated that concentrations of acetone, 2-butanone, methylene chloride, and tetrahydrofuran within the range of the neighboring monitoring points. The sample was collected in a SUMMA canister and submitted to Air Toxics Ltd. for TPH and VOC analysis by Methods TO-15 and TO-3, respectively.

2.4 SYSTEM STARTUP AND PROVE-OUT

On 19 July 2013, following completion of SVE system construction, the system was started to conduct startup and compliance source testing to verify proper operation and to demonstrate compliance with risk-based discharge standards. PID readings collected from the petroleum SVE system during startup indicated 0.0 parts per million

(ppm) VOCs were being released in the effluent, and the influent contained 24 ppm VOCs; therefore, system operation sample collection was postponed until October 2013.

2.5 NORMAL SVE OPERATIONS

Normal operations began on 19 July 2013 after receiving authorization from the USAF. Operations and maintenance (O&M) procedures consist of the following:

- Weekly checks of the system for proper operation for the first month of operation, monthly checks of the system thereafter
- Quarterly collection of influent, mid-bed, and effluent vapor samples from the treatment system to track GAC usage and verify compliance with discharge requirements
- Quarterly collection of SVE wellhead samples to measure mass removal rates and to monitor SVE remedy performance
- Quarterly collection of vapor monitoring point samples to monitor site remediation
- Records management to maintain clear, complete, and concise records of O&M operations, including sample collection and system adjustments
- Preventative maintenance as recommended by the equipment manufacturer

Specific sampling and data collection procedures are described in the Field Sampling Plan (Appendix B) of the *Corrective Action Plan Addendum for Petroleum-Impacted Soil* (MWH, 2013) and the *Revised Quality Program Plan Long-Term Groundwater Monitoring, and Operation, Maintenance, and Monitoring Programs* (MWH, 2010).

2.6 INVESTIGATIVE-DERIVED WASTE MANAGEMENT

Soil cuttings generated during well installation activities were temporarily stored on site in a stockpile placed on, and covered by, plastic sheeting. Four soil cuttings samples were collected from the stockpile, composited in the field, and submitted to EMAX Laboratories, Inc. for analysis. Based on the analytical results, the soil was determined to be appropriate for use as backfill for the petroleum-impacted soil excavation planned

for September 2013. Water generated from drilling and decontamination was contained and transferred to the Expanded Groundwater Extraction Treatment System (EGETS) transfer station.

2.7 SURVEY

Following SVE system construction, the locations of the new SVE wells and vapor monitoring points were surveyed by CalVada Surveying, Inc., a California-licensed land surveyor. Surveyed locations were tied into the California State Plane Coordinate System, Zone 6. Northing and easting (horizontal) coordinates were surveyed relative to the 1983 North American Datum to an accuracy of ± 0.1 foot. Elevations (vertical coordinates) were surveyed relative to the 1988 National Geodetic Vertical Datum to an accuracy of ± 0.1 foot. Survey data are included in Appendix E.

3.0 BASELINE AND INITIAL RESULTS

This section discusses the results of the baseline well sampling event, and evaluates the effectiveness of GAC for treating extracted VOCs from the subsurface and the performance of the petroleum SVE system in capturing the VOCs.

3.1 BASELINE DATA

Table 3-1 summarizes the soil vapor analytical results for the baseline sampling event conducted for the new SVE wells and vapor monitoring points. The complete data table is included in Appendix F. Notable observations for the extraction well and vapor monitoring points are as follows:

- The baseline sample collected from 7P-SVE20 indicated the presence of elevated concentrations of acetone, 2-butanone, methylene chloride, and tetrahydrofuran. An additional sample was collected on 16 August 2013 from this well and indicated that the baseline results were likely caused by the off-gassing of PVC glue in the construction of the SVE wellhead manifold.
- No detected concentrations exceeded the commercial or residential CHHSLs for buildings constructed on engineered fill.
- Benzene was detected at a maximum concentration of 1 part per billion by volume (ppbv) at 7P-MP24. TPH as JP-4 was detected at a maximum concentration of 0.8 parts per million by volume (ppmv) at 7P-MP20 and TPH as gasoline was detected at a maximum concentration of 0.7 ppmv at 7P-MP25.

Baseline concentrations will be used to properly evaluate the effectiveness of SVE system operation and progress of remediation by comparing increases or decreases in the well concentrations in future monitoring rounds. In addition, treatment technology results will be evaluated against South Coast Air Quality Management District (SCAQMD) air quality standards in the Fourth Quarter 2013 Quarterly O&M Report. Since Site FT007 is part of CERCLA, a permit to operate from the SCAQMD is not required; however, it is the USAF's goal to comply with the SCAQMD air quality standards.

BASELINE SOIL VAPOR ANALYTICAL RESULTS
SITE FT007 PETROLEUM SITE
TASK ORDER 153
FORMER MARCH AFB, CALIFORNIA

cal d	Constituent	Units	Commercial CHHSL	Residential CHHSL	Location:	7P-SVE20*		7P-SVE20*		7P-MP20	
					Depth (feet bgs):	5 - 10	15 - 25	5 - 10	15 - 25	5 - 10	15 - 25
					Sample Date:	7/17/2013	7/17/2013	8/16/2013	8/16/2013	7/17/2013	7/17/2013
	1,1,1-Trichloroethane	PPBV	1.3E+06	4.6E+05		<560	<280	<1.2	<1.2	<1.1	<2.2
	1,2,4-Trichlorobenzene	PPBV				<2200	<1100	**0.95 FB**	**1.1 FB**	**2.2 F**	**1.7 F**
	1,2,4-Trimethylbenzene	PPBV				<560	<280	<1.2	<1.2	<1.1	<2.2
	1,2-Dibromoethane (Ethylene Dibromide)	PPBV				<560	<280	**0.16 FB**	**0.22 FB**	**0.26 F**	<2.2
	1,2-Dichlorobenzene	PPBV				<560	<280	**0.16 FB**	**0.20 FB**	**0.44 F**	**0.46 F**
	1,2-Dichloroethane	PPBV	89	27		<560	<280	<1.2	<1.2	**0.29 F**	<2.2
	1,3,5-Trimethylbenzene	PPBV				<560	<280	<1.2	<1.2	<1.1	<2.2
	1,3-Dichlorobenzene	PPBV				<560	<280	**0.18 FB**	**0.28 FB**	**0.57 F**	**0.62 F**
	1,4-Dichlorobenzene	PPBV				<560	<280	**0.26 FB**	**0.40 FB**	**0.62 F**	**0.63 F**
	1,4-Dioxane (p-dioxane)	PPBV				<2200	<1100	<4.7	<4.8	<4.4	<8.8
	2-Butanone(MEK)	PPBV				**9000**	**37000**	**4.7**	**17**	**32**	**140**
	2-Hexanone	PPBV				<2200	<1100	<4.7	**2.2 F**	**3.3 F**	**4.2 F**
	4-ethyltoluene	PPBV				<560	<280	<1.2	**0.10 FB**	**0.18 F**	**0.23 F**
	4-Methyl-2-pentanone (MIBK)	PPBV				<560	<280	<1.2	<1.2	<1.1	<2.2
	Acetone	PPBV				**6500**	**20000**	**16**	**36**	**81**	**140**
	Benzene	PPBV	88	27		<560	<280	<1.2	<1.2	<1.1	<2.2
	Benzyl chloride	PPBV				<560	<280	**0.18 FB**	**0.23 FB**	**0.41 F**	<2.2
	Bromodichloromethane	PPBV				<560	<280	<1.2	**0.15 F**	**0.27 F**	<2.2
	Bromoform	PPBV				<560	<280	<1.2	<1.2	**0.29 F**	<2.2
	Carbon disulfide	PPBV				**120 F**	<280	**2.4 FB**	**4.6 FB**	**1.9 F**	**2.8 F**
	Carbon tetrachloride	PPBV	33	10		<560	<280	<1.2	<1.2	<1.1	<2.2
	Chlorobenzene	PPBV				<560	<280	<1.2	<1.2	**0.62 F**	**1.0 F**
	Chloroform	PPBV				<560	<280	<1.2	**0.42 F**	**0.26 F**	<2.2
	Chloromethane	PPBV				<2200	<1100	**5.1 F**	**7.9 F**	**1.8 F**	<22
	Cyclohexane	PPBV				<560	<280	<1.2	<1.2	<1.1	<2.2
	Dibromochloromethane	PPBV				<560	<280	<1.2	<1.2	**0.21 F**	<2.2
	Dichlorodifluoromethane	PPBV				<560	<280	**0.47 F**	**0.50 F**	**0.64 F**	**0.63 F**
	Ethanol	PPBV				<2200	<1100	**4.4 F**	**4.7 F**	**6.0**	**14**
	Ethylbenzene	PPBV	8.3E+02	2.5E+02		<560	<280	<1.2	<1.2	<1.1	<2.2
	Hexachlorobutadiene	PPBV				<2200	<1100	<4.7	<4.8	**1.0 F**	<8.8
	Isopropanol	PPBV				<2200	<1100	**1.0 F**	**1.0 F**	**0.84 F**	**1.6 F**
	m,p-Xylene	PPBV	5.1E+05	1.8E+05		<560	<280	**0.13 F**	**0.16 F**	<1.1	<2.2
	Methylene chloride	PPBV				**1200**	**150 F**	<12	<12	**0.35 F**	**0.80 F**

BASELINE SOIL VAPOR ANALYTICAL RESULTS
SITE FT007 PETROLEUM SITE
TASK ORDER 153
FORMER MARCH AFB, CALIFORNIA

cal d	Constituent	Units	Commercial CHHSL	Residential CHHSL	Location:	7P-SVE20*		7P-SVE20*		7P-MP20	
					Depth (feet bgs):	5 - 10	15 - 25	5 - 10	15 - 25	5 - 10	15 - 25
					Sample Date:	7/17/2013	7/17/2013	8/16/2013	8/16/2013	7/17/2013	7/17/2013
	n-Heptane	PPBV				<560	<280	<1.2	<1.2	**0.54 F**	**1.1 F**
	n-Hexane	PPBV				<560	<280	<1.2	**0.23 F**	<1.1	**0.68 F**
	Naphthalene	PPBV	59	18		<2200	<1100	**0.18 FB**	**0.38 FB**	**0.34 F**	<8.8
	o-Xylene	PPBV	4.8E+05	1.7E+05		<560	<280	<1.2	<1.2	**0.24 F**	<2.2
	Styrene	PPBV				<560	<280	<1.2	**0.12 F**	**0.22 F**	<2.2
	Tetrachloroethylene (PCE)	PPBV	2.4E+02	69		<560	<280	<1.2	**0.43 F**	<1.1	<2.2
	Tetrahydrofuran	PPBV				**260000**	**210000**	**6.5**	**39**	**97**	**910 F**
	Toluene	PPBV	2.4E+05	8.5E+04		<560	<280	**0.34 F**	**0.23 F**	**0.64 F**	**0.68 F**
	trans-1,3-Dichloropropene	PPBV				<560	<280	**0.30 FB**	**0.46 FB**	<1.1	**0.63 F**
	Trichloroethylene (TCE)	PPBV	8.2E+02	2.4E+02		<560	<280	<1.2	**2.3**	<1.1	<2.2
	Trichlorofluoromethane	PPBV				<560	<280	**0.27 F**	**0.26 F**	**0.28 F**	**0.52F**
	Total Petroleum Hydrocarbons as Gasoline (C2-C4)	PPMV				<0.22	<0.22	<0.058	<0.060	<0.55	<0.055
	Total Petroleum Hydrocarbons as JP-4	PPMV				**160**	**150**	**0.061**	**0.21**	**0.21**	**0.80**
	Toluene	PPMV	2.4E+02	8.5E+01		<0.0090	<0.0089	<0.0023	<0.0024	<0.0022	<0.0022
	Xylenes, total	PPMV	4.8E+02			<0.0090	<0.0089	<0.0023	**0.0042**	**0.0032**	**0.0043**

parts per billion by volume
parts per million by volume
lyte was found in the associated blank above the method detection limit
e concentration detected below the reporting limit
- California Human Health Screening Level

VE20 was resampled on 8/16/2013 due to the presence of possible PVC glue components
he baseline sample.

BASELINE SOIL VAPOR ANALYTICAL RESULTS
SITE FT007 PETROLEUM SITE
TASK ORDER 153
FORMER MARCH AFB, CALIFORNIA

cal d	Constituent	Units	Commercial CHHSL	Residential CHHSL	Location:	7P-MP21		7P-MP22		7P-MP23	
					Depth (feet bgs):	5 - 10	15 - 25	5 - 10	15 - 25	5 - 10	15 - 25
					Sample Date:	7/17/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013
	1,1,1-Trichloroethane	PPBV	1.3E+06	4.6E+05		<1.2	<1.1	<1.1	**0.33 F**	<1.1	<1.1
	1,2,4-Trichlorobenzene	PPBV				<4.6	<4.4	**1.2 F**	**0.90 F**	<4.4	<4.4
	1,2,4-Trimethylbenzene	PPBV				<1.2	<1.1	<1.1	<1.1	<1.1	<1.1
	1,2-Dibromoethane (Ethylene Dibromide)	PPBV				**0.27 F**	<1.1	**0.23 F**	<1.1	<1.1	<1.1
	1,2-Dichlorobenzene	PPBV				**0.22 F**	<1.1	**0.28 F**	<1.1	<1.1	<1.1
	1,2-Dichloroethane	PPBV	89	27		<1.2	<1.1	**0.26 F**	<1.1	<1.1	<1.1
	1,3,5-Trimethylbenzene	PPBV				<1.2	<1.1	<1.1	<1.1	<1.1	<1.1
	1,3-Dichlorobenzene	PPBV				**0.32 F**	<1.1	**0.41 F**	**0.26 F**	**0.22 F**	**0.21 F**
	1,4-Dichlorobenzene	PPBV				**0.41 F**	**0.29 F**	**0.49 F**	**0.34 F**	**0.32 F**	**0.28 F**
	1,4-Dioxane (p-dioxane)	PPBV				<4.6	<4.4	<4.4	<4.5	<4.4	<4.4
	2-Butanone(MEK)	PPBV				**13**	**9.1**	**5.1**	**2.6 F**	**9.7**	**36**
	2-Hexanone	PPBV				**2.5 F**	**1.7 F**	<4.4	<4.5	**1.7 F**	**4.2 F**
	4-ethyltoluene	PPBV				**0.17 F**	<1.1	**0.21 F**	**0.29 F**	<1.1	<1.1
	4-Methyl-2-pentanone (MIBK)	PPBV				<1.2	<1.1	**0.64 F**	<1.1	<1.1	<1.1
	Acetone	PPBV				**52**	**38**	**42**	**16**	**53**	**140**
	Benzene	PPBV	88	27		**0.37 F**	<1.1	**0.52 F**	**0.90 F**	**0.64 F**	**0.27 F**
	Benzyl chloride	PPBV				**0.30 F**	**0.24 F**	**0.30 F**	**0.31 F**	**0.30 F**	**0.21 F**
	Bromodichloromethane	PPBV				<1.2	<1.1	<1.1	**0.36 F**	**0.81 F**	<1.1
	Bromoform	PPBV				<1.2	<1.1	**0.18 F**	<1.1	<1.1	<1.1
	Carbon disulfide	PPBV				**3.3 F**	**2.0 F**	**2.2 F**	**12**	**3.3 F**	**2.4 F**
	Carbon tetrachloride	PPBV	33	10		<1.2	<1.1	<1.1	<1.1	**0.12 F**	**0.14 F**
	Chlorobenzene	PPBV				**0.60 F**	**0.45 F**	**0.75 F**	**0.54 F**	**0.54 F**	**0.56 F**
	Chloroform	PPBV				**0.34 F**	**0.55 F**	<1.1	**0.97 F**	**5.7**	**1.3**
	Chloromethane	PPBV				**1.4 F**	**1.7 F**	<11	<11	**1.7 F**	<11
	Cyclohexane	PPBV				<1.2	<1.1	**1.2**	<1.1	<1.1	<1.1
	Dibromochloromethane	PPBV				**0.23 F**	**0.14 F**	**0.16 F**	**0.14 F**	**0.31 F**	**0.17 F**
	Dichlorodifluoromethane	PPBV				**0.62 F**	**0.59 F**	**0.63 F**	**0.61 F**	**0.68 F**	**0.78 F**
	Ethanol	PPBV				**4.5 F**	**3.7 F**	**9.3**	**2.2 F**	**4.8**	**5.0**
	Ethylbenzene	PPBV	8.3E+02	2.5E+02		<1.2	<1.1	**0.49 F**	**0.31 F**	<1.1	<1.1
	Hexachlorobutadiene	PPBV				<4.6	<4.4	<4.4	<4.5	<4.4	<4.4
	Isopropanol	PPBV				<4.6	**0.80 F**	**4.1 F**	<4.5	**1.1 F**	**1.0 F**
	m,p-Xylene	PPBV	5.1E+05	1.8E+05		**0.38 F**	<1.1	**1.2**	**0.62 F**	<1.1	<1.1
	Methylene chloride	PPBV				**0.56 F**	**0.35 F**	**2.8 F**	<11	**0.33 F**	**0.63 F**

BASELINE SOIL VAPOR ANALYTICAL RESULTS
SITE FT007 PETROLEUM SITE
TASK ORDER 153
FORMER MARCH AFB, CALIFORNIA

cal d	Constituent	Units	Commercial CHHSL	Residential CHHSL	Location:	7P-MP21		7P-MP22		7P-MP23	
					Depth (feet bgs):	5 - 10	15 - 25	5 - 10	15 - 25	5 - 10	15 - 25
					Sample Date:	7/17/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013
	n-Heptane	PPBV				**0.34 F**	**0.28 F**	**6.9**	<1.1	<1.1	<1.1
	n-Hexane	PPBV				**0.51 F**	<1.1	**0.54 F**	**3.6**	**0.38 F**	<1.1
	Naphthalene	PPBV	59	18		<4.6	**0.23 F**	**0.23 F**	<4.5	**0.24 F**	<4.4
	o-Xylene	PPBV	4.8E+05	1.7E+05		<1.2	<1.1	**0.49 F**	**0.40 F**	<1.1	<1.1
	Styrene	PPBV				**0.12 F**	**0.11 F**	**0.18 F**	**0.13 F**	**0.10 F**	<1.1
	Tetrachloroethylene (PCE)	PPBV	2.4E+02	69		<1.2	**0.47 F**	<1.1	**1.4**	**0.56 F**	**0.37 F**
	Tetrahydrofuran	PPBV				<1.2	<1.1	**2.6**	<1.1	**0.87 F**	<1.1
	Toluene	PPBV	2.4E+05	8.5E+04		**0.44 F**	**0.44 F**	**3.5**	**0.70 F**	**0.79 F**	**0.33 F**
	trans-1,3-Dichloropropene	PPBV				**0.47 F**	**0.30 F**	**0.36 F**	**0.26 F**	**0.28 F**	<1.1
	Trichloroethylene (TCE)	PPBV	8.2E+02	2.4E+02		**0.44 F**	**3.2**	**0.31 F**	**6.2**	**1.5**	**0.32 F**
	Trichlorofluoromethane	PPBV				**0.34 F**	**0.35 F**	**0.47 F**	**0.31 F**	**0.37 F**	**0.36 F**
	Total Petroleum Hydrocarbons as Gasoline (C2-C4)	PPMV				<0.058	<0.055	<0.054	**0.22**	**0.14**	**0.28**
	Total Petroleum Hydrocarbons as JP-4	PPMV				**0.098**	**0.066**	**0.13**	**0.13**	**0.11**	**0.17**
	Toluene	PPMV	2.4E+02	8.5E+01		<0.0023	<0.0022	**0.0036**	<0.0022	<0.0022	<0.0022
	Xylenes, total	PPMV	4.8E+02			**0.0040**	**0.0031**	**0.0028**	<0.0022	**0.0026**	**0.0044**

parts per billion by volume
parts per million by volume
lyte was found in the associated blank above the method detection limit
e concentration detected below the reporting limit
- California Human Health Screening Level

/E20 was resampled on 8/16/2013 due to the presence of possible PVC glue components
e baseline sample.

BASELINE SOIL VAPOR ANALYTICAL RESULTS
SITE FT007 PETROLEUM SITE
TASK ORDER 153
FORMER MARCH AFB, CALIFORNIA

cal d	Constituent	Units	Commercial CHHSL	Residential CHHSL	Location:	7P-MP24		7P-MP25	
					Depth (feet bgs):	5 - 10	15 - 25	5 - 15	20 - 30
					Sample Date:	7/17/2013	7/17/2013	7/17/2013	7/17/2013
	1,1,1-Trichloroethane	PPBV	1.3E+06	4.6E+05		<1.1	<1.1	<1.1	<1.1
	1,2,4-Trichlorobenzene	PPBV				<4.5	<4.4	<4.5	<4.4
	1,2,4-Trimethylbenzene	PPBV				<1.1	**7.4**	**1.2**	<1.1
	1,2-Dibromoethane (Ethylene Dibromide)	PPBV				<1.1	<1.1	<1.1	<1.1
	1,2-Dichlorobenzene	PPBV				<1.1	<1.1	<1.1	<1.1
	1,2-Dichloroethane	PPBV	89	27		<1.1	<1.1	<1.1	<1.1
	1,3,5-Trimethylbenzene	PPBV				<1.1	**1.8**	**0.45 F**	<1.1
	1,3-Dichlorobenzene	PPBV				<1.1	<1.1	<1.1	<1.1
	1,4-Dichlorobenzene	PPBV				**0.27 F**	**0.26 F**	**0.24 F**	**0.22 F**
	1,4-Dioxane (p-dioxane)	PPBV				<4.5	<4.4	<4.5	**1.1 F**
	2-Butanone(MEK)	PPBV				**25**	**16**	**15**	**8.1**
	2-Hexanone	PPBV				**6.1**	**2.4 F**	**3.0 F**	**1.4 F**
	4-ethyltoluene	PPBV				**0.16 F**	**4.8**	**0.90 F**	<1.1
	4-Methyl-2-pentanone (MIBK)	PPBV				<1.1	<1.1	<1.1	<1.1
	Acetone	PPBV				**79**	**69**	**63**	**42**
	Benzene	PPBV	88	27		**0.66 F**	**1.0 F**	**0.66 F**	**0.39 F**
	Benzyl chloride	PPBV				<1.1	<1.1	**0.29 F**	<1.1
	Bromodichloromethane	PPBV				**0.33 F**	<1.1	<1.1	<1.1
	Bromoform	PPBV				<1.1	<1.1	<1.1	<1.1
	Carbon disulfide	PPBV				**3.2 F**	**2.2 F**	**4.9**	**2.6 F**
	Carbon tetrachloride	PPBV	33	10		<1.1	<1.1	<1.1	<1.1
	Chlorobenzene	PPBV				**0.55 F**	**0.64 F**	**0.50 F**	**0.48 F**
	Chloroform	PPBV				**0.83 F**	<1.1	**1.6**	**0.43 F**
	Chloromethane	PPBV				<11	<11	**2.9 F**	<11
	Cyclohexane	PPBV				<1.1	<1.1	<1.1	**0.27 F**
	Dibromochloromethane	PPBV				**0.32 F**	<1.1	<1.1	<1.1
	Dichlorodifluoromethane	PPBV				**0.72 F**	**0.56 F**	**0.68 F**	**0.59 F**
	Ethanol	PPBV				**5.3**	**4.2 F**	**9.0**	**4.0 F**
	Ethylbenzene	PPBV	8.3E+02	2.5E+02		<1.1	**0.86 F**	**0.42 F**	<1.1
	Hexachlorobutadiene	PPBV				<4.5	<4.4	<4.5	<4.4
	Isopropanol	PPBV				**0.92 F**	**0.92 F**	**0.86 F**	**1.0 F**
	m,p-Xylene	PPBV	5.1E+05	1.8E+05		**0.35 F**	**2.0**	**1.8**	<1.1
	Methylene chloride	PPBV				<11	**0.34 F**	**0.38 F**	**0.46 F**

BASELINE SOIL VAPOR ANALYTICAL RESULTS
SITE FT007 PETROLEUM SITE
TASK ORDER 153
FORMER MARCH AFB, CALIFORNIA

cal d	Constituent	Units	Commercial CHHSL	Residential CHHSL	Location:	7P-MP24		7P-MP25	
					Depth (feet bgs):	5 - 10	15 - 25	5 - 15	20 - 30
					Sample Date:	7/17/2013	7/17/2013	7/17/2013	7/17/2013
	n-Heptane	PPBV				<1.1	**0.31 F**	**0.48 F**	**0.61 F**
	n-Hexane	PPBV				**0.58 F**	**0.40 F**	<1.1	**0.46 F**
	Naphthalene	PPBV	59	18		<4.5	**0.66 F**	**0.34 F**	**0.19 F**
	o-Xylene	PPBV	4.8E+05	1.7E+05		<1.1	**1.9**	**0.79 F**	**0.16 F**
	Styrene	PPBV				**0.16 F**	**0.14 F**	<1.1	<1.1
	Tetrachloroethylene (PCE)	PPBV	2.4E+02	69		<1.1	<1.1	**1.8**	**10**
	Tetrahydrofuran	PPBV				**1.5**	**0.77 F**	<1.1	<1.1
	Toluene	PPBV	2.4E+05	8.5E+04		**0.52 F**	**6.6**	**2.2**	**0.51 F**
	trans-1,3-Dichloropropene	PPBV				**0.26 F**	<1.1	<1.1	<1.1
	Trichloroethylene (TCE)	PPBV	8.2E+02	2.4E+02		<1.1	<1.1	**1.1**	**8.4**
	Trichlorofluoromethane	PPBV				<1.1	**0.30 F**	<1.1	**0.25 F**
	Total Petroleum Hydrocarbons as Gasoline (C2-C4)	PPMV				<0.057	<0.056	**0.70**	<0.055
	Total Petroleum Hydrocarbons as JP-4	PPMV				**0.12**	**0.12**	**0.24**	**0.10**
	Toluene	PPMV	2.4E+02	8.5E+01		<0.0023	**0.0065**	**0.0023**	<0.0022
	Xylenes, total	PPMV	4.8E+02			**0.0071**	**0.0074**	**0.0069**	<0.0022

parts per billion by volume
parts per million by volume
lyte was found in the associated blank above the method detection limit
e concentration detected below the reporting limit
- California Human Health Screening Level

/E20 was resampled on 8/16/2013 due to the presence of possible PVC glue components
e baseline sample.

Analytical results for the soil samples collected during well installation activities in June 2013 are presented in Appendix F. The results indicate that no VOCs were detected in the samples from 7P-MP25, which disagrees with the field PID results. The PID readings are used as a screening tool and are not always representative.

3.2 AIR FLOW AND CAPTURE ANALYSIS

The vapor flow and resultant vacuum data were collected during operation of the petroleum SVE system and evaluated to predict the extent of the area of influence of each SVE well interval (Appendix D). Static vacuum measurements were also obtained from the wells while the unit was not in operation, which were subtracted from the measured vacuum to obtain the actual vacuum induced solely by SVE. Therefore, using the collected field data, estimated radii of influence (ROI) of 30 feet were calculated for well 7P-SVE20. This is based on a system air flow rate of 74.5 scfm. As indicated on Figure 3-1, the capture zone (ROI) of the petroleum SVE system extends across the residual source area defined by the previous soil vapor probe 7SV18.

7P-MP20
7P-MP21
7P-SVE20
7SV18
7P-MP22
P-MP23
7P-MP24

4.0 CONCLUSIONS AND RECOMMENDATIONS

The petroleum SVE system and associated wells and monitoring points were installed in June and July 2013. Baseline vapor samples were collected on 17 July 2013 and 16 August 2013 and indicated that elevated concentrations of contaminants were not present in soil vapor above the commercial or residential CHHSLs. Petroleum SVE system operation began on 19 July 2013.

The petroleum SVE system will operate until O&M samples indicate that concentrations have reached asymptotic conditions as described in Section 6.2.7.2 of the *CAP Addendum for Petroleum-Impacted Soil* (MWH, 2013) and the *Revised Quality Program Plan Long-Term Groundwater Monitoring, and Operation*, *Maintenance, and Monitoring Programs* (MWH, 2010).

As the baseline sample results for benzene did not exceed the commercial or residential CHHSLs, it is expected that the SVE system will be operated for approximately one quarter. After the completion of one quarter of operation, the system will be placed in rebound and samples will be collected from the extraction and vapor monitoring points during this rebound period. If the results continue to be below CHHSLs, the system will be decommissioned.

5.0 REFERENCES

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APPENDIX A

DAILY QUALITY CONTROL REPORTS AND SITE PHOTOS

MWH
MONTGOMERY WATSON HARZA

DAILY QUALITY CONTROL REPORT

Date: June 24, 2013
MWH PM: Nancy Barnes
Location: Former March AFB
Project: TO 153 Site FT007
Job Numbers: 10502009
Contract Number:

Report No: 062413
Day: Monday
Weather: Overcast early, sunny later
Temp: Low 57°F High 79° F
Wind: Wind 5-10 mph
Humidity: High

PERSONNEL ON SITE:

MWH Field Team: Marikka Hughes (geologist), Nicole Longinotti (geologist)
Cascade Drilling: Doug Warler (driller), Brandon Bosworth (helper), Matt Moore (helper)
Visitors: none

EQUIPMENT ON SITE: Hollow stem auger rig (CME 75), 8-in and 12-in hollow-stem augers, decontamination trailer, support truck, Bobcat

WORK PERFORMED:

MWH and Cascade Drilling mobilized to the site and set up on 7P-SVE20. The borehole was drilled to 32 feet bgs using 8-inch augers. Soils encountered included silty sands, poorly graded sands, and well graded sands. The borehole was terminated at 32 feet bgs because of an increase in soil moisture at this interval that indicated that a water-bearing unit would be encountered shortly. Due to the shallow water, the lower well screen (30 to 35 feet bgs) was not installed in order to properly screen at the interval with the highest PID readings and benzene results. No odors or staining were noted in the borehole. The SVE well was installed with screens from 5 to 10 feet bgs and 15 to 25 feet bgs.

MWH and Cascade moved to 7P-MP22 and advanced the borehole to 25 feet bgs. Soils encountered included silty sands, poorly graded sands, and well graded sands. This location is adjacent to the previous location, so the borehole was terminated at 25 feet based on the proposed monitoring point construction. No odors or staining were noted in the borehole. The SVE well was installed with screens from 5 to 10 feet bgs and 15 to 25 feet bgs.

DEVIATIONS FROM THE WORK PLAN:

The deepest well screens were not installed due to the presence of water at a shallower level than expected.

Project: SATOC Report No: 071612
Job No: 1010833, 1012156 Date: 16 July 2012

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

All work today was conducted with Level D PPE, in accordance with the Health & Safety Plan.

CHALLENGES ENCOUNTERED AND CORRECTIVE ACTION TAKEN:

None.

SPECIAL NOTES:

None.

NEXT DAY:

Soil vapor monitoring point installation will continue tomorrow.

Prepared by: Marikka Hughes Title: Supervising Hydrogeologist
Distribution:
1. Jerry Bingham, AFCEC
2. Geoff Watkin, CNGS
3. Calvin Cox, CGNS
4. Nancy Barnes, MWH Project Manager
5. Dean Rusciolelli, MWHC Construction Manager
6. Eric Rowney, MWH Project Engineer

MWH
MONTGOMERY WATSON HARZA

DAILY QUALITY CONTROL REPORT

Date: June 25, 2013
MWH PM: Nancy Barnes
Location: Former March AFB
Project: TO 153 Site FT007
Job Numbers: 10502009
Contract Number: FA8903-08-D-8777

Report No: 062513
Day: Tuesday
Weather: Sunny
Temp: Low 64°F High 82° F
Wind: Wind 5-15 mph
Humidity: High

PERSONNEL ON SITE:

MWH Field Team: Marikka Hughes (geologist), Nicole Longinotti (geologist)
Cascade Drilling: Doug Warler (driller), Brandon Bosworth (helper), Matt Moore (helper)
Visitors: Calvin Cox (CNGS), Tony English (AECOM)

EQUIPMENT ON SITE: Hollow stem auger rig (CME 75), 8-in and 12-in hollow-stem augers, decontamination trailer, support truck, Bobcat

WORK PERFORMED:

MWH and Cascade Drilling mobilized to the site and set up on 7P-MP21. The borehole was drilled to 25 feet bgs using 12-inch augers. Soils encountered included silty sands and well graded sands. The borehole is adjacent to 7P-SVE20, which was terminated at 32 feet bgs due to indications of a proximal water-bearing unit. Due to the shallow water, the lower well screen (30-35 feet bgs) was not installed. Well screens were installed at 5 to 10 feet bgs and 15 to 25 feet bgs at 7P-MP21. No odors or staining were noted in the borehole.

MWH and Cascade moved to 7P-MP25 and advanced the borehole to 32 feet bgs, where increased moisture was observed. Soils encountered included silty sands, poorly graded sands, and well graded sands. PID measurements ranged from 0.0 to 2,660 ppm and odors were noted at depths up to 12 feet bgs. Soil samples were collected at 6.5 feet bgs, 11 feet bgs, 15.5 feet bgs, and 22.5-24 feet bgs and submitted to EMAX Laboratories for VOC analysis (shipped by FedEx). Screens were installed at this location from 5 to 15 feet bgs and 20 to 30 feet bgs to screen this monitoring point at the intervals with the highest PID readings.

MWH and Cascade moved to 7P-MP23 and advanced the borehole to 30 feet bgs. Soils encountered included silty sands and well graded sands. This location is between 7P-SVE20 and 7P-MP25, where groundwater shallower than 35 feet bgs was indicated, so the borehole was terminated at 30 feet bgs. No odors or staining were noted in the

Project: SATOC Report No: 062513
Job No: 1010833, 1012156 Date: 25 June 2013

borehole. PID measurements ranged from 34.2 to 63.8 ppm. Screens at the monitoring well were installed from 5 to 10 feet bgs and 15 to 25 feet bgs.

DEVIATIONS FROM THE WORK PLAN:

The deepest well screens (30 to 35 feet bgs) were not installed due to the presence of water at a shallower level than expected at 7P-MP21 and 7P-MP23.

Due to field PID readings, the construction of the vapor monitoring point at 7P-MP25 was altered from the plan. Well screens were installed at 5-15 and 20-30 feet bgs instead of 5-10, 15-25, and 30-35 feet bgs. Additionally, soil samples were collected for analysis from 7P-MP25 based on the field PID readings. These soil samples were not collected according to the QPP as soil sampling was not expected so the appropriate supplies (EnCore samplers and 4-ounce glass jars) were not available to the field team.

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

All work today was conducted with Level D PPE, in accordance with the Health & Safety Plan.

CHALLENGES ENCOUNTERED AND CORRECTIVE ACTION TAKEN:

The elevated PID readings resulted in the need to collect soil samples from 7P-MP25. As soil sampling was not included in the CAP Addendum, the supplies required in the QPP for soil sampling were not available to the field team. The four soil samples were collected in resealable bags and shipped to the lab inside 8-ounce glass jars. The samples were kept on ice after PID readings from the same depths were measured.

SPECIAL NOTES:

Analytical results from the 7P-MP25 soil samples should be used for screening purposes and should not be considered defensible due to the nature in which they were collected.

NEXT DAY:

Soil vapor monitoring point installation is expected to be completed tomorrow.

Prepared by: Nicole Longinotti Title: Associate Geologist
Distribution:
1. Jerry Bingham, AFCEC
2. Geoff Watkin, CNGS
3. Calvin Cox, CGNS
4. Nancy Barnes, MWH Project Manager
5. Dean Rusciolelli, MWHC Construction Manager
6. Eric Rowney, MWH Project Engineer

MWH
MONTGOMERY WATSON HARZA

DAILY QUALITY CONTROL REPORT

Date: June 26, 2013
MWH PM: Nancy Barnes
Location: Former March AFB
Project: TO 153 Site FT007
Job Numbers: 10502009
Contract Number: FA8903-08-D-8777

Report No: 062613
Day: Wednesday
Weather: Sunny
Temp: Low 61°F High 94° F
Wind: Wind 5-15 mph
Humidity: High

PERSONNEL ON SITE:

MWH Field Team: Nicole Longinotti (geologist)
Cascade Drilling: Doug Warler (driller), Brandon Bosworth (helper), Matt Moore (helper)
Visitors: Calvin Cox (CNGS)

EQUIPMENT ON SITE: Hollow stem auger rig (CME 75), 8-in and 12-in hollow-stem augers, decontamination trailer, support truck, Bobcat

WORK PERFORMED:

MWH and Cascade Drilling mobilized to the site and set up on 7P-MP24. The borehole was drilled to 25 feet bgs using 12-inch augers. Soils encountered included silty sands and well graded sands. The borehole is near 7P-SVE20, which was terminated at 32 feet bgs due to indications of a proximal water-bearing unit. Due to the shallow water, the lower well screen (30-35 feet bgs) was not installed. Well screens were installed at 5 to 10 feet bgs and 15 to 25 feet bgs at 7P-MP24. No odors or staining were noted in the borehole.

MWH and Cascade moved to 7P-MP20 and advanced the borehole to 25 feet bgs. The borehole is adjacent to 7P-SVE20, so well screens were installed at 5 to 10 feet bgs and 15 to 25 feet bgs. Soils encountered included silty sands and well graded sands. No odors or staining were noted in the borehole.

Cascade installed traffic-rated well boxes with concrete pads at the six soil vapor monitoring points (7P-MP20 through 7P-MP25) and the one soil vapor extraction well (7P-SVE20).

Soil generated during the well installation activities was placed inside the gated portion of Site FT007 in a stockpile on visqueen. Before leaving the site, the soil stockpile was covered with visqueen and secured with sand bags.

Project: SATOC Report No: 062613
Job No: 1010833, 1012156 Date: 26 June 2013

DEVIATIONS FROM THE WORK PLAN:

The deepest well screens (30 to 35 feet bgs) were not installed due to the presence of water at a shallower level than expected at 7P-MP24 and 7P-MP20.

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

All work today was conducted with Level D PPE, in accordance with the Health & Safety Plan.

CHALLENGES ENCOUNTERED AND CORRECTIVE ACTION TAKEN:

Monitoring point 7P-MP24 is located beside groundwater extraction well EX-06 in a landscaping planter. In order to allow for drilling to commence, some of the vegetation needed to be cleared to fit the drill rig into this location.

SPECIAL NOTES:

None.

NEXT DAY:

Soil vapor monitoring point installation has been completed.

Prepared by: Nicole Longinotti Title: Associate Geologist
Distribution:
1. Jerry Bingham, AFCEC
2. Geoff Watkin, CNGS
3. Calvin Cox, CNGS
4. Nancy Barnes, MWH Project Manager
5. Dean Rusciolelli, MWHC Construction Manager
6. Eric Rowney, MWH Project Engineer

MWH
MONTGOMERY WATSON HARZA

DAILY QUALITY CONTROL REPORT

Date: July 09, 2013
MWH PM: Nancy Barnes
Location: March ARB
Project: TO 153 Site FT007
Job Numbers: 10502009
Contract Number: FA8903-08-D-8777

Report No: 070913
Day: Tuesday
Weather: Sunny
Temp: 102° F @ 1300
Wind: West @ 11 mph
Humidity: 17%

PERSONNEL ON SITE:

MWHC: Michael Rouse (Project Superintendent)
Cornerstone: Carl Davis (Foreman), David Beal (Electr.), Roberto Hernandez (labor)
SubSurface Surveyors: Dan Matticks (Super.), Todd Robinson (Tech)
Visitors: Dean Rusciolelli (MWHC CM), Calvin Cox (CNGS)

EQUIPMENT ON SITE:

Case Rubber Tire Backhoe, Double Steel Drum Compactor, Trenching Machine, Trailer w/500-Gallon Water Tank, 3 Cornerstone Co. Pickup Trucks, Connex Box, Portable Restroom

SUPPLIES/MATERIALS DELIVERED TO SITE:

25 tons of Class 2 base materials

WORK PERFORMED:

Equipment was mobilized to the site including a Case rubber tire backhoe, a double steel drum compactor, a trenching machine, a trailer with a 500-gallon water tank, three Cornerstone Co. pickup trucks, a Connex box, and a portable restroom.

Project: March AFB TO 153 Report No: 070913
Job No: 10502009 Date: 9 July 2013

Underground utilities were marked up to the property line by the local utilities. A geophysical survey was performed in the area of the electrical conduit trench alignment, the area around the current SVE station, the underground telephone line, and the electrical line off the pole. Ground wire at the existing SVE station was located and the power line off the pole was located. The geophysical survey could not locate the underground telephone line. No other underground utilities intersected the trench area and current SVE station.

Project: March AFB TO 153 Report No: 070913
Job No: 10502009 Date: 9 July 2013

Soils were excavated to 6 inches below grade for the SVE pad.

Native soils were compacted and moisture was added prior to the placement of the Class 2 base materials. Approximately 25 tons of Class 2 base materials were delivered for the SVE pad. Base materials were placed, watered, and compacted in 2-4-inch lifts.

Project: March AFB TO 153 Report No: 070913
Job No: 10502009 Date: 9 July 2013

The chain link fence was received from A-1 Fence. The alignment for the electrical conduit was laid out in preparation for trenching.

DEVIATIONS FROM THE WORK PLAN:

None.

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

All work today was conducted with Level D PPE, in accordance with the Health & Safety Plan.

CHALLENGES ENCOUNTERED AND CORRECTIVE ACTION TAKEN:

An underground telephone line was identified as intersecting the electrical trench.

SPECIAL NOTES:

None.

NEXT DAY:

Trenching for the electrical conduit is planned for tomorrow.

Prepared by: Michael Rouse Title: Project Superintendent

Distribution:
1. Nancy Barnes, MWH Project Manager
2. Dean Rusciolelli, MWHC Construction Manager
3. Jerry Bingham, AFCEE
4. Calvin Cox, CNGS
5. Geoff Watkin, CNGS

MWH
MONTGOMERY WATSON HARZA

DAILY QUALITY CONTROL REPORT

Date: July 10, 2013
MWH PM: Nancy Barnes
Location: March ARB
Project: TO 153 Site FT007
Job Numbers: 10502009
Contract Number: FA8903-08-D-8777

Report No: 071013
Day: Wednesday
Weather: Sunny
Temp: 91° F @ 12:30
Wind: East @ 5-10 mph
Humidity: High

PERSONNEL ON SITE:

MWHC: Michael Rouse (Project Superintendent)
Cornerstone: Carl Davis (Foreman), David Beal (Electrician), Roberto Hernandez (labor)
Visitors: None

EQUIPMENT ON SITE:

Case Rubber Tire Backhoe, Trenching Machine, Trailer w/500-Gallon Water Tank, 3-Cornerstone Co. Pickup Trucks, Connex Box, Portable Restroom

EQUIPMENT/MATERIALS DELIVERED TO SITE:

SVE Skid (Lynco), 2 Carbon Canisters (Lynco), 24 Tons of Sand (West Coast Sand & Gravel), Misc. PVC pipe, fittings, 6 bags of pea gravel and 10 Bags of Quikcrete (Cornerstone), 1' Wide Trench Bucket for Case Backhoe (Hertz Rental)

WORK PERFORMED:

Cornerstone conducted daily tailgate safety meeting. Trenching for the electrical conduit with the trencher began. The trencher could not trench to the design drawing depth, so Cornerstone used the trencher to trench to a depth of 42 inches. However, the trenching machine did not remove all the soils from the trench during the trenching activities, so Cornerstone ordered at 1' wide bucket for the rubber tire back to remove excess soils from the trench.

Project: March AFB TO 153 Report No: 071013
Job No: 10502009 Date: 10 July 2013

The SVE skid, 2 carbon canisters, and 2 O&M manuals for the SVE unit were received from Lynco. An inspection on the SVE unit was performed and it appears to be a reconditioned unit.

At approximately 11:25 AM, Cornerstone hit the telephone wire that the geophysical survey could not pick up. Dean Rusciolelli was notified.

Project: March AFB TO 153 Report No: 071013
Job No: 10502009 Date: 10 July 2013

Approximately 425 feet was trenched with the trenching machine.

The double-drum steel roller/compactor is demobilized from the site. At 14:30, Cornerstone received the 1' wide bucket and began cleaning out excess soils in the trench. Spot checks were performed on the depth of the trench during removal of the excess soil in the trench and the depth is 40 inches from ground surface.

Project: March AFB TO 153 Report No: 071013
Job No: 10502009 Date: 10 July 2013

DEVIATIONS FROM THE WORK PLAN:

The depth of electrical conduit trench is 40 inches below ground surface. Approximately 32 inches of native soil will be placed over shading. This is a deviation from the detail shown on Drawing C3, Detail 2.

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

All work today was conducted with Level D PPE, in accordance with the Health & Safety Plan.

CHALLENGES ENCOUNTERED AND CORRECTIVE ACTION TAKEN:

An underground telephone line was encountered intersecting the electrical trench. A decision on whether the telephone line will require repairing is being considered.

SPECIAL NOTES:

Cornerstone requested if the trench should remain at 42" since the code for buried electrical conduit is 24". MWH informed Cornerstone that the depth of the trench can be at 42"; however, regardless of the code, MWH wants at a minimum 32" of native soil over the shading. With shading there will be approximately 36" of cover over the electrical conduit.

NEXT DAY:

Electrical conduit is scheduled to be on site tomorrow.

Prepared by: Michael Rouse Title: Project Superintendent

Distribution:
1. Nancy Barnes, MWH Project Manager
2. Dean Rusciolelli, MWHC Construction Manager
3. Jerry Bingham, AFCEE
4. Calvin Cox, CNGS
5. Geoff Watkin, CNGS

MWH
MONTGOMERY WATSON HARZA

DAILY QUALITY CONTROL REPORT

Date: July 11, 2013
MWH PM: Nancy Barnes
Location: March ARB
Project: TO 153 Site FT007
Job Numbers: 10502009
Contract Number: FA8903-08-D-8777

Report No: 071113
Day: Thursday
Weather: Overcast
Temp: 70° F @ 0800
Wind: Calm
Humidity: Moderate

PERSONNEL ON SITE:

MWHC: Michael Rouse (Project Superintendent)
Cornerstone: Carl Davis (Foreman), David Beal (Electrician), Roberto Hernandez (labor)
Visitors: Calvin Cox (CNGS)

EQUIPMENT ON SITE:

Case Rubber Tire Backhoe, Trenching Machine, Trailer with 500-Gallon Water Tank, 3 Cornerstone Co. Pickup Trucks, Connex Box, Portable Restroom

EQUIP./MATERIALS DELIVERED TO SITE:

600' of 2" PVC electrical conduit, 20' - SS 1"-5/8 x 1"5/8 struts, 8 PVC couplers, 10' of 2" galv. steel conduit, 2 rectangular concrete vaults w/ steel lids, 50' of 1" galv. steel conduit, 1 round concrete vault w/steel lid, 50' of 3/4" galv. steel conduit, 3/4" grounding rod, misc. PVC fittings, circuit breakers, adapters, clamp, Sch. 80 PVC pipe, fittings and valves

WORK PERFORMED:

Cornerstone conducted daily tailgate safety meeting. The remaining trenching activities for the electrical conduit trench were completed. Approximately 490' of 2-inch diameter Schedule 40 PVC electrical conduit was installed between the new SVE pad and the existing SVE pad (north of the new SVE pad). The electrical conduit was placed on top of 4 inches of sand bedding and covered with 4 inches of shading. Approximately 12 inches of native fill was placed over the shading, followed by the installation of magnetic electrical tape and an additional 20 inches of native soil to fill the trench to existing ground surface. Total depth of the trench prior to placement of the bedding was 40 inches from the base of the trench to the ground surface.

Project: March AFB TO 153 Report No: 071113
Job No: 10502009 Date: 11 July 2013

Galvanized steel posts were installed for the control panel and set in 36 inches of concrete.

Project: March AFB TO 153 Report No: 071113
Job No: 10502009 Date: 11 July 2013

Approximately 245' of backfilling in the electrical conduit trench was completed.

DEVIATIONS FROM THE WORK PLAN:

None.

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

All work today was conducted with Level D PPE, in accordance with the Health & Safety Plan.

CHALLENGES ENCOUNTERED AND CORRECTIVE ACTION TAKEN:

None.

SPECIAL NOTES:

C. Cox was informed that a telephone line was damaged and that MWH was looking into seeing if the line is an abandon line. After discussions with Ivan Vargas (MWHC), it was determined that the underground telephone line was abandoned and will not need to be repaired. An aboveground identification marker will be installed in the area of the damaged underground telephone line.

NEXT DAY:

Plumbing for the SVE and carbon unit vessels will begin tomorrow.

Project: March AFB TO 153 Report No: 071113
Job No: 10502009 Date: 11 July 2013

Prepared by: Michael Rouse Title: Project Superintendent

Distribution:
1. Nancy Barnes, MWH Project Manager
2. Dean Rusciolelli, MWHC Construction Manager
3. Jerry Bingham, AFCEE
4. Calvin Cox, CNGS
5. Geoff Watkin, CNGS

MWH
MONTGOMERY WATSON HARZA

DAILY QUALITY CONTROL REPORT

Date: July 12, 2013
MWH PM: Nancy Barnes
Location: March ARB
Project: TO 153 Site FT007
Job Numbers: 10502009
Contract Number: FA8903-08-D-8777

Report No: 071213
Day: Friday
Weather: Sunny
Temp: 71° F @ 0715
Wind: Calm
Humidity: Moderate

PERSONNEL ON SITE:

MWHC: Michael Rouse (Project Superintendent)
Cornerstone: Carl Davis (Foreman), David Beal (Electrician), Roberto Hernandez (labor)
Visitors: Eric Smith (Cornerstone)

EQUIPMENT ON SITE:

Case Rubber Tire Backhoe, Trailer with 500-Gallon Water Tank, 3 Cornerstone Co. Pickup Trucks, Connex Box, Portable Restroom

Equip./Materials Delivered to site:

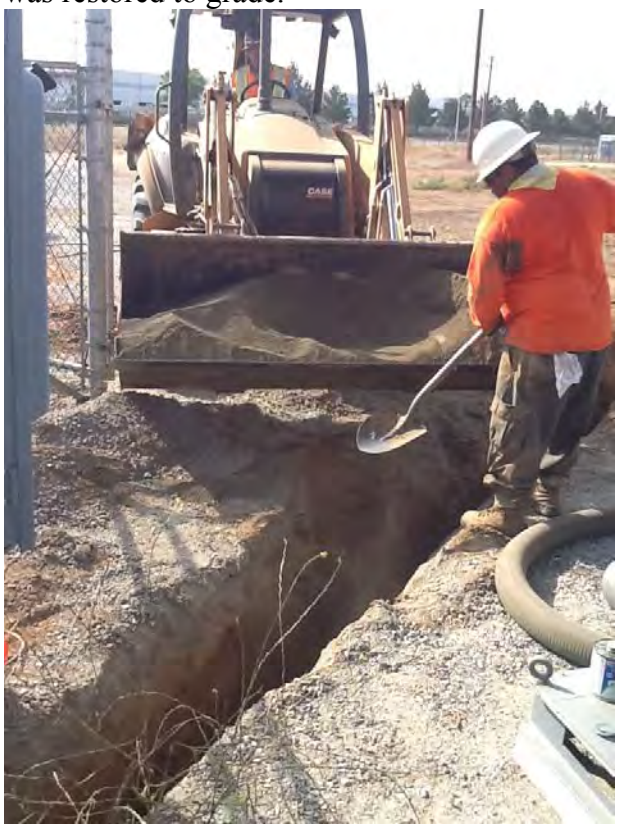
520' of 1-0 wire (black), 500' of #6 wire (black), 100' of #6 wire (green), 20' of SS "C" channel

WORK PERFORMED:

Cornerstone conducted tailgate safety meeting. Two-inch diameter galvanized steel conduit was installed to the electrical panel in the existing SVE area. The north and south end pull boxes were set.

Project: March AFB TO 153 Report No: 071213
Job No: 10502009 Date: 12 July 2013

Trench backfilling activities were completed and the area inside the existing SVE area was restored to grade.



Project: March AFB TO 153 Report No: 071213
Job No: 10502009 Date: 12 July 2013

Conduit was extended up to the distribution panel. Galvanized steel pipe (1.5-inch diameter) was installed from the SVE unit to the storage water tank. Galvanized steel conduit started being installed from the water tank to the SVE distribution panel. Two-inch diameter Sch. 80 PVC pipe wellhead extensions with valves were installed on the nested wells at 7P-SVE20. Sample ports still need to be installed.

The location of the abandoned (and damaged) telephone wire was marked with 2 pieces of conduit and marking tape.

Lynco picked up both carbon vessels as they were not new and were manufactured in 2002. Replacement vessels are due to be back on site on Wednesday, 17 July 2013.

DEVIATIONS FROM THE WORK PLAN:

None.

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

All work today was conducted with Level D PPE, in accordance with the Health & Safety Plan.

Project: March AFB TO 153 Report No: 071213
Job No: 10502009 Date: 12 July 2013

CHALLENGES ENCOUNTERED AND CORRECTIVE ACTION TAKEN:

None.

SPECIAL NOTES:

Hertz Rental will pick up the rubber tire backhoe, delineators, and trailer with the 500-gallon water tank tomorrow.

NEXT DAY:

Monday's activities will include installing the secondary containment around the water tank and the chain-link fence.

Prepared by: Michael Rouse Title: Project Superintendent

Distribution:
1. Nancy Barnes, MWH Project Manager
2. Dean Rusciolelli, MWHC Construction Manager
3. Jerry Bingham, AFCEE
4. Calvin Cox, CNGS
5. Geoff Watkin, CNGS

MWH
MONTGOMERY WATSON HARZA

DAILY QUALITY CONTROL REPORT

Date: July 15, 2013
MWH PM: Nancy Barnes
Location: March ARB
Project: TO 153 Site FT007
Job Numbers: 10502009
Contract Number: FA8903-08-D-8777

Report No: 071513
Day: Monday
Weather: Sunny
Temp: 82° F @ 0915
Wind: NW @ 10-mph
Humidity: 41%

PERSONNEL ON SITE:

MWHC: Michael Rouse (Project Superintendent)
Cornerstone: David Beal (Electrician), Luis Vargas (labor)
Visitors: Eric Smith (Cornerstone)

EQUIPMENT ON SITE:

Connex Box, Portable Restroom

EQUIPMENT/MATERIALS DELIVERED TO SITE:

350-Gallon plastic secondary containment for the water storage tank

WORK PERFORMED:

A safety briefing was conducted with the MWHC and Cornerstone personnel. The ground box and ground rod were installed. The secondary containment for the 250-gallon water storage tank was installed and a high-level switch was installed in the water tank. The secondary containment and water tank were anchored to the ground. Chain-link fence was installed around the SVE pad.

Project: March AFB TO 153 Report No: 071513
Job No: 10502009 Date: 15 July 2013

DEVIATIONS FROM THE WORK PLAN:

None.

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

All work today was conducted with Level D PPE, in accordance with the Health & Safety Plan.

CHALLENGES ENCOUNTERED AND CORRECTIVE ACTION TAKEN:

None.

SPECIAL NOTES:

The combination to the lock on the SVE gate is 2013. Also, 2/0 wire was delivered today, but the truck did not have a liftgate to off load the wire, so the wire will be delivered tomorrow with a lift-gate truck.

NEXT DAY:

The electrical panel should be delivered tomorrow (did not arrive today) and wiring and setting the panel are expected for tomorrow. The ground wire will also be installed.

Prepared by: Michael Rouse Title: Project Superintendent

Distribution:
1. Nancy Barnes, MWH Project Manager
2. Dean Rusciolelli, MWHC Construction Manager
3. Jerry Bingham, AFCEE
4. Calvin Cox, CNGS
5. Geoff Watkin, CNGS

MWH
MONTGOMERY WATSON HARZA

DAILY QUALITY CONTROL REPORT

Date: July 16, 2013
MWH PM: Nancy Barnes
Location: March ARB
Project: TO 153 Site FT007
Job Numbers: 10502009
Contract Number: FA8903-08-D-8777

Report No: 071613
Day: Tuesday
Weather: Sunny
Temp: 95° F @ 1400
Wind: W @ 9-mph
Humidity: 15%

PERSONNEL ON SITE:

MWHC: Michael Rouse (Project Superintendent)
Cornerstone: David Beal (Electrician), Luis Vargas (labor)
Visitors: None

EQUIPMENT ON SITE:

Connex Box, Portable Restroom, Wire Pulling Machine

MATERIALS DELIVERED TO THE SITE:

2-0 Wire

WORK PERFORMED:

Wire was pulled from south pull box to the north pull box. Additionally, wire was pulled from the north pull box to the panel in the existing SVE unit area. The ground wire was installed. Tire covers were placed over the trailer tires. Support for conduit from the new SVE unit control panel to the electrical panel was installed. Cinder block was installed and secured to the base of the fencing.

Project: March AFB TO 153 Report No: 071613
Job No: 10502009 Date: 16 July 2013

Project: March AFB TO 153 Report No: 071613
Job No: 10502009 Date: 16 July 2013

DEVIATIONS FROM THE WORK PLAN:

None.

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

All work today was conducted with Level D PPE, in accordance with the Health & Safety Plan.

CHALLENGES ENCOUNTERED AND CORRECTIVE ACTION TAKEN:

None.

SPECIAL NOTES:

The electrical distribution panel did not arrive on site today. Cornerstone will pick it up from the supplier tomorrow morning.

NEXT DAY:

Tomorrow's activities will include installing the electrical panel and completing the wiring.

Prepared by: Michael Rouse Title: Project Superintendent

Distribution:
1. Nancy Barnes, MWH Project Manager
2. Dean Rusciolelli, MWHC Construction Manager
3. Jerry Bingham, AFCEE
4. Calvin Cox, CNGS
5. Geoff Watkin, CNGS

MWH
MONTGOMERY WATSON HARZA

DAILY QUALITY CONTROL REPORT

Date: July 17, 2013
MWH PM: Nancy Barnes
Location: March ARB – SVE Installation
Project: TO 153 Site FT007
Job Numbers: 10502009
Contract Number: FA8903-08-D-8777

Report No: 071713
Day: Wednesday
Weather: Sunny
Temp: 94° F @ 1520
Wind: NW @ 13-mph
Humidity: 14%

PERSONNEL ON SITE:

MWHC: Michael Rouse (Project Superintendent), Ivan Vargas (O&M Engineer)
Cornerstone: David Beal (Electrician), Luis Vargas (labor)
Visitors: Calvin Cox (CNGS)

EQUIPMENT ON SITE:

Connex Box, Portable Restroom, Wire Pulling Machine

MATERIALS DELIVERED TO THE SITE:

Electrical Panel, Electrical Breakers

WORK PERFORMED:

The electrical panel was installed at the SVE pad. Wiring was terminated at the main SVE unit (north unit) and at the temporary SVE unit (south unit) locations.

Project: March AFB TO 153 Report No: 071713
Job No: 10502009 Date: 17 July 2013

A drop-pipe was installed in the water storage tank. A male camlock fitting was installed approximately 12inches above grade.

Rotation on the blower was checked and noted to be correct; however, an electrical issue with the SVE was identified.

Wiring from the electrical panel was terminated at the SVE unit's control panel. Wire was also pulled from the south pull box to the electrical panel for the SVE unit. Breakers were installed in the electrical panels.

Sample ports and valves were installed on the wellhead pipes. The installed sample ports are temporary as Cornerstone did not have the correct cap for the Swage-Lock SS-600-1-4" ports typically used by MWH.

I. Vargas collected baseline soil vapor samples from the wells and monitoring points.

DEVIATIONS FROM THE WORK PLAN:

The sample ports installed on 7P-SVE20 differed from the plan. Additionally, a male camlock fitting was installed on the water tank's drop-pipe instead of female fitting, which was shown on the Drawing Sheet C 3.

Project: March AFB TO 153 Report No: 071713
Job No: 10502009 Date: 17 July 2013

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

All work today was conducted with Level D PPE, in accordance with the Health & Safety Plan.

CHALLENGES ENCOUNTERED AND CORRECTIVE ACTION TAKEN:

None.

SPECIAL NOTES:

Lynco will deliver the carbon vessels to the site tomorrow between 09:00 – 10:00. Additionally, Lynco was notified of the electrical issues with the SVE unit. GAC is still needed to place in the carbon vessels.

NEXT DAY:

Tomorrow, the electrical issues on the SVE unit will be troubleshooted. The remaining hoses between the SVE unit and the carbon vessels will be installed. The vent pipe and sample ports will be installed. The SVE unit will be started to check rotations and operability.

Prepared by: Michael Rouse **Title**: Project Superintendent

Distribution:
1. Nancy Barnes, MWH Project Manager
2. Dean Rusciolelli, MWHC Construction Manager
3. Jerry Bingham, AFCEE
4. Calvin Cox, CNGS
5. Geoff Watkin, CNGS

MWH
MONTGOMERY WATSON HARZA

DAILY QUALITY CONTROL REPORT

Date: July 18, 2013
MWH PM: Nancy Barnes
Location: March ARB – SVE Installation
Project: TO 153 Site FT007
Job Numbers: 10502009
Contract Number: FA8903-08-D-8777

Report No: 071813
Day: Wednesday
Weather: Sunny
Temp: 75° F @ 1030
Wind: N @ 1-mph
Humidity: 22%

PERSONNEL ON SITE:

MWHC: Michael Rouse (Project Superintendent)
Cornerstone: David Beal (Electrician), Luis Vargas (labor)
Lynco Services: Bruce Den Hartog (Superintendent), Francisco (Labor), Carlos (Labor)
Visitors: None

EQUIPMENT ON SITE:

Connex Box, Portable Restroom

MATERIALS DELIVERED TO THE SITE:

2 Carbon Vessels

WORK PERFORMED:

New carbon vessels arrived at the site, but after inspection it was noted that no manufacture tags were on the vessels.

Project: March AFB TO153 Report No: 071813
Job No: 10502009 Date: 18 July 2013

Lynco and Cornerstone resolved the electrical issue with the SVE unit after troubleshooting. The SVE unit was started to verify rotation on the blower. There is vacuum from the SVE unit and from well head pipes, and the blower is pushing air to the carbon vessels. The high-level switch was checked to make sure that the pump shuts off when the switch in the tank is engaged. The switch functioned properly and shut the pump off.

Shading was installed on the south and east side of the electrical panel. Plastic tubing was placed along on the edges of the sheet metal used for shading to prevent injuries. The electrical panel post was trimmed and an end cap was place on the top of the post.

Project: March AFB TO153 Report No: 071813
Job No: 10502009 Date: 18 July 2013

Connecting the hoses between the carbon vessels and the SVE unit was completed.

DEVIATIONS FROM THE WORK PLAN:

None.

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

All work today was conducted with Level D PPE, in accordance with the Health & Safety Plan.

CHALLENGES ENCOUNTERED AND CORRECTIVE ACTION TAKEN:

None.

SPECIAL NOTES:

Cornerstone left additional sheet metal for shading on site and approximately 3 cy of sand used for the conduit bedding.
Lynco did not complete the vent pipe installation and install 2 sample ports on the vent pipe as shown on Drawing Sheet I1.

NEXT DAY:

The vent pipe and sample ports will be installed. The Connex box and portable restroom will be demobilized tomorrow. Lynco will be back site tomorrow to complete the vent pipe installation and start the SVE unit. Carbon will be delivered tomorrow morning.

Prepared by: Michael Rouse **Title**: Project Superintendent

Distribution:
1. Nancy Barnes, MWH Project Manager
2. Dean Rusciolelli, MWHC Construction Manager
3. Jerry Bingham, AFCEE
4. Calvin Cox, CNGS
5. Geoff Watkin, CNGS

MWH
MONTGOMERY WATSON HARZA

DAILY QUALITY CONTROL REPORT

Date: July 19, 2013
MWH PM: Nancy Barnes
Location: March ARB – SVE Installation
Project: TO 153 Site FT007
Job Numbers: 10502009
Contract Number: FA8903-08-D-8777

Report No: 071913
Day: Friday
Weather: Sunny
Temp: 67° F @ 0750
Wind: Calm
Humidity: 59%

PERSONNEL ON SITE:

MWHC: Michael Rouse (Project Superintendent)
KC International: Angel (labor), Jesus (labor)
Lynco Services: Bruce Den Hartog (Superintendent)
Visitors: None

EQUIPMENT ON SITE:

Connex Box, Portable Restroom

Materials Delivered to the site:

2,000 lbs of GAC (32-bags)

WORK PERFORMED:

Approximately 1,000 pounds of granular activated carbon (GAC) was placed in each carbon vessel.

Project: March AFB TO 153 Report No: 071913
Job No: 10502009 Date: 19 July 2013

The vent pipe and two sample ports (VCP-3 and SP-4) were installed as shown on Drawing Sheet I-1.

The SVE unit was started at 9:40 AM. MWHC and Lynco monitor the SVE unit. Readings collected from the system included the process temperature (blower) at 86° F, dilution temperature (heat exchanger) at 127° F, and the process flow at 137 ft^3/m.

Project: March AFB TO 153 Report No: 071913
Job No: 10502009 Date: 19 July 2013

DEVIATIONS FROM THE WORK PLAN:

None.

HEALTH AND SAFETY LEVELS AND ACTIVITIES:

All work today was conducted with Level D PPE, in accordance with the Health & Safety Plan.

CHALLENGES ENCOUNTERED AND CORRECTIVE ACTION TAKEN:

None

SPECIAL NOTES:

Lynco will send someone to the site on Monday (22 July 2013) to check the operations of the SVE unit.
It appears that the hose from the well head pipe to the SVE unit collapsed a little when the unit was started.

NEXT DAY:

SVE installation activities are complete.

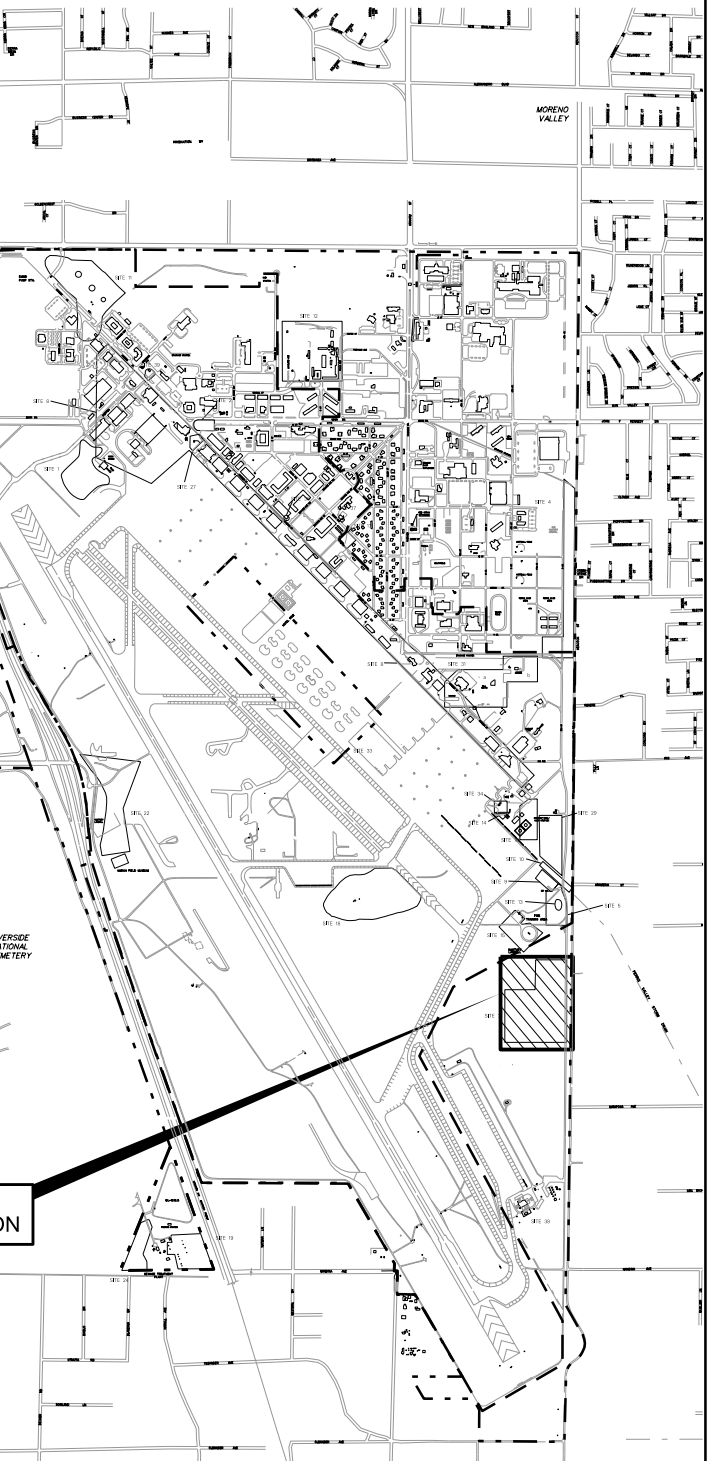
Prepared by: Michael Rouse **Title**: Project Superintendent

Distribution:
1. Nancy Barnes, MWH Project Manager
2. Dean Rusciolelli, MWHC Construction Manager
3. Jerry Bingham, AFCEE
4. Calvin Cox, CNGS
5. Geoff Watkin, CNGS

APPENDIX B

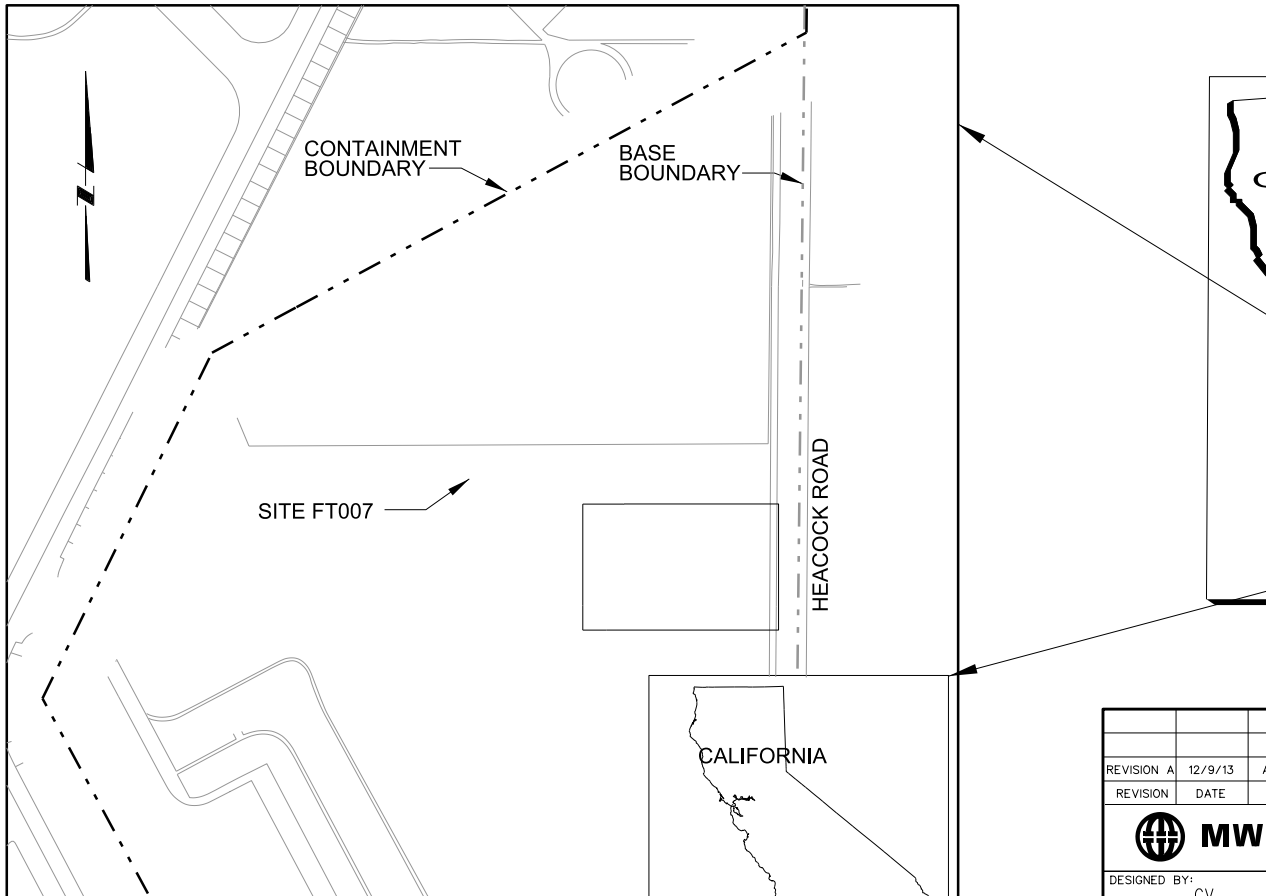
AS-BUILT DRAWINGS

SOIL VAPOR EXTRACTION SYSTEM
SITE FT007



DRAWING INDEX

DWG. No:	DWG. INDEX	DESCRIPTION	DWG. No:	DWG. INDEX	DESCRIPTIO
1	G-1	SITE LOCATION MAP, VICINITY MAP, AND DRAWING INDEX	9	I-1	PIPING AND INSTRUMENTA
2	G-2	GENERAL NOTES, LEGEND, AND ABBREVIATIONS	10	GE-1	ELECTRICAL SYMBOLS (1)
3	C-1	SITE PLAN (1)	11	GE-2	ELECTRICAL SYMBOLS (2)
4	C-2	SITE PLAN (2)	12	E-1	SINGLE LINE DIAGRAM AND
5	C-3	CIVIL DETAILS (1)	13	E-2	ELECTRICAL PLAN
6	C-4	CIVIL DETAILS (2)			
7	C-5	CHAIN LINK FENCE DETAILS (1)			
8	C-6	CHAIN LINK FENCE DETAILS (2)			



REVISION	DATE
A	12/9/13

MW

DESIGNED BY:
CV

CONDUIT RUN UNDERGROUND OR IN CONCRETE

BARE COPPER GROUND TO GROUND WIRE IN SLAB, OR UNDERGROUND GROUND GRID, SIZE AS NOTED

CONDUIT RUN - CHANGE IN ELEVATION

ACROSS-THE-LINE, NON-REVERSING NEMA SIZE 2 MAGNETIC STARTER

120V DUPLEX RECEPTACLE, NEMA CONFIGURATION 5-20

DENOTES REFERENCE TO NOTE 1 I.E. - " SEE NOTE 1 "

GROUND ROD ¾" x 10' - 0" (UNLESS OTHERWISE NOTED)

DISCONNECT SWITCH

NORMALLY OPEN CONTACT

NORMALLY CLOSED CONTACT

MOTOR 10 HP NOTED

GROUND CONNECTION

50A
OR
225AF
125AT

MOLDED CASE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED:50A.-TRIP RATING IN AMPERE
NA-NON-AUTOMATIC
MCP - MOTOR CIRCUIT PROTECTOR
AF-FRAME SIZE (225 AMPS NOTED)
AT-TRIP RATING (125 AMPS NOTED)

H O A

THREE-POSITION SELECTOR SWITCH. H-HAND, A-AUTOMATIC, O-OFF

MOTOR

JB

RACEWAY BOX "JB" JUNCTION BOX
"MH" MANHOLE
"HH" HANDHOLE
"PB" PULLBOX
"TB" TERMINAL BOX

ELECTRICAL ENCLOSURE OUTLINE

FUSED DISCONNECT SWITCH

MTR

ELECTRIC METER

FUSE

GROUNDED WYE CONNECTION

AG	ABOVE GROUND
BGS	BELOW GROUND SURFACE
BLDG	BUILDING
CIP	CAST-IN-PLACE
CFM	CUBIC FEET PER MINUTE
CONC	CONCRETE
DET	DETAIL
DIA	DIAMETER
DPI	DIFFERENTIAL PRESSURE INDICATOR
EXIST	EXISTING
F.H.	FIRE HYDRANT
GAC	GRANULAR ACTIVATED CARBON
GA	GAUGE
GPM	GALLONS PER MINUTE
GV	GLOBE VALVE
HG	MERCURY
IN	INCH
KO	KNOCKOUT
LEL	LOWER EXPLOSIVE LIMIT
MAX	MAXIMUM
MIN	MINIMUM
M.H.	MANHOLE
NTS	NOT TO SCALE
OC	ON CENTER
PCF	POUNDS PER CUBIC FOOT
PSF	POUNDS PER SQ. FOOT
PSI	POUNDS PER SQ. IN
PSIG	POUNDS PER SQ. IN GAUGE
SCH	SCHEDULE
SHT	SHEET
SPECS	SPECIFICATIONS
SVE	SOIL VAPOR EXTRACTION
TYP	TYPICAL
UG	UNDERGROUND
VCP	VELOCICALC PORT
W/	WITH

E	ELECTRICAL LINE
EA	ELECTRICAL AERIAL
EC	ELECTRICAL CONDUIT
FH	FLEXIBLE HOSE
G	GAS LINE
GS	GALVANIZED STEEL
IC	INSTRUMENT CONDUIT
ID	INSIDE DIAMETER
NPT	NATIONAL PIPE THREAD
OD	OUTSIDE DIAMETER
P	ELECTRICAL POWER
PVC	POLYVINYL CHLORIDE
SD	STORM DRAIN LINE
SOC	SOCKET
SS	SANITARY SEWER OR STAINLESS STEEL
SVE	SOIL VAPOR EXTRACTIO
T	TELEPHONE LINE

INSTRUMENT

FIELD INSTRUMENT

HEAT EXCHANGER

PANEL MOUNTED, PROGRAMMABLE LOGIC CONTROL

CAPPED LINE OR FLANGE

VCP VELOCICALC™ PORT

PANEL MOUNTED INSTRUMENT

FILTER

R PANEL MOUNTED PUSH-TO-TEST INDICATING LIGHT "R" RED LENS, "A" AMBER LENS, "G" GREEN LENS

INSULATED VESSEL

FLEXIBLE HOSE

POSITIVE DISPLACEMENT FLOWMETER

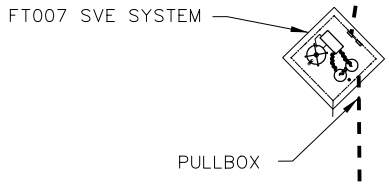
ELECTRICAL

A	AMPERE
AF	AMPERE FRAME SIZE OF CKT. BRKRS.
AMP	AMPERES, AMPERAGE
AC	ALTERNATING CURRENT
BC	BARE COOPER
C	CONDUIT, CLOSED
CB	CIRCUIT BREAKER
CO	CONDUIT ONLY
CPT	CONTROL POWER TRANSFORMER
DISCON	DISCONNECT
GRD	GROUND
HZ	HERTZ
KVA	KILO VOLT AMPS
MTR	MOTOR
OL	OVERLOAD
P	POLE
SCE SR	SOUTHERN CALIFORNIA EDISON SERVICE REQUIREMENTS
SW	SWITCH
TWIST.	TWISTED
V	VOLT
VAC	VOLTAGE ALTERNATING CURRENT
W	WATT, WIRE

REVISION	DATE
REVISION A	12/9/13

MW

DESIGNED BY:
CV



SITE FT007

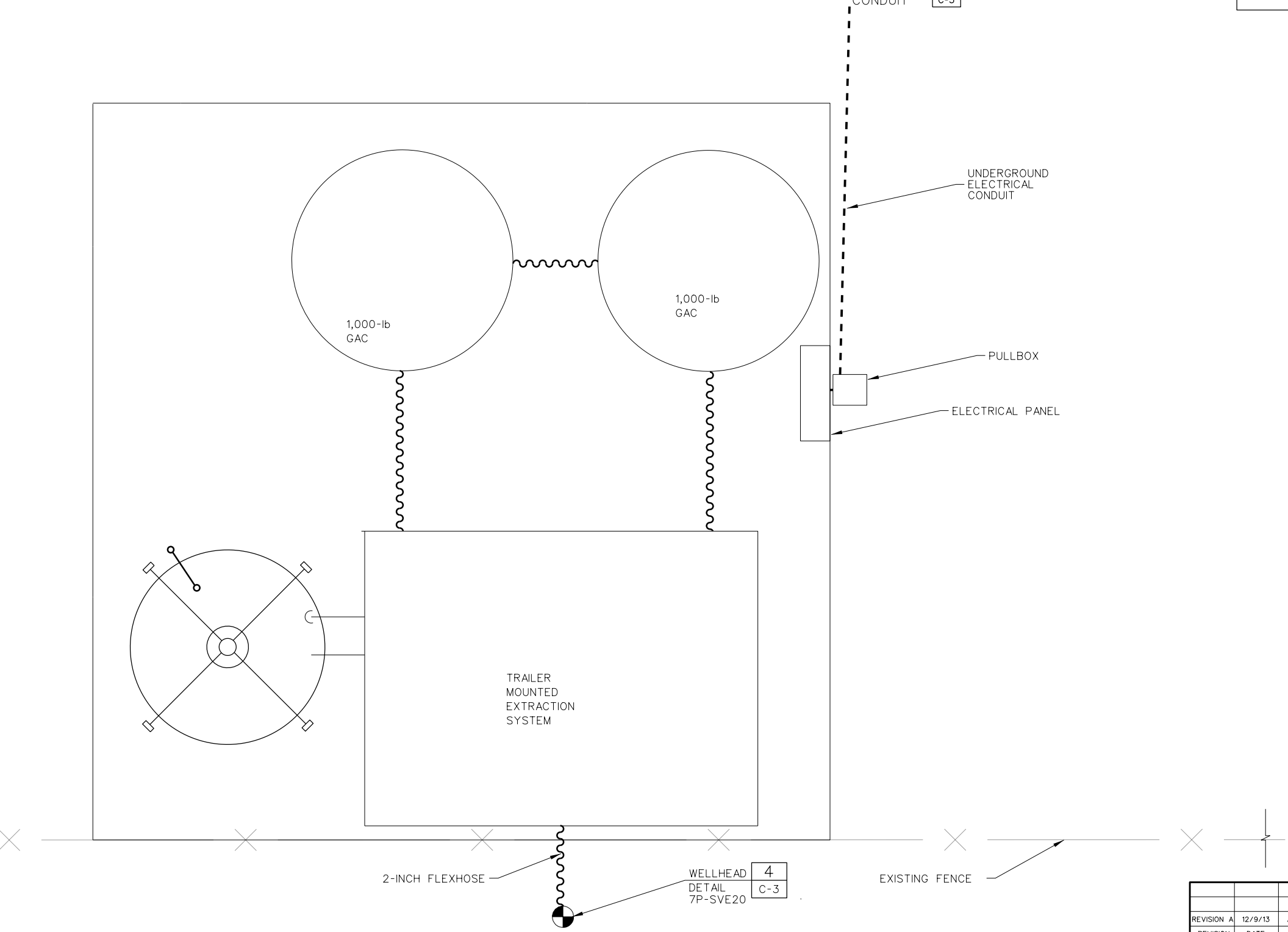
HEACOCK ROAD

ELECTRICAL CONDUIT 2 C-3

REVISION A	12/9/13	A
REVISION	DATE	

MW

DESIGNED BY:
E. Powney



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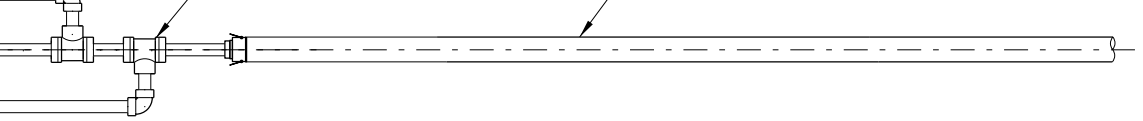
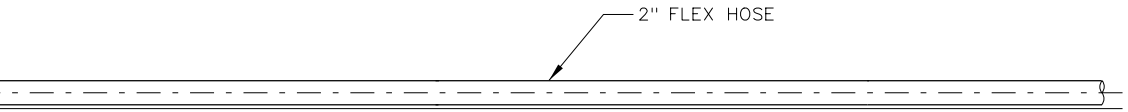
REVISION	DATE	

MW

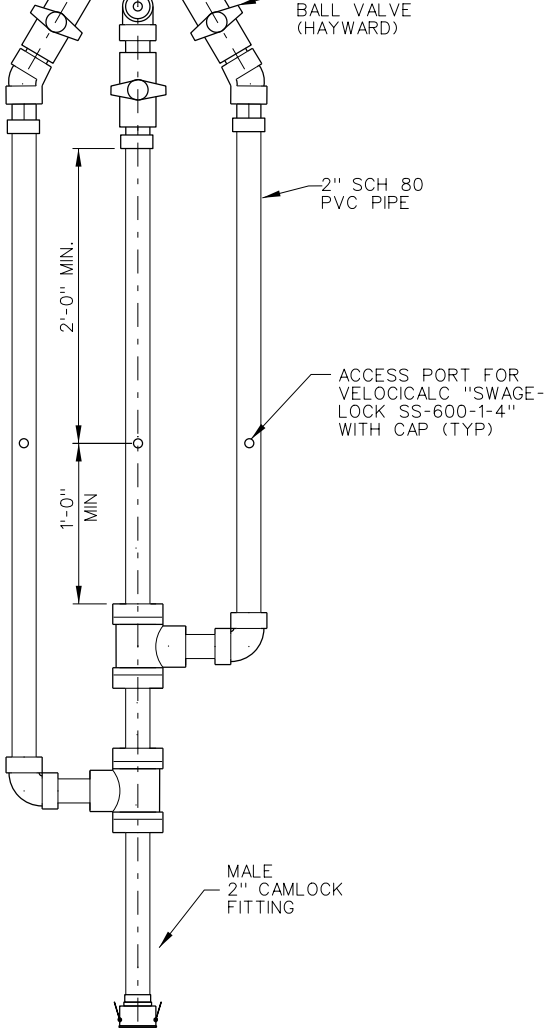
DESIGNED BY:



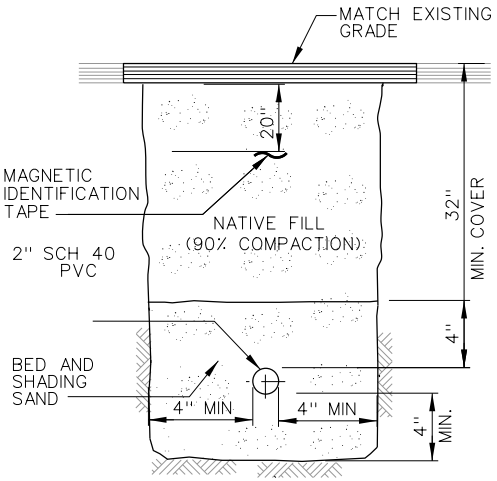
TYPICAL WELLHEAD | A
NO SCALE | VAR

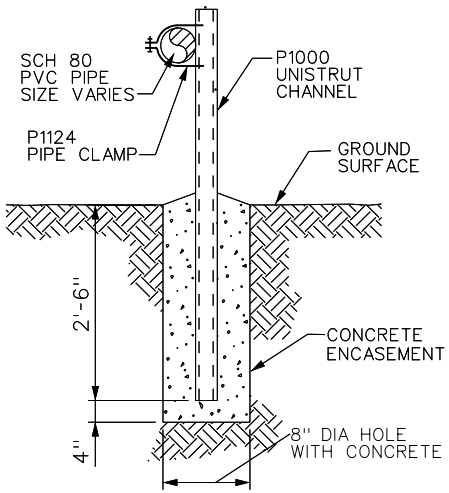


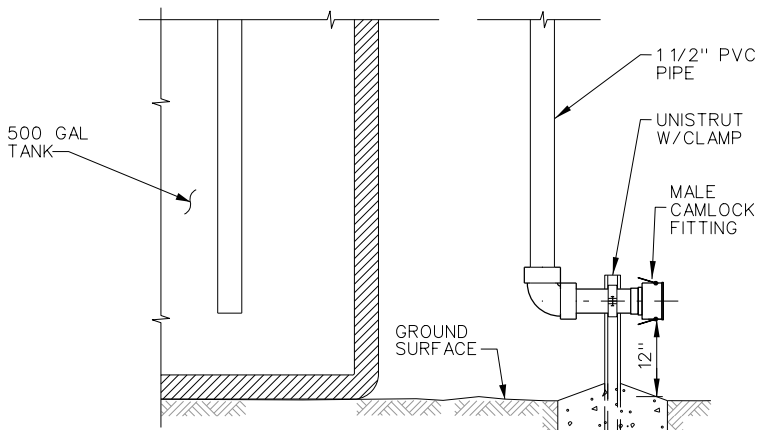
SECTION | 1
NO SCALE | C-3



WELLHEAD DETAIL | 4
NO SCALE | VAR



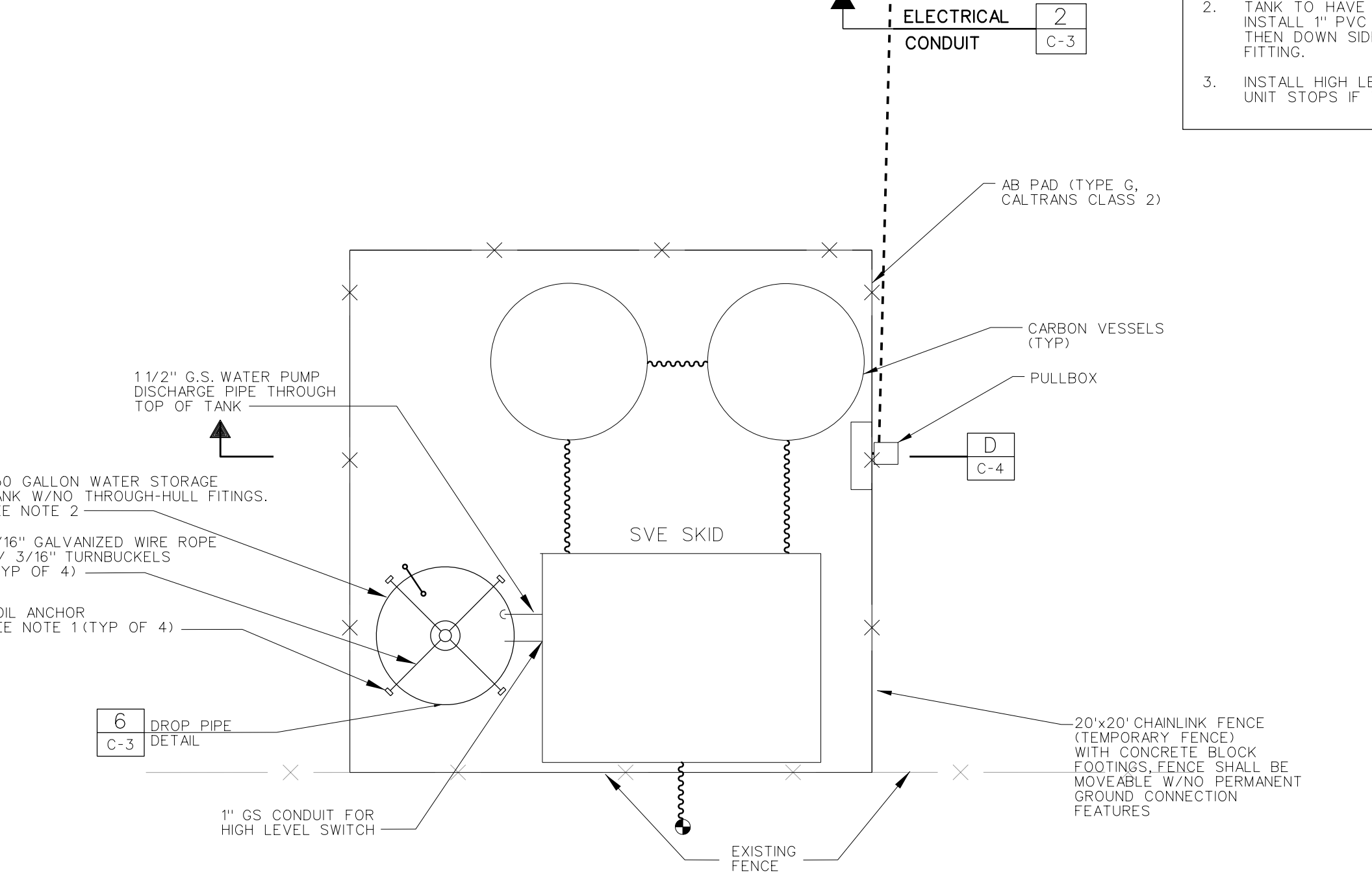




REVISION A	12/9/13	A
REVISION	DATE	

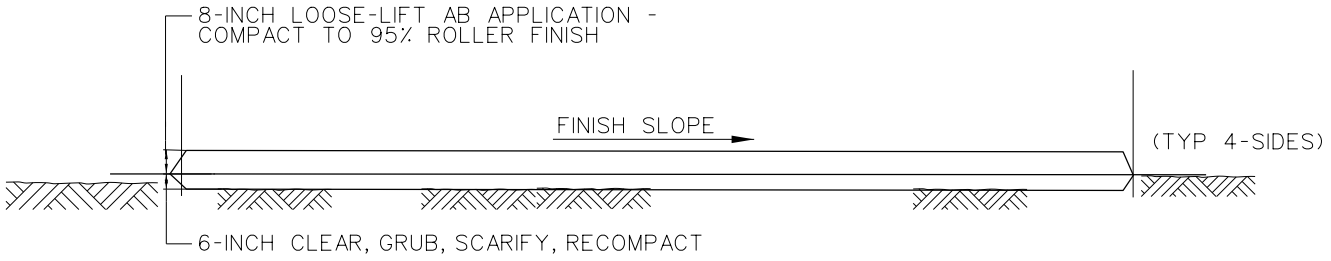
MWH

DESIGNED BY:
E. Rowney



2. TANK TO HAVE
INSTALL 1" PVC
THEN DOWN SID
FITTING.

3. INSTALL HIGH LE
UNIT STOPS IF



REVISION A	12/9/13	
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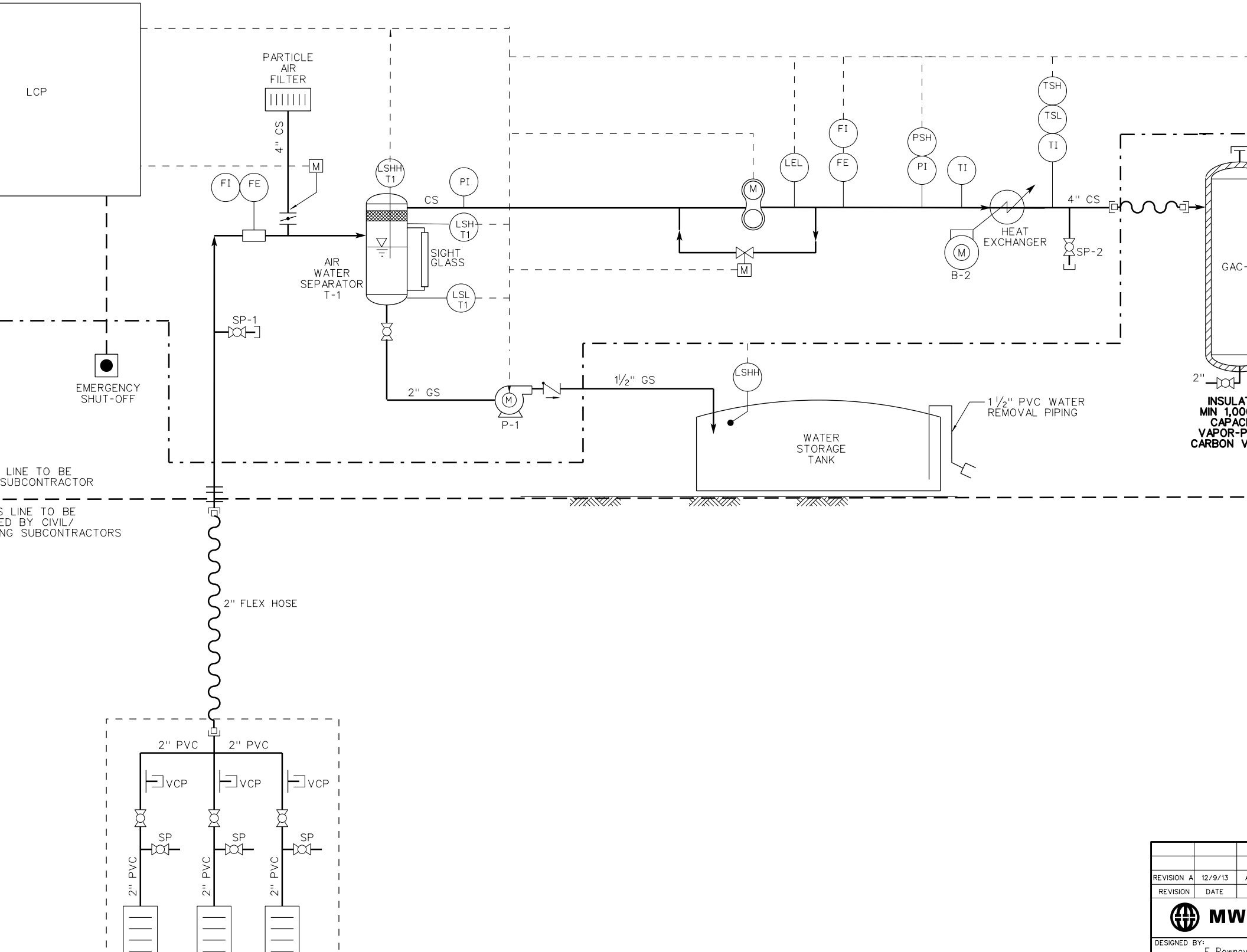
DESIGNED BY:



REVISION A	12/9/13	A
REVISION	DATE	

MW

DESIGNED BY:
E. Downey

LY AND SHALL BE
WITH EQUIPMENT OR

FROM THE

RICAL EQUIPMENT
THE CONTRACTOR
ENGINEER SHALL
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ON THE INTERIOR
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AS TO MAINTAIN
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ACTOR SHALL
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THE DISTANCE FROM
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TERMINAL BOXES
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T NEAT

WET AREAS
CEPTACLES

RIOR TO BIDDING
ITH FIELD
VEN TO NEW

DANCE WITH

YMBOLOGY

CONDUITS GROUPED TOGETHER BUT SHOWN AS A SINGLE LINE FOR CLARITY

CONDUIT FROM FLOOR ABOVE TO FLOOR BELOW

CONDUIT, CAPPED, OR SEALED

HOMERUN TO EQUIPMENT INDICATED (3/4 " CONDUIT, 2 #12, 1 #12 GND UNLESS INDICATED OTHERWISE)

RACEWAY BOX
X = BOX TYPE
MH - - - - - MANHOLE
HH - - - - - HANDHOLE
PB - - - - - PULLBOX

JUNCTION BOX OR FITTING

X — CONDUIT CALLOUT
X=CONDUIT NUMBER
(SEE CONDUIT SCHEDULE FOR DETAILS)

RECEPTACLES

X-* — 120V DUPLEX RECEPTACLE, NEMA CONFIGURATION 5-20R (WALL MOUNT)
X = LIGHTING PANEL DESIGNATION
* = CIRCUIT DESIGNATION
x = TYPE
WP - - - - - WEATHERPROOF
XP - - - - - EXPLOSION PROOF
GFCI - - - - GROUND FAULT CIRCUIT INTERRUPTER

120V DUPLEX RECEPTACLE, NEMA CONFIGURATION 5-20R (FLOOR MOUNT)

X — SINGLE SPECIAL PURPOSE RECEPTACLE, 240V 1 PHASE
X = AMPERAGE

X — WELDING RECEPTACLE
X = AMPERAGE

SPECIAL PURPOSE RECEPTACLE, 240 VAC
X = AMPERAGE

TELEPHONE OUTLET - FLOOR TYPE

TELEPHONE OUTLET - WALL TYPE

COMPUTER/DATA OUTLET - FLOOR TYPE

COMPUTER/DATA OUTLET - WALL TYPE

METERING DEVICE
X = METER TYPE
WHM — WATT HOUR METER
WM — WATT METER
AM — AMMETER
VM — VOLTMETER
PFM — POWER FACTOR METER

POTENTIAL TRANSFORMER
RATIO AND NUMBER OF PT'S AS INDICATED

CURRENT TRANSFORMER
RATIO AND NUMBER OF CT'S AS INDICATED

5A — FUSE
SIZE AS INDICATED

X * — MOTOR
X = HORSEPOWER
* = FULL LOAD AMPS

DELTA-WYE TRANSFORMER WITH SECONDARY KVA SIZE AND VOLTAGE RATIO AS INDICATED

FUSED CONTROL POWER TRANSFORMER

MOV — ELECTRICAL MOTOR OPERATED VALVE, WITH INTEGRAL REVERSING STARTER

30A — DISCONNECT SWITCH
SIZE AS INDICATED

FUSED DISCONNECT SWITCH
SIZE AS INDICATED

CAPACITOR

SSM — SOLID STATE METERING DEVICE

SSMP — SOLID STATE MOTOR PROTECTIVE DEVICE

LIGHTNING ARRESTOR AND SURGE CAPACITOR

GROUND CONNECTION - EXOTHERMIC TYPE

BARE COPPER GROUND TO GROUND WIRE IN SLAB, OR UNDERGROUND GROUND GRID, SIZE AS NOTED

ELECTRICAL ABBREVIATIONS

A	AMPERE, AUTOMATIC
AC	ALTERNATING CURRENT
AF	CIRCUIT BREAKER FRAME SIZE
AM	AMMETER
ANN	ANNUNCIATOR
AS	ADJUSTABLE SPEED
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BC	BARE COPPER
BKR	BREAKER
C	CONDUIT, CLOSED
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLF	CURRENT LIMITING FUSE
COM	COMMON
COMP	COMPARTMENT
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY, CARD READER
CT	CURRENT TRANSFORMER
DCS	DISTRIBUTED CONTROL SYSTEM
DISC	DISCONNECT
DISTR	DISTRIBUTION
DPDP	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
E	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
ETM	ELAPSED TIME METER
F	FREQUENCY, FUSE, FIXED
FDR	FEEDER
FLA	FULL LOAD AMPS
FLUOR	FLUORESCENT
FM	FREQUENCY METER
FO	FIBER OPTIC
FVR	FULL VOLTAGE REVERSING
FVNR	FULL VOLTAGE NON-REVERSING
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
H	HAND
HD	HEAT DETECTOR
HH	HAND HOLE
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HPS	HIGH PRESSURE SODIUM
HS	HAND SWITCH
HZ	HERTZ
IMC	INTERMEDIATE METALLIC CONDUIT
INCAND	INCANDESCENT
IND	INDICATION
INST	INSTANTANEOUS
I/O	INPUT/OUTPUT
Isc	SHORT CIRCUIT CURRENT, AMPS
ISO	ISOLATION

LCS
LOC
LOR
LOS
LP
LRA
LS
LTG
LTS

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mA
MCP
MLO
MOV
MS
MTS

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SW
SWBD
SWGR
V
VA
VAR
VFD
VM
VP
W
WM
WP

XFMR
XMTR

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REVISION	DATE	

MWH

DESIGNED BY:
CV

SCHEMATIC DIAGRAM SYMBOLOGY

- POTENTIAL TRANSFORMER RATIO AND NUMBER OF PT'S AS INDICATED (3)
- CURRENT TRANSFORMER RATION AND NUMBER OF CT'S AS INDICATED 100/5 (3)
- FUSE SIZE AS INDICATED 5A
- MOTOR X = HORSEPOWER, * = FULL LOAD AMPS (X, *)
- TRANSFORMER WITH GROUNDED SECONDARY KVA SIZE AND VOLTAGE RATIO AS INDICATED
- FUSED CONTROL POWER TRANSFORMER
- ELECTRICAL MOTOR OPERATED VALVE, WITH INTEGRAL REVERSING STARTER
- DISCONNECT SWITCH SIZE AS INDICATED 30A
- FUSED DISCONNECT SWITCH SIZE AS INDICATED 30
- CAPACITOR 30
- TRANSIENT VOLTAGE SURGE SUPRESSOR
- SOLID STATE METERING DEVICE
- SOLID STATE MOTOR PROTECTIVE DEVICE
- LIGHTNING ARRESTOR AND SURGE CAPACITOR
- CONTROL RELAY OR COIL X = DEVICE (X)
  - CR---- CONTROL RELAY
  - TD---- TIME DELAY RELAY (TIMING RANGE AS INDICATED)
  - M----- MOTOR STARTER
  - PC---- PHOTOCLELL
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT

TIMED CONTACTS
CONTACT ACTION IS DELAYED AFTER COIL IS:

ENERGIZED

- NORMALLY OPEN WITH TIME DELAY CLOSING
- NORMALLY CLOSED WITH TIME DELAY OPENING

DE-ENERGIZED

- NORMALLY OPEN WITH INSTANT CLOSING AND TIME DELAY OPENING
- NORMALLY CLOSED WITH INSTANT OPENING AND TIME DELAY CLOSING
- NORMALLY OPEN PUSHBUTTON
- NORMALLY CLOSED PUSHBUTTON
- NO/NC MAINTAINED PUSHBUTTON
- TWO - POSITION SELECTOR SWITCH L R
- THREE - POSITION SPRING RETURN-TO-CENTER MOMENTARY CONTACT SWITCH * * *
- SINGLE POLE TOGGLE SWITCH
- VACUUM OR PRESSURE SWITCH CLOSE ON RISING PRESSURE
- VACUUM OR PRESSURE SWITCH OPEN ON RISING PRESSURE
- FLOAT LEVEL SWITCH CLOSE ON RISING LEVEL
- FLOAT LEVEL SWITCH OPEN ON RISING LEVEL
- NORMALLY OPEN
- NORMALLY CLOSED
- NORMALLY OPEN HELD CLOSED
- NORMALLY CLOSED HELD OPEN
- MAINTAINED POSITION
- TEMPERATURE SWITCH CLOSE ON RISING TEMPERATURE
- TEMPERATURE SWITCH OPEN ON RISING TEMPERATURE
- FLOW SWITCH CLOSE ON INCREASING FLOW
- FLOW SWITCH OPEN ON INCREASING FLOW
- TORQUE SWITCH OPEN ON INCREASING TORQUE
- LOCATION SYMBOL (1) LEGEND SHOWN ON SCHEMATIC DRAWINGS ALL DEVICES ARE LOCATED IN THE MCC UNLESS INDCATED OTHERWISE
- DIGITAL INPUT TO PLC/RTU/DCS
- DIGITAL OUTPUT FROM PLC/RTU/DCS NORMALLY OPEN
- DIGITAL OUTPUT FROM PLC/RTU/DCS NORMALLY CLOSED
- ANALOG INPUT TO PLC/RTU/DCS 4-20 mA (UNLESS INDICATED OTHERSISE)
- ANALOG OUTPUT FROM PLC/RTU/DCS 4-20 mA (UNLESS INDICATED OTHERWISE)
- SOLENOID VALVE
- PILOT LIGHT (PUSH-TO-TEST) X = LENS COLOR (SEE ABOVE) (X)
- HORN
- ELAPSED TIME METER
- HEATER
- GROUND CONNECTION
- CROSSING OF CONDUCTORS - NOT CONNECTED
- CROSSING OF CONDUCTORS - CONNECTED
- FUSE
- VOLTAGE SURGE SUPPRESSOR

REV 062705

N-REVERSING
AUTO TRANSFORMER
VERSING
WINDING
WINDING

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MW

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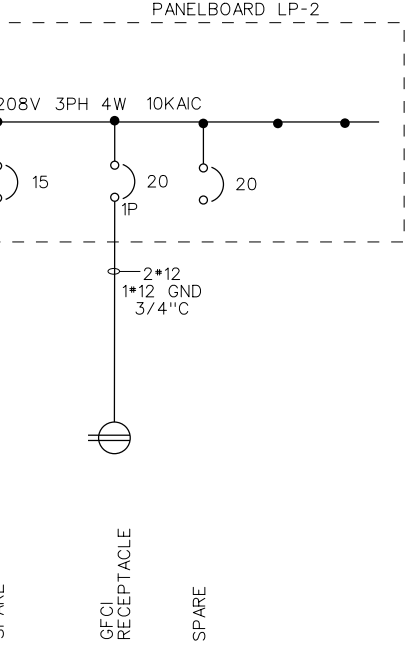


LINE DIAGRAM

M2	FAN	1.0	
M3	1/2 HP XFER PUMP	2.2	0.88
		TOTAL LOAD	6.28

VES BLOWER PANEL CONNECTED LOAD

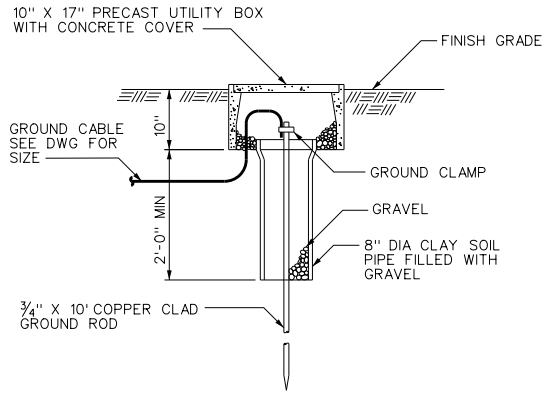
(NOTE 3)

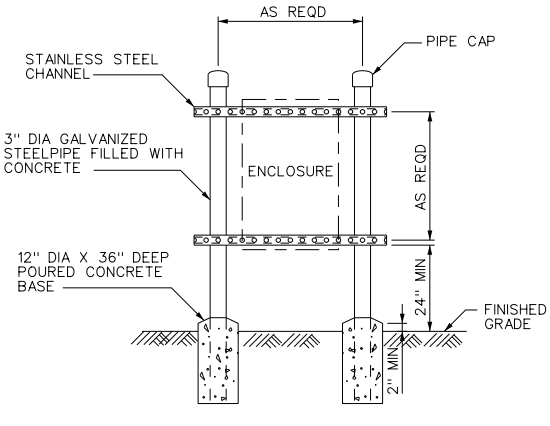
120/208 VOLTS, 50A MAIN BREAKER, 3 PH, 4 W, 100K A — PANELBOARD: LP-2 — LOCATION: PETROLEUM SITE FT007 — FEED: BOTTOM — MOUNTING: SURFACE

LOAD DESCRIPTION	KVA PH A	KVA PH B	KVA PH C	LTG	REC	MIS	CIR	BKR		BKR	CIR	MIS	REC	LTG	KVA PH A	KVA PH B	KVA PH C	LOAD DESCRIPTION
VES BLOWER PANEL (OXIDER)	2.1						1	40 3P		20	2				0.18			GFCI RECEPTACLE
		2.1					3			20	4							SPARE
			2.1				5			15	6							SPARE
							7				8							
							9				10							
							11				12							
							13				14							
							15				16							
							17				18							
							19				20							
							21				22							
							23				24							
							25				26							
							27				28							
							29				30							
	2.1	2.1	2.1				TOTAL			TOTAL					0.18	0.00	0.00	
	PHASE LOAD								TOTAL LOAD									
	2.28	2.1	2.1						6.48KVA									NEMA 3R

PANELBOARD LP-2 SCHEDULE

NEUTRAL CONDUCTOR





3. RUN ONE 2" THE NEW SI NATIVE SOIL DETAIL 2.
4. USE TWO UN THE EQUIPME VERIFY IF A BOX B1324,
5. FURNISH AND EQUIPPED WI ELEVATIONS.
6. IDENTIFY TH
7. TRANSITION SUN RATED,

REVISION	DATE
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MW

DESIGNED BY:

ERGROUND
PVC SCH 40..
PPER STRANDED

2-INCH SCH 40 PVC

PULLBOX

SITE FT007

HEACOCK ROAD

1,000-lb
GAC

E-30
E-1

TRAILER MOUN
EXTRACTION S

DETAIL A

PULLBOX

A

REVISION A	12/9/13	A
REVISION	DATE	

MW

DESIGNED BY:

APPENDIX C

SOIL BORING AND WELL CONSTRUCTION LOGS

MWH

Boring ID: **7P-MP20** | Well ID: **7P-MP20**

Borehole Diam. (in.): **12**	Total Depth (ft): **25.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-26-2013**	Start Time: **10:45**	Logged By: **N. Longinotti**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-26-2013**	Finish Time: **12:00**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	

Comments: **Hand auger first 5' bgs. Driller said borehole was hard drilling.** | Well Comp. Date: **06-26-2013** | Completion Time: **14:00**

Samplers: **Grab** | Soil Backfill Date: **N/A** | Backfill Time: **N/A**

12" Flushmount Traffic-Rated	Sample Interval	Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
Concrete							0								
Schedule 40 PVC Blank Casing (0'-5')							2								
Bentonite Chips, hydrated (1'-3')															
1C Sand (3'-4')							4			Logged from soil cuttings					
#3 Sand (4'-11')									SW-SM	Well Graded Sand with Silt, yellowish brown (10YR 5/6), loose, dry, no odor		10	35	40	15
Schedule 40 PVC 0.020" Slotted Screen (5'-10)'							6								
							8								
Schedule 40 PVC Blank Casing (0'-15')							10		SM	Silty Sand, dark yellowish brown (10YR 4/4), dry, strong cementation, loose/medium dense, no odor, cuttings coming up hot to touch		tr	25	50	25
Bentonite Chips, hydrated (11'-13')							12								
1C Sand (13'-14')							14								
									SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry, strong cementation, no odor, cuttings coming up hot to touch		5	30	40	25
#3 Sand (14'-25')							16								
										Steam from soil throughout drilling					
Schedule 40 PVC 0.020" Slotted Screen (15'-25)'							18								
							20								

LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

Log Continued on Next Page

MWH

Boring ID: **7P-MP20** | Well ID: **7P-MP20**

Borehole Diam. (in.): **12**	Total Depth (ft): **25.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-26-2013**	Start Time: **10:45**	Logged By: **N. Longinotti**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-26-2013**	Finish Time: **12:00**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	
Comments: **Hand auger first 5' bgs. Driller said borehole was hard drilling.**		Well Comp. Date: **06-26-2013**	Completion Time: **14:00**
Samplers: **Grab**		Soil Backfill Date: **N/A**	Backfill Time: **N/A**

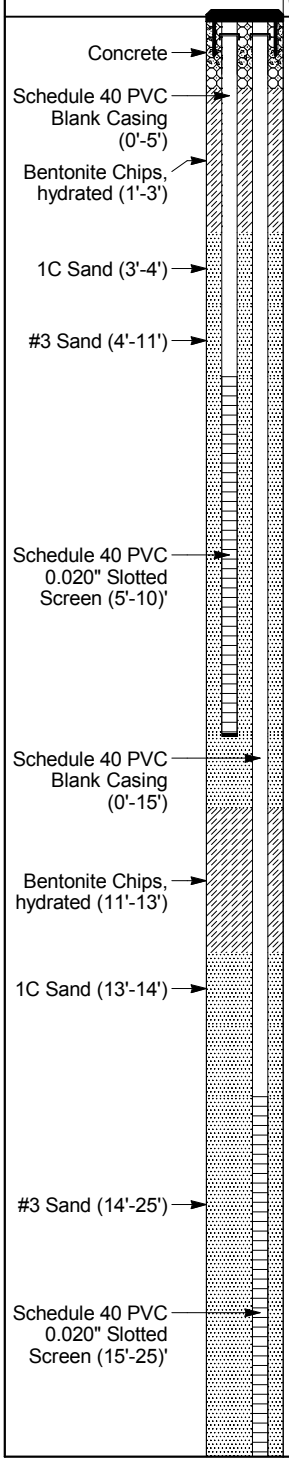
12" Flushmount Traffic-Rated	Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
#3 Sand (14'-25') →						20		SM	Silty Sand, dark yellowish brown (10YR 3/4), medium dense, moist, moderate cementation, (clusters), no odor		10	40	25	25
						22								
						24		SM	Silty Sand, olive brown (2.5Y 4/4), medium dense, moist, moderate cementation, no odor, trace clay, steam coming out of borehole, clusters are coated with light yellowish brown (2.5Y 6/4) dry silt		15	35	25	25
						26			Total depth 25' bgs					
						28								
						30								
						32								
						34								
						36								
						38								
						40								

LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

MWH

Boring ID: **7P-MP21** | Well ID: **7P-MP21**

Borehole Diam. (in.): **12**	Total Depth (ft): **25.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-25-2013**	Start Time: **07:45**	Logged By: **N. Longinotti**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-25-2013**	Finish Time: **08:35**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	
Comments: **Hand auger first 5' bgs. Logged from soil cuttings**		Well Comp. Date: **06-26-2013**	Completion Time: **10:45**
Samplers: **Grab**		Soil Backfill Date: **N/A**	Backfill Time: **N/A**



Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0								
2								
4								
6		SM	Silty Sand, strong brown (7.5YR 4/6), dry, moderate cementation, no odor, coarse quartz grains (trace), sub-angular		5	20	55	20
8								
10		SM	Silty Sand, dark yellowish brown (10YR 4/4), dry, moderate cementation, no odor, trace caliche clusters	tr	5	25	50	20
12								
14								
16		SW-SM	Well Graded Sand with Silt, dark yellowish brown (10YR 3/6), dry, moderate cementation, no odor, trace clay, quartz grains (coarse)		25	35	30	10
18								
20								

LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

Log Continued on Next Page

MWH

Boring ID: **7P-MP21** | Well ID: **7P-MP21**

Borehole Diam. (in.): **12**	Total Depth (ft): **25.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-25-2013**	Start Time: **07:45**	Logged By: **N. Longinotti**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-25-2013**	Finish Time: **08:35**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	
Comments: **Hand auger first 5' bgs. Logged from soil cuttings**		Well Comp. Date: **06-26-2013**	Completion Time: **10:45**
Samplers: **Grab**		Soil Backfill Date: **N/A**	Backfill Time: **N/A**

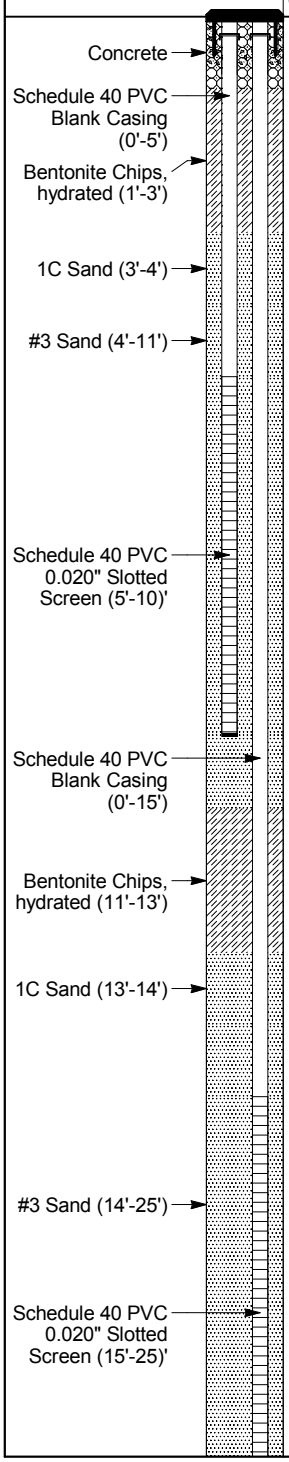
12" Flushmount Traffic-Rated	Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
#3 Sand (14'-25') →						20		SW-SM	Well Graded Sand with Silt, dark yellowish brown (10YR 4/6), dry, moderate cementation, no odor, some coarse quartz grains, subangular		20	45	25	10
						22								
						24		SW	Well Graded Sand, dark yellowish brown (10YR 3/6), dry, weak cementation, no odor, coarse subangular quartz (10%)		45	30	20	5
						26			Total depth 25 ft bgs					
						28								
						30								
						32								
						34								
						36								
						38								
						40								

LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

MWH

Boring ID: **7P-MP22** | Well ID: **7P-MP22**

Borehole Diam. (in.): **12**	Total Depth (ft): **25.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-24-2013**	Start Time: **16:10**	Logged By: **N. Longinotti**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-24-2013**	Finish Time: **17:00**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	
Comments: **Hand auger first 5' bgs. Logged from soil cuttings**		Well Comp. Date: **06-26-2013**	Completion Time: **09:20**
Samplers: **Grab**		Soil Backfill Date: **N/A**	Backfill Time: **N/A**



Depth (feet)	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0							
2							
4							
6							
8							
10		Hard drilling, cuttings hot to touch					
	SM	Silty Sand, dark yellowish brown (10YR 4/4), dry, strong cementation, no odor		5	30	50	15
12							
14		Drillers poured water in hole to cool auger bit					
	SM	Silty Sand, yellowish brown (10YR 5/6), dry, strong cementation, no odor		tr	20	60	20
16							
18							
20							

LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

Log Continued on Next Page

MWH

Boring ID: **7P-MP22** | Well ID: **7P-MP22**

Borehole Diam. (in.): **12**	Total Depth (ft): **25.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-24-2013**	Start Time: **16:10**	Logged By: **N. Longinotti**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-24-2013**	Finish Time: **17:00**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	
Comments: **Hand auger first 5' bgs. Logged from soil cuttings**		Well Comp. Date: **06-26-2013**	Completion Time: **09:20**
Samplers: **Grab**		Soil Backfill Date: **N/A**	Backfill Time: **N/A**

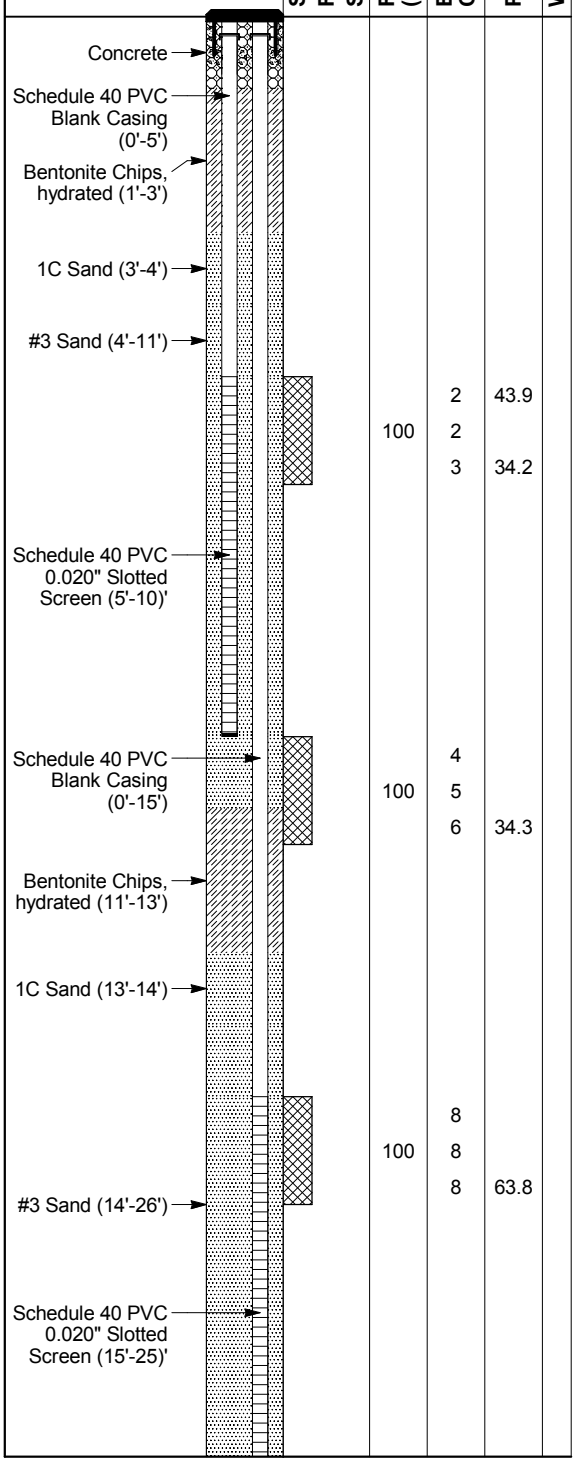
12" Flushmount Traffic-Rated	Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
#3 Sand (14'-25') →						20			Same as above dark yellowish brown (10YR 4/4), very dense, moist due to driller water			20	60	20
						22			▼ Increasing coarse sand, decreasing silt, dark yellowish brown (10YR 4/4), dry, strong cementation, no odor		5	25	55	15
						24		SM	Silty Sand, dark yellowish brown (10YR 4/4), dry, strong cementation, no odor		tr	25	60	15
						26			Total depth 25 ft bgs Caved 0.2 ft - Native soil backfill Re-drilled to 25 ft bgs (17:00)					
						28								
						30								
						32								
						34								
						36								
						38								
						40								

LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

MWH

Boring ID: **7P-MP23** | Well ID: **7P-MP23**

Borehole Diam. (in.): **12**	Total Depth (ft): **30.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-26-2013**	Start Time: **15:10**	Logged By: **N. Longinotti**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-26-2013**	Finish Time: **16:00**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	
Comments: **18" split spoon - 5' increments. Hand auger first 5' bgs.**		Well Comp. Date: **06-26-2013**	Completion Time: **12:45**
Samplers: **Split Spoon**		Soil Backfill Date: **N/A**	Backfill Time: **N/A**



Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	USCS Soil Classification	Description	Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
					0							
					2							
					4							
		2	43.9			SM	Silty Sand, dark grayish brown (2.5Y 4/2), very loose, moist, no odor, slough			25	55	20
	100	2				SM	Silty Sand, dark yellowish brown (10YR 4/4), very loose, moist, no odor		10	40	30	20
		3	34.2		6	SM	Silty Sand, dark yellowish brown (10YR 4/4), very loose, moist, no odor		tr	35	40	25
					8							
		4			10	SW-SM	0.5' of slough Well Graded Sand with Silt, olive brown (2.5Y 4/4), loose, moist, no odor	tr	25	30	30	15
	100	5				SM	Silty Sand, yellowish brown (10YR 5/6), loose, moist, no odor		10	40	30	20
		6	34.3		12							
					14							
		8					3.5" of slough, same as slough above					
	100	8				SM	Silty Sand, dark yellowish brown (10YR 4/6), medium dense, moist, no odor, manganese		25	35	20	20
		8	63.8		16	SM	grades to Silty Sand, light olive brown (2.5Y 5/3), medium dense, moist, no odor		20	40	20	20
					18							
					20							

LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

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MWH

Boring ID: **7P-MP23** | Well ID: **7P-MP23**

Borehole Diam. (in.): **12**	Total Depth (ft): **30.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-26-2013**	Start Time: **15:10**	Logged By: **N. Longinotti**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-26-2013**	Finish Time: **16:00**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	

Comments: **18" split spoon - 5' increments. Hand auger first 5' bgs.** | Well Comp. Date: **06-26-2013** | Completion Time: **12:45**

Samplers: **Split Spoon** | Soil Backfill Date: **N/A** | Backfill Time: **N/A**

12" Flushmount Traffic-Rated	Sample Interval	Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
				8			20		SM	1" of slough Silty Sand, dark yellowish brown (10YR 4/4), medium dense, moist, no odor, manganese, trace subangular quartz grains (coarse)		30	20	30	20
#3 Sand (14'-26')			100	9											
				11	51.0		22								
							24								
				8											
			100	9					SM	2.5" of slough (trace gravel, trace organics) Silty Sand, dark yellowish brown (10YR 4/6), medium dense, moist, trace visible biotite, medium to coarse quartz subangular grains		25	30	25	20
				11	53.3		26								
Bentonite Chips, hydrated (26'-30')							28								
				7					SM	Same as above, Silty Sand, dark yellowish brown (10YR 4/4), medium dense, moist, manganese oxide staining		20	30	30	20
			100	8											
				12	57.6		30			Total depth 30 ft bgs					
							32								
							34								
							36								
							38								
							40								

LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

MWH

Boring ID: **7P-MP24** | Well ID: **7P-MP24**

Borehole Diam. (in.): **12**	Total Depth (ft): **25.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-26-2013**	Start Time: **08:00**	Logged By: **N. Longinotti**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-26-2013**	Finish Time: **08:50**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	
Comments: **Hand augered 2 boreholes to 5' bgs. Logged from auger cuttings.**		Well Comp. Date: **06-26-2013**	Completion Time: **11:10**
Samplers: **Grab**		Soil Backfill Date: **N/A**	Backfill Time: **N/A**

12" Flushmount Traffic-Rated	Sample Interval	Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
Concrete							0								
Schedule 40 PVC Blank Casing (0'-5')							2								
Bentonite Chips, hydrated (1'-3')							4								
1C Sand (3'-4')									SW-SM	Well Graded Sand with Silt, dark yellowish brown (10YR 4/6), loose, dry, strong cementation, no odor, cuttings warm to touch	tr	10	40	35	15
#3 Sand (4'-11')							6								
Schedule 40 PVC 0.020" Slotted Screen (5'-10)'							8								
							10		SW-SM	Well Graded Sand with Silt, dark yellowish brown (10YR 3/6), loose, dry, strong cementation, no odor, trace plant roots		15	40	30	15
Schedule 40 PVC Blank Casing (0'-15')							12								
Bentonite Chips, hydrated (11'-13')															
1C Sand (13'-14')							14								
									SW-SM	Well Graded Sand with Silt, dark yellowish brown (10YR 4/4), medium dense, dry, no odor		10	40	40	10
#3 Sand (14'-25')							16								
Schedule 40 PVC 0.020" Slotted Screen (15'-25)'							18								
							20								

LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

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MWH

Boring ID: **7P-MP24** | Well ID: **7P-MP24**

Borehole Diam. (in.): **12**	Total Depth (ft): **25.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-26-2013**	Start Time: **08:00**	Logged By: **N. Longinotti**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-26-2013**	Finish Time: **08:50**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	
Comments: **Hand augered 2 boreholes to 5' bgs. Logged from auger cuttings.**		Well Comp. Date: **06-26-2013**	Completion Time: **11:10**
Samplers: **Grab**		Soil Backfill Date: **N/A**	Backfill Time: **N/A**

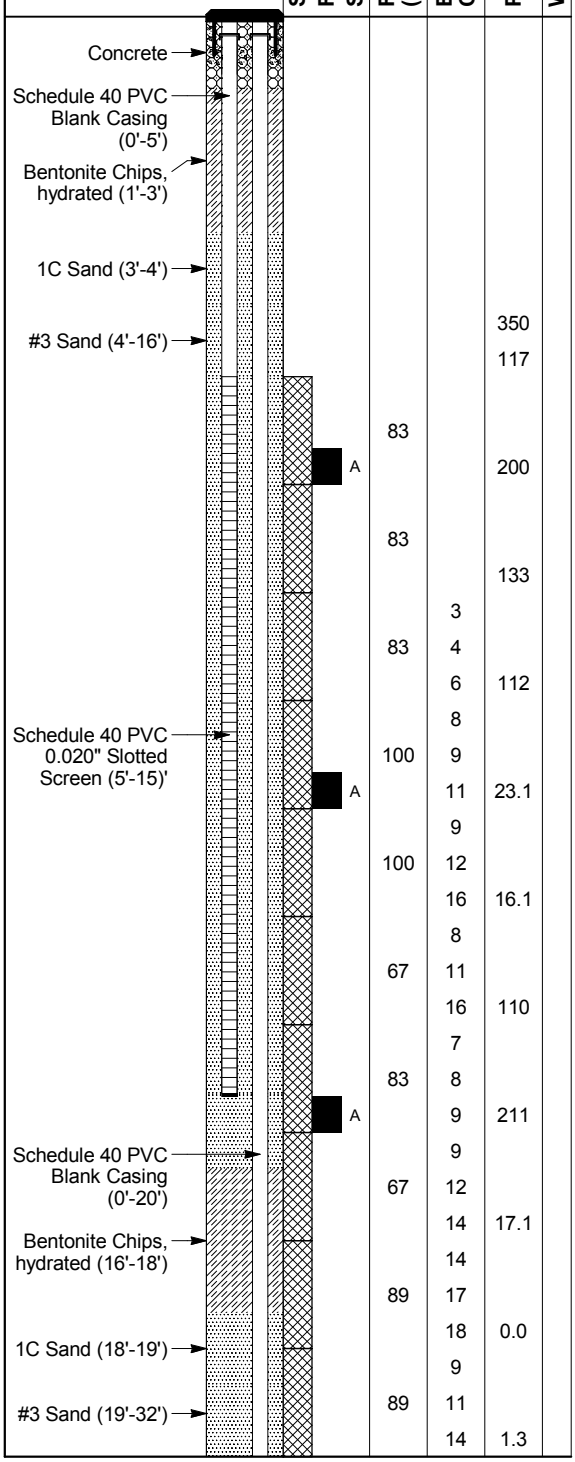
12" Flushmount Traffic-Rated	Sample Interval	Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
#3 Sand (14'-25') →							20		SW-SM	Well Graded Sand with Silt, dark yellowish brown (10YR 4/4), medium dense, dry, strong cementation, no odor, trace plant roots, cuttings are warm to touch		25	40	25	10
							22								
							24		SW-SM	Well Graded Sand with Silt, dark yellowish brown (10YR 4/4), medium dense, moist, strong cementation, no odor, cuttings hot to touch		10	50	30	10
							26			Total depth 25 ft bgs					
							28								
							30								
							32								
							34								
							36								
							38								
							40								

LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

MWH

Boring ID: **7P-MP25** | Well ID: **7P-MP25**

Borehole Diam. (in.): **12**	Total Depth (ft): **32.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-25-2013**	Start Time: **09:50**	Logged By: **N. Longinotti**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-25-2013**	Finish Time: **13:45**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	
Comments: **Hand auger first 5' bgs**		Well Comp. Date: **06-26-2013**	Completion Time: **12:00**
Samplers: **Split Spoon**		Soil Backfill Date: **N/A**	Backfill Time: **N/A**



Depth (feet)	Graphic Log	USCS Soil Classification	Description	Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
0			Used auger to get past road base										
			4" asphalt										
			4" base										
2													
			Slough material olive brown (2.5Y 4/3)										
4							350						
		SP-SM	Poorly Graded Sand with Silt, brown (7.5YR 4/4), wet (from grass irrigation system), medium dense, no odor, micaceous				117				45	45	10
		SW-SM	Well Graded Sand with Silt, brown (7.5YR 4/4), loose, wet, no odor, micaceous							40	30	20	10
6			increasing coarse quartz grains	A	83		200						
		SP-SM	Poorly Graded Sand with Silt, dark yellowish brown (10YR 4/4), loose, moist, no odor, micaceous							5	45	40	10
					83		133						
8		SP-SM	Poorly Graded Sand with Silt, dark yellowish brown (10YR 4/4), loose, moist, no odor, micaceous, trace coarse quartz grains			3				5	30	55	10
			2" zone increase quartz grains		83	4							
						6	112						
			Same as above			8				tr	30	55	15
10					100	9							
				A		11	23.1						
		SP-SM	Poorly Graded Sand with Silt, olive brown (2.5Y 4/3), with ~0.5' band of 10Y 4/1 (dark greenish gray), moist, loose, odor - smells like paint thinner			9				5	35	45	15
		SP-SM			100	12				tr	35	55	10
12			Poorly Graded Sand with Silt, dark yellowish brown (10YR 4/6), medium dense, moist, micaceous, trace sub-angular quartz grains			16	16.1						
		SW-SM				8			tr	35	30	25	10
		SP-SM	Well Graded Sand with Silt, dusky red (2.5YR 4/2), loose, moist, slight odor		67	11					20	70	10
						16	110						
14			Poorly Graded Sand with Silt, dark yellowish brown (10YR 4/6), moist, no odor, micaceous			7							
		SP-SM	Same as above, Poorly Graded Sand with Silt, decreasing moisture, no odor		83	8							
				A		9	211						
						9							
		SW-SM	Well Graded Sand with Silt						5	35	30	20	10
16		SP	Poorly Graded Sand, dark yellowish brown (10YR 4/6), moist, no odor		67	12				5	60	30	5
		SW-SM	Well Graded Sand with Silt, dark yellowish brown (10YR 4/4), dry			14	17.1		5	35	30	15	15
						14			5	35	30	20	10
		SP-SM	Poorly Graded Sand with Silt, strong brown (7.5YR 4/6), moist, trace granite coarse grains, no odor		89	17				5	25	55	15
18						18	0.0						
						9							
		SP-SM	Poorly Graded Sand with Silt, strong brown (7.5YR 4/6), moist, no odor		89	11				5	30	50	15
						14	1.3						
20													

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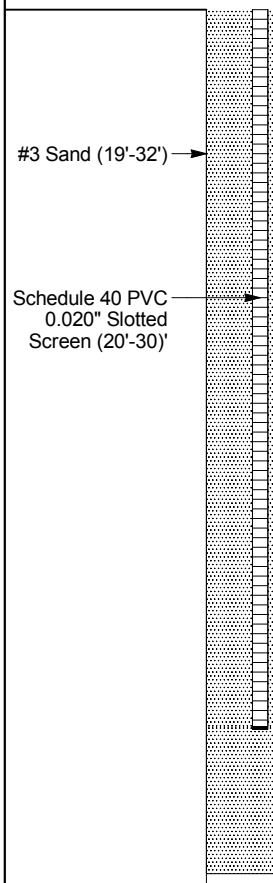
LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

MWH

Boring ID: **7P-MP25** | Well ID: **7P-MP25**

Borehole Diam. (in.): **12**	Total Depth (ft): **32.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-25-2013**	Start Time: **09:50**	Logged By: **N. Longinotti**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-25-2013**	Finish Time: **13:45**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	
Comments: **Hand auger first 5' bgs**		Well Comp. Date: **06-26-2013**	Completion Time: **12:00**
Samplers: **Split Spoon**		Soil Backfill Date: **N/A**	Backfill Time: **N/A**



Sample Interval	Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
			13			20			No recovery					
		50	13					SP-SM	Poorly Graded Sand with Silt, dark yellowish brown (10YR 4/6), moist, micaceous		5	60	25	10
			15	753										
			14											
		83	16	266		22		SP	Poorly Graded Sand, yellowish brown (10YR 5/6), moist, micas, ~1.5" zone with dry white coating sand grains		15	75	10	tr
	A		19											
	A		12					SP	Poorly Graded Sand, yellowish brown (10YR 5/6), dry, increased dry white fine sand		5	50	45	tr
	A	100	16								10	50	40	tr
			21	1496		24								
			11						No recovery or compacted					
		67	12					SW	Same as above, Well Graded Sand, very pale brown (10YR 7/3), moist, no odor, 0.5' zone with dry white fine sand coating larger grains - below same without white sand		35	40	25	
			17	1027		26								
			11					SM	Silty Sand, dark yellowish brown (10YR 4/6), moist			20	60	20
		100	12											
			14	130										
			8					SP-SM	Poorly Graded Sand with Silt, dark yellowish brown (10YR 4/6), moist, no odor		tr	25	65	10
		83	8			28								
			12	118										
			9											
		67	11					SW-SM	Well Graded Sand with Silt, yellowish brown (10YR 5/6), moist, manganese oxide staining, subangular granite (coarse grains)	tr	10	35	40	15
			13	19.7		30								
			12					SM	Silty Sand, yellowish brown (10YR 5/6), moist		5	35	40	20
		100	13					SW-SM	Well Graded Sand with Silt, brown (10YR 4/3), increasing moisture, no odor	tr	10	35	40	15
			17	15.6		32								
									Total depth 32 ft bgs					
						34								
						36								
						38								
						40								

LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

MWH

Boring ID: **7P-SVE20** | Well ID: **7P-SVE20**

Borehole Diam. (in.): **12**	Total Depth (ft): **32.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-24-2013**	Start Time: **11:00**	Logged By: **M. Hughes**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-24-2013**	Finish Time: **13:50**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	

Comments: **Hand auger first 5' bgs. Drill to 32' with 8" for logging, ream with 12".** | Well Comp. Date: **06-26-2013** | Completion Time: **10:00**

Samplers: **Split Spoon** | Soil Backfill Date: **N/A** | Backfill Time: **N/A**

12" Flushmount Traffic-Rated	Sample Interval / Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
Concrete						0								
Schedule 40 PVC Blank Casing (0'-5')														
Bentonite Chips, hydrated (1'-3')						2								
1C Sand (3'-4')														
#3 Sand (4'-11')						4								
			7					SM	Silty Sand, dark yellowish brown (10YR 4/4), loose, dry, no odor	tr	5	30	45	20
		100	7											
			8	0.0		6		SM	Silty Sand, brown (10YR 4/3), medium dense, dry, moderate cementation, no odor, caliche		15	40	30	15
			9											
		100	14					SM	Silty Sand, dense, dry, strong cementation, no odor					
Schedule 40 PVC 0.020" Slotted Screen (5'-10)'			17											
			8	0.4		8								
		100	11					SM	Silty Sand, dark yellowish brown (10YR 4/4), dry, weak cementation, no odor		5	25	50	20
			17											
			19	0.0				SM	As above, Silty Sand, moderate cementation, caliche					
		100	24			10								
Schedule 40 PVC Blank Casing (0'-15')			27											
			19	5.2					As above, silty sand					
		100	20											
Bentonite Chips, hydrated (11'-13')			21	0.0		12								
			10	4.8					As above, moist					
		67	16											
1C Sand (13'-14')														
			13	0.0		14		SP-SM	Poorly Graded Sand with Silt, brown (7.5YR 4/4), very dense, moist, no odor		5	55	30	10
		100	16											
			24											
			21					SP-SM	Poorly Graded Sand with Silt, dark yellowish brown (10YR 4/6), dense, dry, weak cementation, no odor			30	60	10
		100	26			16		SP-SM	At 16', Poorly Graded Sand with Silt, dark yellowish brown (10YR 4/6), very dense, strong cementation, no odor, Mn oxide, some caliche					
#3 Sand (14'-26')			28	1.2					At 17', as above, strong cementation, Mn oxide, 30% caliche - caliche decreases 5% at 18.5' bgs					
			23											
		100	27											
Schedule 40 PVC 0.020" Slotted Screen (15'-25)'			22	19.7		18								
			18						As above, dark yellowish brown (10YR 3/4), 10% caliche					
		100	27											
			33			20								

LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

Log Continued on Next Page

MWH

Boring ID: **7P-SVE20** | Well ID: **7P-SVE20**

Borehole Diam. (in.): **12**	Total Depth (ft): **32.0**	Project: **March AFB Petroleum Site FT007 SVE Corrective Action**	
Northing (ft): **117.24**	Easting (ft): **33.88**	Job Number: **10502009**	Site: **FT007**
Drill Start Date: **06-24-2013**	Start Time: **11:00**	Logged By: **M. Hughes**	Reviewed By: **M. Hughes**
Drill Finish Date: **06-24-2013**	Finish Time: **13:50**	Drilling Contractor: **Cascade Drilling**	Field Instrumentation: **PID**
Depth 1st H_2O (ft): **N/A**	Date / Time:	Drill Rig Type/Method: **Hollow Stem Auger**	
Depth H_2O After Drilling (ft): **N/A**	Date / Time:	Driller's Name: **Doug Warler**	
Comments: **Hand auger first 5' bgs. Drill to 32' with 8" for logging, ream with 12".**		Well Comp. Date: **06-26-2013**	Completion Time: **10:00**
Samplers: **Split Spoon**		Soil Backfill Date: **N/A**	Backfill Time: **N/A**

12" Flushmount Traffic-Rated	Sample Interval	Retained Sample Type	Recovery (%)	Blow Count/6"	PID (ppm)	Water Level	Depth (feet)	Graphic Log	USCS Soil Classification	Description	Est. % of Soil: Gravel	Coarse Sand	Med. Sand	Fine Sand	Silt/Clay
				18	9.8		20		SM	Silty Sand, brown (7.5YR 4/4), moist to dry, dense, no odor, granite sand		15	40	30	15
#3 Sand (14'-26')			100	21											
				27						increased fine sand with Mn oxides, 5% caliche	tr	tr	10	75	15
				16	9.6		22								
			100	17											
				19					SM	Silty Sand, brown (10YR 4/3), dense, moist, minor iron oxide staining		10	55	20	15
				16	4.2				SW-SM	Well Graded Sand with Silt, dark yellowish brown (10YR 4/4), medium dense, moist, non-cemented, no odor		20	50	20	10
			67	18			24								
				21											
				16	5.4										
			100	20											
				28					SM	Silty Sand, light olive brown (2.5Y 5/3), dense, moist, no odor			40	30	30
				17	6.7		26		SM-ML	Silty sand to sandy silt, light olive brown (2.5Y 5/3), dense, moist, moderate cementation, no odor			10	50	40
			100	19											
				20											
				11	19.5										
			83	11			28			Inc. caliche (10%)					
				17											
Bentonite Chips, hydrated (26'-32')					9.1				SM	Silty Sand, dark yellowish brown (10YR 4/4), medium dense, moist, no odor			30	40	30
			100				30								
					11.6										
				14						Inc. caliche (10%)					
			100	18											
				23	4.3		32			dark yellowish brown (10YR 4/4), medium dense, Inc. moisture			20	50	30
										Total depth 32' bgs					
							34								
							36								
							38								
							40								

LOG OF BORING MARCH AFB PETROLEUM FT007 SVE.GPJ MWH WC.GDT 11/27/13

APPENDIX D

SVE SYSTEM FIELD LOGS AND RADIUS OF INFLUENCE CALCULATIONS

2015

47.8 cfm discharge CFM
68.42 cfm
30.8 ft³/min
88°F

SVE PROCESS LOG
SITE FT007, FORMER MARCH AIR FORCE BASE, CALIFORNIA

before AA ME.
67802 → 3149 @ 136.7° F

Site FT007			Inlet and Blower							GAC Vessels and Stack								Water Storage Tank Level	
			Blower Hour Meter	Influent Vacuum	Inlet Flow	Relative Humidity	Dilution Air Flow	Blower Discharge Pressure	Blower Discharge Temperature	Primary GAC	Secondary GAC	Tertiary GAC	Mid Bed Pressure	Mid Bed Temperature	Stack Pressure	Stack Temperature	Stack Flow		
Date	Time	Operator	hours	"wc	cfm	%	cfm	"wc	°F				"wc	Deg F	"wc	°F	cfm	gallons	
7/26/13	12:36	I.V.	173.0	28"H2O	66.48	17.8	closed	1.0psi	141.39	I (L)	II	NA	NA	89.7	N.A	100.9	54.75	0.0	43.0
8/3/13	11:31	IV	363.5	24"H2O	65.47	22.4	closed	1.0psi	89.9	I (W)	II	NA	NA	98.1	N.A	100.3	69.11	0.0	47.8
8/10/13	10:30	IV	530.6	24"H2O	64.13	23.8	closed	1.0psi	86.4	I	II	NA	NA	94.3	NA	97.6	65.14	0.0	45.1
8/16/13	13:05	IV	677.2	24"H2O	69.87	16.3	closed	1.0	141.6	I	II	NA	NA	104.8	NA	106.6	64.90	0.0	59.7
9/27/13	09:59	IV	741.7	22"H2O	64.19	74.6	closed	1.0	86.7	I	II	NA	NA	88.7	NA	89.9	64.81	0.0	52.9

135.7° F inlet T.

PID Readings (ppm)								
Date	Time	Operator	Influent	First Mid Bed	Second Mid Bed	Effluent	Ambient	Comments
7/26/13	13:39	I.V.	24	0.8	0.0	0.0	0.0	
8/3/13	12:49	I.V	10	0.5	0.0	0.3	0.0	
8/10/13	10:59	IV	11	0.0	0.0	0.8	0.0	
8/16/13	14:10	IV	9.0	0.0	0.0	0.6	0.0	
9/27/13	15:24	IV	8.0	0.1	0.0	0.1	0.1	

Utilities*	
Date	
Electric Meter (KWh)	

*Take utility reading at beginning of each month

7/26/13 Comments: Select dilution valve since concentrations are low.
8/3/13 System running 0.1.

7/26/13 7P-SVE20 D = 28"H2O 19 CFM
S = 28"H2O 48 CFM
8/3/13 D = 26"H2O 16.11 CFM.
S = 26"H2O 52.18 CFM

7/26/13 Zero = 0.0 100PPM = 99.9
PID calibrated Zero = 0.0
8/2/13 Span gas = 100 PPM

cfm - cubic feet per minute
°F - degrees Fahrenheit
GAC - granular activated carbon
HX - heat exchanger
KWh - kilowatts per hour
PID - photoionization detector
ppm - parts per million
"wc - inches of water column
% - percent

8/3/13 Process flow as indicated by recorder: 178 ft³/min.?
Process temp: 86°F Heat Exchanger: 130°F.

9/27/13 SVE system off upon arrival

MWH

By _____ Date 4/27/13 Client _____ Sheet _____ of _____
Chkd By _____ Description ROI SVE System Site 7 Job No _____
Design Tech _____

Well ID	Distance	Vacuum "H2O	Vacuum @ Well "H2O S (7")	D (17")
7PMP20S	29'	0.09"		
20D		0.04"		
7PMP21S	33.	0.09"		
21D		0.23"		
7PMP22S	25.5'	0.12"		
22D		0.31"		
7PMP23S	102	0.01"		
23D		0.00"		
7PMP24S	68'	0.05"		
24D		0.05"		
7PMP-25S	206+102=308'	0.01		
25D		0.00		

S = 79.13 cfm 4.8 m/h, 98°F
D = 16.48 98°F

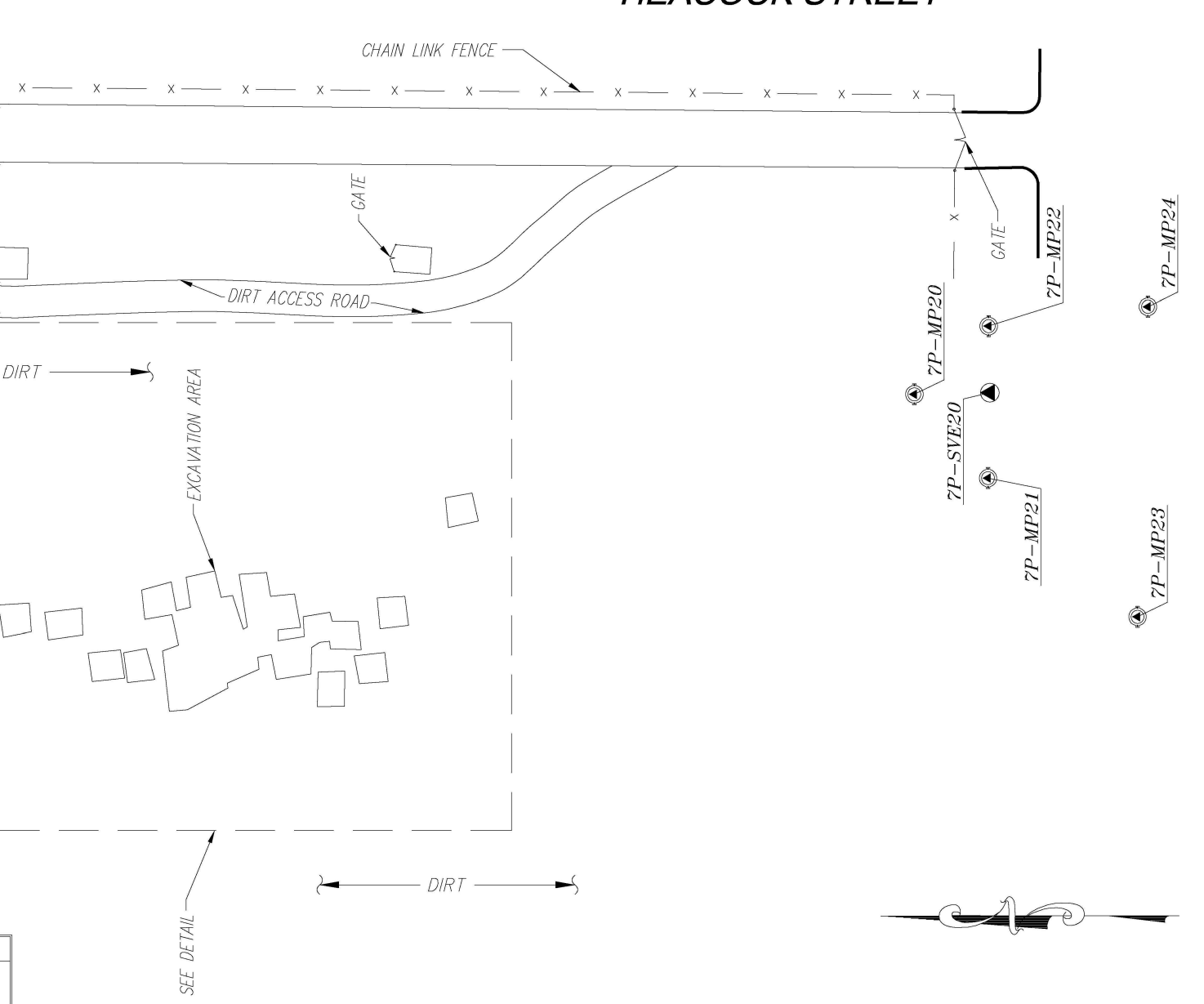
RADIUS OF INFLUENCE CALCULATIONS
PETROLEUM SITE FT007

Extraction Well (Well ID)	Screen Interval (ft bgs)	Vacuum at Extraction Well (inches H_2O)	Monitoring Well (Well ID)	Screen Interval (ft bgs)	Vacuum at Monitoring Well (inches H_2O)	Distance between wells (ft)	ROI (ft)	Average ROI (ft)
7P-SVE20	5-10	-17.0	7P-MP20	5-10	0.09	29	*30*	**30**
			7P-MP21	5-10	0.09	33	*34*	
			7P-MP22	5-10	0.12	25.5	*26*	
			7P-MP23	5-10	0.01	102	*105*	
			7P-MP24	5-10	0.05	68	*70*	
			7P-MP25	5-15	0.01	308	*317*	
7P-SVE20	15-25	-17.0	7P-MP20	15-25	0.04	29	*30*	**30**
			7P-MP21	15-25	0.23	33	*34*	
			7P-MP22	15-25	0.31	25.5	*26*	
			7P-MP23	15-25	0	102	*105*	
			7P-MP24	15-25	0.05	68	*70*	
			7P-MP25	20-30	0	308	*317*	

APPENDIX E

SURVEY DATA

PROJECT: MARCH AIR FOR
17131 HEACOCK ST., MORENO



SURVEYED OCTOBER 14, 2013

SOIL BORINGS

	WELL	NORTH	EAST	LATITUDE (DD)	LO
*	7C857	2264480.09	6259807.04	33.8778179	
*	7C858	2264376.47	6259829.83	33.8775310	
*	7C859	2264607.16	6259785.62	33.8778917	
*	7C860	2264487.80	6259783.02	33.8778385	
*	7C861	2264471.87	6259767.39	33.8777943	
*	7C862	2264460.16	6259766.75	33.8777621	
*	7C863	2264452.74	6259791.97	33.8777424	
*	7C864	2264438.63	6259762.70	33.8777028	
*	7C865	2264430.30	6259782.06	33.8777052	
*	7C866	2264429.00	6259783.92	33.8776769	
*	7C867	2264433.70	6259795.10	33.8776901	
*	7C868	2264412.95	6259782.20	33.8776328	
*	7C869	2264416.26	6259794.99	33.8776394	
*	7C870	2264404.64	6259788.14	33.8776098	
*	7C871	2264400.63	6259769.34	33.8775983	
*	7C872	2264392.90	6259781.85	33.8775777	
*	7C873	2264410.80	6259810.72	33.8776276	
*	7C874	2264410.90	6259819.64	33.8776281	
*	7C875	2264386.47	6259758.56	33.8775594	
*	7C876	2264381.63	6259779.96	33.8775467	
*	7C877	2264369.68	6259765.24	33.8775132	
*	7C878	2264362.78	6259788.88	33.8774951	
*	7C879	2264336.79	6259827.07	33.8774247	

MONITORIN

WELL	NORTH	EAST	LATITUDE (DD)	LO
7P-MP20S	2264162.84	6259871.36	33.8769479	
7P-MP20D	2264162.84	6259871.36	33.8769479	
7P-MP21S	2264134.66	6259839.32	33.8769886	
7P-MP21D	2264134.66	6259839.32	33.8769886	
7P-MP22S	2264134.42	6259697.44	33.8768705	
7P-MP22D	2264134.42	6259697.44	33.8768705	
7P-MP23S	2264077.47	6259756.27	33.8767111	
7P-MP23D	2264077.47	6259756.27	33.8767111	
7P-MP24S	2264073.48	6259904.83	33.8767082	
7P-MP24D	2264073.48	6259904.83	33.8767082	
7P-MP25S	2263868.94	6259709.11	33.8761855	
7P-MP25D	2263868.94	6259709.11	33.8761855	

RISER_HT – RISER HEIGHT
RISER HEIGHT DEFINITION: THE MEASURED DISTANCE FROM GROUNI

DD: DECIMAL DEGREES

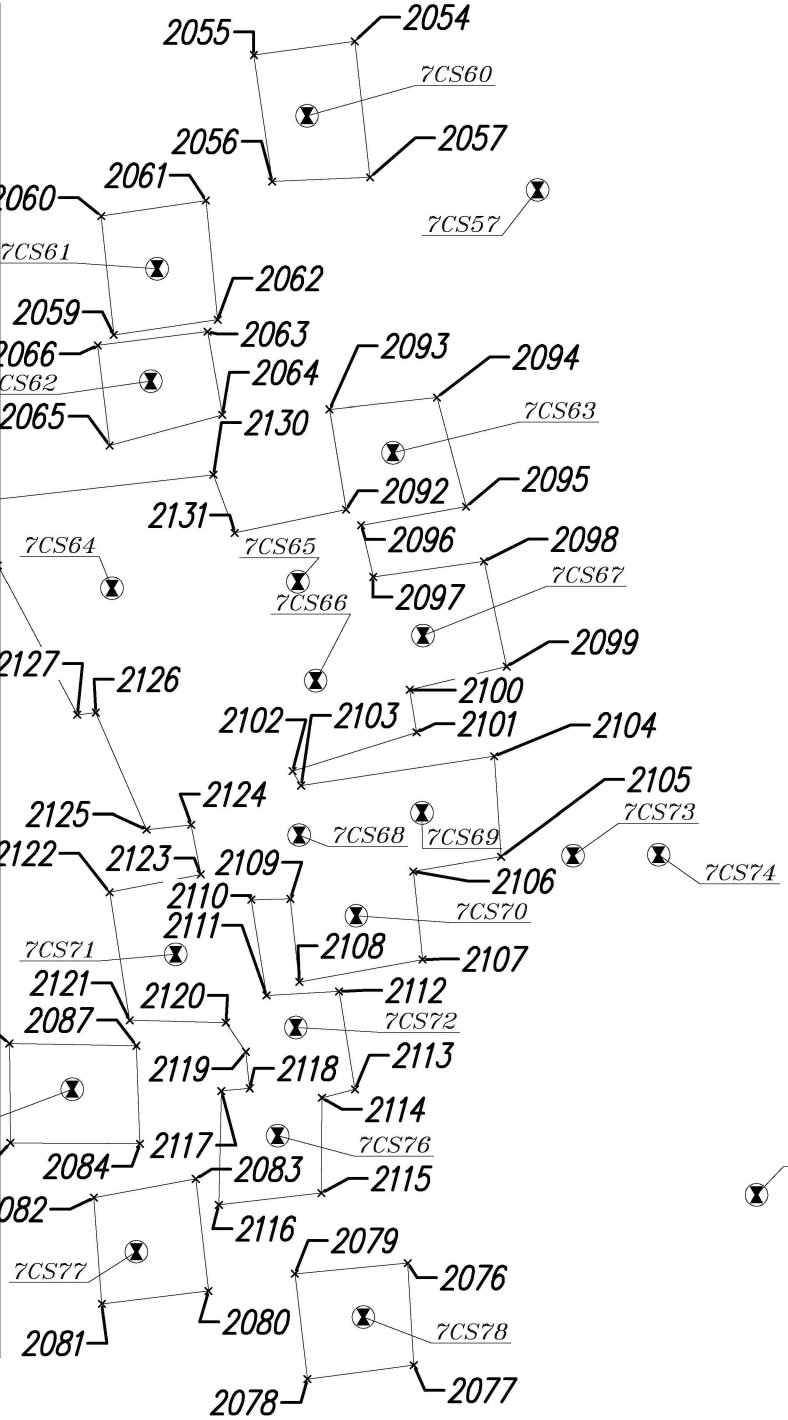
* = SEE SHEET 2

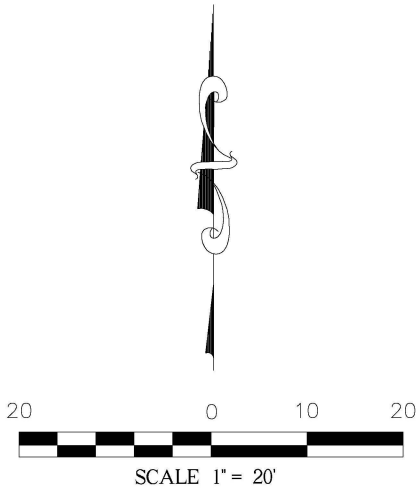
LICENSED LAND SURVEYOR
Armando D. DuPont
L.S. 7780
Exp. 12-31-13
STATE OF CALIFORNIA

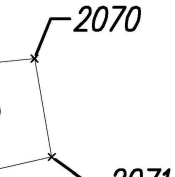
NO.	DATE	REVISIONS

BENCH MARK ***COORDINATES*** ***PREPARED FOR***

PROJECT: MARCH AIR FOR
17131 HEACOCK ST., MORENO







7CS58

SURVEYED OCTOBER 14, 2013

GRADING LIMITS

POINT	NORTH	EAST	LATITUDE (DD)	LONGITUDE (DD)	NG (ELEVATION)
2051	2264511.23	6259778.52	33.8779027	-117.2446001	1490.50
2052	2264500.62	6259780.65	33.8778736	-117.2445927	1490.72
2053	2264501.41	6259791.51	33.8778761	-117.2445570	1490.88
2054	2264495.55	6259787.99	33.8778599	-117.2445684	1490.79
2055	2264494.13	6259777.47	33.8778557	-117.2446030	1490.59
2056	2264480.96	6259779.38	33.8778196	-117.2445963	1490.78
2057	2264481.39	6259789.58	33.8778210	-117.2445627	1490.52
2058	2264513.13	6259790.84	33.8779083	-117.2445595	1491.24
2059	2264464.98	6259762.89	33.8777752	-117.2446501	1490.07
2060	2264477.36	6259761.58	33.8778092	-117.2446548	1490.06
2061	2264478.97	6259772.48	33.8778139	-117.2446189	1490.44
2062	2264466.55	6259773.71	33.8777798	-117.2446145	1490.23
2063	2264465.32	6259772.65	33.8777764	-117.2446179	1490.10
2064	2264456.67	6259774.19	33.8777527	-117.2446126	1490.20
2065	2264453.49	6259762.46	33.8777436	-117.2446511	1490.04
2066	2264463.90	6259761.21	33.8777722	-117.2446556	1490.12
2069	2264341.18	6259820.39	33.8774366	-117.2444568	1489.92
2070	2264342.31	6259831.82	33.8774400	-117.2444192	1489.55
2071	2264332.07	6259833.61	33.8774119	-117.2444129	1489.66
2072	2264329.63	6259822.91	33.8774049	-117.2444481	1489.80
2076	2264368.40	6259793.50	33.8775106	-117.2445462	1488.81
2077	2264357.76	6259794.13	33.8774814	-117.2445438	1489.33
2078	2264356.31	6259783.05	33.8774772	-117.2445803	1489.54
2079	2264367.28	6259781.76	33.8775073	-117.2445849	1489.13
2080	2264365.50	6259772.75	33.8775021	-117.2446145	1489.50
2081	2264364.15	6259761.63	33.8774981	-117.2446511	1489.25
2082	2264375.18	6259760.81	33.8775284	-117.2446541	1489.36
2083	2264377.14	6259771.43	33.8775341	-117.2446192	1489.30
2084	2264380.80	6259765.61	33.8775440	-117.2446385	1489.61
2085	2264380.88	6259752.12	33.8775439	-117.2446829	1489.36
2086	2264391.23	6259752.02	33.8775723	-117.2446836	1489.38
2087	2264391.00	6259765.24	33.8775720	-117.2446400	1489.50
2092	2264446.83	6259787.09	33.8777260	-117.2445698	1490.12
2093	2264457.24	6259785.35	33.8777546	-117.2445758	1490.17
2094	2264458.46	6259796.55	33.8777582	-117.2445390	1490.16
2095	2264447.12	6259799.58	33.8777271	-117.2445287	1490.19
2096	2264445.17	6259788.66	33.8777215	-117.2445646	1490.12
2097	2264439.80	6259789.92	33.8777067	-117.2445803	1490.04
2098	2264441.42	6259801.45	33.8777115	-117.2445223	1490.20
2099	2264430.47	6259803.81	33.8776815	-117.2445142	1490.08
2100	2264428.05	6259793.71	33.8776746	-117.2445474	1489.78
2101	2264423.62	6259794.43	33.8776624	-117.2445449	1490.14
2102	2264419.58	6259781.50	33.8776510	-117.2445873	1489.14
2103	2264418.07	6259782.40	33.8776468	-117.2445843	1489.13
2104	2264421.13	6259802.52	33.8776558	-117.2445181	1490.11
2105	2264410.69	6259803.23	33.8776271	-117.2445155	1489.68
2106	2264409.16	6259794.09	33.8776227	-117.2445456	1489.67
2107	2264399.97	6259795.06	33.8775975	-117.2445421	1489.56
2108	2264397.65	6259782.21	33.8775907	-117.2445843	1489.62
2109	2264408.30	6259781.28	33.8776145	-117.2445877	1489.80
2110	2264406.21	6259777.21	33.8776141	-117.2446011	1489.01
2111	2264396.25	6259778.80	33.8775868	-117.2445955	1489.00
2112	2264396.66	6259786.35	33.8775881	-117.2445707	1489.41
2113	2264386.46	6259788.00	33.8775601	-117.2445649	1489.44
2114	2264385.58	6259784.57	33.8775576	-117.2445762	1489.03
2115	2264375.66	6259784.50	33.8775304	-117.2445761	1488.51
2116	2264374.43	6259773.83	33.8775267	-117.2446112	1489.18
2117	2264386.30	6259774.09	33.8775593	-117.2446107	1489.27
2118	2264386.57	6259777.03	33.8775601	-117.2446010	1488.90
2119	2264390.37	6259776.65	33.8775706	-117.2446024	1489.17
2120	2264393.42	6259774.57	33.8775789	-117.2446094	1489.11
2121	2264393.66	6259764.54	33.8775793	-117.2446424	1489.17
2122	2264407.00	6259762.46	33.8776159	-117.2446497	1489.34
2123	2264408.84	6259771.95	33.8776212	-117.2446185	1488.13
2124	2264414.01	6259770.94	33.8776354	-117.2446220	1487.48
2125	2264413.51	6259766.30	33.8776339	-117.2446372	1487.86
2126	2264425.67	6259761.01	33.8776672	-117.2446550	1488.05
2127	2264425.45	6259759.08	33.8776665	-117.2446614	1488.82
2128	2264440.97	6259750.85	33.8777090	-117.2446890	1489.36
2129	2264447.85	6259750.21	33.8777278	-117.2446913	1489.70
2130	2264450.45	6259773.26	33.8777356	-117.2446155	1490.01
2131	2264444.39	6259775.48	33.8777190	-117.2446080	1490.17

RISER_HT – RISER HEIGHT
RISER HEIGHT DEFINITION: THE MEASURED DISTANCE FROM GROUND SURFACE TO TOP OF WELL CASING.

DD: DECIMAL DEGREES

NO.	DATE	REVISIONS

PREPARED FOR

APPENDIX F

FULL DATA TABLES

SITE FT007 PETROLEUM SITE
TASK ORDER 153
FORMER MARCH AFB, CALIFORNIA

		Location:	7P-SVE20*		7P-SVE20*		7P-MP20		7P-MP21	
		Depth (feet bgs):	5 - 10	15 - 25	5 - 10	15 - 25	5 - 10	15 - 25	5 - 10	15 - 25
		Sample Date:	7/17/2013	7/17/2013	8/16/2013	8/16/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013
Analytical Method	Constituent	Units								
TO15	1,1,1-Trichloroethane	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	1,1,2,2-Tetrachloroethane	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	1,1,2-Trichloroethane	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	1,1-Dichloroethane	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	1,1-Dichloroethene	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	1,2,4-Trichlorobenzene	PPBV	<2200	<1100	**0.95 FB**	**1.1 FB**	**2.2 F**	**1.7 F**	<4.6	<4.4
TO15	1,2,4-Trimethylbenzene	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	1,2-Dibromoethane (Ethylene Dibromide)	PPBV	<560	<280	**0.16 FB**	**0.22 FB**	**0.26 F**	<2.2	**0.27 F**	<1.1
TO15	1,2-Dichlorobenzene	PPBV	<560	<280	**0.16 FB**	**0.20 FB**	**0.44 F**	**0.46 F**	**0.22 F**	<1.1
TO15	1,2-Dichloroethane	PPBV	<560	<280	<1.2	<1.2	**0.29 F**	<2.2	<1.2	<1.1
TO15	1,2-Dichloropropane	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	1,2-Dichlorotetrafluoroethane	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	1,3,5-Trimethylbenzene	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	1,3-butadiene	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	1,3-Dichlorobenzene	PPBV	<560	<280	**0.18 FB**	**0.28 FB**	**0.57 F**	**0.62 F**	**0.32 F**	<1.1
TO15	1,4-Dichlorobenzene	PPBV	<560	<280	**0.26 FB**	**0.40 FB**	**0.62 F**	**0.63 F**	**0.41 F**	**0.29 F**
TO15	1,4-Dioxane (p-dioxane)	PPBV	<2200	<1100	<4.7	<4.8	<4.4	<8.8	<4.6	<4.4
TO15	2-Butanone(MEK)	PPBV	**9000**	**37000**	**4.7**	**17**	**32**	**140**	**13**	**9.1**
TO15	2-Hexanone	PPBV	<2200	<1100	<4.7	**2.2 F**	**3.3 F**	**4.2 F**	**2.5 F**	**1.7 F**
TO15	4-ethyltoluene	PPBV	<560	<280	<1.2	**0.10 FB**	**0.18 F**	**0.23 F**	**0.17 F**	<1.1
TO15	4-Methyl-2-pentanone (MIBK)	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	Acetone	PPBV	**6500**	**20000**	**16**	**36**	**81**	**140**	**52**	**38**
TO15	Benzene	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	**0.37 F**	<1.1
TO15	Benzyl chloride	PPBV	<560	<280	**0.18 FB**	**0.23 FB**	**0.41 F**	<2.2	**0.30 F**	**0.24 F**
TO15	Bromodichloromethane	PPBV	<560	<280	<1.2	**0.15 F**	**0.27 F**	<2.2	<1.2	<1.1
TO15	Bromoform	PPBV	<560	<280	<1.2	<1.2	**0.29 F**	<2.2	<1.2	<1.1
TO15	Bromomethane	PPBV	<560	<280	<12	<12	<11	<22	<12	<11
TO15	Carbon disulfide	PPBV	**120 F**	<280	**2.4 FB**	**4.6 FB**	**1.9 F**	**2.8 F**	**3.3 F**	**2.0 F**
TO15	Carbon tetrachloride	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	Chlorobenzene	PPBV	<560	<280	<1.2	<1.2	**0.62 F**	**1.0 F**	**0.60 F**	**0.45 F**
TO15	Chloroethane	PPBV	<2200	<1100	<4.7	<4.8	<4.4	<8.8	<4.6	<4.4
TO15	Chloroform	PPBV	<560	<280	<1.2	**0.42 F**	**0.26 F**	<2.2	**0.34 F**	**0.55 F**
TO15	Chloromethane	PPBV	<2200	<1100	**5.1 F**	**7.9 F**	**1.8 F**	<22	**1.4 F**	**1.7 F**
TO15	cis-1,2-Dichloroethylene	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	cis-1,3-Dichloropropene	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	Cyclohexane	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1

SITE FT007 PETROLEUM SITE
TASK ORDER 153
FORMER MARCH AFB, CALIFORNIA

		Location:	7P-SVE20*		7P-SVE20*		7P-MP20		7P-MP21	
		Depth (feet bgs):	5 - 10	15 - 25	5 - 10	15 - 25	5 - 10	15 - 25	5 - 10	15 - 25
		Sample Date:	7/17/2013	7/17/2013	8/16/2013	8/16/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013
Analytical Method	Constituent	Units								
TO15	Ethanol	PPBV	<2200	<1100	**4.4 F**	**4.7 F**	**6.0**	**14**	**4.5 F**	**3.7 F**
TO15	Ethylbenzene	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	Hexachlorobutadiene	PPBV	<2200	<1100	<4.7	<4.8	**1.0 F**	<8.8	<4.6	<4.4
TO15	Isopropanol	PPBV	<2200	<1100	**1.0 F**	**1.0 F**	**0.84 F**	**1.6 F**	<4.6	**0.80 F**
TO15	m,p-Xylene	PPBV	<560	<280	**0.13 F**	**0.16 F**	<1.1	<2.2	**0.38 F**	<1.1
TO15	Methyl tertiary-butyl ether	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	Methylene chloride	PPBV	**1200**	**150 F**	<12	<12	**0.35 F**	**0.80 F**	**0.56 F**	**0.35 F**
TO15	n-Heptane	PPBV	<560	<280	<1.2	<1.2	**0.54 F**	**1.1 F**	**0.34 F**	**0.28 F**
TO15	n-Hexane	PPBV	<560	<280	<1.2	**0.23 F**	<1.1	**0.68 F**	**0.51 F**	<1.1
TO15	Naphthalene	PPBV	<2200	<1100	**0.18 FB**	**0.38 FB**	**0.34 F**	<8.8	<4.6	**0.23 F**
TO15	o-Xylene	PPBV	<560	<280	<1.2	<1.2	**0.24 F**	<2.2	<1.2	<1.1
TO15	Styrene	PPBV	<560	<280	<1.2	**0.12 F**	**0.22 F**	<2.2	**0.12 F**	**0.11 F**
TO15	Tetrachloroethylene (PCE)	PPBV	<560	<280	<1.2	**0.43 F**	<1.1	<2.2	<1.2	**0.47 F**
TO15	Tetrahydrofuran	PPBV	**260000**	**210000**	**6.5**	**39**	**97**	**910 F**	<1.2	<1.1
TO15	Toluene	PPBV	<560	<280	**0.34 F**	**0.23 F**	**0.64 F**	**0.68 F**	**0.44 F**	**0.44 F**
TO15	trans-1,2-Dichloroethene	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	trans-1,3-Dichloropropene	PPBV	<560	<280	**0.30 FB**	**0.46 FB**	<1.1	**0.63 F**	**0.47 F**	**0.30 F**
TO15	Trichloroethylene (TCE)	PPBV	<560	<280	<1.2	**2.3**	<1.1	<2.2	**0.44 F**	**3.2**
TO15	Trichlorofluoromethane	PPBV	<560	<280	**0.27 F**	**0.26 F**	**0.28 F**	**0.52F**	**0.34 F**	**0.35 F**
TO15	Trichlorotrifluoroethane	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO15	Vinyl chloride	PPBV	<560	<280	<1.2	<1.2	<1.1	<2.2	<1.2	<1.1
TO3	Benzene	PPMV	<0.0090	<0.0089	<0.0023	<0.0024	<0.0022	<0.0022	<0.0023	<0.0022
TO3	C2 - C4 Hydrocarbons ref. to JP-4 or Gasoline	PPMV	<0.22	<0.22	<0.058	<0.060	<0.55	<0.055	<0.058	<0.055
TO3	Ethylbenzene	PPMV	<0.0090	<0.0089	<0.0023	<0.0024	<0.0022	<0.0022	<0.0023	<0.0022
TO3	PHC as JP-4	PPMV	**160**	**150**	**0.061**	**0.21**	**0.21**	**0.80**	**0.098**	**0.066**
TO3	Toluene	PPMV	<0.0090	<0.0089	<0.0023	<0.0024	<0.0022	<0.0022	<0.0023	<0.0022
TO3	Xylenes, total	PPMV	<0.0090	<0.0089	<0.0023	**0.0042**	**0.0032**	**0.0043**	**0.0040**	**0.0031**

ppbv - parts per billion by volume
ppmv - parts per million by volume
B - analyte was found in the associated blank above the method detection limit
F - trace concentration detected below the reporting limit
CHHSL - California Human Health Screening Level

SITE FT007 PETROLEUM SITE
TASK ORDER 153
FORMER MARCH AFB, CALIFORNIA

		Location:	7P-MP22		7P-MP23		7P-MP24		7P-MP25	
		Depth (feet bgs):	5 - 10	15 - 25	5 - 10	15 - 25	5 - 10	15 - 25	5 - 15	20 - 30
		Sample Date:	7/17/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013
Analytical Method	Constituent	Units								
TO15	1,1,1-Trichloroethane	PPBV	<1.1	**0.33 F**	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	1,1,2,2-Tetrachloroethane	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	1,1,2-Trichloroethane	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	1,1-Dichloroethane	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	1,1-Dichloroethene	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	1,2,4-Trichlorobenzene	PPBV	**1.2 F**	**0.90 F**	<4.4	<4.4	<4.5	<4.4	<4.5	<4.4
TO15	1,2,4-Trimethylbenzene	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	**7.4**	**1.2**	<1.1
TO15	1,2-Dibromoethane (Ethylene Dibromide)	PPBV	**0.23 F**	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	1,2-Dichlorobenzene	PPBV	**0.28 F**	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	1,2-Dichloroethane	PPBV	**0.26 F**	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	1,2-Dichloropropane	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	1,2-Dichlorotetrafluoroethane	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	1,3,5-Trimethylbenzene	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	**1.8**	**0.45 F**	<1.1
TO15	1,3-butadiene	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	1,3-Dichlorobenzene	PPBV	**0.41 F**	**0.26 F**	**0.22 F**	**0.21 F**	<1.1	<1.1	<1.1	<1.1
TO15	1,4-Dichlorobenzene	PPBV	**0.49 F**	**0.34 F**	**0.32 F**	**0.28 F**	**0.27 F**	**0.26 F**	**0.24 F**	**0.22 F**
TO15	1,4-Dioxane (p-dioxane)	PPBV	<4.4	<4.5	<4.4	<4.4	<4.5	<4.4	<4.5	**1.1 F**
TO15	2-Butanone(MEK)	PPBV	**5.1**	**2.6 F**	**9.7**	**36**	**25**	**16**	**15**	**8.1**
TO15	2-Hexanone	PPBV	<4.4	<4.5	**1.7 F**	**4.2 F**	**6.1**	**2.4 F**	**3.0 F**	**1.4 F**
TO15	4-ethyltoluene	PPBV	**0.21 F**	**0.29 F**	<1.1	<1.1	**0.16 F**	**4.8**	**0.90 F**	<1.1
TO15	4-Methyl-2-pentanone (MIBK)	PPBV	**0.64 F**	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	Acetone	PPBV	**42**	**16**	**53**	**140**	**79**	**69**	**63**	**42**
TO15	Benzene	PPBV	**0.52 F**	**0.90 F**	**0.64 F**	**0.27 F**	**0.66 F**	**1.0 F**	**0.66 F**	**0.39 F**
TO15	Benzyl chloride	PPBV	**0.30 F**	**0.31 F**	**0.30 F**	**0.21 F**	<1.1	<1.1	**0.29 F**	<1.1
TO15	Bromodichloromethane	PPBV	<1.1	**0.36 F**	**0.81 F**	<1.1	**0.33 F**	<1.1	<1.1	<1.1
TO15	Bromoform	PPBV	**0.18 F**	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	Bromomethane	PPBV	<11	<11	<11	<11	<11	<11	<11	<11
TO15	Carbon disulfide	PPBV	**2.2 F**	**12**	**3.3 F**	**2.4 F**	**3.2 F**	**2.2 F**	**4.9**	**2.6 F**
TO15	Carbon tetrachloride	PPBV	<1.1	<1.1	**0.12 F**	**0.14 F**	<1.1	<1.1	<1.1	<1.1
TO15	Chlorobenzene	PPBV	**0.75 F**	**0.54 F**	**0.54 F**	**0.56 F**	**0.55 F**	**0.64 F**	**0.50 F**	**0.48 F**
TO15	Chloroethane	PPBV	<4.4	<4.5	<4.4	<4.4	<4.5	<4.4	<4.5	<4.4
TO15	Chloroform	PPBV	<1.1	**0.97 F**	**5.7**	**1.3**	**0.83 F**	<1.1	**1.6**	**0.43 F**
TO15	Chloromethane	PPBV	<11	<11	**1.7 F**	<11	<11	<11	**2.9 F**	<11
TO15	cis-1,2-Dichloroethylene	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	cis-1,3-Dichloropropene	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	Cyclohexane	PPBV	**1.2**	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	**0.27 F**

SITE FT007 PETROLEUM SITE
TASK ORDER 153
FORMER MARCH AFB, CALIFORNIA

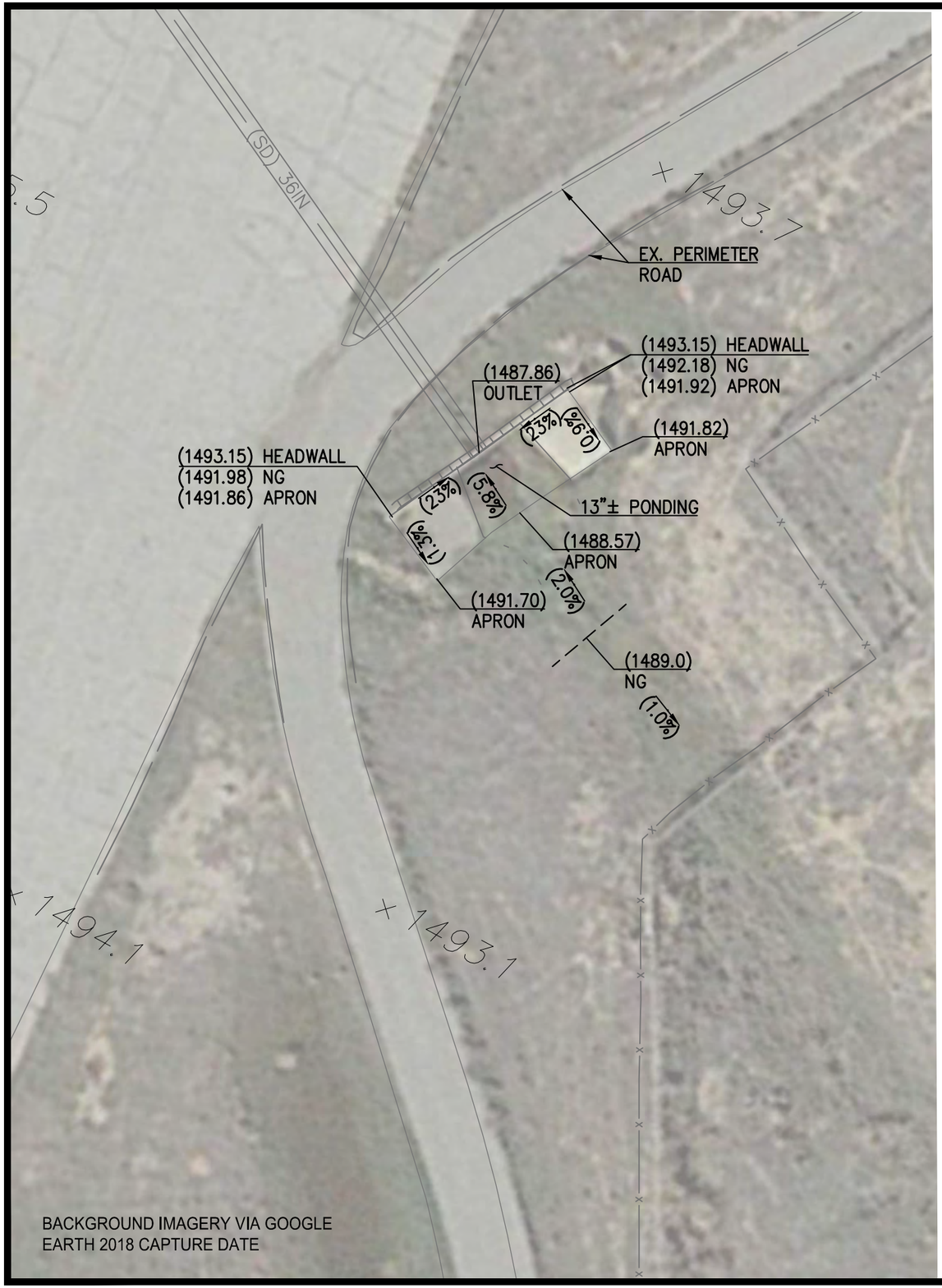
		Location:	7P-MP22		7P-MP23		7P-MP24		7P-MP25	
		Depth (feet bgs):	5 - 10	15 - 25	5 - 10	15 - 25	5 - 10	15 - 25	5 - 15	20 - 30
		Sample Date:	7/17/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013	7/17/2013
Analytical Method	Constituent	Units								
TO15	Ethanol	PPBV	**9.3**	**2.2 F**	**4.8**	**5.0**	**5.3**	**4.2 F**	**9.0**	**4.0 F**
TO15	Ethylbenzene	PPBV	**0.49 F**	**0.31 F**	<1.1	<1.1	<1.1	**0.86 F**	**0.42 F**	<1.1
TO15	Hexachlorobutadiene	PPBV	<4.4	<4.5	<4.4	<4.4	<4.5	<4.4	<4.5	<4.4
TO15	Isopropanol	PPBV	**4.1 F**	<4.5	**1.1 F**	**1.0 F**	**0.92 F**	**0.92 F**	**0.86 F**	**1.0 F**
TO15	m,p-Xylene	PPBV	**1.2**	**0.62 F**	<1.1	<1.1	**0.35 F**	**2.0**	**1.8**	<1.1
TO15	Methyl tertiary-butyl ether	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	Methylene chloride	PPBV	**2.8 F**	<11	**0.32 F**	**0.62 F**	<11	**0.34 F**	**0.38 F**	**0.46 F**
TO15	n-Heptane	PPBV	**6.9**	<1.1	<1.1	<1.1	<1.1	**0.31 F**	**0.48 F**	**0.61 F**
TO15	n-Hexane	PPBV	**0.54 F**	**3.6**	**0.38 F**	<1.1	**0.58 F**	**0.40 F**	<1.1	**0.46 F**
TO15	Naphthalene	PPBV	**0.23 F**	<4.5	**0.24 F**	<4.4	<4.5	**0.66 F**	**0.34 F**	**0.19 F**
TO15	o-Xylene	PPBV	**0.49 F**	**0.40 F**	<1.1	<1.1	<1.1	**1.9**	**0.79 F**	**0.16 F**
TO15	Styrene	PPBV	**0.18 F**	**0.13 F**	**0.10 F**	<1.1	**0.16 F**	**0.14 F**	<1.1	<1.1
TO15	Tetrachloroethylene (PCE)	PPBV	<1.1	**1.4**	**0.56 F**	**0.37 F**	<1.1	<1.1	**1.8**	**10**
TO15	Tetrahydrofuran	PPBV	**2.6**	<1.1	**0.87 F**	<1.1	**1.5**	**0.77 F**	<1.1	<1.1
TO15	Toluene	PPBV	**3.5**	**0.70 F**	**0.79 F**	**0.33 F**	**0.52 F**	**6.6**	**2.2**	**0.51 F**
TO15	trans-1,2-Dichloroethene	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	trans-1,3-Dichloropropene	PPBV	**0.36 F**	**0.26 F**	**0.28 F**	<1.1	**0.26 F**	<1.1	<1.1	<1.1
TO15	Trichloroethylene (TCE)	PPBV	**0.31 F**	**6.2**	**1.5**	**0.32 F**	<1.1	<1.1	**1.1**	**8.4**
TO15	Trichlorofluoromethane	PPBV	**0.47 F**	**0.31 F**	**0.37 F**	**0.36 F**	<1.1	**0.30 F**	<1.1	**0.25 F**
TO15	Trichlorotrifluoroethane	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO15	Vinyl chloride	PPBV	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
TO3	Benzene	PPMV	<0.0022	<0.0022	<0.0022	<0.0022	<0.0023	<0.0022	<0.0023	<0.0022
TO3	C2 - C4 Hydrocarbons ref. to JP-4 or Gasoline	PPMV	<0.054	**0.22**	**0.14**	**0.28**	<0.057	<0.056	**0.70**	<0.055
TO3	Ethylbenzene	PPMV	<0.0022	<0.0022	<0.0022	<0.0022	<0.0023	<0.0022	<0.0023	<0.0022
TO3	PHC as JP-4	PPMV	**0.13**	**0.13**	**0.11**	**0.17**	**0.12**	**0.12**	**0.24**	**0.10**
TO3	Toluene	PPMV	**0.0036**	<0.0022	<0.0022	<0.0022	<0.0023	**0.0065**	**0.0023**	<0.0022
TO3	Xylenes, total	PPMV	**0.0028**	<0.0022	**0.0026**	**0.0044**	**0.0071**	**0.0074**	**0.0069**	<0.0022

ppbv - parts per billion by volume
ppmv - parts per million by volume
B - analyte was found in the associated blank above the method detection limit
F - trace concentration detected below the reporting limit
CHHSL - California Human Health Screening Level

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE



BACKGROUND IMAGERY VIA GOOGLE
EARTH 2018 CAPTURE DATE

APRIL 2020 PHOTO LOOKING NW
AT CULVERT OUTLET

N

20' 10' 0' 20' 40'

GRAPHIC SCALE: 1 INCH = 20 FT

CARGO GATEWAY

D-1 WW-1 CULVERT OUTLET

MORENO VALLEY, CA

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning

160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

DATE: 2020/07/07
JOB NO. 20-522
SHEET 1

DRAWING: m:\2020\20-522 riverside meridian base d1 parcel\exh\exh 202 ww-1\20-522_d1 exh 202 ww-1.dwg PLOTTED: 7/7/2020 12:13 PM BY: Jay Brander

APPENDIX E

ARID WEST WETLAND DETERMINATION DATA FORMS AND EPHEMERAL AND INTERMITTENT STREAMS OHWM DATASHEETS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Meridian D-1 Gateway Aviation Center City/County: Perris, Riverside Sampling Date: 06/03/2020

Applicant/Owner: Meridian Park, LLC State: CA Sampling Point: WDP 1

Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett Section, Township, Range: T3S, R4W, S25

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR C - Mediterranean California Lat: 33.8762414924 Long: -117.250571809 Datum: NAD 84

Soil Map Unit Name: Exeter sandy loam, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

Sample point taken in area adjacent to an active airplane runway. Vegetation is considered significantly disturbed as the area has been recently mowed. Sample point taken in within a depression.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3' radius)			
1. Crassula solieri	20	Y	OBL
2. Psilocarphus brevissimus	15	Y	FACW
3. Veronica peregrina ssp. xalapensis	15	Y	FAC
4. Spergularia atrosperma	3	N	FACW
5. Croton setiger	1	N	NL/UPL
6. Trichostema lanceolatum	1	N	FACU
7.			
8.			
	55 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Routine mowing occurs adjacent to airplane runway.

SOIL

Sampling Point: WDP 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 4/2	92	5 YR 4/6	8	C	M	Loam	redox as soft masses

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✔ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal - hard soil layer

Depth (inches): 4 inches

Hydric Soil Present? Yes ✔ No ___

Remarks:

In seasonally inundated depression; dug lightly to 4 inches; shovel refusal at 4 inches due to hard soil layer. Soils moistened with spray bottle to record soil color.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✔ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): N/A

Water Table Present? Yes ___ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): N/A

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Drainage patterns and surface soil cracks indicative of ponded area. FAC-Neutral Test was met. A dark layer of a biotic crust was present on top of soil layer (not present outside of depression area).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Meridian D-1 Gateway Aviation Center City/County: Perris, Riverside Sampling Date: 06/03/2020

Applicant/Owner: Meridian Park, LLC State: CA Sampling Point: WDP 2

Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett Section, Township, Range: T3S, R4W, S25

Landform (hillslope, terrace, etc.): Flat grassland Local relief (concave, convex, none): None Slope (%): 0-1

Subregion (LRR): LRR C - Mediterranean California Lat: 33.8762179959 Long: -117.250619578 Datum: NAD 84

Soil Map Unit Name: Exeter sandy loam, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Sample point taken in area adjacent to an active airplane runway. Vegetation is considered significantly disturbed as the area has been recently mowed. Sample point is the upland pit associated with WDP 1.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: N/A)			
1. N/A			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 3' radius)			
1. Bromus rubens	45	Y	UPL
2. Festuca myuros	25	Y	FACU
3. Croton setiger	10	N	NL/UPL
4. Erodium moschatum	5	N	NL/UPL
5. Hirschfeldia incana (cut)	5	N	NL/UPL
6. Trichostema lanceolatum	5	N	FACU
7. Lactuca serriola	1	N	FACU
8.			
	96 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. N/A			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0% % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	31	x 4 =	132
UPL species	65	x 5 =	335
Column Totals:	96 (A)		467 (B)

Prevalence Index = B/A = 4.86

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Routine mowing occurs adjacent to airplane runway. Bromus rubens = Bromus madritensis in NWPL; Festuca muyros = Vulpia muyros in NWPL.

SOIL

Sampling Point: WDP 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 3/4	100	N/A				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal - hard soil layer

Depth (inches): 4 inches

Hydric Soil Present? Yes _____ No ✔

Remarks:

Uniform soils. Shovel refusal at 4 inches due to hard soil layer. Soils moistened with spray bottle to record soil color.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): N/A

Water Table Present? Yes _____ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): N/A

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

No hydrology indicators present. FAC-Neutral Test was not met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Meridian D-1 Gateway Aviation Center City/County: Perris, Riverside Sampling Date: 06/03/2020

Applicant/Owner: Meridian Park, LLC State: CA Sampling Point: WDP 3

Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett Section, Township, Range: T3S, R4W, S25

Landform (hillslope, terrace, etc.): Slight depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR C - Mediterranean California Lat: 33.8750564414 Long: -117.249882829 Datum: NAD 84

Soil Map Unit Name: Exeter sandy loam, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Sample point taken in area adjacent to an active airplane runway. Vegetation is considered significantly disturbed as the area has been recently mowed. Sample point taken in within a depression.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: N/A)			
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3' radius)			
1. Spergularia rubens	10	Y	FAC
2. Trichostema lanceolatum	10	Y	FACU
3. Croton setiger	7	Y	NL/UPL
4. Lythrum hyssopifolium	4	N	OBL
5. Veronica peregrina ssp. xalapensis	3	N	FAC
6. Crassula solieri	2	N	OBL
7. Erodium moschatum	2	N	NL/UPL
8.			
	38 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 60% % Cover of Biotic Crust 2%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	6	x 1 =	6
FACW species	0	x 2 =	0
FAC species	13	x 3 =	39
FACU species	10	x 4 =	40
UPL species	9	x 5 =	45
Column Totals:	38 (A)		120 (B)

Prevalence Index = B/A = 3.16

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Routine mowing occurs adjacent to the airplane runway.

SOIL

Sampling Point: WDP 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10 YR 4/4	100	N/A				Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal - hard soil layer

Depth (inches): 5 inches

Hydric Soil Present? Yes ____ No ✔

Remarks:

Sample pit dug lightly to 5 inches. Shovel refusal at 5 inches due to hard soil layer. Soils moistened with spray bottle to record soil color.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✔ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✔ Depth (inches): N/A

Water Table Present? Yes ____ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ____ No ✔ Depth (inches): N/A

Wetland Hydrology Present? Yes ✔ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Drainage patterns indicative of ponded area. A dark layer of a biotic crust on top of soil layer (not present outside of ponded area). FAC-Neutral Test was not met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Meridian D-1 Gateway Aviation Center City/County: Perris, Riverside Sampling Date: 06/03/2020

Applicant/Owner: Meridian Park, LLC State: CA Sampling Point: WDP 4

Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett Section, Township, Range: T3S, R4W, S25

Landform (hillslope, terrace, etc.): In drainage Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR C - Mediterranean California Lat: 33.8765781078 Long: -117.250673996 Datum: NAD 84

Soil Map Unit Name: Exeter sandy loam, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

In swale/drainage by culvert outlet adjacent to an active airplane runway. Area contains a small wetland where culvert outlets runway runoff, which then flows downstream into swale/drainage.

VEGETATION – Use scientific names of plants.

Herb Stratum (Plot size: 3' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Erigeron canadensis	20	Y	FACU
2. Veronica peregrina ssp. xalapensis	15	Y	FAC
3. Polypogon monspeliensis	15	Y	FACW
4. Crassula solieri	10	N	OBL
	_____	= Total Cover	
Herb Cont. (Plot size: ")			
5. Festuca myuros	10	N	FACU
6. Bromus rubens	5	N	UPL
7. Pseudognaphalium luteoalbum	3	N	FAC
8. Amaranthus albus	2	N	FACU
9. Corethrogyne filaginifolia	2	N	NL/UPL
	_____	= Total Cover	
Herb Cont. (Plot size: ")			
10. Euphorbia maculata	2	N	UPL
11. Medicago polymorpha	2	N	FACU
12. Polycarpon tetraphyllum	2	N	NL/UPL
13. Croton setiger	1	N	NL/UPL
14. Oncosiphon piluliferum	1	N	FACU
15. Sonchus oleraceus	1	N	UPL
16.			
17.			
	91	= Total Cover	
Woody Vine Stratum (Plot size: N/A)			
1. N/A			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum 9% % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Note: due to a heavily-vegetated herb stratum, field staff noted herb species throughout all of the separate plot sizes alloted above. Festuca muyros = Vulpia muyros in NWPL.

SOIL

Sampling Point: WDP 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 3/2	82	5 YR 5/8	18	C	M	Clay loam	Soft masses = redox
12-18	10 YR 3/4	100	N//A				Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✔ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): ___

Hydric Soil Present? Yes ✔ No ___

Remarks:

Redox features present within the upper 8 inches of the soil profile. Soils moistened with spray bottle to record soil color.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✔ Water Marks (B1) (**Riverine**)
- ✔ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): N/A

Water Table Present? Yes ___ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): N/A

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Various hydrology indicators present due to runoff from the adjacent airplace runway. Water marks present on the concrete culvert structure. FAC-Neutral Test not met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Meridian D-1 Gateway Aviation Center City/County: Perris, Riverside Sampling Date: 06/03/2020

Applicant/Owner: Meridian Park, LLC State: CA Sampling Point: WDP 5

Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett Section, Township, Range: T3S, R4W, S25

Landform (hillslope, terrace, etc.): Slope near drainage Local relief (concave, convex, none): None Slope (%): 2-3

Subregion (LRR): LRR C - Mediterranean California Lat: 33.8765329079 Long: -117.250697812 Datum: NAD 84

Soil Map Unit Name: Exeter sandy loam, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Sample point taken by a culvert outlet adjacent to an active airplane runway. Sample point is the upland pit associated with the small wetland present at the culvert outlet (see WDP 4).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 3' radius)			
1. Festuca myuros	30	Y	FACU
2. Bromus madritensis	25	Y	UPL
3. Erigeron canadensis	15	N	FACU
4. Corethrogyne filaginifolia	10	N	NL/UPL
5. Polycarpon tetraphyllum	5	N	NL/UPL
6. Polypogon monspeliensis	3	N	FACW
7. Pseudognaphalium luteoalbum	3	N	FAC
8. Hirschfeldia incana	2	N	NL/UPL
	= Total Cover		
Herb Stratum Cont. (Plot size: 3' radius)			
1. Sonchus asper	2	N	FAC
2.			
	95 = Total Cover		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 3	x 2 = 6
FAC species 5	x 3 = 15
FACU species 45	x 4 = 180
UPL species 42	x 5 = 210
Column Totals: 95 (A)	411 (B)

Prevalence Index = B/A = 4.34

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Heavily vegetated upland area adjacent to a wetland. Festuca muyros = Vulpia muyros in NWPL; Bromus rubens = Bromus madritensis in NWPL.

SOIL

Sampling Point: WDP 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10 YR 4/3	100	N/A				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal - hard soil layer

Depth (inches): 12 inches

Hydric Soil Present? Yes _____ No ✔

Remarks:

Uniform soil sample. Shovel refusal at 12 inches due to hard soil layer. Soils moistened with spray bottle to record soil color.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): N/A

Water Table Present? Yes _____ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): N/A

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

No hydrology indicators present. FAC-Neutral Test not met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Meridian D-1 Gateway Aviation Center Project City/County: Perris/Riverside Sampling Date: 6/3/2020

Applicant/Owner: Meridian Park LLC State: CA Sampling Point: WDP 6

Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett Section, Township, Range: T3S, R4W, S25

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR C - Mediterranean California Lat: 33.8786446076 Long: -117.250953329 Datum: NAD 84

Soil Map Unit Name: Exeter sandy loam, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Sample point taken in slightly concave area due to the potential for ponding. Vegetation within this area is considered significantly disturbed as the area was recently mowed.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: N/A)			
1. N/A			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 3' radius)			
1. Euphorbia polycarpa	45	Y	NL/UPL
2. Lasthenia sp.	25	Y	FACU
3. Bromus rubens	10	N	UPL
4. Croton setiger	5	N	NL/UPL
5. Lupinus bicolor	3	N	NL/UPL
6. Corethrogyne filaginifolia	3	N	NL/UPL
7. Erigeron canadensis	2	N	FACU
8. Erodium moschatum	2	N	NL/UPL
	95 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. N/A			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 5% % Cover of Biotic Crust 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	25	x 4 =	100
UPL species	70	x 5 =	350
Column Totals:	95 (A)		450 (B)

Prevalence Index = B/A = 4.74

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Lasthenia sp. was difficult to key - field staff narrowed the herb down to Lasthenia californica (FACU) or Lasthenia gracilis (NL = UPL); therefore, the indicator status for Lasthenia sp. was assigned FACU. Bromus rubens = Bromus madritensis (UPL) per NWPL. Area is routinely mowed.

SOIL

Sampling Point: WDP 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 3/4	100%	N/A				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal - hard soil layer

Depth (inches): 4 inches

Hydric Soil Present? Yes ____ No ✔

Remarks:

Uniform soils. Sample point dug lightly and reached shovel refusal at 4 inches (potential vernal pool). Soil moistened with spray bottle to record soil color.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✔ Depth (inches): N/A

Water Table Present? Yes ____ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ____ No ✔ Depth (inches): N/A

Wetland Hydrology Present? Yes ____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Slight drainage patterns associated with potential ponding area adjacent to swale. FAC-Neutral Test was not met.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Meridian D-1 Gateway Aviation Center Project City/County: Perris/Riverside Sampling Date: 6/3/2020

Applicant/Owner: Meridian Park LLC State: CA Sampling Point: WDP 7

Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett Section, Township, Range: T3S, R4W, S25

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR C - Mediterranean California Lat: 33.8770487745 Long: -117.244053497 Datum: NAD 84

Soil Map Unit Name: Exeter sandy loam, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil ✔, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Sample point taken in depression. Vegetation and soils within this area is considered significantly disturbed as the area was recently mowed and previous soils compaction/removals on site. Area subject to heavy vehicle traffic a part of previous work/studies on site, which may have resulted in depression area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3' radius)			
1. Lythrum hyssopifolium	20	Y	OBL
2. Centromadia pungens ssp. pungens	10	Y	FAC
3. Euphorbia polycarpa	5	N	NL/UPL
4. Spergiularia rubens	3	N	FAC
5. Lysmachia arvensis	2	N	FAC
6.			
7.			
8.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 60 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 20	x 1 = 20
FACW species 0	x 2 = 0
FAC species 15	x 3 = 45
FACU species 0	x 4 = 0
UPL species 5	x 5 = 25
Column Totals: 40 (A)	90 (B)

Prevalence Index = B/A = 2.25

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

✔ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: WDP 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 3/4	100%	N/A				Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal - hard soil layer

Depth (inches): 6 inches

Hydric Soil Present? Yes ____ No ✔

Remarks:

Sample point dug lightly to 6 inches. Shovel refusal at 6 inches due to hard soil layer. Soil moistened with spray bottle to record soil color. No redox or depletions observed. Uniform soil colors.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✔ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✔ Depth (inches): N/A

Water Table Present? Yes ____ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ____ No ✔ Depth (inches): N/A

Wetland Hydrology Present? Yes ✔ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

No soil cracks observed, slight cracking in film layer. A dark layer of a biotic crust was present on top of soil layer (not present outside of depression area).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Meridian D-1 Gateway Aviation Center Project City/County: Perris/Riverside Sampling Date: 6/3/2020

Applicant/Owner: Meridian Park LLC State: CA Sampling Point: WDP 8

Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett Section, Township, Range: T3S, R4W, S25

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR C - Mediterranean California Lat: 33.8773677739 Long: -117.244545497 Datum: NAD 84

Soil Map Unit Name: Monserate sandy loam, 0 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✔	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

Sample point taken in area with a slight depression. Vegetation is considered significantly disturbed as the area is routinely mowed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 3' radius)			
1. Carethroggre flaginifolia	15	Y	NL/UPL
2. Trichostema lanceolatum	15	Y	FACU
3. Oncosiphon piluliferum	5	N	FACU
4. Hirschfeldia incana	2	N	NL/UPL
5. Euphorbia polycarpa	2	N	NL/UPL
6. Erigeron canadensis	1	N	FACU
7.			
8.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. N/A			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 30% % Cover of Biotic Crust 30%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	21	x 4 =	84
UPL species	19	x 5 =	95
Column Totals:	40 (A)		179 (B)

Prevalence Index = B/A = 4.475

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:

SOIL

Sampling Point: WDP 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 3/6	100%	N/A				Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal - hard soil layer

Depth (inches): 6 inches

Hydric Soil Present? Yes ___ No ✔

Remarks:

Sample point dug lightly to 6 inches. Hard soil layer at 6 inches. Uniform soil throughout. Soil moistened with spray bottle to record soil color.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✔ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): N/A

Water Table Present? Yes ___ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): N/A

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Drainage patterns indicative of ponding. A dark layer of a biotic crust was present on top of soil layer (not present outside of depression area).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Meridian D-1 Gateway Aviation Center Project City/County: Perris/Riverside Sampling Date: 6/3/2020

Applicant/Owner: Meridian Park LLC State: CA Sampling Point: WDP 9

Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett Section, Township, Range: T3S, R4W, S25

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR C - Mediterranean California Lat: 33.8768542749 Long: -117.248351413 Datum: NAD 84

Soil Map Unit Name: Monserate sandy loam, 0 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Taken within depression; sample point also represents smaller ponding area just northwest

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3' radius)			
1. Psilocarphus brevissimis	35	Y	FACW
2. Euphorbia polycarpa	15	Y	NL/UPL
3. Veronica peregrina ssp. xalapersis	8	N	FAC
4. Lasthenia sp.	1	N	FACU
5. Polygogon monspeliensis	1	N	FACW
6.			
7.			
8.			
	60 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 10% % Cover of Biotic Crust 30%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	36	x 2 =	72
FAC species	8	x 3 =	24
FACU species	1	x 4 =	4
UPL species	15	x 5 =	75
Column Totals:	60 (A)		175 (B)

Prevalence Index = B/A = 2.92

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

✔ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Lasthenia sp. was difficult to key - field staff narrowed the herb down to Lasthenia californica (FACU) or Lasthenia gracilis (NL = UPL); therefore, the indicator status for Lasthenia sp. was assigned FACU. Area is routinely mowed.

SOIL

Sampling Point: WDP 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 4/2	80%	10 YR 5/8	20%	C	M	Clay loam	soft masses = redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✔ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal - hard soil layer

Depth (inches): 4 inches

Hydric Soil Present? Yes ✔ No ___

Remarks:

Dug lightly to 4 inches. Redox features present within the upper 4 inches of the soil profile. Soil moistened with spray bottle to record soil color.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✔ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): N/A

Water Table Present? Yes ___ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): N/A

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Drainage patterns and surface soil cracks indicative of ponding. A dark layer of a biotic crust on top of soil layer (not present outside of ponding area).

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Meridian D-1 Gateway Aviation Center Project City/County: Perris/Riverside Sampling Date: 6/3/2020

Applicant/Owner: Meridian Park LLC State: CA Sampling Point: WDP 10

Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett Section, Township, Range: T3S, R4W, S25

Landform (hillslope, terrace, etc.): Flat grassland Local relief (concave, convex, none): None Slope (%): 0-1

Subregion (LRR): LRR C - Mediterranean California Lat: 33.8768759649 Long: -117.248306546 Datum: NAD 84

Soil Map Unit Name: Monserate sandy loam, 0 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✔	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ____	No ✔	

Remarks:

Sample point taken to determine the extent of the adjacent wetland (see WDP 10). Vegetation is considered significantly disturbed as the area is routinely mowed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 3' radius)			
1. Erodium moschatum	40	Y	NL/UPL
2. Bromus rubens	20	Y	UPL
3. Acmispon americanus	15	N	UPL
4. Euphorbia polycarpa	10	N	NL/UPL
5. Hischefeldia incana	10	N	NL/UPL
6. Deinardra sp.	3	N	FACU
7.			
8.			
	98 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. N/A			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 2% % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	3	x 4 =	12
UPL species	95	x 5 =	475
Column Totals:	98 (A)		487 (B)

Prevalence Index = B/A = 4.97

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:

Area heavily vegetated and primarily consist of upland species.

SOIL

Sampling Point: WDP 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 4/3	98%	10 YR 4/6	2%	C	M	clay loam	very faint redox observed

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal - hard soil layer

Depth (inches): 6 inches

Hydric Soil Present? Yes _____ No ✔

Remarks:

Hard soil layer at 6 inches. Soil moistened with spray bottle to record soil color.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): N/A

Water Table Present? Yes _____ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): N/A

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Meridian D-1 Gateway Aviation Center Project City/County: Perris/Riverside Sampling Date: 6/3/2020

Applicant/Owner: Meridian Park LLC State: CA Sampling Point: WDP 11

Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett Section, Township, Range: T3S, R4W, S25

Landform (hillslope, terrace, etc.): In drainage Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR C - Mediterranean California Lat: 33.8761896079 Long: -117.247759163 Datum: NAD 84

Soil Map Unit Name: Monserate sandy loam, 0 to 5 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Sample point taken within excavated/constructed drainage.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: N/A)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 3' radius)			
1. Erodium moschatum	30	Y	NL/UPL
2. Acmispon americanus	25	Y	UPL
3. Trichostema lanceolatum	15	Y	FACU
4. Logfia gallica	5	N	UPL
5. Euphorbia polycarpa	4	N	NL/UPL
6. Psilocarphus brevissium	3	N	FACW
7. Corethrogyne filaginifolia	2	N	NL/UPL
8. Oncosiphon piluliferum	1	N	FACU
	85 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 12% % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 3	x 2 = 6
FAC species 0	x 3 = 0
FACU species 16	x 4 = 64
UPL species 66	x 5 = 330
Column Totals: 85 (A)	400 (B)

Prevalence Index = B/A = 4.71

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: WDP 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5 YR 3/3	100%	N/A				Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal - hard soils

Depth (inches): 6 inches

Hydric Soil Present? Yes ____ No ✔

Remarks:

Uniform soils throughout. Hard soil layer at 6 inches. Soil moistened with spray bottle to record color.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✔ Depth (inches): N/A

Water Table Present? Yes ____ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ____ No ✔ Depth (inches): N/A

Wetland Hydrology Present? Yes ✔ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Slight drainage patterns and surface soil cracks indicative of ponding.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Meridian D-1 Gateway Aviation Center Project City/County: Perris/Riverside Sampling Date: 6/3/2020

Applicant/Owner: Meridian Park LLC State: CA Sampling Point: WDP 12

Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett Section, Township, Range: T3S, R4W, S25

Landform (hillslope, terrace, etc.): Minor depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR): LRR C - Mediterranean California Lat: 33.8753532751 Long: -117.24779033 Datum: NAD 84

Soil Map Unit Name: Hanford fine sandy loam, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Road runoff likely collects in sample point area. Sample point taken in area where Salix goodingii observed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: N/A)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Salix goodingii	25	Y	FACW
2.			
3.			
4.			
5.			
	25 = Total Cover		
Herb Stratum (Plot size: 3' radius)			
1. Hirschfeldia incana	7	Y	NL/UPL
2. Bromus rubens	5	Y	UPL
3. Euphorbia polycarpa	2	N	NL/UPL
4.			
5.			
6.			
7.			
8.			
	14 = Total Cover		
Woody Vine Stratum (Plot size: N/A)			
1. N/A			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 12% % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 25	x 2 = 50
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 14	x 5 = 70
Column Totals: 39 (A)	120 (B)

Prevalence Index = B/A = 3.08

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** _____ **No** ✔

Remarks:

Sample point taken adjacent to Salix goodingii. Vegetation within the sample area otherwise primarily consists of upland species.

SOIL

Sampling Point: WDP 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5 YR 3/3	100%	N/A				Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Shovel refusal - hard soil layer

Depth (inches): 12 inches

Hydric Soil Present? Yes ____ No ✔

Remarks:

Uniform soils throughout. Soil moistened with spray bottle to record soil color.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✔ Depth (inches): N/A

Water Table Present? Yes ____ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ____ No ✔ Depth (inches): N/A

Wetland Hydrology Present? Yes ____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Minor depressional area with no clear hydrology indicators.

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Meridian D-1 Gateway Aviation Center Project
Date: 6/3/2020
Time: 0800
Project Number: N/A
Town: Perris
State: CA
Stream: ODP 1
Photo begin file#: 23
Photo end file#: 23
Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☑ / N ☐ Is the site significantly disturbed?

Location Details:
Meridian D-1 Aquatic Resource Delineation Report Review Area

Projection: WGS 84 **Datum:** NAD 83
Coordinates: 33.8794042742, -117.250447495

Potential anthropogenic influences on the channel system:
Area is adjacent to an active airplane runway; flows from runway runoff create swale-like drainage

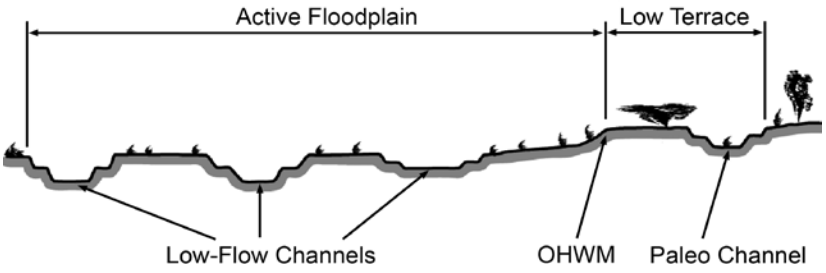
Brief site description:
Disturbed site east of the airplane runway; primarily non-native grassland

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

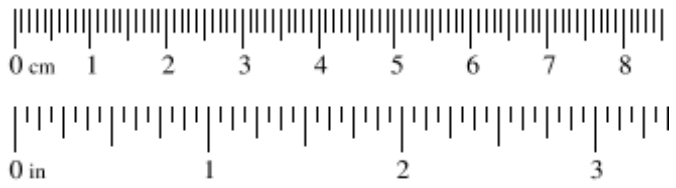


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☑ Digitized on computer
   - ☑ GPS
   - ☐ Other:

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud



Project ID: Meridian D-1 Gateway Aviation Cente **Cross section ID:** ODP 1 **Date:** 6/3/2020 **Time:** 0800

Cross section drawing:

OHWM

GPS point: 33.8794042742, -117.250447495

Indicators:

- ☐ Change in average sediment texture
- ☑ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Area did not contain clear bed and bank indicators; no change in sediment or break in slope; vegetation differs slightly from swale (dominated by Euphorbia sp., Acmispon americanus, Deinandra paniculata, Erodium moschatum) vs. adjacent upland area (Bromus rubens, Ericameria palmeri var. pachylepis, Cryptantha intermedia).

No change in sediment or break in slope.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: N/A

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Project ID: Meridian D-1 Gateway Aviation Cente **Cross section ID:** ODP 1 **Date:** 6/3/2020 **Time:** 0800

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: N/A

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: N/A

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Meridian D-1 Gateway Aviation Center Project
Date: 6/3/2020
Time: 1000
Project Number: N/A
Town: Perris
State: CA
Stream: ODP 2
Photo begin file#: 31
Photo end file#: 31
Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☑ / N ☐ Is the site significantly disturbed?

Location Details:
Meridian D-1 Aquatic Resource Delineation Report Review Area

Projection: WGS 84 **Datum:** NAD 83
Coordinates: 33.8753427141, -117.249958112

Potential anthropogenic influences on the channel system:
Area is adjacent to an active airplane runway; flows from runway runoff create swale-like drainage

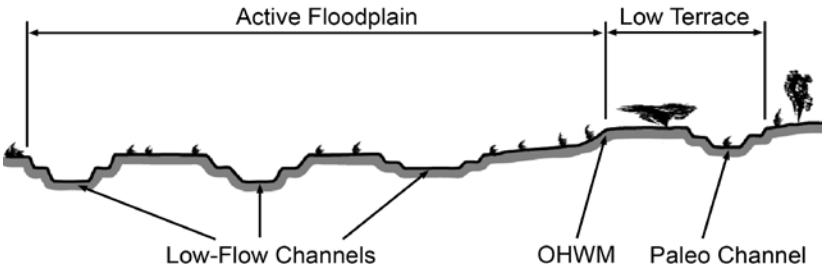
Brief site description:
Disturbed site east of the airplane runway; primarily non-native grassland

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

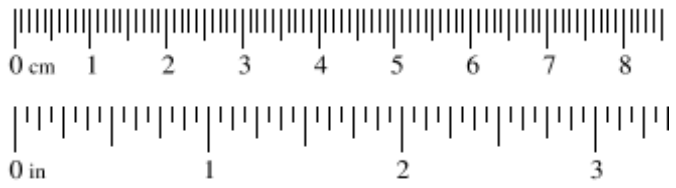


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☑ Digitized on computer
   - ☑ GPS
   - ☐ Other:

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud



Project ID: Meridian D-1 Gateway Aviation Cente **Cross section ID:** ODP 2 **Date:** 6/3/2020 **Time:** 1000

Cross section drawing:

OHWM

GPS point: 33.8753427141, -117.249958112

Indicators:

- ☐ Change in average sediment texture
- ☑ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Area did not contain clear bed and bank indicators; no change in sediment or break in slope; vegetation differs slightly from swale (dominated by Euphorbia sp., Acmispon americanus, Deinandra paniculata, Erodium moschatum) vs. adjacent upland area (Bromus rubens, Ericameria palmeri var. pachylepis, Cryptantha intermedia).

No change in sediment or break in slope.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: N/A

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Project ID: Meridian D-1 Gateway Aviation Cente **Cross section ID:** ODP 2 **Date:** 6/3/2020 **Time:** 1000

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: N/A

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: N/A

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Meridian D-1 Gateway Aviation Center Project
Date: 6/3/2020
Time: 1200
Project Number: N/A
Town: Perris
State: CA
Stream: ODP 3
Photo begin file#: 30
Photo end file#: 30
Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☑ / N ☐ Is the site significantly disturbed?

Location Details:
Meridian D-1 Aquatic Resource Delineation Report Review Area

Projection: WGS 84 **Datum:** NAD 83
Coordinates: 33.8771465564, -117.248787741

Potential anthropogenic influences on the channel system:
Area is adjacent to an active airplane runway; flows from runway runoff

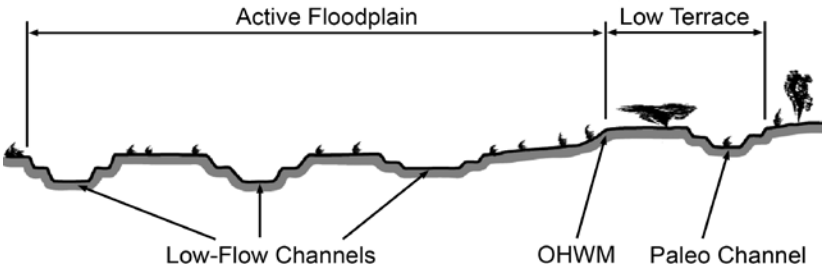
Brief site description:
Disturbed site east of the airplane runway; primarily non-native grassland

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

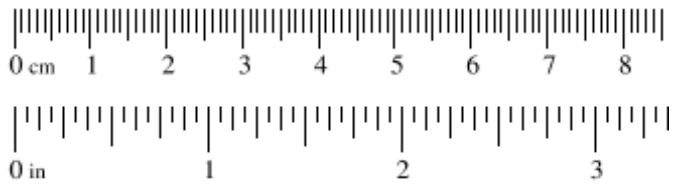


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☑ Digitized on computer
   - ☑ GPS
   - ☐ Other:

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud



Project ID: Meridian D-1 Gateway Aviation Cente **Cross section ID:** ODP 3 **Date:** 6/3/2020 **Time:** 1200

Cross section drawing:

OHWM

GPS point: 33.8771465564, -117.248787741

Indicators:

- ☐ Change in average sediment texture
- ☑ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

No clear bed and bank indicators; however, vegetation differs slightly from swale (dominants: Euphorbia sp., Acmispon americanus, Deinandra paniculata, Erodium moschatum) vs. uplands (Bromus rubens, Ericameria palmeri var. pachylepis, Cryptantha intermedia).

No change in sediment or break in slope.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: N/A

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Project ID: Meridian D-1 Gateway Aviation Cente **Cross section ID:** ODP 3 **Date:** 6/3/2020 **Time:** 1200

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: N/A

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: N/A

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Meridian D-1 Gateway Aviation Center Project
Project Number: N/A
Stream: ODP 4
Investigator(s): Shanti Santulli, Emily Trevino, Brenda Bennett

Date: 6/3/2020
Town: Perris
Photo begin file#: 12

Time: 1300
State: CA
Photo end file#: 13

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☑ / N ☐ Is the site significantly disturbed?

Location Details:
Meridian D-1 Aquatic Resource Delineation Report Review Area

Projection: WGS 83 **Datum:** NAD 84
Coordinates: 33.8761851082, -117.247753496

Potential anthropogenic influences on the channel system:
Area is adjacent to an active airplane runway; flows from runway runoff create swale-like drainage

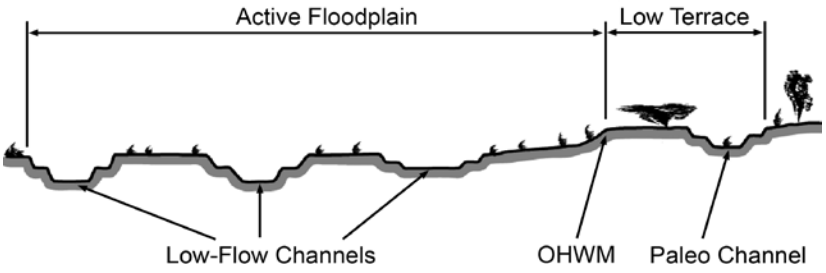
Brief site description:
Disturbed site east of the airplane runway; primarily non-native grassland

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☑ Topographic maps
- ☐ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

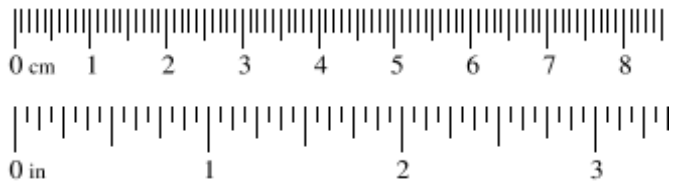


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☑ Digitized on computer
   - ☑ GPS
   - ☐ Other:

Wentworth Size Classes

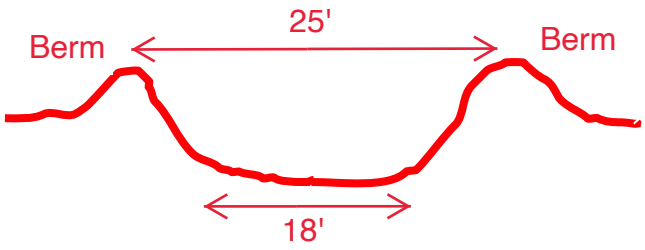
Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud



Project ID: Meridian D-1 Gateway Aviation Cente **Cross section ID:** ODP 4 **Date:** 6/3/2020 **Time:** 1300

Cross section drawing:

Facing downstream



OHWM

GPS point: 33.8761851082, -117.247753496

Indicators:

- ☐ Change in average sediment texture
- ☑ Change in vegetation species
- ☑ Change in vegetation cover
- ☐ Break in bank slope
- ☑ Other: Artificial bed and bank
- ☑ Other: Soil surface cracks

Comments:
No clear evidence of a low-flow channel or break in slope; channel appeared excavated with small berms on both sides of bank. Acmispon americanus, Erodium sp., and Trichostoma dominant within channel; Hirschfeldia incana, Bromus diandrus, Oncosiphon piluliferum dominant in uplands.

Floodplain unit: ☑ Low-Flow Channel ☑ Active Floodplain ☐ Low Terrace

GPS point: 33.8761851082, -117.247753496

Characteristics of the floodplain unit:

Average sediment texture: coarse silt

Total veg cover: 85 % Tree: _____% Shrub: _____% Herb: 85 %

Community successional stage:

- ☐ NA
- ☑ Early (herbaceous & seedlings)
- ☑ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☑ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☑ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:
Artificial bed and bank, some soil cracks at channel bottom.

Project ID: Meridian D-1 Gateway Aviation Cente **Cross section ID:** ODP 4 **Date:** 6/3/2020 **Time:** 1300

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☑ Low Terrace/Upland

GPS point: Above AF

Characteristics of the floodplain unit:

Average sediment texture: coarse silt

Total veg cover: 90 % Tree: _____% Shrub: _____% Herb: 90 %

Community successional stage:

- ☐ NA
- ☑ Early (herbaceous & seedlings)
- ☑ Mid (herbaceous, shrubs, saplings)
- ☑ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☑ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Abrupt shift to uplands from artificially constructed banks.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: N/A

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____% Shrub: _____% Herb: _____%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

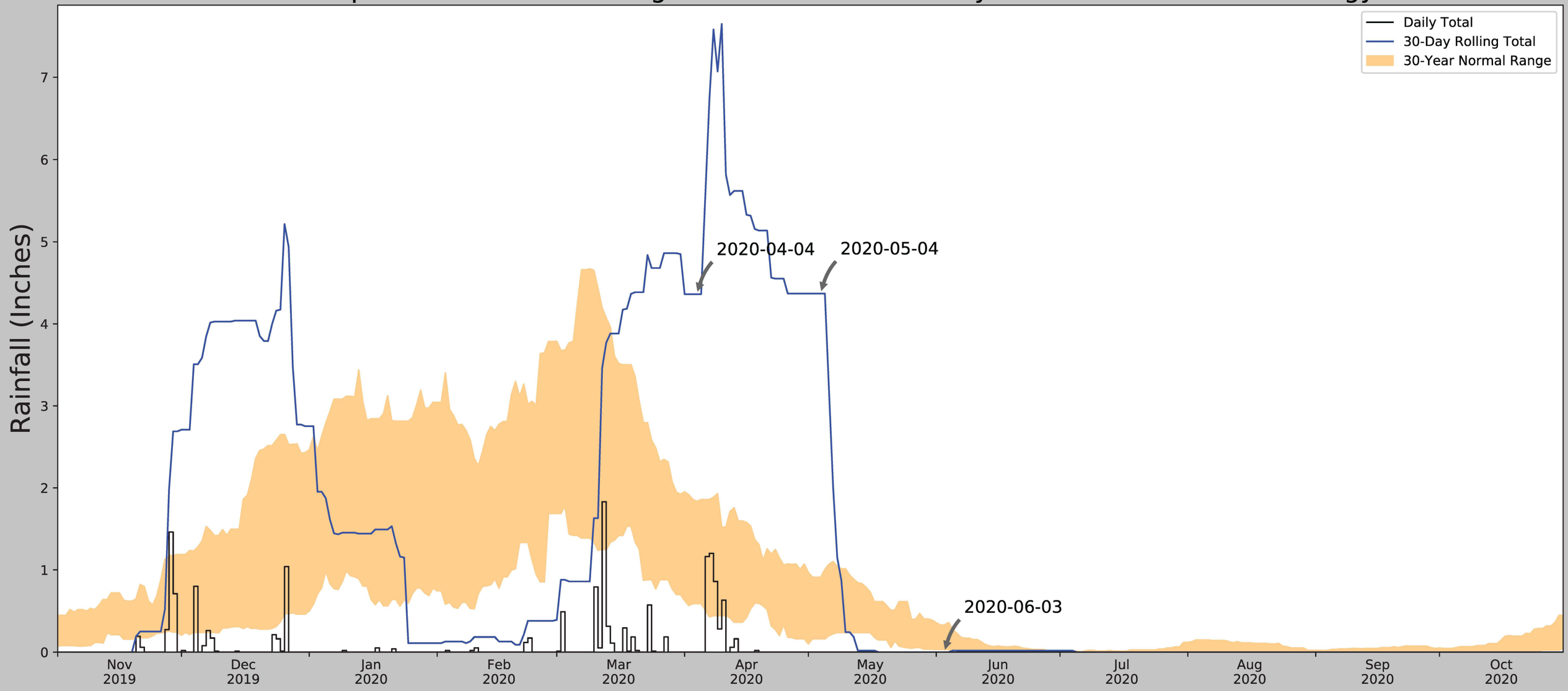
- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

APPENDIX F

ANTECEDENT PRECIPITATION TOOL OUTPUT

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	33.877470, -117.248001
Observation Date	2020-06-03
Elevation (ft)	1491.61
Drought Index (PDSI)	Moderate wetness
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-06-03	0.031496	0.326772	0.0	Dry	1	3	3
2020-05-04	0.161811	0.909843	4.370079	Wet	3	2	6
2020-04-04	0.587008	1.834646	4.362205	Wet	3	1	3
Result							Normal Conditions - 12

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
REDLANDS	34.0369, -117.1947	1410.105	11.431	81.505	6.076	11216	90
RIVERSIDE 5.8 E	33.9406, -117.2964	1536.089	5.17	44.479	2.556	1	0
SUN CITY	33.7156, -117.19	1419.948	11.669	71.662	6.088	72	0
SAN JACINTO	33.7964, -116.9753	1524.934	16.623	33.324	8.034	32	0
RIVERSIDE CITRUS EXP	33.9669, -117.3614	985.892	8.969	505.718	8.572	31	0

APPENDIX G

SITE PHOTOGRAPHS

Appendix G. Site Photographs[1]

Meridian D-1 Gateway Aviation Center Aquatic Resources Delineation – June 3, 2020

Photo 1. View of Wetland Data Form Point (WDP) 4, facing west. WDP 4 met the hydrophytic vegetation, hydric soil, and wetland hydrology parameters (33.876570, -117.250692).

Photo 2. View of WDP 5, facing south. WDP 5 did not meet the hydrophytic vegetation, hydric soil, or wetland hydrology parameters (33.876590, -117.250699).

Photo 3. View of WDP 1, facing east. WDP 1 met the hydrophytic vegetation, hydric soil, and wetland hydrology parameters (33.876247, -117.250602).

Photo 4. Overview photo of the wetland determined by the presence of hydrophytic vegetation, hydric soil, and wetland hydrology parameters at WDP 1. Photo taken facing west (33.876250, -117.250608).

[1] See corresponding Figure 5A – 5C for Photo Point Locations. See Aquatic Resource Delineation Report Sections 6 through 8 for a discussion of each feature.

Photo 5. View of WDP 2, facing east. WDP 2 did not meet the hydrophytic vegetation, hydric soil, or wetland hydrology parameters (33.876238, -117.250648).

Photo 6. View of WDP 9, facing northwest. WDP 9 met the hydrophytic vegetation, hydric soil, and wetland hydrology parameters (33.876827, -117.248371).

Photo 7. View of WDP 10, facing east. WDP 10 did not meet the hydrophytic vegetation, hydric soil, and wetland hydrology (33.876832, -117.248377).

Photo 8. View of WDP 7, facing north. WDP 7 met the hydrophytic vegetation and wetland hydrology parameters; however, no hydric soil indicators were observed within WDP 7 (33.877058, -117.244062).

Photo 9. Overview of non-wetland feature, facing downstream/east. Photo taken in the western portion of the review area (33.876321, -117.250471).

Photo 10. Upstream view of non-wetland feature, facing west. The upstream portion of the non-wetland feature did not show strong indicators of an Ordinary High Water Mark (OHWM) (33.876444, -117.248206).

Photo 11. Downstream view of Non-Wetland Water (NWW)-1A/NWW-1, facing east. NWW-1A/NWW-1 begins to show stronger indicators of an OHWM from this point. (33.876444, -117.248193).

Photo 12. Upstream view of OHWM Datasheet Point (ODP) 4, facing north, within NWW-1A/NWW-1. The OHWM was primarily defined by a change in vegetation species, an artificial bed and bank, and soil cracking. (33.876193, -117.247755).

Photo 13. Downstream view of ODP 4 within NWW-1A/NWW-1, facing south. (33.876188, -117.247747).

Photo 14. View of WDP 11 within NWW-1A/NWW-1, facing north. WDP 11 did not meet hydrophytic vegetation, hydric soil, or wetland hydrology parameters (33.876206, -117.247720).

Photo 15. View of the on-site terminus for NWW-1A/NWW-1 at two culvert inlets (33.875766, -117.247498).

Photo 16. View of the eastern extent of Ditch (D)-1. Photo taken facing west (33.876925, -117.244650).

Photo 17. Overview of the middle segment of D-1. Photo taken facing west (33.876600, -117.245491).

Photo 18. Overview of the westernmost extent of D-1. Photo taken facing east (33.875700, -117.247488).

Photo 19. View of WDP 6, facing east. WDP 6 did not meet the hydrophytic vegetation, hydric soil, or wetland hydrology parameters (33.878661, -117.250996).

Photo 20. View of WDP 3, facing east. WDP 3 met the wetland hydrology parameter; however, no hydric soil or wetland hydrology indicators were observed within WDP 3 (33.875052, -117.249909).

Photo 21. View of WDP 8, facing southwest. WDP 8 met the wetland hydrology parameter; however, no hydric soil or wetland hydrology indicators were observed within WDP 8 (33.877337, -117.244551).

Photo 22. Overview of the southeast corner of the review area. Photo taken facing north (33.877283, -117.244635).

Photo 23. Overview of Swale (S)-1. Photo taken facing north (33.878867, -117.250800).

Photo 24. Overview of S-1 showing a second culvet outlet. The area did not display OHWM indicators or a bed and bank. Photo taken facing east (33.878624, -117.250920).

Photo 25. Overview of S-1. Photo taken facing east (33.877209, -117.252005).

Photo 26. Overview of S-1. Photo taken facing south showing a culvert inlet (33.877202, -117.252005).

Photo 27. Overview of S-2, showing a culvert outlet. Photo taken facing north (33.878071, -117.249947).

Photo 28. Overview of area downstream from S-2's culvert outlet. Area did not display evidence of hydrology, OHWM indicators, or a bed and bank (33.878108, -117.249906).

Photo 29. View of S-2, facing northwest. S-2 did not contain a bed and bank or break in slope (33.877166, -117.2488).

Photo 30. View of S-2 at ODP 3, facing southeast. (33.877165, -117.2488).

Photo 31. Overview of S-3 at ODP 2. Photo taken facing east (33.875400, -117.249986).

Photo 32. Overview of S-3. Photo taken facing south (33.875391, -117.249959).

Photo 33. Overview of Goodding's black willow (*Salix gooddingii*) area, facing south (33.875379, -117.247848).

Photo 34. View of WDP 12, facing east. WDP 12, taken adjacent to a Goodding's black willow did not met the hydrophytic vegetation, hydric soil, or wetland hydrology parameters (33.875357, -117.247820).

Photo 35. Overview of the 22.40-acre northern parcel that was added to the project footprint after the initial June 2020 survey. No potential ponding areas or other aquatic resources were observed within the northern parcel during the January 13, 2021 survey; therefore, a formal aquatic resources delineation was not performed in this portion of the project site (33.884970, -117.253027).

APPENDIX H

LITERATURE CITATIONS AND REFERENCES

APPENDIX H. LITERATURE CITATIONS AND REFERENCES

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APPENDIX I

ORM BULK UPLOAD AQUATIC RESOURCES OR CONSOLIDATED EXCEL SPREADSHEET

Waters_Name	State	wardin_Co	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
NWW-1A	CALIFORNIA	R6		Area	0.344	ACRE	DELINEATE	33.876241	-117.248628	
NWW-1B	CALIFORNIA	R6		Area	0.008	ACRE	DELINEATE	33.876558	-117.250668	
WW-1	CALIFORNIA	PEM		Area	0.037	ACRE	DELINEATE	33.876243	-117.250595	
WW-2	CALIFORNIA	PEM		Area	0.066	ACRE	DELINEATE	33.876932	-117.248469	

APPENDIX J

GIS DATA (PROVIDED ELECTRONICALLY TO AGENCIES)

APPENDIX F

D-1 GATEWAY AVIATION CENTER 90-DAY WET AND DRY SEASON VERNAL POOL BRANCHIOPOD SURVEY RESULTS

ROCKS
BIOLOGICAL CONSULTING

July 11, 2022

U.S. Fish and Wildlife Service
Attn: Ms. Stacey Love
Carlsbad Fish and Wildlife Office
2177 Salk Ave., Ste. 250
Carlsbad, CA 92008

Subject: Revised 90-Day Wet and Dry Season Vernal Pool Branchiopod Survey Results, D-1 Gateway Aviation Center Project, Riverside County, California

Ms. Love:

This letter presents the results of the 2020-2021 wet and dry season vernal pool branchiopod (fairy shrimp) surveys conducted by Rocks Biological Consulting (RBC) for the D-1 Gateway Aviation Center Project (project) in Riverside County, California. The project site supports 21 ponding areas that met inundation requirements for branchiopod sampling during the 2020-2021 season. Of the 21 basins sampled during both wet and dry season surveys, common versatile fairy shrimp (*Branchinecta lindahli*) was documented within eight of the basins. Immature *Branchinecta* sp. and fairy shrimp nauplii were identified in one ponded area each during the wet season though both of those pools were found to support versatile fairy shrimp after dry season analysis. No branchiopod species were observed in the remaining 17 basins. RBC did not identify any federally-listed endangered or threatened fairy shrimp species from basins within the project site.

Project Location

The project site is located on two parcels totaling 89.34 acres within the March Joint Powers Authority (JPA) jurisdiction in unincorporated Riverside County, California (Figure 1). The project site is located in the southeastern portion of the March Air Reserve Base and March JPA planning area, west of Heacock Street, and southwest of the intersection of Heacock Street and Krameria Avenue, within the Riverside East 7.5-minute quadrangle (USGS 2015).

The project site is made up of two relatively flat parcels that support primarily non-native grassland vegetation. Surrounding land uses include industrial and commercial development, residential development, and military development.

Methods

Survey methodology followed the U.S. Fish and Wildlife Service (USFWS) *Survey Guidelines for Listed Large Branchiopods* (Guidelines) revised November 13, 2017. According to the Guidelines, the wet season usually occurs in California between October and June. A pre-survey notification was sent to the USFWS on September 25, 2020.

Dry Season Methodology

RBC principal biologist Jim Rocks (TE-063230-5.7) collected dry season soil samples from 11 different basins within the project site on October 21, 2020. Ten additional basins were documented during the 2021 wet season surveys. As such, on September 28, 2021, Mr. Rocks conducted a follow-up dry season survey at the additional ten basins after they had completely dried. Soil from each sample was hydrated and processed through a series of sieves to separate out fairy shrimp cysts that may have been present. The sieves used were of 710-, 355-, and 212-micron pore-sized screens. The final sieve pore size is smaller than the target fairy shrimp species (*Branchinecta* sp. and *Streptocephalus* sp.) average cyst diameter and therefore would retain cysts. The material remaining on the final sieve was next placed in a brine solution to help separate organic from inorganic material. The organic portion was then filtered through a standard coffee filter and allowed to dry. The dried material on the filters was then examined under a microscope to determine if cysts were present. Cyst surface characteristics were then used to identify cysts to genus if present.

Soil samples containing cysts were hydrated and reared to maturity to determine the species present. Of the 21 samples, eight were found to contain cysts of the genus *Branchinecta* (Alden Environmental, Inc. 2020a; 2020b; 2021). The samples were checked daily to see if any fairy shrimp had emerged. Once nauplii were observed, the hatched shrimp were fed two-to-four drops of prepared food on a daily basis until they reached maturity and were collected. The food used was a mix of active brewer's yeast, sugar, powdered fish food, and water.

Maturity of fairy shrimp was determined by the individual's full size, which included antennal development (males) and brood pouch (females). Once mature, the fairy shrimp were identified to the species level with the aid of a stereo dissecting scope. Dry season soil processing, cyst identification, cyst hydration, hatching, rearing, and subsequent identification were conducted by Greg Mason (TE58862A-1; Appendix A).

Wet Season Survey Methodology

During the wet season, an additional 10 basins were mapped and analyzed within the project. The first 2020-2021 wet season survey was conducted on January 6, 2021, which was seven days following a 24-hour ponding check for a rain event that occurred on December 28, and December 29, 2020, that resulted in a total of 1.02 inches of rain at the nearby MARCH AFB weather station (NRCS 2021). Each ponded area was sampled at seven-day intervals until dry, and sampling continued at seven-day intervals after becoming re-inundated. Sampling was discontinued on April 9, 2021, after the basins became totally dry. Total rainfall for the 100-day ponding period from December 29, 2020, through April 9, 2021, was 3.82 inches. Rainfall registered on 13 days with three of those days resulting in rainfall greater that 0.5 inches.

Rocks Biological Consulting (RBC) biologists Brenda Bennett (authorized under TE-03230-5.7), Ian Hirschler (authorized under TE-03230-5.7) and Chris Thomson (authorized under TE-03230-5.7) conducted all sampling on the project site. Data collected for each ponded area included average and maximum water depth, water and air temperature, ponding area length, ponding area width, degree and form of disturbance, a population estimate of fairy shrimp present, and observations of any other aquatic species within the ponding area. Each sampling point was sampled using a

standard 50-micron hand-held net swept through the water and examined for invertebrates. If fairy shrimp were captured, several mature individuals of both sexes were collected, as feasible, and preserved as voucher specimens in 95% ethanol (etoh). The collected specimens were identified using a dissecting scope and the dichotomous key written by Eriksen and Belk (1999) as modified by Belk (2005). If fairy shrimp were captured, one collected voucher specimen from each ponding area was accessioned at the Los Angeles Natural History Museum, Crustacea Section, Invertebrate Zoology, 900 Exposition Boulevard, Los Angeles, California, 90007.

Results

Dry Season Survey Results

Cysts of the genus *Branchinecta* were found in Basin 3, 4, 5, 11, 12, 16, 19, and 20 (Table 1). Hydration and rearing efforts resulted in the collection and identification of 237 versatile fairy shrimp (154 male and 83 female) from the eight basins. No cysts of the genus *Streptocephalus* were found in any of the samples. Detailed results are provided in Table 2, below and full dry season survey reports are provided as Attachment A to this report.

Table 1. Dry Season Soil Analysis Results for the D-1 Gateway Aviation Center Project

Basin	# of Samples	*Branchinecta* sp.
P-1	25	-
P-2	25	-
P-3	25	1,140
P-4	10	645
P-5	25	109
P-6	10	-
P-7	25	-
P-8	25	-
P-9	10	-
P-10	50	-
P-11	25	596
P-12	25	23
P-13	10	-
P-14	10	-
P-15	10	-
P-16	25	49
P-17	10	-
P-18	10	-
P-19	10	4
P-20	10	4
P-21	10	-

Table 2. Dry Season Hatching Results for the D-1 Gateway Aviation Center Project

Basin	*Branchinecta* Cysts	*Branchinecta lindahli*	
		Male	Female
P-1	-	-	-
P-2	-	-	-
P-3	1,140	45	20
P-4	645	50	28
P-5	109	6	3
P-6	-	-	-
P-7	-	-	-
P-8	-	-	-
P-9	-	-	-
P-10	-	-	-
P-11	596	38	23
P-12	23	4	4
P-13	-	-	-
P-14	-	-	-
P-15	-	-	-
P-16	49	10	4
P-17	-	-	-
P-18	-	-	-
P-19	4	1	-
P-20	4	-	1
P-21	-	-	-
Total	2,570	154	83

Wet Season Survey Results

A total of 21 basins met inundation requirements for sampling during the 2020-2021 wet season. It was noted that one basin (P-4) occurs at the base of a culvert.

The common versatile fairy shrimp was documented in two of the 21 basins. Immature *Branchinecta* sp. were observed in a separate basin and immature nauplii were observed in an additional separate basin. No fairy shrimp were documented in the remaining 17 basins of the project site (Figure 2).

A summary of surveys conducted on site during the wet season is presented in Table 3 and dry and wet season survey results are presented in Table 4. Site photographs are provided as Attachment B. Surveyor field data sheets are provided as Attachment C.

Table 3: Wet Season Fairy Shrimp Survey Summary for D-1 Gateway Aviation Center Project

Survey Number	Date	Surveyor	Permit Number
24-hour Ponding Check	12/30/20	Chris Thomson	authorized under TE-03230-5.7
1	01/06/21	Chris Thomson	authorized under TE-03230-5.7
2	01/13/21	Chris Thomson	authorized under TE-03230-5.7
3	01/20/21	Brenda Bennett & Chris Thomson	authorized under TE-03230-5.7
24-hour Ponding Check	01/27/21	Chris Thomson	authorized under TE-03230-5.7
24-hour Ponding Check	01/30/21	Ian Hirschler	authorized under TE-03230-5.7

Survey Number	Date	Surveyor	Permit Number
4	02/03/21	Chris Thomson	authorized under TE-03230-5.7
5	02/10/21	Chris Thomson	authorized under TE-03230-5.7
6	02/17/21	Chris Thomson	authorized under TE-03230-5.7
24-hour Ponding Check	03/04/21	Brenda Bennett	authorized under TE-03230-5.7
24-hour Ponding Check	03/12/21	Brenda Bennett	authorized under TE-03230-5.7
7	03/19/21	Ian Hirschler	authorized under TE-03230-5.7
8	03/26/21	Ian Hirschler	authorized under TE-03230-5.7
24-hour Ponding Check	04/02/21	Ian Hirschler	authorized under TE-03230-5.7
9	04/09/21	Chris Thomson	authorized under TE-03230-5.7

Table 4: Dry and Wet Season Fairy Shrimp Survey Results for D-1 Gateway Aviation Center Project

Ponding Area	Dry Season Fairy Shrimp Survey Results	Wet Season Fairy Shrimp Survey Results
P-1	Sampled, no fairy shrimp	Sampled, no fairy shrimp
P-2	Sampled, no fairy shrimp	Sampled, no fairy shrimp
P-3	*Branchinecta lindahli*	Immature *Branchinecta* sp.
P-4	*Branchinecta lindahli*	*Branchinecta lindahli*
P-5	*Branchinecta lindahli*	Sampled, no fairy shrimp
P-6	Sampled, no fairy shrimp	Sampled, no fairy shrimp
P-7	Sampled, no fairy shrimp	Sampled, no fairy shrimp
P-8	Sampled, no fairy shrimp	Sampled, no fairy shrimp
P-9	Sampled, no fairy shrimp	Sampled, no fairy shrimp
P-10	Sampled, no fairy shrimp	Sampled, no fairy shrimp
P-11	*Branchinecta lindahli*	Nauplii
P-12	*Branchinecta lindahli*	Sampled, no fairy shrimp
P-13	Sampled, no fairy shrimp	Sampled, no fairy shrimp
P-14	Sampled, no fairy shrimp	Sampled, no fairy shrimp
P-15	Sampled, no fairy shrimp	Sampled, no fairy shrimp
P-16	*Branchinecta lindahli*	*Branchinecta lindahli*
P-17	Sampled, no fairy shrimp	Sampled, no fairy shrimp
P-18	Sampled, no fairy shrimp	Sampled, no fairy shrimp
P-19	*Branchinecta lindahli*	Sampled, no fairy shrimp
P-20	*Branchinecta lindahli*	Sampled, no fairy shrimp
P-21	Sampled, no fairy shrimp	Sampled, no fairy shrimp

Conclusion

During 2020-2021 surveys at the D-1 Gateway Aviation Center project, RBC documented the common versatile fairy shrimp in eight out of 21 mapped basins. Immature *Branchinecta* fairy shrimp and fairy shrimp nauplii were documented in two of those basins during the wet season. RBC did not positively identify federally-listed endangered or threatened fairy shrimp species during the 2020-2021 wet and dry season surveys.

Please don't hesitate to contact us at (619) 508-3803 if you have any questions or concerns regarding this report.

We certify that the information in this survey report and attached exhibits fully and accurately represent our work.

Melanie Rocks
Owner, Principal Biologist
Permit Number TE-082908-2

Jim Rocks
Principal Biologist
Permit Number TE-063230-5.7

Brenda Bennett
Senior Biologist
Authorized Under Permit Number TE-03230-5.7

Ian Hirschler
Senior Biologist
Authorized Under Permit Number TE-03230-5.7

Chris Thomson
Associate Biologist
Authorized Under Permit Number TE-03230-5.7

Attachments: Figure 1 – Project Location
Figure 2 – Survey Results
Attachment A – Dry Season Survey Reports
Attachment B – Site Photographs
Attachment C – Surveyor Field Data Sheets

REFERENCES

Alden Environmental, Inc. 2020a. Dry Season Fairy Shrimp Sampling Results for the D-1 Project. November 22.

Alden Environmental, Inc. 2020b. D1 FS Hatching Results. December 14.

Alden Environmental, Inc. 2021. Additional Dry Season Fairy Shrimp Sampling Results for the D-1 Project.

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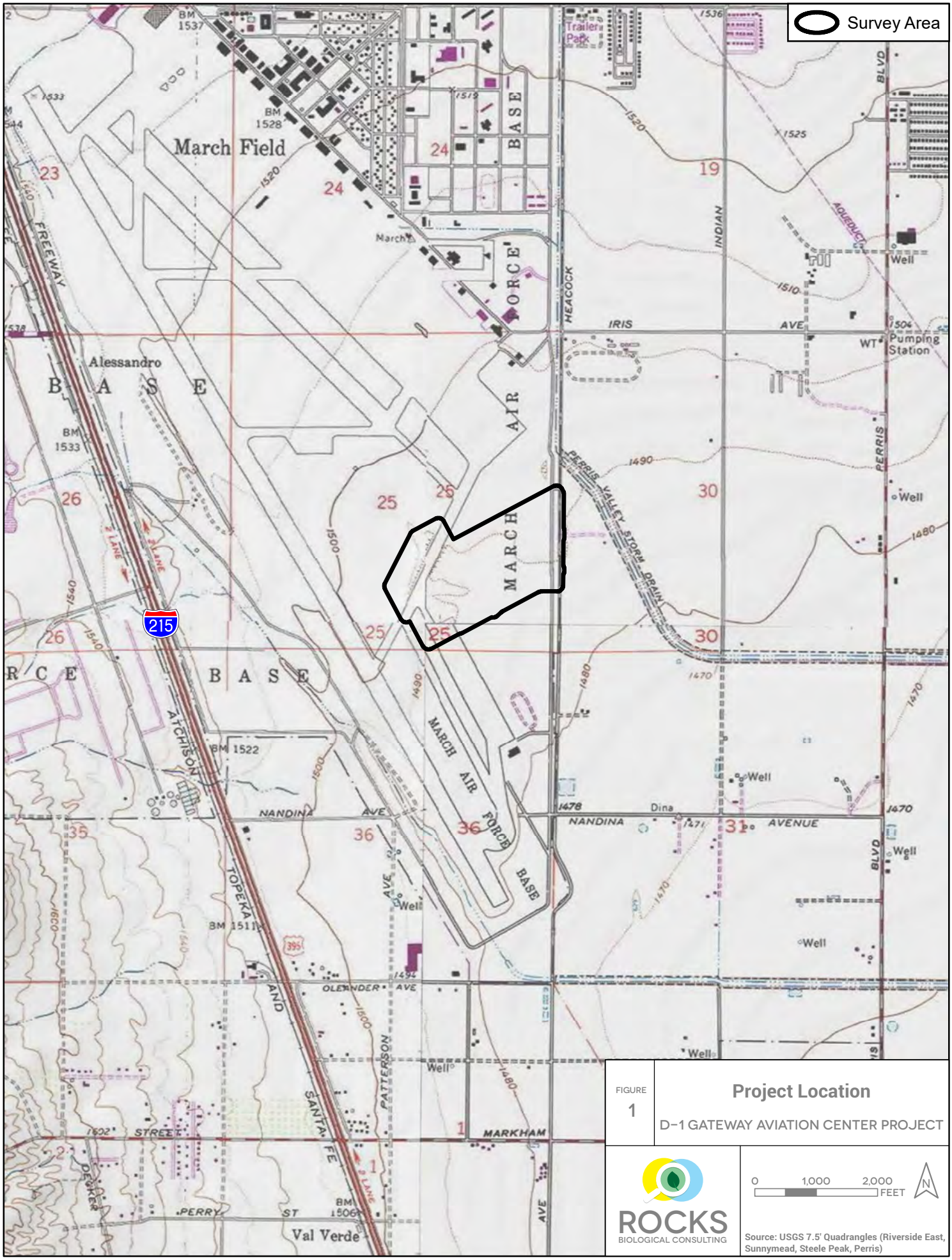

Survey Area
March Field
Alessandro
BASE
MARCH AIR FORCE BASE
Trailer Park
Pumping Station
Well
IRIS AVE
NANDINA AVENUE
Dina
HEACOCK
INDIAN
PERRIS BLVD
PERRIS VALLEY STORM DRAIN
AQUEDUCT
ATCHISON TOPEKA AND SANTA FE
PATTERSON
OLEANDER AVE
MARKHAM STREET
PERRY ST
Val Verde
215
395
FIGURE 1
Project Location
D-1 GATEWAY AVIATION CENTER PROJECT
ROCKS BIOLOGICAL CONSULTING
0 1,000 2,000 FEET
N
Source: USGS 7.5' Quadrangles (Riverside East, Sunnymead, Steele Peak, Perris)

Project Site
Not a Part of Project Site
Biological Survey Area
Fairy Shrimp Survey Results
Branchinecta lindahli
No Fairy Shrimp

P-1
P-2
P-16
P-15
P-14
P-17
P-19
P-13
P-12
P-9
P-20
P-10
P-11
P-8
P-7
P-4
P-3
P-6
P-21
P-18
P-5

Heacock St

FIGURE 2

Fairy Shrimp Survey Results

D-1 GATEWAY AVIATION CENTER PROJECT

ROCKS BIOLOGICAL CONSULTING

0 135 270 FEET

N

Aerial Photo: Nearmap 2020

ATTACHMENT A

DRY SEASON SURVEY REPORTS

ALDEN ENVIRONMENTAL, INC
3245 University Ave, #1188 | San Diego, CA 92104 | **Phone/Fax:** 619.284.3815

November 22, 2020

Mr. Jim Rocks
2621 Denver Street, Suite B
San Diego, CA 92110

Subject: Dry Season Fairy Shrimp Sampling Results for the D-1 Project

Dear Mr. Rocks:

This letter presents the results of dry season sampling conducted on soil samples collected from basins on the D-1 site.

Methods

On November 5, 2020 Alden received soil samples collected from 11 basins on the D-1 site. The soil was provided in bags labeled with the basin number. The collected soil from each basin was divided into subsamples, based on the area of the pool and the amount of soil collected. Each sample was then hydrated and processed through a series of sieves to separate out fairy shrimp cysts that may be present. The sieves used were of 710-, 355-, and 212-µm pore size screens. The final sieve pore size is smaller than the target fairy shrimp genera (*Branchinecta* and *Streptocephalus*) average cyst diameter and therefore would retain cysts. The material remaining on the final sieve was next placed in a brine solution to help separate organic from inorganic material. The organic portion was then filtered through a standard coffee filter and allowed to dry. The dried material on the filters was then examined under a stereo dissecting scope to determine if cysts were present. Cyst surface characteristics were then used to identify cysts to genus, if present.

Results

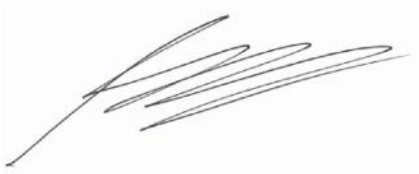
Of the 11 basins, 4 were found to contain cysts of the genus *Branchinecta* (Table 1). The cyst densities in these 39 basins ranged from 109 to 1,140 cysts per basin. No *Streptocephalus* cysts were recovered from any of the basins.

ALDEN ENVIRONMENTAL, INC
3245 University Ave, #1188 | San Diego, CA 92104 | **Phone/Fax:** 619.284.3815

Table 1 Dry Season Fairy Shrimp Sampling Results				
Basin	Number of Subsamples Processed	Number of Subsamples with Cysts	Fairy Shrimp Cysts Recovered	
			Branchinecta	*Streptocephalus*
VP1	25		-	-
VP2	25		-	-
VP3	25	25	1,140	-
VP4	10	10	645	-
VP5	25	21	109	-
VP6	10		-	-
VP7	25		-	-
VP8	25		-	-
VP9	10		-	-
VP10	50		-	-
VP11	25	25	596	-
Total	**245**	**71**	**2,490**	**0**

The above text presents the final results of the dry season fairy shrimp soil sieving and cyst identification effort for the project. If you have any questions or need additional information please call.

Sincerely,



Greg Mason
Principal/Senior Biologist

ALDEN ENVIRONMENTAL, INC
3245 University Ave, #1188 | San Diego, CA 92104 | **Phone/Fax:** 619.284.3815

December 14, 2020

Mr. Jim Rocks
Rocks Biological Consulting
2621 Denver Street, Ste. B
San Diego, CA 92110

Subject: D1 FS Hatching Results

Dear Mr. Rocks:

This letter presents the results of fairy shrimp hydration, rearing, hatching, and identification conducted for the D1 project.

Methods

Fairy shrimp cysts collected from the D1 site were hydrated and reared to maturity to determine the species present. Of the 11 basins sampled, 4 were found to contain cysts of the genus *Branchinecta* (Alden 2020). Based on the project location and known species distribution, these cysts could be of the federal endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*), threatened vernal pool fairy shrimp (*Branchinecta lynchi*), or the non-sensitive Lindahl's fairy shrimp (*B. lindahli*). The cyst hydration, hatching, rearing, and subsequent identification were conducted by Greg Mason (TE58862A-1).

Fairy shrimp cysts of the species *Branchinecta* collected during the dry sampling effort were hydrated by placing them into plastic containers filled with approximately 525 ml of filtered, non-chlorinated drinking water. The coffee filters with the collected cysts (from the previous effort) were slowly opened over the containers and gently shaken to allow the material to fall into the water. The sides of the filters were then rubbed against one another to release any additional material. Finally, a squirt bottle filled with filtered drinking water was used to spray any additional material from the filters into the containers.

The containers were given sample identification numbers and placed on a table in a climate controlled room. Lighting in the room was provided by indirect sunlight as well as an overhead light that was kept on approximately 12 hours a day to help emulate spring season lighting conditions. An overhead fan also was kept on at a low level to provide for some air movement across the water surface in the sample containers.

The samples were checked daily to see if any fairy shrimp had emerged. Once nauplii were observed, feeding began. The hatched shrimp were fed 2-4 drops of prepared food on a daily basis

until they were collected. The food used was a mix of active brewer's yeast, sugar, powdered fish food, and water.

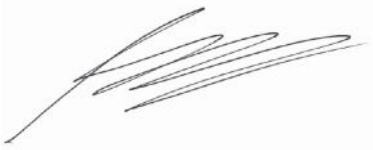
The hatched shrimp were allowed to continue under these conditions until they had reached maturity, as determined by reaching full size, antennal development (males) and brood pouch (females). Once mature, the fairy shrimp were collected for identification by pouring the material in the container through a small strainer. Collected shrimp were then placed into a dish of carbonated (soda) water to slowly asphyxiate the shrimp. Once dead, the collected shrimp were placed in a 27 x 57 mm (5 dram) clear glass vial, filled with 70% ethyl alcohol. The collected shrimp were then identified to the species level with the aid of a stereo dissecting scope.

Results

The hydration and rearing effort resulted in the collection and identification of 213 Lindahl's fairy shrimp (139 male and 74 female) from the basins with cysts. A table showing the results for each basin is attached.

If you have any questions or need additional information please call.

Sincerely,



Greg Mason (TE58862A-1)
Senior Biologist

D-1 Hatching Results			
Basin ID	**Branchinecta Cysts[1]**	***Branchinecta lindahli***	
		Male	**Female**
VP-01	0		
VP-02	0		
VP-03	1,140	45	20
VP-04	645	50	28
VP-05	109	6	3
VP-06	0		
VP-07	0		
VP-08	0		
VP-09	0		
VP-10	0		
VP-11	596	38	23
Total		**139**	**74**

[1]Recovered during dry sample analysis

ALDEN ENVIRONMENTAL, INC
3245 University Ave, #1188 | San Diego, CA 92104 | **Phone/Fax:** 619.284.3815

October 29, 2021

Ms. Melanie Rocks
4312 Rialto Street
San Diego, CA 92107

Subject: Additional Dry Season Fairy Shrimp Sampling Results for the D-1 Project

Dear Ms. Rocks:

This letter presents the results of additional dry season fairy shrimp sampling (cyst identification and rearing) conducted for the D-1 site.

Methods

Cyst Identification

On September 29, 2021, Alden received soil samples collected from 10 basins (12-21) on the project site. The soil was provided in bags labeled with the basin number. The collected soil from each basin was divided into subsamples, based on the area of the pool and the amount of soil collected. Each sample was then hydrated and processed through a series of sieves to separate out fairy shrimp cysts that may be present. The sieves used were of 710-, 355-, and 212-µm pore size screens. The final sieve pore size is smaller than the target fairy shrimp genera (*Branchinecta* and *Streptocephalus*) average cyst diameter and therefore would retain cysts. The material remaining on the final sieve was next placed in a brine solution to help separate organic from inorganic material. The organic portion was then filtered through a standard coffee filter and allowed to dry. The dried material on the filters was then examined under a stereo dissecting scope to determine if cysts were present. Cyst surface characteristics were then used to identify cysts to genus, if present.

Hatching/Rearing

The collected *Branchinecta* fairy shrimp cysts were hydrated by placing them into plastic containers filled with approximately 525 ml of filtered, non-chlorinated drinking water. The coffee filters (from the soil sieving effort) with the collected cysts were slowly opened over the containers and gently shaken to allow the material to fall into the water. The sides of the filters were then rubbed against one another to release any additional material. Finally, a squirt bottle filled with filtered drinking water was used to spray any additional material from the filters into the containers.

The containers were given sample identification numbers and placed on a table in a climate controlled room. Lighting in the room was provided by indirect sunlight as well as an overhead light (full spectrum bulb) that was kept on approximately 12 hours a day to help emulate spring season lighting conditions. An overhead fan also was kept on at a low level to provide for some air movement across the water surface in the sample containers.

The samples were checked daily to see if any fairy shrimp had emerged. Once nauplii were observed, feeding began. The hatched shrimp were fed 2-4 drops of prepared food on a daily basis until they were collected. The food used was a mix of active brewer's yeast, sugar, powdered fish food, and water.

The hatched shrimp were allowed to continue under these conditions until they had reached maturity, as determined by reaching full size, antennal development (males) and brood pouch development (females). Once mature, the fairy shrimp were collected for identification by pouring the material in the container through a small strainer. Collected shrimp were then placed into a dish of carbonated (soda) water to slowly asphyxiate the shrimp. Once dead, the collected shrimp were placed in a 27 x 57 mm (5 dram) clear glass vial, filled with 70% ethyl alcohol. The collected shrimp were then identified to the species level with the aid of a stereo dissecting scope.

Results

Cyst Identification

Cysts of the genus *Branchinecta* were found in 4 basins (Table 1; Attachment A). No cysts of the genus *Streptocephalus* were found in any of the sampled basins.

Table 1
Dry Season Sampling Results

Basin	Number of Subsamples	*Branchinecta*	*Streptocephalus*
12	25	23	-
13	10	-	-
14	10	-	-
15	10	-	-
16	25	49	-
17	10	-	-
18	10	-	-
19	10	4	-
20	10	4	-
21	10	-	-

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Hatching/Rearing

Two complete rounds of hydration and hatching were conducted, resulting in the collection and identification of the non-sensitive versatile fairy shrimp (*B. lindahli*) from the 4 basins with fairy shrimp cysts present (Table 2). No other fairy shrimp species were identified.

Table 2
Fairy Shrimp Hatching Results

Basin	*Branchinecta lindahli*		
	Male	**Female**	**Total**
12	4	4	8
13	-	-	-
14	-	-	-
15	-	-	-
16	10	4	14
17	-	-	-
18	-	-	-
19	1	-	1
20	-	1	1
21	-	-	-
Total	**15**	**9**	**24**

The above text presents the final results of the dry season fairy shrimp cyst identification and hatching effort for the additional D-1 project basins (12-21). The non-listed versatile fairy shrimp was the only shrimp species to be reared from the recovered cysts. If you have any questions or need additional information please call.

Sincerely,

Greg Mason
Principal/Senior Biologist

Attachment A Cyst per subsample table

Attachment A
D-1, Additional Basins

	Branchinecta cysts per subsample																									
Basin	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**Total**
12	4	4	4	2	2	1	2	1	2	1																**23**
13	-	-	-	-	-	-	-	-	-	-																**0**
14	-	-	-	-	-	-	-	-	-	-																**0**
15	-	-	-	-	-	-	-	-	-	-																**0**
16	1	1	1	1	3	2	2	2	2	3	1	4	2	2	2	2	1	3	4	2	2	1	1	2	2	**49**
17	-	-	-	-	-	-	-	-	-	-																**0**
18	-	-	-	-	-	-	-	-	-	-																**0**
19	1	-	3	-	-	-	-	-	-	-																**4**
20	-	-	-	1	-	2	-	-	-	1																**4**
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**

Attachment B

Site Photos

Photo 1. View of vernal pool VP-4 during the wet season, facing north, on January 27, 2021.

Photo 2. View of vernal pool VP-3 during the wet season, facing southwest, on January 27, 2021.

Photo 3. View of vernal pool VP-11 during the dry season, facing southwest, on May 12, 2020.

Photo 4. View of vernal pool VP-10 during the dry season, facing south, on June 18, 2020.

ATTACHMENT C

SURVEYOR FIELD DATA SHEETS

ROCKS BIOLOGICAL CONSULTING

Fairy Shrimp Survey Form

Surveyor: Chris Thomson Add'l Persons: Date: 1/6/21

Project: D-1 Survey of

Start Time: 1005 T: 66 CC: 0 Wind Sp/Dir: 0-2 General Weather Condition: Clear

End Time: 1100 T: 68 CC: 0 Wind Sp/Dir: 0-2 General Weather Condition: Clear

Pool or Area ID	Latitude*	Longitude*	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
VP-4			26.6	16.4	100	170	2.5	2
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Branchinecta sp.	1		100s	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): 1. natural vernal pool (2. constructed pool) Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms

Additional Comments: Culvert pool

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
VP-16			26.2	17.4	20	40	1	0.5
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
N/A				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. (disturbed (tire tracks) trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms

Additional Comments: Road rut

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms

Additional Comments:

ROCKS BIOLOGICAL CONSULTING

Fairy Shrimp Survey Form

Surveyor: Chris Thomson Add'l Persons: N/A Date: 1/13/2021

Project: D-1 Survey 2 of

Start Time: 0835 T: 63 CC: 5% Wind Sp/Dir: 0-2 General Weather Condition: Clear

End Time: 0925 T: 67 CC: 5% Wind Sp/Dir: 0-2 General Weather Condition: Clear

Pool or Area ID	Latitude*	Longitude*	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
VP-4			16.2	11.0	70	95	1.5	1.5
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
B. lindahli	2	1	1000s	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments: Culvert pool, BUOW pellet observed at culvert.								

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

ROCKS BIOLOGICAL CONSULTING

Fairy Shrimp Survey Form

Surveyor: Chris Thomson, Brenda Bennett Add'l Persons: N/a Date: 1/20/2021

Project: D-1 Survey ____ of ____

Start Time: 0820 T: 61 CC: 40% Wind Sp/Dir: 1-3 General Weather Condition: Partly cloudy

End Time: 0830 T: 61 CC: 40% Wind Sp/Dir: 1-3 General Weather Condition: Partly cloudy

Pool or Area ID	Latitude*	Longitude*	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
VP-4								
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Dry				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								
Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								
Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

ROCKS
BIOLOGICAL CONSULTING

Fairy Shrimp Survey Form

Surveyor: Chris Thornton Add'l Persons: N/A Date: 2/3/21

Project: D-1 Survey ____ of ____

Start Time: 0920 T: 56 CC: 30 Wind Sp/Dir: 1-4 General Weather Condition: Sunny/scattered clouds

End Time: 1045 T: 64 CC: 25 Wind Sp/Dir: 1-4 General Weather Condition: Sunny/scattered clouds

Pool or Area ID	Latitude*	Longitude*	Air Temp. (°C)	Water Temp. (°C)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
VP-16			21.7	14.9	5	12.5	5	2
Fairy Shrimp Present (Species)	**Voucher # Male (♂)**	**Voucher # Female (♀)**	**Population Estimate**	**Other species present in pool (circle, add additional below)**				
Nauplii			100s	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms

Additional Comments:

Pool or Area ID	Latitude	Longitude	Air Temp. (°C)	Water Temp. (°C)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
VP-11			21.7	15.3	3	7.5	5	1
Fairy Shrimp Present (Species)	**Voucher # Male (♂)**	**Voucher # Female (♀)**	**Population Estimate**	**Other species present in pool (circle, add additional below)**				
Nauplii			100s	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms

Additional Comments:

Pool or Area ID	Latitude	Longitude	Air Temp. (°C)	Water Temp. (°C)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
VP-3			20.4	15.3	40	80	22	3
Fairy Shrimp Present (Species)	**Voucher # Male (♂)**	**Voucher # Female (♀)**	**Population Estimate**	**Other species present in pool (circle, add additional below)**				
Lun. Packardi sp.	1	1	1000s	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms

Additional Comments:

Fairy Shrimp Survey Form—(continued) Surveyor: CT Date 2/9/21

Pool or Area ID	Latitude	Longitude	Air Temp. (°C)	Water Temp. (°C)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
VP-4			20.4	15.8	15	25	3	3
Fairy Shrimp Present (Species)	**Voucher # Male (♂)**	**Voucher # Female (♀)**	**Population Estimate**	Other species present in pool (circle, add additional below)				
Lin. Bowhech	1	—	1000s	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms culvert pool
Additional Comments:

Pool or Area ID	Latitude	Longitude	Air Temp. (°C)	Water Temp. (°C)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	**Voucher # Male (♂)**	**Voucher # Female (♀)**	**Population Estimate**	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms
Additional Comments:

Pool or Area ID	Latitude	Longitude	Air Temp. (°C)	Water Temp. (°C)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	**Voucher # Male (♂)**	**Voucher # Female (♀)**	**Population Estimate**	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms
Additional Comments:

Pool or Area ID	Latitude	Longitude	Air Temp. (°C)	Water Temp. (°C)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	**Voucher # Male (♂)**	**Voucher # Female (♀)**	**Population Estimate**	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms
Additional Comments:

ROCKS
BIOLOGICAL CONSULTING

Fairy Shrimp Survey Form

Surveyor: Chas Thomson Add'l Persons: N/A Date: 2/10/21

Project: 01 Survey ___ of ___

Start Time: 1000 T: 54 CC: 80% Wind Sp/Dir: 1-2 General Weather Condition: heavy

End Time: 1100 T: 58 CC: 30% Wind Sp/Dir: 1-2 General Weather Condition: clear

Pool or Area ID	Latitude*	Longitude*	Air Temp. (°C)	Water Temp. (°C)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
VP-16			19.4	18.2	20	35	3	1
Fairy Shrimp Present (Species)	**Voucher # Male (♂)**	**Voucher # Female (♀)**	**Population Estimate**	**Other species present in pool (circle, add additional below)**				
B. lindahli	2	2	1000s	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms

Additional Comments:

Pool or Area ID	Latitude	Longitude	Air Temp. (°C)	Water Temp. (°C)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
VP-4			19.4	16.5	40	65	3	3
Fairy Shrimp Present (Species)	**Voucher # Male (♂)**	**Voucher # Female (♀)**	**Population Estimate**	**Other species present in pool (circle, add additional below)**				
B. lindahli	2	1	1000s	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms

Additional Comments:

Pool or Area ID	Latitude	Longitude	Air Temp. (°C)	Water Temp. (°C)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	**Voucher # Male (♂)**	**Voucher # Female (♀)**	**Population Estimate**	**Other species present in pool (circle, add additional below)**				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms

Additional Comments:

ROCKS BIOLOGICAL CONSULTING

Fairy Shrimp Survey Form

Surveyor: Chris Thomson Add'l Persons: N/A Date: 2/17/2021

Project: D-1 Survey ____ of ____

Start Time: 1035 T: 56 CC: 100 Wind Sp/Dir: 1-3 General Weather Condition: Overcast

End Time: 1100 T: 57 CC: 100 Wind Sp/Dir: 2-4 General Weather Condition: Overcast

Pool or Area ID	Latitude*	Longitude*	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
VP-4								
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Dry				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
VP-16								
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Dry				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

ROCKS BIOLOGICAL CONSULTING

Fairy Shrimp Survey Form

Surveyor: Ian Hirschler Add'l Persons: _____ Date: 3/19/21

Project: D-1 Gateway Survey _____ of _____

Start Time: 0900 T: 52 CC: 0% Wind Sp/Dir: 0-2 General Weather Condition: Sunny & Brisk

End Time: 1100 T: 62 CC: 0% Wind Sp/Dir: 0-2 General Weather Condition: Sunny & warm

Pool or Area ID	Latitude*	Longitude*	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
3			19	18.2	6.5	8	19	3
Fairy Shrimp Present (Species)	**Voucher # Male (♂)**	**Voucher # Female (♀)**	**Population Estimate**	**Other species present in pool (circle, add additional below)**				
Immature FS			1000s	copepods, ostracods, cladocera, coleptera, hemiptera, (diptera), culicidea, platyhelminths				

Habitat condition (circle one): (1. natural vernal pool) 2. constructed pool Pool condition (circle all): (1. undisturbed) 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms

Additional Comments: Vouchered

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
4			19	16.9	18	25	4	4
Fairy Shrimp Present (Species)	**Voucher # Male (♂)**	**Voucher # Female (♀)**	**Population Estimate**	**Other species present in pool (circle, add additional below)**				
Immature FS			1000s	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): (1. natural vernal pool) 2. constructed pool Pool condition (circle all): (1. undisturbed) 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms

Additional Comments: Vouchered

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
11			16	15.2				
Fairy Shrimp Present (Species)	**Voucher # Male (♂)**	**Voucher # Female (♀)**	**Population Estimate**	**Other species present in pool (circle, add additional below)**				
Immature FS			1000s	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				

Habitat condition (circle one): (1. natural vernal pool) 2. constructed pool Pool condition (circle all): 1. undisturbed 2. (disturbed (tire tracks) trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms

Additional Comments: Vouchered

Fairy Shrimp Survey Form—(continued) Surveyor: IH Date_____Page 2 of ___

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
12								
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Dry				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								
Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
13								
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Dry				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								
Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
14								
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Dry				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								
Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
15								
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Dry				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

Fairy Shrimp Survey Form—(continued) Surveyor: IH Date_____Page 3 of ____

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
16			16	13.8	6	7	5	2
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Immature FS			1000s	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments: Vouchered								

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
17								
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Dry				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
18								
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Dry				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
19								
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Dry				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

Fairy Shrimp Survey Form—(continued) Surveyor: IH Date 3/19/21 Page 4 of ____

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
20								
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Dry				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								
Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
21			16	15.2	5	10	7	5
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Sampled no FS			—	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								
Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								
Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

ROCKS BIOLOGICAL CONSULTING

Fairy Shrimp Survey Form

Surveyor: Ian Hirschler Add'l Persons: Date: 3/26/21

Project: D-1 Gateway Survey of

Start Time: 0740 T: 45 CC: 80% Wind Sp/Dir: 0-2 General Weather Condition: Overcast

End Time: 0815 T: 47 CC: 80% Wind Sp/Dir: 0-2 General Weather Condition: Overcast

Pool or Area ID	Latitude*	Longitude*	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
4			11	11.2	14.5	16	4	4
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
B. lindahli	5	4	1000s	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. ~~natural vernal pool~~ 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
21			11	9.4	4.5	7	5	4
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Sampled no FS			—	copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. ~~natural vernal pool~~ 2. constructed pool Pool condition (circle all): 1. undisturbed 2. ~~disturbed (tire tracks~~ trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

ROCKS BIOLOGICAL CONSULTING

Fairy Shrimp Survey Form

Surveyor: Chris Thomson Add'l Persons: N/A Date: 4/9/2021

Project: D-1 Survey ____ of ____

Start Time: 1050 T: 75 CC: 0% Wind Sp/Dir: 1-3 General Weather Condition: Clear

End Time: 1100 T: 75 CC: 0% Wind Sp/Dir: 1-3 General Weather Condition: Clear

Pool or Area ID	Latitude*	Longitude*	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
VP-4								
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
Dry				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

Pool or Area ID	Latitude	Longitude	Air Temp. (ºC)	Water Temp. (ºC)	Average Depth (cm)	Max. Depth (cm)	Pool length (m)	Pool width (m)
Fairy Shrimp Present (Species)	Voucher # Male (♂)	Voucher # Female (♀)	Population Estimate	Other species present in pool (circle, add additional below)				
				copepods, ostracods, cladocera, coleptera, hemiptera, diptera, culicidea, platyhelminths				
Habitat condition (circle one): 1. natural vernal pool 2. constructed pool Pool condition (circle all): 1. undisturbed 2. disturbed (tire tracks trash plowing) 3. ungrazed 4. grazed (cattle horses sheep) (light moderate heavy) 5. algal blooms Additional Comments:								

APPENDIX G

D-1 GATEWAY AVIATION CENTER STEPHENS' KANGAROO RAT FOCUSED SURVEY REPORT

December 16, 2020

Ms. Stacey Love
Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

Subject: Results of a trapping survey for Stephens' kangaroo rat (*Dipodomys stephensi)* on the approximately 84.13-acre D1 Gateway Aviation Center project site on the March Air Reserve Base, Riverside County, California.

Dear Ms. Love,

This report presents the results of a live-trapping survey for the federally endangered and state-threatened Stephens' kangaroo rat (SKR; *Dipodomys stephensi*) on the site of the proposed Meridian D1 Gateway Aviation Center Project. The survey area is located on the U.S. Geological Survey (USGS) Riverside East and Sunnymead 7.5-minute quadrangles (Township 3S, Range 4W, SE ¼ Section 25). The UTM coordinates of the approximate center of the survey area are 11S 477139E/ 3748594N (NAD 83). The site elevation is approximately 1,485 feet above mean sea level. Figure 1 shows the project site on a vicinity map. Appendix A contains site photographs.

Introduction

The project site is an 84.13-acre undeveloped parcel with a land use designation of Aviation under the March Joint Power Authority General Plan. The proposed project involves the development of a gateway air freight cargo center, involving the construction of an approximately 201,200-square foot industrial warehouse and an approximately 69,130-square foot accessory maintenance building. The project site would have a parking apron sized for eight commercial cargo airplanes, be paved to meet Federal Aviation Administration (FAA) standards and utilize the existing taxiway to access the March Inland Port Airport runway. The project site is located east of the March Air Reserve Base (ARB) active runway and west of Heacock Street. Interstate 215 (I-215) is located approximately 0.75 mile west of the project site.

The natural history and habitat requirements of SKR are well known. Habitats occupied by SKR typically occur on level to gently sloping terrain, although the species has occasionally been found on relatively steep slopes. SKR typically occupy lands described as disturbed annual grasslands, characterized by a relatively sparse cover of shrub and herbaceous vegetation. Occupied SKR habitat commonly exhibits an abundance of bare (unvegetated) ground during much of the year. When grasslands develop extremely high densities of herb cover following periods of rainfall, SKR usually occur only along dirt roads that traverse such dense habitats. Similarly, SKR often will be found along truck or cow trails that traverse dense grasslands. Soils in habitats harboring SKR are typically loamy in nature, while soils dominated by clay or sand very rarely support this species (O'Farrell and Uptain 1989, O'Farrell 1990, Price and Endo 1989, USFWS 1997).

SKR is known to occur widely in Riverside County (O'Farrell and Uptain 1989; USFWS 1993, 1997). In the March ARB area, the species is known to occur along the west side of I-215 (Montgomery 2000, 2002, 2010; Brylski 2018).

Figure 1. Project site on aerial photo.

Methods

A live-trapping survey was conducted over five nights between November 5 and November 18, 2020. Trapping was not conducted November 9 through 15 due to rain and low temperatures.

The live-trapping effort used 197 large (3 x 3.75 x 12") Sherman live-traps with shortened doors. The live-trapping survey was designed to balance the need to survey areas across the project and emphasize areas with the highest chance of SKR captures. Traps were opened and baited with bird seed within one hour of sunset and checked at night and in the morning. Animals were identified and released immediately at the point of capture. A total of 985 trap-nights were accrued during the field survey. Trapping was conducted by Phil Brylski, Ph.D. (USFWS permit TE-148555-2 and CDFW MOU). Figure 2 shows the trap locations.

Results

Site Description

The project site lies on flat land bordered by Heacock Street to the east and by March ARB runways and buildings to the west, north, and south. The soils on the site are predominantly Exeter and Monserate sandy loams, with small areas of Greenfield and Hanford sandy loams (NRCS 2020), which are all suitable for SKR. The plant communities and land covers on the site are described below.

Non-native Grassland

The dominant plant community on the site is non-native grassland, which covers approximately 66.2 acres. Species observed include wild oat (*Avena barbata*), red brome (*Bromus rubens*), and rat-tail fescue (*Festuca myuros*), amongst lower numbers of ruderal plant species. Paniculate tarplant (*Deinandra paniculata*) occurs throughout this community. The project site is regularly mowed, keeping non-native grasses and ruderal species low to the ground. Non-native grassland occurs throughout most of the project site.

Ruderal

The ruderal plant community covers a small area (0.61 acres) at the southwestern edge of the project site. Species include common sow-thistle (*Sonchus oleraceus*), short-pod mustard (*Hirschfeldia incana*), and red-stem filaree (*Erodium cicutarium*), as well as non-native grasses listed above.

Developed/Disturbed

Developed/disturbed areas cover 17.26 acres of the site, and include buildings, pavement, dirt roads and areas of bare soil.

Project Site in Relation to SKR Historical Range and Habitat

SKR occurs widely in western Riverside County and in the March ARB region, is known mainly from localities west of I-215 (Montgomery 2010). Trapping surveys in the vicinity of the March ARB property and east of I-215 have for the most part failed to detect SKR (Montgomery 2001, 2003, 2004). The California Natural Diversity Database (CNDDB; CDFW 2020) contains a number of SKR records from sites located west of I-215, from 3.1 to 3.4 miles northwest of the project site. There are no recent SKR localities east of I-2125. The SKR localities nearest to the project site are as follows:

- A single SKR was captured on March ARB approximately 0.54 miles west of the project site in 2000. A protocol survey of the same area carried out in 2018 (ECorps 2019) did not yield any SKR captures on March ARB east of I-215. This survey included non-native grasslands along the March ARB runways immediately west of the project site.

- A number of SKR were captured in disturbed annual grassland along the frontage road immediately west of I-215 in 2018 (Brylski 2018). This site is approximately 0.82 miles west of the project site.

Figure 2. Trap locations on aerial photo.

SKR Survey Results

Weather conditions were mild for the first three days of the survey, followed by a period of rainy weather with night-time low temperatures in the 30s°F and 40s°F. The survey was paused due to the weather and completed on November 17 and 18. Weather conditions during the survey are summarized in Table 1.

Table 1. Weather Conditions

Date	Temperature (F)	Cloud Cover (%)	Wind (mph)
11-6	59/64	80	0-1
11-7	54/59	65	1-2
11-8	49/53	100	1
11-17	50/57	15-20	0
11-18	50/56	0	0

The survey yielded captures of one small mammal species: the deer mouse (*Peromyscus maniculatus*). There were no SKR captures, and no SKR sign (potential burrows, tail drag marks, scat) was observed on the site. Table 2 summarizes the captures.

Table 2. Summary of Small Mammal Captures

Date	Species
	PMAN
11-6	11
11-7	10
11-8	18
11-17	15
11-18	26
Total	**80**

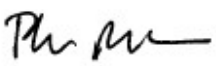
PMAN: deer mouse, *Peromyscus maniculatus*

CONCLUSION

No SKR were captured on the project site, and no sign (potential burrows, tail drag marks, scat) was observed. The absence of SKR captures and sign indicates that there would be no impacts to SKR as a result of the proposed project.

I certify that the information in this survey report and attached exhibits fully and accurately represents my work. Please contact me if you have any questions regarding this survey report.

Sincerely,



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(949) 870-8878
Permit 148555-2
Email – pbrylski@gmail.com

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Appendix A. Site Photos

Photo 1. Sparse non-native grassland in eastern part of site, looking northwest

Photo 2. Sparse non-native grassland in eastern part of site, looking northwest

Photo 3. Sparse non-native grassland in eastern part of site, looking northwest

Photo 4. Dirt road along southeastern corner of site, looking east

Photo 5. Disturbed area with pipe infrastructure in southeastern corner of site, looking north

Photo 6. Sparse non-native grassland with ruderal invasive plants in southeastern corner of site, looking north