Draft Finding of No Significant Impact (FONSI)
Environmental Assessment for Batch Plant Location
Travis Air Force Base, California

Introduction

This Draft Finding of No Significant Impact (FONSI) was prepared in accordance with the National Environmental Policy Act of 1969 (NEPA); the President's Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA, 40 Code of Federal Regulations (CFR) 1500–1508; and the *Environmental Impact Analysis Process*, 32 CFR 989. The decision in this FONSI is based on information contained in the *Environmental Assessment for Batch Plant Location at Travis Air Force Base, California* (EA), which is hereby incorporated by reference. The purpose of the EA was to determine the extent of environmental impacts that could result from the proposed construction and operation of a batch plant location on Travis Air Force Base (AFB) for use during onbase construction projects over the next 15 years and to evaluate whether these impacts, if any, would be significant.

The Proposed Action is to construct a batch plant location that would be used to accommodate batch plant equipment for the manufacture and supply concrete and base course material for construction projects at Travis AFB. The Proposed Action is needed because operation of construction support activities at a large site close to the airfield would help lower operating and maintenance costs and improve project efficiency for ongoing and planned projects onbase.

After a public review period and consideration of the comments received, the Proposed Action will be implemented upon approval. In accordance with U.S. Air Force (Air Force) regulations, a notice of availability (NOA) for the EA and FONSI was published in local newspapers and posted on the Travis AFB public website. The NOA provided a 30-day public comment period beginning DATE and ending DATE for the documents made available to interested parties in local libraries, on the Travis AFB public website, and through the state clearinghouse and direct mailings.

Description of Proposed Action and Alternatives

The alternatives that were analyzed include the No Action Alternative and the Proposed Action. The chosen alternative should provide for a batch plant location near the airfield to reduce operation costs and meet specifications under *UFGS 32-13-11 Concrete Pavement for Airfields and Other Heavy-Duty Pavements.*

Construction would include grading and leveling of the site and construction of crusher plant and concrete batch plant cement pads (for foundations), raw and finished material storage areas, equipment parking areas, and lay down and office trailer areas. Gravel for storage, parking, and laydown areas would be placed and compacted. Prior to construction of the Proposed Action, an existing stockpile left from a former surface disposal waste site would be sampled, characterized, and disposed of in accordance with applicable regulations.

The No Action alternative and the Proposed Action are analyzed in the EA. The No Action alternative was analyzed in accordance with Air Force Regulation 32 CFR 989.8(d).

Preferred Alternative

After a review of the EA, the Air Force has decided to proceed with the Proposed Action. Potential impacts on the human and natural environment were evaluated relative to the existing environment. For each environmental resource or issue, anticipated direct and indirect effects were assessed, considering short-term and long-term project effects.

Only minor, short-term impacts would be expected from implementing the Proposed Action as described in the EA. During construction and operation, the Proposed Action would result in no

significant environmental impacts related to air quality, noise, hazardous materials, hazardous waste, stored fuels, biological resources, land use, transportation system, airfield operations, safety and occupational health, environmental management, and environmental justice. The Proposed Action would result in no significant impacts on cultural resources, threatened and endangered species or their habitat. During construction and operation, the Proposed Action would provide short-term socioeconomic benefits by generating construction jobs.

Overall, the analysis for this EA indicates that construction of a batch plant location would not result in significant impacts on resources in the region.

Finding of No Significant Impact

Based on my review of the facts and analysis presented in the EA, which was conducted in accordance with the requirements of the NEPA, the CEQ regulations, and the Air Force regulations set forth in 32 CFR 989 - Environmental Impact Assessment Process, and after a review of the comments submitted during the 30-day public comment period, I conclude that implementation of the preferred alternative will not have a significant impact on the quality of the human and natural environment, alone or when considered cumulatively with other proposed actions at the installation. Accordingly, an environmental impact statement will not be required. The signing of this Finding of No Significant Impact completes the environmental impact analysis process, and an environmental impact statement will not be prepared.

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ETHAN C. GRIFFIN, Colonel, USAF
Commander

D R A F T

Environmental Assessment for Batch Plant Location at Travis Air Force Base, California

Contract No. FA8903-08-D-8769

Task Order No. XDAT 13-7212

Air Force Civil Engineering Center

Travis Air Force Base, California

June 2018

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Acronyms and Abbreviations

°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
60 CES/CEIE	60th Civil Engineering Squadron Environmental Flight
ACAM	Air Conformity Applicability Model
AFI	Air Force Instruction
Air Force	U.S. Air Force
AMC	Air Mobility Command
ARB	California Air Resources Board
AST	aboveground storage tank
BAAQMD	Bay Area Air Quality Management District
Base	Travis Air Force Base
Basin	San Francisco Bay Area Air Basin
Bay Area	San Francisco Bay Area
BCE	Base Civil Engineer
BMP	best management practice
BRPM	Base Remediation Program Manager
CAA	Clean Air Act of 1970
CAAQS	California Ambient Air Quality Standards
CFR	Code of Federal Regulations
CGP	Construction General Permit
CH2M	CH2M HILL, Inc.
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CTS	California tiger salamander
CWA	Clean Water Act of 1972
dB	decibel(s)
dBA	decibels, A-weighted scale
DoD	U.S. Department of Defense
DPE	dual-phase extraction
DWR	California Department of Water Resources
E2	Consulting Engineers, Inc.

196	EA	Environmental Assessment
197	EO	Executive Order
198	EPA	U.S. Environmental Protection Agency
199	ERP	Environmental Restoration Program
200	ESA	Endangered Species Act of 1973
201	FEMA	Federal Emergency Management Agency
202	G2G	government-to-government
203	GHG	greenhouse gas
204	L_{max}	maximum sound level during a single noise event
205	MRR	Mandatory Greenhouse Gas Reporting Rule
206	NAAQS	National Ambient Air Quality Standards
207	NEPA	National Environmental Policy Act
208	NEWIOU	North/East/West Industrial Operable Unit
209	NHPA	National Historic Preservation Act
210	NHTSA	National Highway Traffic Safety Administration
211	NO_2	nitrogen dioxide
212	NO_x	nitrogen oxide(s)
213	NPDES	National Pollutant Discharge Elimination System
214	NRHP	National Register of Historic Places
215	O_3	ozone
216	OU	operable unit
217	PM_{10}	particulate matter less than 10 micrometers in aerodynamic diameter
218	$PM_{2.5}$	particulate matter less than 2.5 micrometers in aerodynamic diameter
219	POTW	publicly owned treatment works
220	ppm	parts per million
221	PSD	Prevention of Significant Deterioration
222	QD	quantity distance
223	RCRA	Resource Conservation and Recovery Act of 1989
224	RONA	Record of Non-Applicability
225	SHPO	State Historical Preservation Officer
226	SIP	state implementation plan
227	SO_2	sulfur dioxide
228	Stormwater Permit	Stormwater Construction and Operation Permit
229	SWPPP	Stormwater Pollution Prevention Plan
230	TACAMO	Tactical Airborne Communication and Maritime Operation

TCE	trichloroethene
tpy	tons per year
Travis AFB	Travis Air Force Base
FGS	United Facilities Guide Specifications
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
VOC	volatile organic compound
WABOU	West/Annexes/Basewide Operable Unit

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SECTION 1

Purpose of and Need for the Proposed Action

This section describes the purpose of and need for the Proposed Action, summarizes the scope of the environmental assessment (EA), and explains applicable regulatory requirements.

1.1 Introduction

The U.S. Air Force (Air Force) Air Mobility Command (AMC) at Travis Air Force Base (Travis AFB or Base) in Fairfield, California, proposes to construct a permanent site for temporary concrete batch and crushing plant installations for raw and finished material storage areas, equipment parking, and lay down and office trailer areas on Travis AFB (see Figure 1-1) (figures are located at the end of the section where they are first referenced). These are collectively referred to as the batch plant, and it would be used to manufacture and supply concrete and base course material for construction projects on the Base over the next 15 years.

Travis AFB, with the support of AMC and the Air Force Civil Engineering Center, has prepared an EA in accordance with National Environmental Policy Act (NEPA) implementing regulations, 40 Code of Federal Regulations (CFR) 1500–1508, Air Force Regulation 32 CFR 989, and U.S. Department of Defense (DoD) directives. The EA evaluates the potential environmental impacts that would result from implementing the Proposed Action.

1.2 Purpose and Need for the Proposed Action

Travis AFB is the home to 60th Air Mobility Wing (60 AMW), whose mission is to "Rapidly project US American power, anytime, anywhere". To meet this and other assigned units' missions Travis AFB must efficiently maintain its on-post assets. The purpose of the Proposed action is to lower operating and maintenance costs and improve project efficiency for ongoing and planned projects on the Base.

The Proposed Action needs to meet airfield specifications in United Facilities Guide Specifications (UFGS) 32-13-11, *Concrete Pavement for Airfields and Other Heavy-Duty Pavements* (U.S. Army Corps of Engineers [USACE], 2015). USGS 32-12-11 provides (1) design mix specifications for airfield concrete pavement, (2) requirements for transport and laying pavement mix within specified periods of time under varying ambient temperatures, and (3) requirements for a continuous supply of the pavement mix to the paver (construction equipment that lays pavement material) that allows the paver to operate in a continuous forward motion. USGS 32-13-11 specifications also require routine sampling and testing of pavement mixes, in accordance with ASTM International specifications. Also, Travis AFB is required to mitigate for alkali-silica reaction for all airfield pavements, and unique pavement mix designs are needed for various airfield projects.

Travis AFB has used temporary locations onbase and offbase commercial batch plants to supply pavement mixes for construction projects. The Proposed Action is needed because offbase commercial batch plant facilities would be unlikely to meet USGS 32-13-11 specifications, and they might be too costly and inefficient to support large construction projects planned for the airfield. Commercial batch plants are unlikely to have the capacity to supply and transport the volume of material typically required to keep a paver in continuous motion (approximately 250 cubic yards of pavement per hour). Furthermore, transport of pavement mix to the airfield from an offbase supplier could result in delayed deliveries, which could interrupt continuous operation of the paver. Finally, commercial batch plants do not routinely provide the sampling and testing required for airfield pavements; airfield pavement mix designs include parameters, such as aggregate gradation and slump requirements, that do not

correspond with general commercial concrete production. It is difficult for commercial batch plants to provide mix designs that meet Air Force specifications.

1.3 Location of Proposed Action

Travis AFB is in Solano County, California. The Base occupies approximately 6,383 acres east of the city of Fairfield (Travis AFB, 2017a) (see Figure 1-1). The Proposed Action area is in the western portion of the Base (see Figure 1-2). Ellis Drive is south of the site, water storage tanks are located to the north, a building and open space are located to the west, and open space is located to the east.

1.4 Scope of the Environmental Assessment

The EA documents and analyzes the potential environmental and socioeconomic effects associated with the Proposed Action (Alternative 2) relative to the No Action alternative (Alternative 1).

1.5 Decision(s) to be Made

The Headquarters AMC Vice Commander is responsible for selecting an alternative to construct a batch plant on the Base. A decision to take no action (Alternative 1) would result in Travis AFB using offbase batch plants for large construction projects over the next 15 years. A decision to implement the Proposed Action (Alternative 2) would result in construction of a new batch plant location on Travis AFB.

1.6 Applicable Regulatory Requirements and Required Coordination

This EA was conducted in accordance with the President's Council on Environmental Quality regulations, 40 CFR Sections 1500–1508 as they implement the requirements of NEPA; 42 United States Code Sections 4321 et seq.; and 32 CFR 989, *Environmental Impact Analysis Process*. The *Environmental Impact Analysis Process* specifies the procedural requirements for implementing NEPA and preparing an EA; it directs the Air Force to consider environmental consequences as part of the planning and decision-making process.

Other environmental regulatory requirements relevant to the Proposed Action are identified in this EA. Regulatory requirements under the following laws, among others, are assessed:

- Noise Control Act of 1972
- Clean Air Act of 1970 (CAA)
- Clean Water Act of 1972 (CWA)
- National Historic Preservation Act of 1966 (NHPA)
- Archaeological Resources Protection Act of 1979
- Historic Sites Act of 1935
- Endangered Species Act of 1973 (ESA)
- Resource Conservation and Recovery Act of 1989
- Oil Pollution Act of 1990
- Comprehensive Environmental Restoration, Compensation, and Liability Act of 1980
- Toxic Substances Control Act of 1970
- Occupational Safety and Health Act of 1970
- Intergovernmental Coordination Act of 1976

The selected alternative must also comply with the following:

- Executive Order (EO) 13690, *Federal Flood Risk Management Standard* (an amendment to EO 11988, *Floodplain Management*)
- EO 11990, *Protection of Wetlands*
- EO 12372, *Intergovernmental Review of Federal Programs*
- EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*
- EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*
- EO 13693, *Planning for Federal Sustainability in the Next Decade*

The Intergovernmental Coordination Act and EO 12372, *Intergovernmental Review of Federal Programs*, require federal agencies to consider state and local views in implementing a federal proposal. Air Force Regulation 32 CFR 989 *Environmental Impact Analysis Process* requires interagency and intergovernmental coordination when implementing NEPA and preparing an EA. Travis AFB notifies relevant federal, state, and local agencies, and the surrounding communities of the action proposed and provides them sufficient time to make known their environmental concerns specific to the action. Relevant agencies notified of the Proposed Action are listed in Section 6.

In accordance with DoD Instruction 4710.02, *DoD Interactions with Federally-Recognized Tribes*, and Air Force Instruction (AFI) 32-7065*, Cultural Resources Management Program*, the installation commander shall establish government-to-government (G2G) consultation with tribes when proposing an action that may have the potential to significantly affect protected tribal resources, tribal rights, or Indian lands. G2G relationships must be established to identify concerns, and areas of sacred or spiritual significance are fully considered for those tribes for which an impact could occur.

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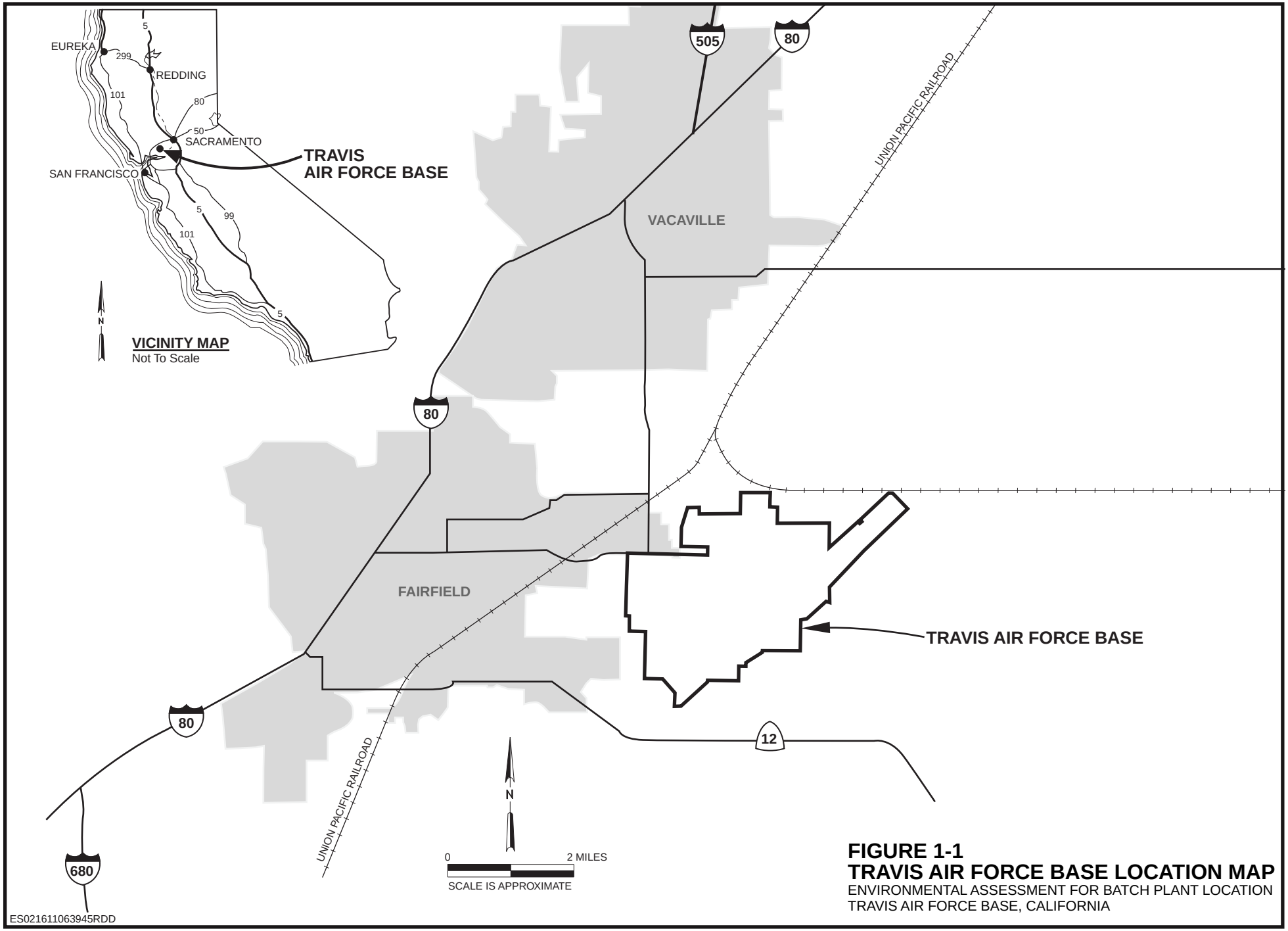

FIGURE 1-1
TRAVIS AIR FORCE BASE LOCATION MAP
ENVIRONMENTAL ASSESSMENT FOR BATCH PLANT LOCATION
TRAVIS AIR FORCE BASE, CALIFORNIA

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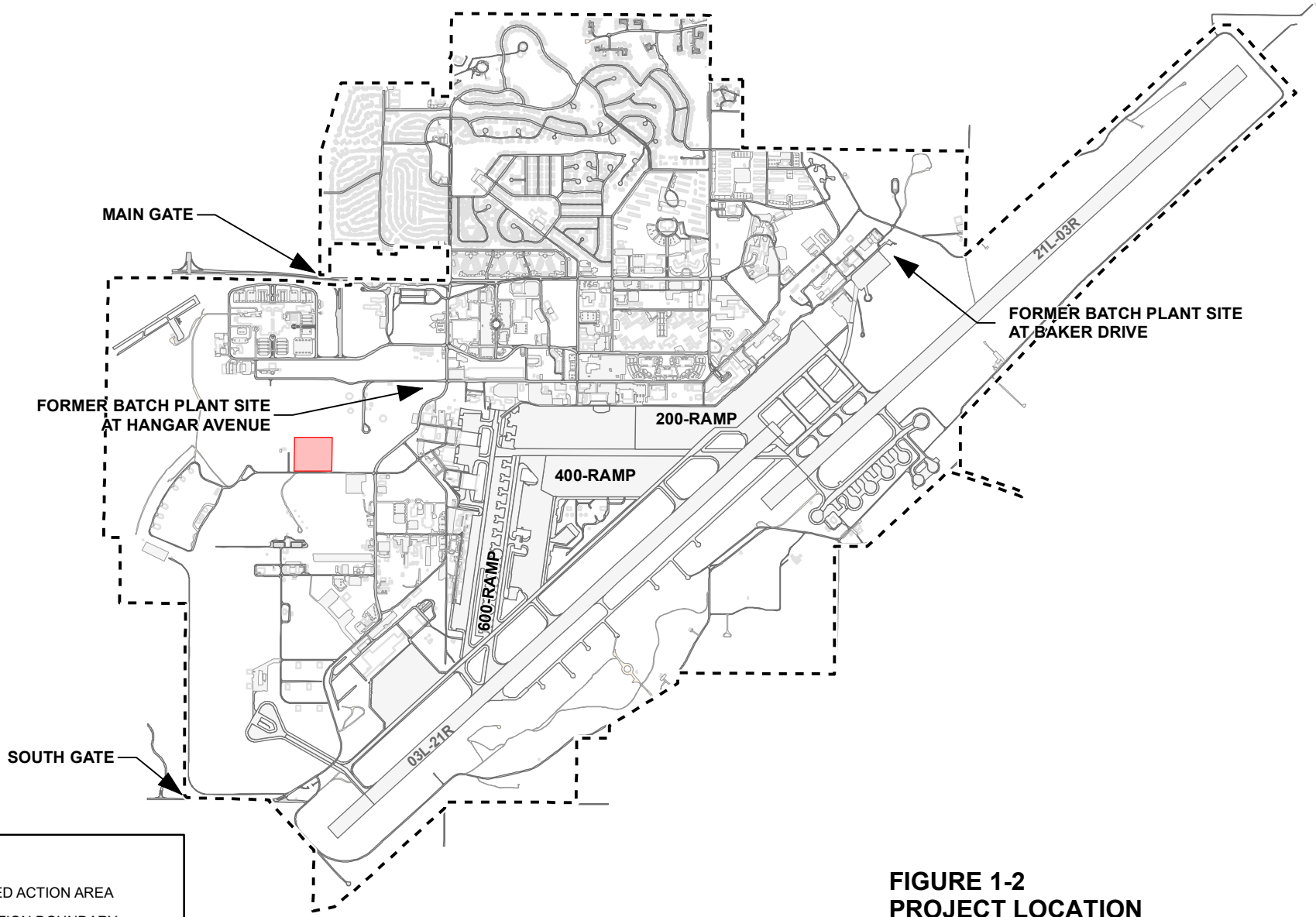

FIGURE 1-2
PROJECT LOCATION
ENVIRONMENTAL ASSESSMENT FOR
BATCH PLANT LOCATION AT
TRAVIS AIR FORCE BASE, CALIFORNIA

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SECTION 2

Description of the Alternatives, Including the Proposed Action

2.1 Introduction

This section presents the criteria for selecting the alternatives considered in this EA and describes the Proposed Action and Action Alternatives carried forward for detailed analysis.

2.2 Selection Criteria for Alternatives

Reasonable alternatives for construction of a batch plant should accomplish the following in a cost-efficient and cost-effective manner, with minimal impact on human health and the environment. The following selection standards must be met for an alternative to be evaluated in the EA:

- Construct a permanent site for temporary batching operations near the airfield to support ongoing and planned construction projects over the next 15 years
- Construct a batch plant location to provide material storage areas, equipment parking, lay down areas, and office trailer areas
- Locate a batch plant in an area where operations (which would generate dust and noise) would not disturb Base personnel or conflict with onbase activities
- Construct a batch plant location near the airfield to reduce operation costs and meet specifications under UFGS 32-13-11 *Concrete Pavement for Airfields and Other Heavy-Duty Pavements*
- Use environmentally compliant practices for constructing a permanent batch plant site and temporary batching operations

2.3 Description of Proposed Action and Alternatives

2.3.1 Alternative 1 – No Action

Under the No Action alternative, construction of a permanent location for temporary batch plant installations on Travis AFB would not occur, and offbase commercial batch plants would continue to be used to support onbase construction projects at Travis AFB. However, the No Action Alternative does not meet the requirements defined in the Purpose and Need Section.

2.3.2 Alternative 2 – Proposed Action

Alternative 2, the Proposed Action, would prepare a permanent site for batch plants to be temporarily constructed and operate on Travis AFB (see Figure 2-1). The batch plant location would be used to accommodate batch plant equipment for the manufacture and supply concrete and base course material for onbase construction projects over the next 15 years.

The Proposed Action area is approximately 12 acres. Laydown and staging during construction would occur onsite, within the boundaries of the Proposed Action area. The Proposed Action area is in open space, with minimal existing paved surfaces.

A portion of the Proposed Action site is located on a former surface disposal waste site where construction materials (including asphalt and other debris) were stockpiled from past onbase activities.

Under the Proposed Action the stockpile would be sampled, characterized, and disposed of in accordance with applicable regulations (see Section 1.7). Construction of the batch plant location would occur after disposal of the stockpile.

The following sections discuss activities that would occur with implementation of the Proposed Action.

2.3.2.1 Construction

Construction would include grading and leveling of the site and construction of crusher plant and concrete batch plant cement pads (for foundations), raw and finished material storage areas, equipment parking areas, and lay down and office trailer areas. Gravel base would be placed on areas within the site. A fence would be constructed around the perimeter of the site. Either cement pads or concrete blocks would be placed on the site as foundations for the crusher plant and batch plant. The cement pads or concrete blocks would cover an area of approximately 40 feet by 40 feet (1,600 square feet). Figure 2-1 shows a potential location for placement of foundations. Excavation at the site would range from approximately 1 to 6 feet deep for the following uses:

- Concrete foundations for silos and would be excavated to approximately 6 feet deep.
- Leveling, constructing a wash-out (which would have a berm and be lined), and aggregate stockpiles would be excavated to approximately 1 foot deep.
- Cover for truck traffic, conveyors, and material transport points would be excavated to approximately 3 feet.
- Installation of an electrical line would require excavation approximately 2 feet deep.

Raw and finished material storage areas, equipment parking areas, lay down areas, and office trailer areas would be sited within the Proposed Action area on leveled, compacted dirt. Gravel for storage, parking, and laydown areas would be placed and compacted.

Construction activities include routing water and electricity utilities for use during operations at the batch plant site. The utilities would connect to existing utilities adjacent to the Proposed Action site (see Figure 2-1). Temporary power poles and power lines could be installed either from Building 759 to the batch plant or installed underground in trenches (approximately 3 feet deep) from the existing transformer bank within the Proposed Action site. Pumping devices to provide water to the batch plant would be permanently installed.

2.3.2.2 Operation

Under the Proposed Action, the batch plant would manufacture and supply concrete and base course material for onbase construction projects over the next 15 years. Equipment (to include but not limited to a batch plant, crusher plant, and office trailers) used at the site would be contractor owned and operated and may be removed and re-installed by other contractors for subsequent construction projects or phasing of large construction projects. It is anticipated that one contractor per year would use the site; therefore, it is estimated that approximately 15 temporary batch plants would be placed and then removed from the site over the next 15 years.

Concrete and base course manufacturing and supply operations may include up to 800 truck deliveries of raw and material hauling per year and approximately 600 truck deliveries of concrete per year (approximately 60 miles round trip per delivery). The anticipated throughput of concrete is estimated at 48,740 tons per year. The batch plant would operate approximately 250 days per year. The estimated energy consumption rate (i.e., electricity use) for the batch plant operation would be approximately 700,000 kilowatt hours per year. Operation of the batch plant would require approximately 4 to 6 personnel.

2.3.2.3 Access, Staging and Equipment

For the Proposed Action, material delivery and large trucks would enter the Base through the South Gate (see Figure 1-2). Contractor personnel and equipment would work within the designated construction limits. Staging of construction equipment would occur at the Proposed Action area. Construction vehicles would stay within the boundaries of the Proposed Action area (see Figure 2-1). Typical construction equipment that would be used includes the following:

- Backhoe
- Skid steer loader
- Grading equipment
- Material delivery trucks
- Paving equipment

2.3.2.4 Construction Schedule

The Proposed Action would require approximately 30 days to construct. It is anticipated that construction would require five personnel: one superintendent, two skilled workers, and two general labors. Construction would start as early as summer 2018.

2.4 Alternatives Considered but Eliminated from Analysis

The EA analyzes the No Action alternative and the Proposed Action. An existing laydown area that was a former batch plant site south of Hangar Avenue (see Figure 2-1) was considered as a possible site for a batch plant location. However, the site does not meet the project need because (1) it is a relatively small site and is incapable of supporting large construction projects and (2) it is located near office buildings and a major transportation through fare, which would disturb Base personnel because operation of a batch plant would generate dust and noise.

A former batch plant site off Baker Drive, northeast of the airfield, was also considered as another possible batch plant site for future projects at the airfield (see Figure 1-2). However, the site does not meet the project need because it is a relatively small site (approximately 3 acres) and is incapable of accommodating support activities for large construction projects.

2.5 Federal Permits, Licenses, and Entitlements

Travis AFB is in the process of facilitating the environmental permits and certifications required during design and construction of the batch plant location. These permits and certifications will meet the requirements of the federal, regional and Air Force resource agencies. The following lists the permits and certifications required for the batch plant location:

- Federal
  - Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS)
- Regional
  - National Pollutant Discharge Elimination System (NPDES) Water Discharge Permit
  - Stormwater Construction and Operation Permit (Stormwater Permit)
- Air Force
  - Base Civil Engineering Work Clearance Request (AF IMT 103)

2.6 Identification of Preferred Alternative

The Air Force preferred alternative for the EA is Alternative 2, the Proposed Action, as described in Section 2.3.2. The Proposed Action best meets the selection criteria.

2.7 Environmental and Socioeconomic Consequences Impacts of the Alternatives Studied

Consistent with 32 CFR Part 989 and Council on Environmental Quality regulations (40 CFR 1500–1508), the scope of the analysis in this EA is defined by the potential range of environmental impacts that would result from implementing the alternatives. This EA identifies, describes, and evaluates the potential environmental impacts that could result from the alternatives and identifies measures to avoid or minimize environmental impacts. This EA analyzes the following resource areas in detail:

- Air Quality and Greenhouse Gas Emissions
- Noise
- Hazardous Materials, Waste, Environmental Restoration Program (ERP) Sites, and Stored Fuels
- Water Resources, Floodplains, and Wastewater
- Biological Resources – Wetlands and Special-status Species
- Cultural Resources
- Socioeconomic Resources
- Land Use
- Transportation System
- Airfield Operations
- Safety and Occupational Health
- Environmental Management
- Indirect and Cumulative Impacts

The following resources were evaluated and determined to either not have the potential to occur or result in negligible impacts. Based on the results of the analysis, the following resources will not require further evaluation, because they are not present or because there would be no impact:

- **Environmental Justice and Protection of Children.** EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The Proposed Action would occur within Travis AFB boundaries. No residences are located within the Proposed Action area and no minority or low-income populations in the surrounding area would be affected by the construction of the Proposed Action. The nearest residential area to the Proposed Action is approximately 1 mile to the northeast. The Proposed Action would generate additional traffic on Travis AFB during operation; however, the additional traffic would enter and exit the Base from the South Gate (see Figure 1-2), would be located south of the cantonment area in the vicinity of the airfield and in industrial areas of the Base, and would not be located near residential areas. Hazardous wastes produced at the site during construction and operation would be managed and disposed of in accordance with applicable regulations and the *Travis AFB Integrated Solid Waste Management Plan* (Travis AFB, 2007) and the *Hazardous Waste Management Plan* (Travis AFB, 2004) and would not pose a disproportionate risk to minority populations. The Proposed Action would not affect minority populations, low-income populations, or children.

Table 2-1 summarizes the potential environmental consequences of the alternatives analyzed in the EA.

Table 2-1. Summary of Potential Environmental and Socioeconomic Consequences
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California

Resource	Alternative 1 No Action[a]	Alternative 2 Proposed Action[b]
Air Quality	No impact	Less than significant impact
Noise	No impact	Less than significant impact
Hazardous Materials, Waste, ERP Sites, and Stored Fuels		
Hazardous Materials	No impact	Less than significant impact
Hazardous Waste	No impact	Less than significant impact
ERP Sites	No impact	Less than significant impact
Stored Fuels	No impact	Less than significant impact
Water Resources, Floodplains, and Wastewater		
Water Quality	No impact	Less than significant impact
Wastewater	No impact	Less than significant impact
Flooding	No impact	No impact
Biological Resources – Wetlands and Special-status Species		
Vegetation and Wildlife	No impact	No impact
Wetlands	No impact	No impact
Federal- and State-listed Threatened or Endangered Species	No impact	Not likely to adversely affect
Cultural Resources	No impact	Less than significant impact
Socioeconomic Resources	No impact	Minor beneficial impact (construction and operation)
Land Use	No impact	No impact
Transportation System	No impact	Less than significant impact
Airfield Operations	No impact	
Safety and Occupational Health	No impact	Less than significant impact
Environmental Management		
Geology and Soils	No impact	No impact
Pollution Prevention	No impact	Less than significant impact
Indirect and Cumulative Impacts	No impact	Less than significant impact

[a] Under Alternative 1, the No Action alternative, there would be no construction; therefore, there would be no effects from construction.

[b] Effects are compared with the No Action alternative.

Note:

ERP = Environmental Restoration Program

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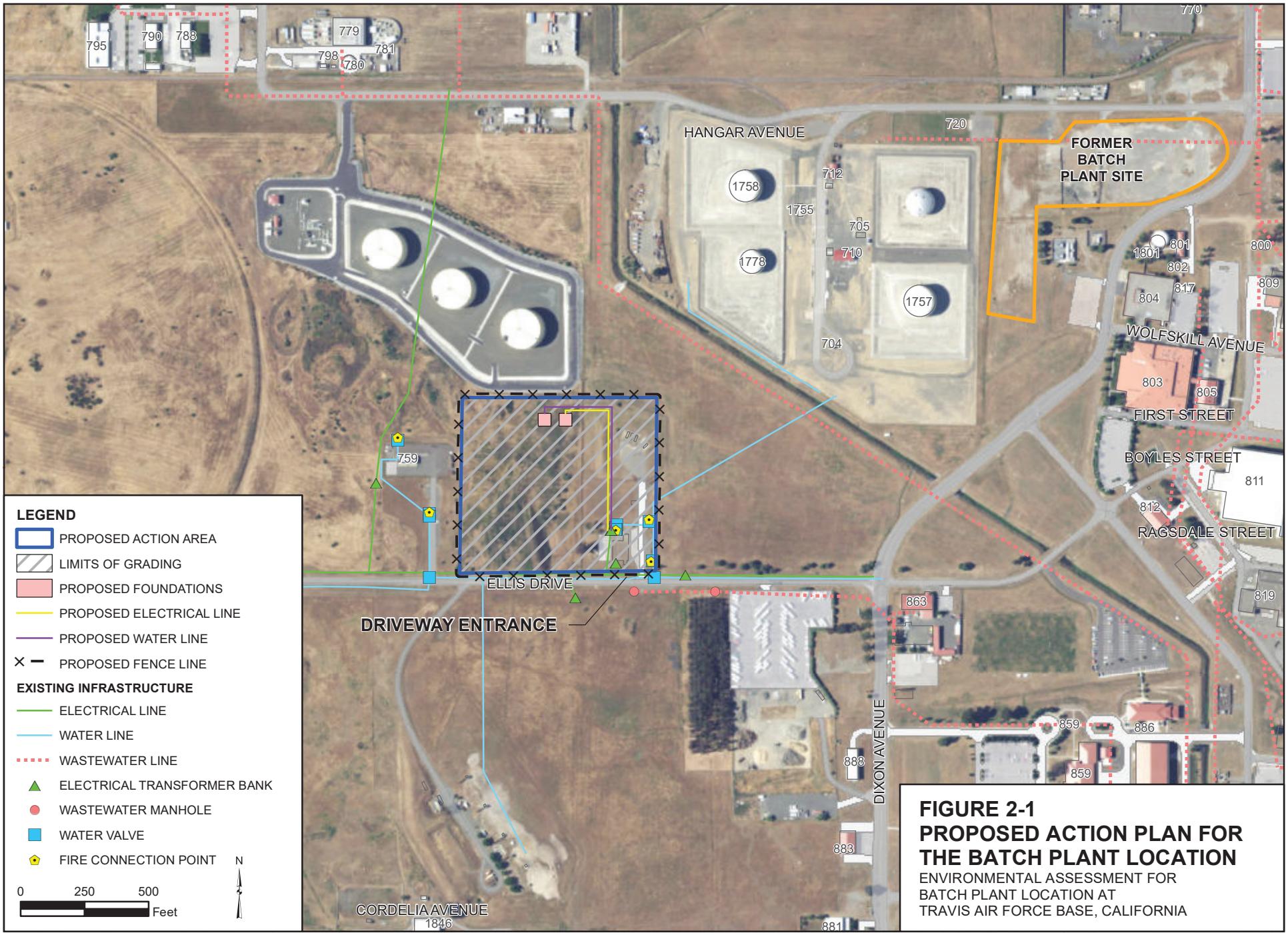

FIGURE 2-1
PROPOSED ACTION PLAN FOR THE BATCH PLANT LOCATION
ENVIRONMENTAL ASSESSMENT FOR
BATCH PLANT LOCATION AT
TRAVIS AIR FORCE BASE, CALIFORNIA

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Affected Environment

3.1 Introduction

This section describes the environment at Travis AFB that could be affected as a result of implementing the EA alternatives (see Section 2). The area of interest (or region of influence) for each environmental resource addressed in the following sections is within the boundaries of Travis AFB, unless otherwise discussed (e.g., Section 3.2, Air Quality and Climate Change and Section 3.6, Biological Resources). The potential impacts of the Proposed Action and the No Action alternative are described in detail in Section 4.

3.2 Air Quality and Greenhouse Gas Emissions

Travis AFB is in central Solano County, which is at the eastern edge of the San Francisco Bay Area Air Basin (Basin). The Basin extends from Napa County in the north to Santa Clara County in the south. The Basin is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD) as mandated by the California Air Resources Board (ARB). Only the golf course at Travis AFB extends into a neighboring jurisdiction, the Yolo-Solano Air Pollution Control District.

The purpose of this section is to provide an overview of regional air quality within the Basin. The information presented in this section includes existing meteorological and topographical conditions and current air quality conditions.

3.2.1 Regional Climate

California has a Mediterranean climate, with wet winters and dry summers. Although Travis AFB is not located near the coast, it is located near the Carquinez Strait, a major break in the Coast Range that allows the ocean to moderate temperatures at the Base. The Base usually experiences mild temperatures; the mean annual temperature is 60 degrees Fahrenheit (°F). The lowest temperatures occur in January, with a mean temperature of 46°F. The highest temperatures occur in July and August, with a mean temperature of 72°F. The monthly mean relative humidity typically ranges from 50 percent in June to 77 percent in January. The mean annual relative humidity is 60.5 percent. Precipitation is approximately 17 inches per year.

During late summer and early fall, Travis AFB is subject to marine air flowing from high pressure cells offshore toward low pressure in the Central Valley. Winds tend to flow from the west at 15 to 20 miles per hour and are typically strongest in the afternoon. The Base occasionally experiences easterly winds generated in the Central Valley. Winds from the Central Valley tend to have higher pollutant loads.

3.2.2 Current Air Quality Conditions

The Basin has been assessed for compliance with California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). Three air quality designations can be given to an area for a pollutant:

- **Nonattainment:** Ambient air quality monitoring data indicate that standards have not been consistently achieved.
- **Attainment:** Air quality standards are not being violated.
- **Unclassified:** There is not enough monitoring data to determine whether the area is in nonattainment or attainment.

Maintenance areas are the former nonattainment areas that are now consistently meeting the NAAQS, and have been reclassified by the U.S. Environmental Protection Agency (EPA) from "nonattainment" to "attainment with a maintenance plan." Relevant ambient air quality standards are listed in Table 3-1, with the area's respective attainment status. The area where Travis AFB is located, the San Francisco Bay Area portion of the Solano County, is designated nonattainment for state ozone (O_3) standards, particulate matter less than 10 micrometers in aerodynamic diameter (PM_{10}) and particulate matter less than 2.5 micrometers in aerodynamic diameter ($PM_{2.5}$) (ARB, 2013). For federal standards, San Francisco Bay Area is designated nonattainment for 8-hour O_3 and $PM_{2.5}$, and is in maintenance for carbon monoxide (CO). All other criteria pollutants are designated attainment or are unclassified.

Table 3-1. BAAQMD Attainment Status as of 17 June 2016
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California

		CAAQS		NAAQS	
Pollutant	**Averaging Time**	**Standard**	**State Attainment Status**	**Standard**	**Federal Attainment Status**
O_3	8 hours 1 hour	0.07 ppm 0.09 ppm	Nonattainment	0.070 ppm NA	Nonattainment (marginal)
CO	8 hours 1 hour	9.0 ppm 20.0 ppm	Attainment	9.0 ppm 35.0 ppm	Attainment/maintenance
NO_2	Annual 1 hour	0.03 ppm 0.18 ppm	Attainment	0.053 ppm 0.100 ppm	Attainment/unclassified
SO_2	Annual 24 hours 3 hours 1 hour	NA 0.04 ppm 0.25 ppm	Attainment	0.030 ppm[a] 0.14 ppm NA 0.075 ppm	Attainment/unclassified
PM_{10}	Annual geometric mean 24 hours	20 μg/m³ 50 μg/m³	Nonattainment	NA 150 μg/m³	Attainment/unclassified
$PM_{2.5}$	Annual arithmetic mean 24 hours	12 μg/m³ NA	Nonattainment	12 μg/m³ 35 μg/m³	Nonattainment (2006 standard)
Lead	30-day average Rolling 3-month average	1.5 μg/m³ NA	Attainment	NA 0.15 μg/m³	Attainment/unclassified

[a] Annual arithmetic mean; certain areas only

Sources: EPA, 2016; ARB, 2016a.

Notes:

Attainment status is for the San Francisco Bay Area portion of Solano County.

μg/m³ = micrograms per cubic meter
NA = not applicable
NO_2 = nitrogen dioxide
ppm = parts per million
SO_2 = sulfur dioxide

Table 3-2 lists the number of days when pollutant concentrations exceeded NAAQS or CAAQS in the Basin from 2006 to 2015 for state and federal nonattainment and maintenance pollutants (O_3, CO, PM_{10}, and $PM_{2.5}$). From 2006 to 2015 there were no exceedances of CO concentrations for the 1-hour and 8-hour NAAQS and CAAQS standards.

Concentrations of O_3 exceeded the NAAQS (8-hour) and CAAQS (1-hour and 8-hour) every year in the Basin from 2005 to 2016. Exceedances are generally attributed to unique meteorological patterns

combined with increases in emissions during summer. Urban vehicle emissions, industrial emissions, and higher ambient temperatures in the Basin contribute to summer O_3 generation and subsequent violations of the ambient air quality standards.

Table 3-2. Basin Exceedances of CAAQS and NAAQS, 2006 through 2015
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California

	Standard Exceeded	Period	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
O_3	NAAQS	8-hour	20	8	19	11	11	9	8	3	9	12
	CAAQS	1-hour	18	4	9	11	8	5	3	3	3	7
	CAAQS	8-hour	22	9	20	13	11	10	8	3	10	12
CO	NAAQS	1-hour	0	0	0	0	0	0	0	0	0	0
	NAAQS	8-hour	0	0	0	0	0	0	0	0	0	0
	CAAQS	1-hour	0	0	0	0	0	0	0	0	0	0
	CAAQS	8-hour	0	0	0	0	0	0	0	0	0	0
NO_2	NAAQS	1-hour	1	0	0	0	0	0	1	0	0	1
	CAAQS	1-hour	0	0	0	0	0	0	0	0	0	0
PM_{10}	NAAQS	24-hour	0	0	0	0	0	0	0	0	0	0
	CAAQS	24-hour	15	4	5	1	2	3	2	6	2	1
$PM_{2.5}$	NAAQS	24-hour	10	14	12	11	6	8	3	13	3	9

Source: BAAQMD, 2015

The closest O_3 monitoring station is about 5 miles north of Travis AFB, at 2012 Ulatis Drive in Vacaville, Solano County. At this monitoring station, 8-hour O_3 concentrations ranged from 0.070 to 0.093 ppm from 2006 to 2015, exceeding the CAAQS in all 10 years and exceeding the NAAQS for 6 of the 10 years (ARB, 2016b).

Particulate matter is generated within the Proposed Action area by combustion sources and wind during dry conditions. PM_{10} levels are elevated during winter because of stable ambient conditions and low mixing heights, and because of wood smoke, vehicle exhaust, and dry, windy conditions. The closest PM_{10} monitoring station is at 650 Merchant Street in Vacaville. At this monitoring station, the measured 24-hour PM_{10} concentrations ranged from 25.3 to 60.7 $\mu g/m^3$, exceeding the CAAQS in 2 of the 10 years since 2006. The 24-hour PM_{10} NAAQS has not been exceeded for the last 10 years (ARB, 2016b).

$PM_{2.5}$ concentrations are monitored at 304 Tuolumne Street in Vallejo. The 98th percentile $PM_{2.5}$ concentration measured at this station exceeded the NAAQS in 2 of the 10 years between 2006 and 2015 (ARB, 2016b).

In Solano County, NO_x and CO emissions are mostly from mobile sources and other fuel combustion sources. The highest PM_{10} and $PM_{2.5}$ emissions are from dust. Emission sources for air pollutants in Solano County are summarized in Table 3-3.

Table 3-3. Emission Sources in Solano County
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California

Source Sector	NO_x (tpy)	VOC (tpy)	CO (tpy)	SO_2 (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
Mobile	8,540	3,742	31,969	35	621	432
Fuel combustion	1,908	454	3,665	62	600	591
Fires	46	261	1,387	12	162	144
Biogenics	491	7,036	932	NA	NA	NA
Industrial Process	766	648	246	4,043	644	365
Miscellaneous	7	1,093	140	4	59	57
Solvent	4	2,388	1	0	6	5
Dust	NA	NA	NA	NA	2,003	729
Agriculture	NA	NA	NA	NA	473	317

Source: EPA, 2014
Notes:
tpy = tons per year
VOC = volatile organic compound

3.2.3 Greenhouse Gases

Greenhouse gases (GHGs) include naturally occurring and anthropogenic gases that trap heat in the earth's atmosphere. GHGs include, but are not limited to, carbon dioxide (CO_2), methane, nitrous oxide, hydrochlorofluorocarbons, perfluorocarbons, and sulfur hexafluoride. These gases trap the energy from the sun and help maintain the temperature of the Earth's surface, creating a process known as the greenhouse effect. GHG emissions occur from natural processes and human activities. The accumulation of GHGs in the atmosphere influences the long-term range of average atmospheric temperatures. Sharp rises of GHGs over the last century and a half have led to higher overall worldwide temperatures, reduced snowpack in the higher elevations, greater fluctuations of temperature and precipitation, sea level rise, and more frequent and severe extreme weather events.

In the United States, the main source of GHG emissions is electricity generation, followed by transportation. In California, transportation sources make up the largest category of GHG-emitting sources. In 2014, the most recent year for which data are provided, the annual California statewide GHG emissions were 441.5 million metric tons of carbon dioxide equivalent (CO_2e) (ARB, 2016c).

3.3 Noise

The Air Force typically uses guidelines in the *Air Installation Compatible Use Zone Study* (Travis AFB, 2009) to promote compatible land use development. Noise is one consideration to be addressed under the Air Installation Compatible Use Zone and, accordingly, Travis AFB has assessed noise levels in relation to the flightline. The descriptor of noise levels that is typically used in California is the Community Noise Equivalent Level (CNEL). The CNEL is the average sound energy level for a 24-hour day determined after the addition of a 5-decibel (dB) penalty to noise events generated between 7:00 a.m. and 10:00 p.m. and a 10-dB penalty to noise events occurring at night between 10:00 p.m. and 7:00 a.m. The CNEL is calculated by using the sound energy generated by individual noise events, the number of events occurring during a 24-hour period, and the time of day when the events occur.

During flight operations, maximum CNELs typically exceed 80 dB. These noise levels are intermittent and localized to the flightline.

There are no noise sources within the Proposed Action area. Noise in the vicinity of the Proposed Action is generated from traffic on local roadways that include Ellis Drive and Dixon Avenue. Noise could be generated from nearby industrial activities that include the fuel facility north of the site. The Proposed Action area is located approximately 1 mile northwest of the flightline, and experiences CNELs from flightline activities ranging from 65 to 69 dB (Travis AFB, 2009).

3.4 Hazardous Materials, Waste, Environmental Restoration Program Sites, and Stored Fuels

3.4.1 Hazardous Materials and Hazardous Waste

A hazardous material is defined as any substance or material that could adversely affect the safety of the public, handlers, or carriers during transportation. The Resource Conservation and Recovery Act (RCRA) Section 1004(5) defines hazardous waste as, "A solid waste, or combination of solid waste, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (a) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed" (EPA, 2005).

The activities conducted at Travis AFB that use most of the hazardous materials include aircraft maintenance, transportation maintenance, fueling, and equipment and facilities maintenance. These activities contribute approximately 95 percent of the total volume of hazardous waste generated at the Base, including flammable solvents, contaminated fuels and lubricants, stripping chemicals, waste oil, waste paint, absorbent materials, and outdated materials (chemicals stored beyond their expiration date) (Travis AFB, 2006a).

Hazardous materials are ordered, stored, and used in accordance with the *Travis AFB Integrated Solid Waste Management Plan* (Travis AFB, 2007). The Base maintains and implements the plan to comply with state, RCRA, and Air Force regulations. The plan establishes the procedures, training requirements, inspections, and record management processes for hazardous waste. The Base has one facility, Building 1365, that is permitted for long-term storage of hazardous waste. Building 1365 is managed by the 60th Civil Engineering Squadron Environmental Flight (60 CES/CEIE) and operated by contractors (Travis AFB, 2006a).

3.4.2 Solid Waste

Solid waste is defined in the California Public Resources Code Section 40191 as, "all putrescible and non-putrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, dewatered, treated, or chemically fixed sewage sludge which is not hazardous waste, manure, vegetable or animal solid and semisolid wastes, and other discarded solid and semisolid wastes" (Travis AFB, 2012a).

Nonhazardous waste generated at Travis AFB during fiscal year 2012 totaled 520.6 tons per day (190,023 tpy), including recycled waste and waste sent to a disposal facility. The amount of diverted applications (which includes composting, mulching, recycling, and reusing) averaged approximately 507.2 tons per day (185,134 tpy). The amount of nonhazardous waste sent to disposal facility averaged approximately 13.4 tons per day (4,889 tpy) (Travis AFB, 2012a). Nonhazardous solid wastes and refuse at Travis AFB are collected and disposed of by Solano County Garbage Company. The Potrero Hill Landfill site is used for solid waste disposal. All solid waste is disposed of in accordance with the *Travis AFB Integrated Solid Waste Management Plan* (Travis AFB, 2007).

As discussed in Section 2.3.2, a portion of the Proposed Action site is located on a former surface disposal waste site where construction materials (including asphalt and other debris) were stockpiled from past onbase activities. This surface disposal waste site contains approximately 9,100 cubic yards of material (Blazek, 2017) which would be removed from the site during construction.

3.4.3 Operable Units and Environmental Restoration Program Sites

An operable unit (OU) is a geographical area that contains sites with soil or groundwater contamination. There are two OUs on Travis AFB that contain approximately 34 ERP sites: (1) the West/Annexes/ Basewide Operable Unit (WABOU) and (2) the North/East/West Industrial Operable Unit (NEWIOU). The NEWIOU contains the West Industrial OU, the East Industrial OU, and the North OU. The Proposed Action is located within the WABOU (see Figure 3-1).

ERP at Travis AFB is administered by the AFCEC Installation Support Team to remediate all accident, disposal, and spill sites that might pose a potential threat to human health and welfare or the environment. ERP sites include fire protection training areas, spill sites, waste disposal sites, drum storage areas, leaking underground storage tank (UST) and piping, oil-water separators, and waste treatment plants (Travis AFB, 2013). The following documents describe the selected remedies for ERP sites:

- *Final North/East/West Industrial Operable Unit Soil, Sediment and Surface Water Record of Decision* (Travis AFB, 2006b)
- *Final Soil Record of Decision for the WABOU* (Travis AFB, 2002a)
- *Groundwater Interim Record of Decision North, East, and West Industrial Operable Unit* (Travis AFB, 1997)
- *Groundwater Interim Record of Decision for the WABOU* (Travis AFB, 1999)
- *Environmental Restoration Program Final Proposed Plan for Groundwater Cleanup* (Travis AFB, 2012b)

The depth to groundwater in the Proposed Action area ranges from approximately 4 to 15 feet below ground surface. The Proposed Action area overlaps portions of ERP sites LF044 and DP039 (see Figure 3-1) as follows:

- LF044: Landfill X – The southeastern corner of site LF044 overlaps a portion of the Proposed Action area. According to the *Travis AFB LF044 – Landfill X Fact Sheet* (Travis AFB, 2011a) site LF044 consists of several buried piles of stockpiled asphalt, concrete, and construction debris. Metals and polycyclic aromatic hydrocarbons have been detected in the soil at site LF044. These compounds may be a source of potential human health and ecological risk. Groundwater was not affected at the site. The WABOU Soil Record of Decision selected land use and access restrictions as the final soil remedy. In 2010 an aboveground storage tank (AST) fuel facility was construction in site LF044 (located northwest of the Proposed Action area; see Figure 3-1). Prior to construction of the AST facility vegetation, construction debris, and contaminated soil were removed from a portion of site LF044 and either recycled or disposed of in a landfill. After completion of the AST facility in 2012, project land use and access restrictions were removed from the AST facility area. Restrictions remain in place for two small areas north of the AST facility and one larger area south of the AST facility within LF044. (Travis AFB, 2011a)
- DP039: Building 755 – The northwestern corner of site DP039 overlaps a portion of the Proposed Action area (see Figure 3-1). According to the *Travis AFB DP039 – Building 755 Fact Sheet* (Travis AFB, 2011b), Building 755 was the Base Battery and Electric Shop, where a former acid neutralization sump for the disposal of battery acid had received chlorinated solvents. The sump was removed in 1993, but a plume of solvent-contaminated groundwater remains. Trichloroethene (TCE), a chlorinated solvent, was detected in high concentrations in the groundwater beneath the footprint of the former sump. Lead residue from the lead-acid batteries was found around the edges of the former sump

area. Building 755 was torn down in 2009. The WABOU Groundwater Interim Record of Decision selected a combination of dual-phase extraction, extraction and treatment, and monitored natural attenuation for the groundwater; the WABOU Soil Record of Decision selected land use controls for the soil at site DP039 (Travis AFB, 2011b). A dual-phase extraction (DPE) system was constructed in 2001 to clean up the source of the groundwater contamination. This system operated from 2001–2008. During that period, contaminant concentrations declined and TCE removal rates dropped. In November 2008, DPE was discontinued and a bioreactor was installed. Additional technologies to clean up the contaminated ground water at site DP039 included planting of eucalyptus trees downgradient from the bioreactor and installation of a biobarrier of emulsified vegetable oil. The Air Force has placed a land use control on the property so that it is not used for residential purposes without first addressing the lead residue in the soil (Travis AFB, 2011b). Within the Proposed Action area, Site DP039 contains a bioreactor, extraction wells, groundwater monitoring wells, and treatment performance monitoring wells (see Figure 3-1) (CH2M HILL, Inc. [CH2M], 2017).

3.4.4 Stored Fuels

Fuel is stored on Travis AFB in USTs and ASTs. Fuel is supplied to the flight line by hydrant systems fed by 10 bulk ASTs that have a combined capacity of 16 million gallons (Travis AFB, 2013).

Gasoline and diesel fuel used for military vehicles, ground equipment, and backup generators is stored in additional USTs and ASTs at various Base locations. Thirteen of these USTs, with a combined capacity of 194,000 gallons, are currently regulated by the California UST program. In addition to the 10 bulk ASTs, there are an additional 92 ASTs on Travis AFB, with a combined capacity of 145,556 gallons (Travis AFB, 2013).

The *Travis Air Force Base Hazardous Waste Management Plan* (Travis AFB, 2004) states that emergency responses and actions for incidents involving hazardous substances are conducted in accordance with the Integrated Contingency Plan for Oil and Hazardous Substance Spill Prevention and Response. The plan describes the facilities and operational procedures in place for managing the storage and transfer of petroleum, oil, lubricants, and hazardous substances. The plan also describes the contingency systems and plans in place for responding to, and cleaning up after, any discharges that could occur. Travis AFB is required to comply with California Spill Prevention Regulations, which apply to all organizations including tenant organizations on Travis AFB. The *General Plan for Travis Air Force Base, California* (Travis AFB, 2006a) states that the Base provides a facility response plan to satisfy the requirements of the federal Oil Pollution Rule (40 CFR 112). The plan demonstrates to the EPA that Base resources are managed in a manner compliant with the regulations.

There are no fuel storage sites within the Proposed Action area.

3.5 Water Resources, Floodplains, and Wastewater

Water resources comprise groundwater, surface water, floodplains, stormwater, and wastewater. Travis AFB is in the Union Creek watershed, which drains to Suisun Marsh, then to Suisun Bay, and ultimately to San Francisco Bay (Travis AFB, 2013). The study area for water resources, floodplains, and wastewater is in the Union Creek watershed within Travis AFB.

3.5.1 Groundwater

Groundwater is water that collects or flows beneath the Earth's surface. Groundwater originates from rain and melting snow and ice. Groundwater fills the porous spaces in soil, sediment, and rocks, and it is the source of water for aquifers, springs, and wells. The upper surface of groundwater is the water table. An unconfined groundwater aquifer does not have a confining layer between it and the surface. In an unconfined groundwater aquifer, water seeps from the ground surface directly above the aquifer.

On Travis AFB, the depth to unconfined groundwater aquifers varies seasonally from approximately 12 to 30 feet below ground surface. Intensive extraction of groundwater does not occur at Travis AFB because of the poor water-bearing subsurface geology. Intensive extraction occurs west of Travis AFB and Fairfield, where the alluvium is thicker and contains coarse-grain sediment. Groundwater wells in the area of Travis AFB are limited to domestic, stock-watering, and irrigation wells, with typical screened depths within 100 feet of the ground surface (Travis AFB, 2002a). Domestic wells, several of which are downgradient from Travis AFB, are typically used to provide water to households for domestic use (Travis AFB, 2002a).

The groundwater gradient indicates the direction of groundwater flow. The general direction of the groundwater gradient beneath Travis AFB is to the south, which follows the regional trend. The maximum horizontal hydraulic gradient in the upper portion of the aquifer at Travis AFB is approximately 0.02 vertical foot per horizontal foot. The minimum horizontal gradient in the upper portion of the aquifer is approximately 0.002 near the southern border of the Base (Travis AFB, 1997).

The depth to groundwater in the Proposed Action area ranges from approximately 4 to 15 feet below ground surface. Approximately eight groundwater monitoring wells, extraction wells, and treatment performance monitoring wells associated with groundwater remediation activities at ERP Site DP039 are located within the Proposed Action footprint (see Section 3.4.3 and Figure 3-1).

3.5.2 Surface Water

Surface water is water on the surface of the planet such as in a stream, river, lake, wetland, or ocean. A hydrologic basin, or drainage basin, is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water (U.S. Geological Survey, 2014).

Travis AFB is in the northeastern portion of the Fairfield-Suisun Hydrologic Basin. Within the basin, water generally flows south to southeast toward Suisun Marsh, which comprises approximately 85,000 acres of tidal marsh, managed wetlands, and waterways. Suisun Marsh is the largest remaining wetland around San Francisco Bay (San Francisco Bay Conservation and Development Commission, 2007). Suisun Marsh drains into Grizzly Bay and Suisun Bay. Water from these bays flows through the Carquinez Strait to San Pablo Bay and San Francisco Bay, which ultimately discharge into the Pacific Ocean near the city of San Francisco.

Travis AFB is in the southern portion of the Union Creek watershed. The headwaters of Union Creek are located approximately 1 mile north of the Base, near the Vaca Mountains. As shown on Figure 3-2, Union Creek splits into two branches north of the Base. Onbase, the main (eastern) branch is impounded to create a recreational pond designated as the Duck Pond. At the exit from the Duck Pond, the creek is routed through an underground storm drainage system to the southeastern Base boundary, where it empties into an open creek channel.

Union Creek is the primary surface water drainage for runoff at Travis AFB (see Figure 3-2). Stormwater runoff flows into the creek through a network of pipes, culverts, and open drainage ditches. Local drainage patterns have been substantially altered by rerouting Union Creek, constructing the aircraft runway and apron, installing storm sewers and ditches, and general development (e.g., construction of buildings, roads, and parking lots).

The surface water collection system divides the Base into eight independent drainage areas (see Figure 3-2). Drainage Areas I through VI drain into Union Creek. The Proposed Action area is located within Drainage Area II, which drains to Outfall B (see Figure 3-2). Approximately 0.55 acre of wetlands occur within the Proposed Action area (see Section 3.6.6 and Figure 3-3).

3.5.3 Floodplains

A floodplain is a nearly flat plain along the course of a stream or river that is naturally subject to flooding. A 100-year flood has a 1 percent probability of occurring in any given year. A 500-year flood has a 0.2 percent probability of occurring in any given year.

According to the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map, Travis AFB is located in Other Areas, Zone D (an area of possible but undetermined flood hazard) (FEMA, 2014 and 2016). The California Department of Water Resources (DWR) Best Available Maps (DWR, 2014) showing 100-year floodplains in Solano County does not indicate that a 100-year floodplain is located within the boundaries of Travis AFB.

According to the *Integrated Natural Resource Management Plan* (Travis AFB, 2013), a majority of the Base is within a 500-year floodplain; however, after review of recent hydrological data from the Suisun City Department of Planning, Travis AFB has concluded that the installation is outside of the 500-year floodplain. Travis AFB plans to revise the INRMP to state this conclusion (Department of the Air Force, 2017).

Mapping of FEMA flood zones (FEMA, 2016) shows that most of Travis AFB, including the Proposed Action area, is located within Zone D (an area of undetermined but possible flood hazard) (see Figure 3-2). Two areas in the northern portion of Travis AFB are shown to be within Zone X, defined by FEMA *as "areas determined to be outside the 500-year floodplain determined to be outside the 1 percent and 0.2 percent annual chance floodplains*." A 100-year floodplain is shown to occur nearby in various locations outside of the Base boundary (see Figure 3-2). Laws and regulations related to actions that occur in floodplains are discussed in Section 4.5.1.

3.5.4 Stormwater

Stormwater is water that originates during precipitation events. Approximately 38 percent of Travis AFB consists of impervious areas. To prevent flooding, runoff from the impervious areas of the Base enters the Base stormwater drainage system. The drainage system consists of a series of underground storm drains and open ditches. The Stormwater Permit divides these into six drainage areas, Sites I through VI (Travis AFB, 2013). Two other drainage areas, designated as XE and XW (see Figure 3-2), sheet-flow stormwater to adjacent property outside the Base (Travis AFB, 2013). The Proposed Action area is located within Drainage Area II, which drains to Outfall B (see Figure 3-2).

The Base storm drain capacity is designed for a 10-year, 24-hour storm. Only minor temporary flooding occurs during extreme rain events in areas where storm drain piping is undersized or infiltrated by roots. Routine maintenance minimizes flooding in these small areas, and no damage occurs to structures (Travis AFB, 2013).

The Proposed Action area is mostly unpaved, with a few existing paved areas. Paved areas are in the eastern portion of the site and consist of a driveway, former parking areas, and a former building site (see Figure 2-1). The Proposed Action area consists almost entirely of permeable surfaces, which provide for stormwater infiltration into the soil.

3.5.5 Wastewater

Wastewater is water that has been adversely affected in quality by use in processes that include washing, flushing, manufacturing, and sewage. The wastewater system on Travis AFB consists of industrial wastewater pipes and connections to the sanitary sewer from all lavatories, showers, and janitorial sinks in Base buildings and housing units. Wastewater is transported offbase via underground piping to the local, publicly owned treatment works (POTW). Discharges from Travis AFB to the POTW

834 average approximately 1 million gallons per day. At the POTW, wastewater is treated and either
835 reclaimed or discharged to Suisun Slough under the POTW NPDES permit (Travis AFB, 2013).

836 There are no activities in the Proposed Action area that generate waste water.

837 3.6 Biological Resources – Wetlands and Special-status 838 Species

839 The Proposed Action at Travis AFB is in the Suisun Hills and Valleys Subsection of the Central California
840 Coast Ecological Region. This subsection includes the low hills north and south of the Carquinez Strait
841 and the valleys between the hills at the west end of the Sacramento-San Joaquin Delta (Miles and
842 Goudey, 1997). The Proposed Action area is located within a remnant portion of the Solano-Colusa
843 Vernal Pool Region (Keeler-Wolf et al., 1998), characterized by periodic basins surrounded by upland
844 herbaceous-dominant vegetation of the Sacramento Valley (USFWS, 2005). Descriptions of this vernal
845 pool region provide the regional context for the Proposed Action area.

846 The Solano-Colusa Vernal Pool Region covers most Solano County, ranging northward from the low-lying
847 plains adjacent to Suisun Marsh and the Sacramento-San Joaquin Delta through the Colusa Basin of
848 western Sacramento Valley to the vicinity of Princeton, Glenn County. The Solano-Colusa Vernal Pool
849 Region is best known for well-represented examples of northern claypan pools between State Route 113
850 and the Base. This is the only known region to contain the federal-listed threatened Delta green ground
851 beetle (*Elaphrus viridis*) and the federal-listed endangered grass Crampton's tuctoria (*Tuctoria*
852 *mucronata*), which distinguish this region from any other vernal pool region defined by Keeler-Wolf
853 et al., (1998).

854 Agricultural practices, water diversions, and impoundments for waterfowl enhancement, development,
855 and road building have affected vernal pools in the region. Many of the vernal pool areas in the region
856 have been converted to agriculture or developed for residential, commercial, or industrial uses.

857 3.6.1 Vegetation and Wildlife

858 The Proposed Action area is surrounded by open grassland, except for development on the west and
859 north sides of the site. A large soil stockpile, covered in naturalized grasses and weeds, is located in the
860 in the southwestern section of the Proposed Action area.

861 3.6.1.1 Upland Annual Grassland Community

862 Vegetation throughout most of the survey area is characterized by naturalized annual grasses and
863 weedy forbs such as wild oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), rip-gut brome (*Bromus*
864 *diandrus*), Medusa head (*Elymus caput-medusae*), Italian ryegrass (*Festuca perennis*) yellow star-thistle
865 (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), black mustard (*Brassica nigra*), prickly
866 lettuce (*Lactuca serriola*) and fennel (*Foeniculum vulgare*). Several large clumps of giant reed (*Arundo*
867 *donax*) are present on the west side of the site and a few coyote brush (*Baccharis pilularis*) shrubs are
868 also present.

869 3.6.1.2 Seasonal Wetland

870 This community type is found in depressional areas to the west, south, and northeast of the Proposed
871 Action area and is characterized by depressions, swales, or drainage features. The depressional areas
872 hold water for short periods of time relative to active vernal pools on adjacent properties or on the
873 western and southwestern portion of the Base. Many of these areas were once more mesic and
874 perhaps functioned as vernal pools under historical/pre-disturbance hydrological conditions. These
875 mesic depressional prairie areas within the action area are dominated by Mediterranean barley

(*Hordeum marinum* ssp. *gussoneanum*), popcorn flower (*Plagiobothrys* sp.), wooly marbles (*Psilocarphus brevissimus*), Italian ryegrass, ripgut brome, wild oat, and filaree.

3.6.1.3 Vernal Pool Community

The vernal pool community type occurs in remnant vernal pools to the west and south of the Proposed Action area; and it is dominated by native annual plants characteristic of northern claypan soil (Sawyer and Keeler-Wolf, 1995). Vernal pools are shallow depressions or small, shallow pools that fill with water during the winter rainy season. These areas typically occur in areas where the basin topography is pronounced and surface water is present for a relatively short period. Vernal pools begin drying out during the spring and are completely dry during the summer. Most vernal pools at Travis AFB are northern claypan vernal pools that occur on deep alluvial soils. Vernal swales, which are ecologically and floristically similar to vernal pools, also occur at Travis AFB. Vernal swales consist of drainways or poorly defined depressions that are inundated seasonally but hold standing water for relatively short periods (Travis AFB, 2013).

Vernal pools have developed an ecologically unique flora that evolved to tolerate the extreme wetting and drying cycle. Plant species include Fremont's goldfield, annual hairgrass (*Deschampsia danthonioides*), popcorn flower, wooly marbles, and occasional occurrences of downingia (*Downingia cuspidata*). Eleven vernal pools were identified within 250 feet of the Proposed Action area. The pools are concentrated along the western and southwestern end of the Proposed Action area (Auxilio, 2016) (see Table 3-4). These features will not be directly affected by the project, because all activities will occur within the Proposed Action footprint.

Table 3-4. Wetlands and Vernal Pools within 250 feet of the Proposed Action
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California

Travis AFB Identifier[a]	Acreage	Distance from Project Limits (feet)
VP.CA.483	0.0664	125
VP.CA.783	0.213	142
VP.GA.488	0.0193	107
VP.GA.824	0.00691	162
VP.GA.489	0.0330	198
VP.GA.825	0.0175	62
VP.GA.826	0.0075	227
VP.CA.665	0.0579	238
VP.CA.666	0.0915	229
VP.GA.882	0.0239	162
VP.GA.881	0.0165	129

a Source: Auxilio, 2016

3.6.2 Special-status Species

For the purposes of this EA, special-status species are defined as follows:

- Federal-listed endangered or threatened species or species that are candidates for federal listing as endangered or threatened under the federal ESA.
- California-listed threatened, endangered, or rare species under the California Endangered Species Act (CESA)

Both the ESA and the CESA define the following:

- Endangered Species: Any species in danger of extinction throughout all or a significant portion of its range (ESA Section 3(6)).
- Threatened Species: Any species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (ESA Section 3(20)).
- Candidate Species: Plant and animal taxa considered for possible addition to the list of endangered and threatened species. These are taxa for which the USFWS has sufficient information regarding biological vulnerability and threat(s) to support issuance of a proposal to list, but issuance of a proposed rule is currently precluded by higher priority listing actions (61 CFR 7596–7613).

The ESA directs all federal agencies to participate in conserving these species. Specifically, Section 7 of the ESA charges federal agencies to aid in the conservation of listed species and requires the agencies to ensure that their activities are not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitats. Section 7 requires federal agencies to consult with the USFWS to ensure that actions they fund, authorize, permit, or otherwise carry out will not jeopardize the continued existence of any listed species or adversely modify designated critical habitats.

Table 3-5 lists species that potentially occur in the Proposed Action area has been compiled from the results of previous studies conducted on Travis AFB and information from the California Natural Diversity Database (2017) and the California Native Plant Society (2017). Preliminary database searches included the following nine U.S. Geological Survey Quadrangles: Mt. Vaca, Allendale, Dixon, Fairfield North (499D), Elmira (498C), Dozier (498D), Fairfield South (482A), Denverton (481B), and Vine Hill (482D). Federally listed species for the project were identified online by the USFWS Sacramento Field Office (USFWS, 2017). Fifteen special-status species (5 plants and 10 animals) were identified as known or having potential to occur within Travis AFB (see Table 3-6).

Table 3-5. Existing Biological Resources Studies
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California

Title	Author	Date
Basewide Ecological Habitat Assessment for Travis Air Force Base, California	Roy F. Weston, Inc.	1994
Assessment of Special-Status Plant and Animal Species at Travis Air Force Base, Solano County, California, Phase II Surveys.	Biosystems Analysis, Inc.	1993
California Tiger Salamander Habitat Assessment at Travis Air Force Base, Solano County, California	Rana Resources	2005
Results of First Year Special-Status Vernal Pool Invertebrate Surveys at Travis Air Force Base – Winter/Spring 2004/2005	EcoAnalysts, Inc.	2005
Results of Special-Status Vernal Pool Invertebrate Surveys at Travis Air Force Base	EcoAnalysts, Inc.	2006
Travis Air Force Base – Final Summary of Rare, Threatened, and Endangered Species Associated with Seasonal Wetlands	CH2M	2006a
Travis Air Force Base – Final Natural Resource Liability and Assessment Management Report	CH2M	2006b
Wetland Assessment for the Batch Plant Project	E2	2014
2015 Burrowing Owl Survey	Marty Ecological Consulting	2015
Final Jurisdictional Delineation for Travis Air Force Base	Auxilio	2016
2016 Vernal Pool Aquatic Species Survey Report	Marty Ecological Consulting	2016
2016 Contra Costa Goldfields (Lasthenia conjugens) Monitoring Report. Travis AFB.	Marty Ecological Consulting	2017a
2016 Habitat Assessment for the Delta Green Ground Beetle on Travis Air Force Base. Technical memorandum.	Marty Ecological Consulting	2017b
Status Report for the period 7 July - 14 July 2017: California Tiger Salamander (CTS) Relocation Effort on Travis Air Force Base	Marty Ecological Consulting	2017c

Note:
E2 = E2 Consulting Engineers, Inc.

Table 3-6. Special-status Species Potentially Occurring at Travis AFB
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California

Species Scientific Name	Species Common Name	Protection Status	Presence
Plants			
Neostapfia colusana	Colusa grass	FT	Potential
Lasthenia conjugens	Contra Costa goldfields	FE	Known
Tuctoria mucronata	Crampton's tuctoria	FE/SE	Potential
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	FT	Potential
Trifolium amoenum	Showy Indian clover	FE	Potential
Animals			
Rana aurora draytonii	California red-legged frog	FT	Potential
Ambystoma californiense	California tiger salamander	FT/ST	Known
Branchinecta conservatio	Conservancy fairy shrimp	FE	Potential
Elaphrus viridis	Delta green ground beetle	FT	Potential
Thamnophis couchi gigas	Giant garter snake	FT/ST	Potential
Athene cunicularia	Western burrowing owl	SC	Known
Buteo swainsoni	Swainson's hawk	ST	Known
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	FT	Potential
Branchinecta lynchi	Vernal pool fairy shrimp	FT	Known
Lepidurus packardi	Vernal pool tadpole shrimp	FE	Known

Source: Travis AFB, 2013; Marty Ecological Consulting, 2015; USFWS, 2016

Notes:
FE = Federal Endangered
FT = Federal Threatened
SE = State Endangered
ST = State Threatened
SC = State Species of Special Concern

3.6.3 Areas Subject to Regulation under Sections 404 and 401 of the Clean Water Act

Wetlands and other waters are ecological habitats that are protected under federal laws and regulations. The CWA is the primary statute providing protection of aquatic resources and is administered by the USACE and the California State Water Resources Board (as delegated). Actions that involve the placement of fill material into jurisdictional waters or wetlands must comply with Sections 404 and 401 of the CWA.

The USACE regulates the discharge of dredge and fill material into Waters of the United States (including wetlands) under Section 404 of the CWA. Waters of the United States are defined as all navigable waters, including the following:

- All tidal waters
- All interstate waters and wetlands

- All other waters, such as lakes, rivers, streams (perennial or intermittent), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, that the use, degradation, or destruction of which could affect interstate commerce
- All impoundments of water mentioned above
- All tributaries to waters mentioned above
- Territorial seas
- All wetlands adjacent to waters mentioned above

Sections of Union Creek, including a tributary east of the Proposed Action area, would be subject to regulation as Waters of the United States under CWA Section 404. Wetlands are areas that "are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (USACE, 1987). No wetlands occur within the Proposed Action area.

Section 401 of the CWA specifies that states must certify that any activity subject to a federal permit (such as a USACE permit) meet water quality standards.

3.6.4 Botanical Surveys

Special-status plants are known to occur on Travis AFB from previous studies (see Table 3-6). No special-status plants or their habitats were identified in the Proposed Action area. Contra Costa goldfields (*Lasthenia conjugens*), a federally listed species, are known to occur in two vernal pools within 250 feet of the Proposed Action area (VP.CA.666 and VP.GA.882); large populations of this species occur approximately 0.65 mile northwest of the Proposed Action area, in the Aero Club vernal pool complex (Marty Ecological Consulting, 2017a; see Figure 3-3). Designated critical habitat areas for Contra Costa goldfields are located on the Base, approximately 0.7 mile west and 1.2 miles south of the Proposed Action area (see Figure 3-3).

3.6.5 Wildlife Surveys

Wildlife surveys were conducted on 15 July and 24 August 2014 (E2, 2014; Area West, 2014). No federal-listed wildlife species or their habitats were observed during the field surveys. Vernal pool fairy shrimp were identified in vernal pools located across Ellis Road to the south of the Proposed Action area. Small mammal burrows that may provide refugia for California tiger salamander (CTS) were observed within the project vicinity and the area of proposed disturbance. Burrowing owls (*Athene cunicularia*), a State Species of Special Concern, are known to occur in the surrounding grassland habitat to the south and southwest of the Proposed Action area (Marty Ecological Consulting, 2016).

3.6.5.1 California Tiger Salamander

The large areas of grassland with seasonal wetlands within Travis AFB provide suitable upland habitat (estivation) for CTS. A general habitat assessment for CTS was conducted for selected wetlands on Travis AFB in 2005 (Rana Resources, 2005). The habitat assessment considered wetland characteristics such as water depth, size, and density of aquatic vegetation, species of amphibian larvae, and the presence of small mammal burrows. Selected wetlands were sampled during daylight hours by using a 0.25-inch-mesh dip net. All amphibian larvae were noted and keyed to species; native and introduced fish or aquatic invertebrates were also noted. Pools considered likely breeding habitat for CTS had water depths greater than 1 foot were inhabited by aquatic invertebrates and amphibian larvae and were surrounded by small mammal burrows. Such pools were rated on a scale of low, medium, or high with regards to the likelihood of being CTS breeding habitat. The rating was based on water depth and the relative abundance of food. Wetlands with abundant food resources and deep water were given the

highest the rating. Pools not fitting these criteria were likely small, contained fish, or were completely dry. These pools were rated "None" with regards to their potential to serve as CTS breeding habitat.

A study of all known and potential CTS breeding sites was conducted by researchers at the University of California, Davis during the 2008–2009 and 2009–2010 breeding seasons at Travis AFB. None of the potential breeding sites monitored during the survey were determined to be suitable habitat, because of the lack of sufficient hydroperiod to support breeding (Shaffer and Johnson, 2010). The closest identified breeding area studied on the Base was contained within the Castle Terrace housing complex, approximately 1.5 miles northeast of the Proposed Action area.

CTS are known to occur in seasonal wetlands and vernal pools adjacent to Runway 03/21L. A 2017 CTS survey was initiated to identify dispersal and movement patterns of CTS from breeding ponds adjacent to the runways at Travis AFB (Marty Ecological Consulting, 2017c). The nearest documented CTS pond is approximately 2.4 miles east of the project site. CTS upland habitat is defined as habitat within 1.3 miles of a known breeding pool (see Figure 3-3). No breeding ponds are present in the Proposed Action area. The Proposed Action area is in an area characterized as "low risk of encountering CTS" according to Landscape Resistance and Habitat Suitability Mapping conducted as part of the Programmatic Biological Assessment prepared for six federally listed species (Travis AFB, 2017b).

3.6.5.2 Vernal Pool Branchiopod Surveys

Basewide surveys for vernal pool branchiopods were conducted between 29 November 2004 and 21 March 2005 and between 8 January and 27 April 2006 (EcoAnalysts, 2006). The surveys were conducted in accordance with the *Interim Survey Guidelines to Permittees* (USFWS, 1996). Areas of potential habitat were sampled by using a large dip net at 2-week intervals throughout the wet season. One occurrence of vernal pool fairy shrimp (*Branchinecta lynchi*) was observed in a vernal pool approximately 100 feet north of Runway 03R/21L (see Figure 3-3).

A study conducted in February 2008 as part of the South Gate Improvement Project identified vernal pool fairy shrimp in vernal pools along Petersen Road, approximately 220 feet south of the Proposed Action area, on the south side of Ellis Road (CH2M, 2008) (see Figure 3-3).

A non-protocol, wet season survey conducted by Marty Ecological Consulting (2016) identified vernal pool fairy shrimp in 16 vernal pools/wetlands on the Base; therefore, their presence in all suitable habitat in the Proposed Action area is assumed for this project. Designated vernal pool critical habitat areas for Conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool fairy shrimp, and vernal pool tadpole shrimp (*Lepidurus packardi*) are located on the Base, approximately 0.75 mile west of the Proposed Action area.

3.6.6 Wetlands

Approximately 0.55 acre of wetlands occur within the Proposed Action area. Eleven vernal pools were identified within 250 feet of the Proposed Action area, concentrated along the west and southwest end of the Proposed Action area. These features will not be directly affected by the project, because most of activities will occur within the Proposed Action footprint. Construction activities occurring in the uplands within 250 feet of wetland features may result in indirect impacts on wetlands. Erosion control measures will be installed adjacent to the project limits during construction to protect wetlands from site runoff and construction debris. Operation of the batch plant will also require erosion control measures to protect adjacent wetlands.

3.7 Cultural Resources

Cultural resources are districts, buildings, sites, structures, areas of traditional use, or objects with historical, architectural, archeological, or cultural importance. Cultural resources include archeological resources (prehistoric and historic), historic architectural resources (physical properties and structures),

and traditional cultural properties (those important to living Native Americans for religious, spiritual, ancestral, or traditional reasons).

3.7.1 Cultural History

The region where Travis AFB is located was once inhabited by the Suisun/Patwin Indians. These early inhabitants of the region were hunter-gatherers. Deer, tule elk, and pronghorn were hunted, and fish and fowl were harvested from rivers and marshes. Acorns, buckeyes, grass-seeds, bulbs, greens, sunflower seeds, and blackberries were also part of the Suisun/Patwin diet. Remnants of the Suisun/Patwin are now considered part of the Wintun group. The Yocha Dehe Wintun Nation was federally recognized in 2009 and is composed of Patwin-speaking Wintun people who live in Capay Valley in Lake County, California. The Cortina Indian Rancheria (Kletsel Dehe Band of Wintun Indians) was established in 1907 and is based in Williams, Colusa County, California. (Travis AFB, 2016a)

The area surrounding Travis AFB is cultivated for agricultural products and used for grazing livestock. These activities were first performed during the Spanish and Mexican Period (1750–1849) and early settlement in Solano County and Travis area (1842–1880). The land occupied by Travis AFB was once public land that bordered three Mexican land grants that date to 1841. Large ranchos focused on farming and ranching existed in the region until the discovery of gold in the Sierra Nevada Mountains in 1849. (Travis AFB, 2016a)

Railroad development in Solano County and the Travis AFB area began in 1918. The first state highway in Solano County was constructed in 1912–1914, which allowed for growth in the eastern half of the county. During the Great Depression in the 1930s, farm incomes decreased by approximately 50 percent, although the area in the vicinity of Travis AFB was only marginally affected because farming there was minimal. Grazing and secondary grain cultivation was the principal land use until 1942. (Travis AFB, 2016a)

The U.S. Army established a wartime airfield near Fairfield and Suisun City, California, in 1942. The Fairfield-Suisun Army Air Base became the point of embarkation for tactical bombers for the Pacific Theater and was expanded with additional acreage in 1943. After World War II, Travis AFB became an intercontinental reconnaissance and bomber installation. The Base was an important aerial transport hub and had become the Army Air Force's largest base on the West Coast. (Travis AFB, 2016a)

3.7.2 Cultural Resource Investigations and Resources

Travis AFB has been surveyed for archaeological and historic resources. Ten archaeological sites have been located during the surveys: three prehistoric and seven historic sites. None of these sites were determined eligible for listing in the National Register of Historic Places (NRHP) (Travis AFB, 2016a).

The *Geoarchaeological Overview and Site Sensitivity Assessment for Travis Air Force Base, Solano County, California* (Far Western Anthropological Research Group, Inc., 2017) evaluated the potential for buried sites on Travis AFB. The report concluded that 8 acres of land on the Base has a high potential for buried artifacts. The nearest area of high potential for buried artifacts is approximately 1.5 mile south of the Proposed Action area, near the southern most boundary of the Base.

On Travis AFB, 28 buildings and structures have been determined eligible for listing in the NRHP with State Historic Preservation Officer concurrence, or are managed as NRHP eligible. Building 810 has been determined to be individually NRHP eligible, and the other 27 structures contribute to either the Alert and Readiness Area Historic District or the Air Force special Weapons Project Historic District onbase (Travis AFB, 2016a). Of the historical buildings, none are located near the Proposed Action area.

Coordination between Travis AFB, the State Historic Preservation Officer (SHPO), and Native American tribes, including a site visit at the Proposed Action area is discussed in Section 4.7.

3.8 Socioeconomic Resources

Socioeconomic resources include the population, income, employment, and housing conditions of a community or region of influence. Socioeconomic conditions could be affected by changes in the rate of population growth, the demographic characteristics of a community, or employment within the region of influence caused by the implementation of the Proposed Action. The study area for socioeconomic resources is Solano County, the city of Fairfield, and Travis AFB.

The estimated population of Solano County in 2016 was approximately 440,000 (U.S. Census Bureau, 2017). The estimated population of Fairfield in 2015 was approximately 113,000 (U.S. Census Bureau, 2017). In Fiscal Year 2016, Travis AFB was the largest employer in Solano County, with a workforce of approximately 12,500 people, including 6,600 active duty personnel, 2,800 Air Force Reservists, and 2,900 civilian personnel (Travis AFB, 2016b). The Base adds value to the community by creating an estimated 5,000 indirect jobs. The estimated annual dollar value of the indirect jobs created is approximately $250 million (Travis AFB, 2016b).

3.9 Land Use

Land use classifications characterize the natural and human activities that occur at, or are planned for, a given location. Land uses on Travis AFB are grouped into the following 12 functional categories:

1. **Administrative** – personnel, family services, police and security, wing/group headquarters, legal services, communications, gate and visitor management, and other support facilities.
2. **Aircraft Operations and Maintenance** – aircraft operations, aircraft maintenance, aircrew and maintenance training facilities, and passenger and freight terminal facilities.
3. **Airfield** – pavement system, related open space, navigational aids, and airfield and airway clearance surfaces.
4. **Community (Commercial)** – the exchange, commissary, banking, dining facilities, eating establishments, indoor recreation facilities, and service stations. Supports the needs of personnel and their families.
5. **Community (Service)** – schools, education centers, library, chapel, post office, and child development facilities. Supports the needs of personnel and families.
6. **Housing (Accompanied)** – family housing, mobile home parks, and temporary lodging facilities.
7. **Housing (Unaccompanied)** – dormitories for bachelors and quarters for visiting personnel.
8. **Industrial** – fire stations, base supply and equipment complex, fuel facilities, vehicle maintenance, civil engineer complex, open storage, utilities infrastructure, emergency response, ordinance and weapons storage, and other industrial uses.
9. **Medical** – medical, dental, and Veterans Administration clinics, veterinary clinics, and bioenvironmental engineering facilities.
10. **Open Space** – conservation and preservation areas, safety, security, and buffer zones including spaces that are unsuitable for development.
11. **Outdoor Recreation** – activities such as golf and swimming, park and picnic facilities, and recreation equipment checkout and storage.
12. **Water** – open space, outdoor recreation activities, and buffer space between incompatible uses; generally, includes ponds, streams, lakes, shorefronts and oceans.

The area of interest for the Proposed Action comprises those areas where the project components could result in changes or impacts on land use type, and patterns of development. For the direct effects on land use, the area of interest includes the Proposed Action area (see Figure 3-4). For indirect effects on land use, the area of interest includes the land adjacent to and outside of the Proposed Action area. Land use within the Proposed Action footprint and within 500 feet of the Proposed Action footprint includes Industrial and Open Spaces uses (see Figure 3-4).

3.10 Transportation System

This section summarizes the components of the transportation system at Travis AFB. Information regarding the transportation system is summarized from the *General Plan for Travis Air Force Base, California* (Travis AFB, 2006a). The road network surrounding Travis AFB is shown on Figure 3-5.

The road network serving Travis AFB consists of several major thoroughfares including Travis Avenue, Ragsdale Street/Cannon Drive, Burgan Boulevard, Parker Road, Hickam Avenue, and Hangar Avenue. Minor streets that branch from these main roadways are Skymaster Drive, Broadway Street, W Street, Cordelia Avenue, and 1st Street, which serve as collector facilities for the Base. Perimeter Road is adjacent to the airfield on the south side of the Base.

Facilities within Travis AFB's transportation system include parking areas, sidewalks, bicycle paths, mass transit, a passenger/cargo terminal, and a railhead. The maximum design vehicle weight capacity of onbase roads is 14,000 pounds (i.e., Highway Class).

The Proposed Action area is in the western portion of the Base. Ellis Drive is the primary access road to the Proposed Action area (see Figure 2-1). No other roads border the Proposed Action area.

3.11 Airfield Operations

Airfield operations refer to any takeoff or landing at the Base; the activity may be either part of a training maneuver or defense-related operations. In fiscal year 2012, the air crews at Travis AFB flew more than 43,000 hours, and nearly 7,500 sorties. Travis AFB delivered more than 25 million gallons of fuel during mid-air refueling, transported 67,000 personnel, and moved 80,000 tons of cargo (Travis AFB, 2012c).

3.12 Safety and Occupational Health

BioEnvironmental manages safety and occupational health for Travis AFB. Construction site safety and accident prevention are ongoing activities for all Air Force job sites. As part of the contracts for construction services, standard terms and conditions include safety as a priority. An area of concern is compliance with regulations typical for construction projects, such as confined-space regulations, handling of hazardous materials, minimum personal protection equipment standards, and limited access to the construction area.

Hazardous wastes, including fuel, are managed and disposed of in accordance with applicable regulations and the *Hazardous Waste Management Plan* (Travis AFB, 2004).

AFM 91-201, Explosives Safety Standards, requires that defined quantity distance (QD) arcs be maintained between explosive materials storage and handling facilities and various other uses. QD arcs are determined by the type and quantify of explosive materials stored. Within QD arcs, development is either restricted or altogether prohibited to maintain personnel safety and minimize the potential for damage in the event of an accident. The western portion of the Proposed Action area is located within a QD arc.

3.13 Environmental Management

Environmental Management includes geology, soils, and pollution prevention. The following sections describe the regional geology, soil types, and pollution prevention plans at Travis AFB.

3.13.1 Geology

Travis AFB is located on the western edge of the Sacramento Valley segment of the Great Valley Geomorphic Province. The Coast Range Geomorphic Province, which consists of folded and uplifted bedrock mountains, is west of Travis AFB (Thomasson et al., 1960).

The geomorphology of Travis AFB is characterized by gently sloping alluvial plains and fans. These coalescing, low-relief fans were deposited by Ulatis, Union, Alamo, Laurel, and Suisun Creeks. Most of the alluvial material was deposited prior to the last period of glaciation during the Pleistocene Epoch and is referred to as Older Alluvium. During the last 15,000 years, as sea levels have risen, the drainages have refilled with alluvium. This material is referred to as Younger Alluvium. Some topographic relief in the form of very low ridges is caused by outcroppings of sedimentary rock in the Travis AFB area.

At Travis AFB, the overall thickness of the alluvium ranges from 0 to approximately 70 feet but is generally less than 50 feet. West of the Base, the thickness of the alluvium increases to more than 200 feet (Thomasson et al., 1960).

Past tectonic processes folded and uplifted the bedrock to form the hills and mountains located north, west, and south of Travis AFB. Outcrops of relatively resistant Markley Sandstone, Domengine Sandstone, and Tehama Formation form most of the topographic high points onbase.

Travis AFB is in the San Francisco Bay Area (Bay Area), which is susceptible to frequent earthquake activity. The U.S. Geological Survey concluded that there is a 70 percent probability that at least one Magnitude 6.7 or greater earthquake capable of causing widespread damage could strike the Bay Area before 2030 (Travis AFB, 2006a).

The nearest fault system to the Proposed Action area is the Vaca Fault system, which traverses the eastern portion of the Base. A potentially more devastating fault, the Green Valley Fault, is located 10 miles west of the Base. The most prominent fault zones in the Bay Area are the San Andreas, Hayward, and Calaveras Faults, which are located 20 miles or more from the Base (Travis AFB, 2006a).

3.13.2 Soils

Soil develops from geologic material exposed at the earth's surface as the material is altered through physical, chemical, and biological processes. The nature of soil is, in part, a function of climate, surface slope, time of exposure at the surface, and the type of original (parent) material. Soils near Travis AFB are classified as alfisols, which are primarily silt and clay loams that exhibit low permeability and poor drainage characteristics. The soil type in the Proposed Action area is Altamont-San Ysidro-San Benito complex. The soil map on Figure 3-5 shows the distribution of soil types on Travis AFB.

3.13.3 Pollution Prevention

Travis AFB has an active Pollution Prevention Program to reduce the quantity of waste material through a hierarchy of actions ranging from the preferred choice of source reduction to recycling and treatment; disposal is the last resort. The Enterprise Environmental Safety and Occupational Health Management Information System analyzes all processes that use hazardous materials or generate hazardous waste streams. The Hazardous Materials Management Process Team evaluates options to reduce the volume or toxicity of wastes.

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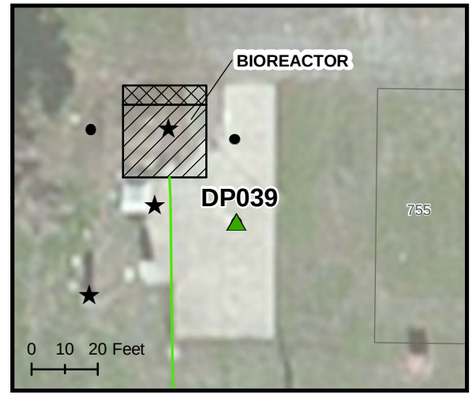
LEGEND

- TREATMENT PERFORMANCE MONITORING WELL
- EXTRACTION WELL
- GROUNDWATER MONITORING WELL
- UNTREATED WATER PIPING
- PROPOSED ACTION AREA
- RESTORATION SITES
- OPERABLE UNIT (OU) BOUNDARY

DETAIL



0 400 800 FEET

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FIGURE 3-1
OPERABLE UNITS AND ENVIRONMENTAL RESTORATION PROGRAM SITES
ENVIRONMENTAL ASSESSMENT FOR
BATCH PLANT LOCATION AT
TRAVIS AIR FORCE BASE, CALIFORNIA

CH2MHILL

\\BROOKSIDE\GIS_SHARE\ENBG\00_PROJ\A\AIRFORCE\TRAVISAFB\MAPFILES\2015\381355_TAXIWAYEA\BATCHPLANT\FIG3-1_RESTORATION_SITES.MXD SSCOPES 1/4/2018 10:15:18 AM

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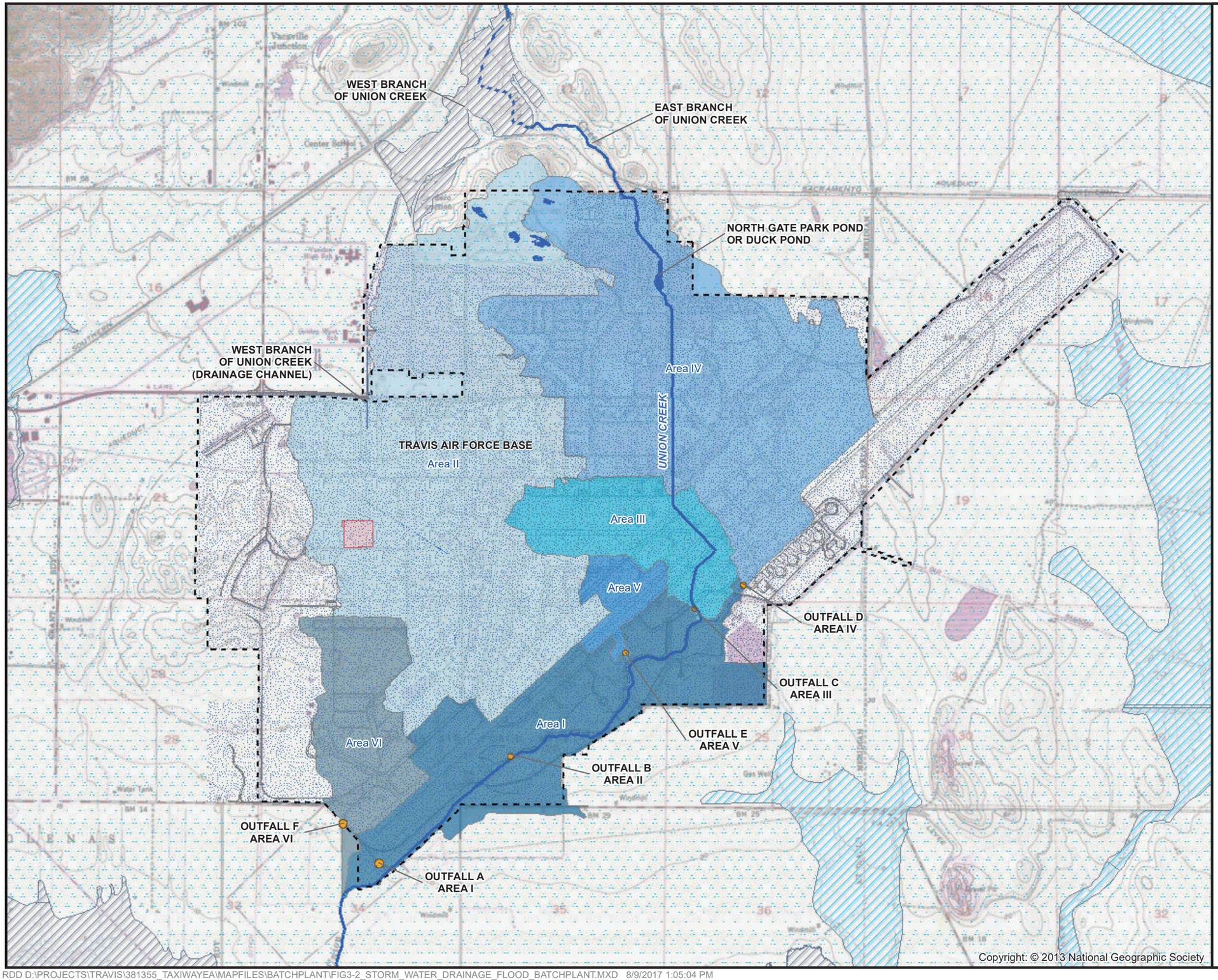

LEGEND

- PROPOSED ACTION AREA
- TRAVIS AIR FORCE BASE BOUNDARY
- WATER BODY
- AREA I
- AREA II
- AREA III
- AREA IV
- AREA V
- AREA VI
- OUTFALL AREA

FLOOD ZONE

- ZONE A: AN AREA INUNDATED BY 1% ANNUAL CHANCE FLOODING, FOR WHICH NO BASE FLOOD ELEVATIONS HAVE BEEN DETERMINED.
- ZONE AE: AN AREA INUNDATED BY 1% ANNUAL CHANCE FLOODING, FOR WHICH BASE FLOOD ELEVATIONS HAVE BEEN DETERMINED.
- ZONE D: AN AREA OF UNDETERMINED BUT POSSIBLE FLOOD HAZARDS.
- ZONE X: AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN DETERMINED TO BE OUTSIDE THE 1% AND 0.2% ANNUAL CHANCE FLOODPLAINS.

SOURCE:
FEDERAL EMERGENCY MANAGEMENT AGENCY (2016)

N

0 2,500 5,000 FEET

FIGURE 3-2
STORMWATER DRAINAGE AREAS, OUTFALL LOCATIONS, AND FLOODPLAINS
ENVIRONMENTAL ASSESSMENT FOR
BATCH PLANT LOCATION AT
TRAVIS AIR FORCE BASE, CALIFORNIA

RDD D:\PROJECTS\TRAVIS\381355_TAXIWAYEA\MAPFILES\BATCHPLANT\FIG3-2_STORM_WATER_DRAINAGE_FLOOD_BATCHPLANT.MXD 8/9/2017 1:05:04 PM

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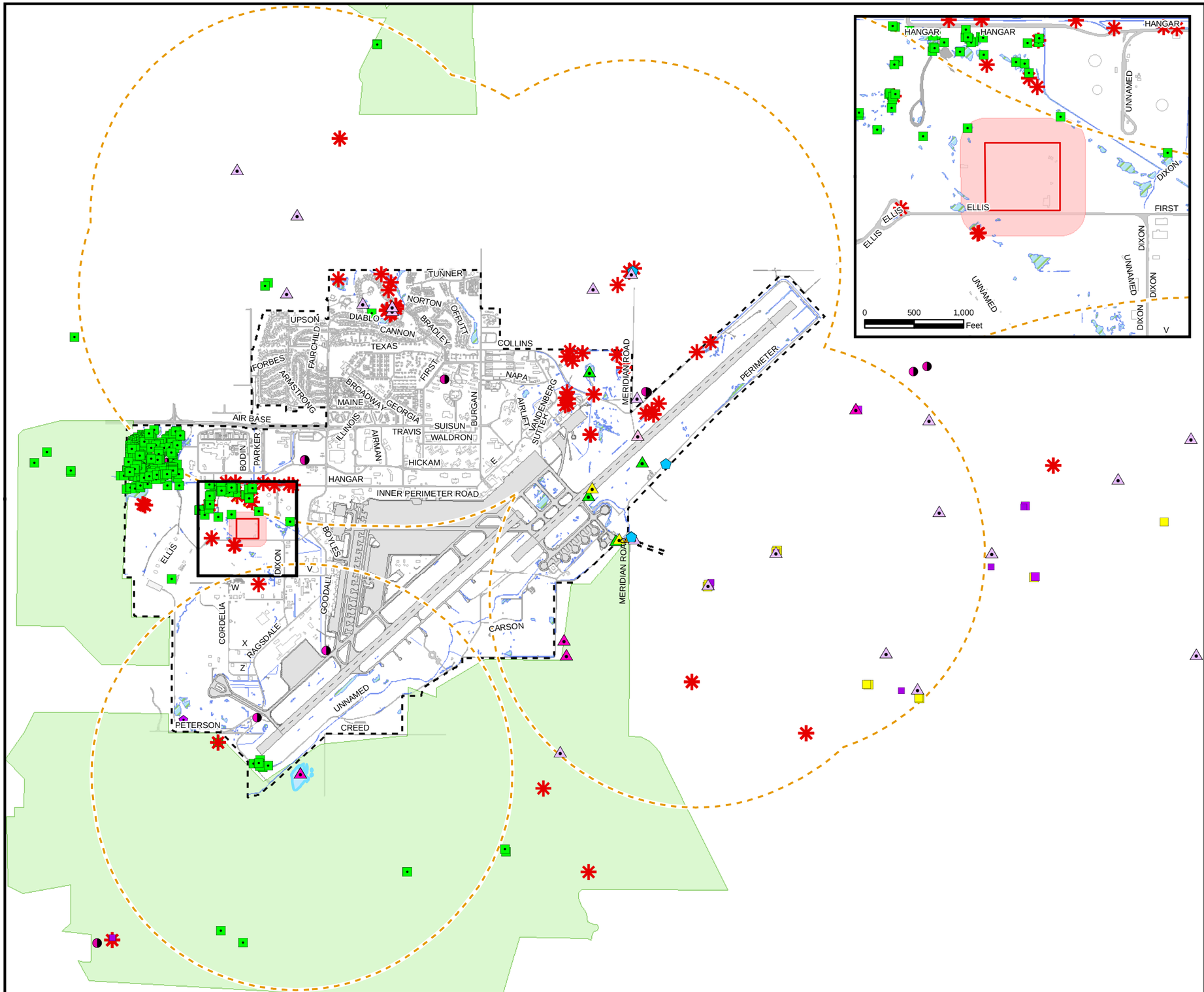

FIGURE 3
BIOLOGICAL RESOURCES IN THE VICINITY OF THE PROPOSED ACTION AREA
ENVIRONMENTAL ASSESSMENT FOR
BATCH PLANT LOCATION AT
TRAVIS AIR FORCE BASE, CALIFORNIA

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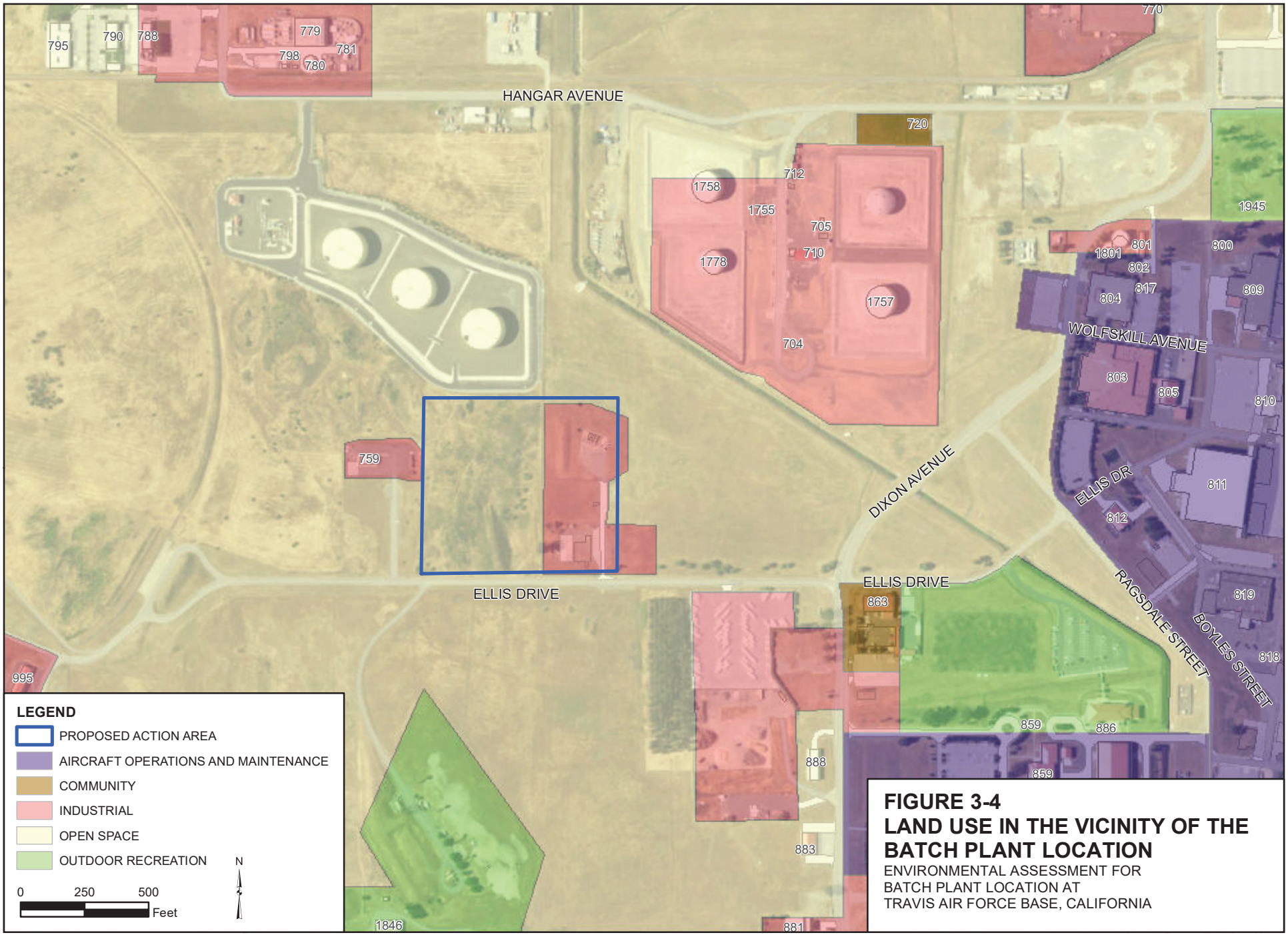

FIGURE 3-4
LAND USE IN THE VICINITY OF THE BATCH PLANT LOCATION
ENVIRONMENTAL ASSESSMENT FOR
BATCH PLANT LOCATION AT
TRAVIS AIR FORCE BASE, CALIFORNIA

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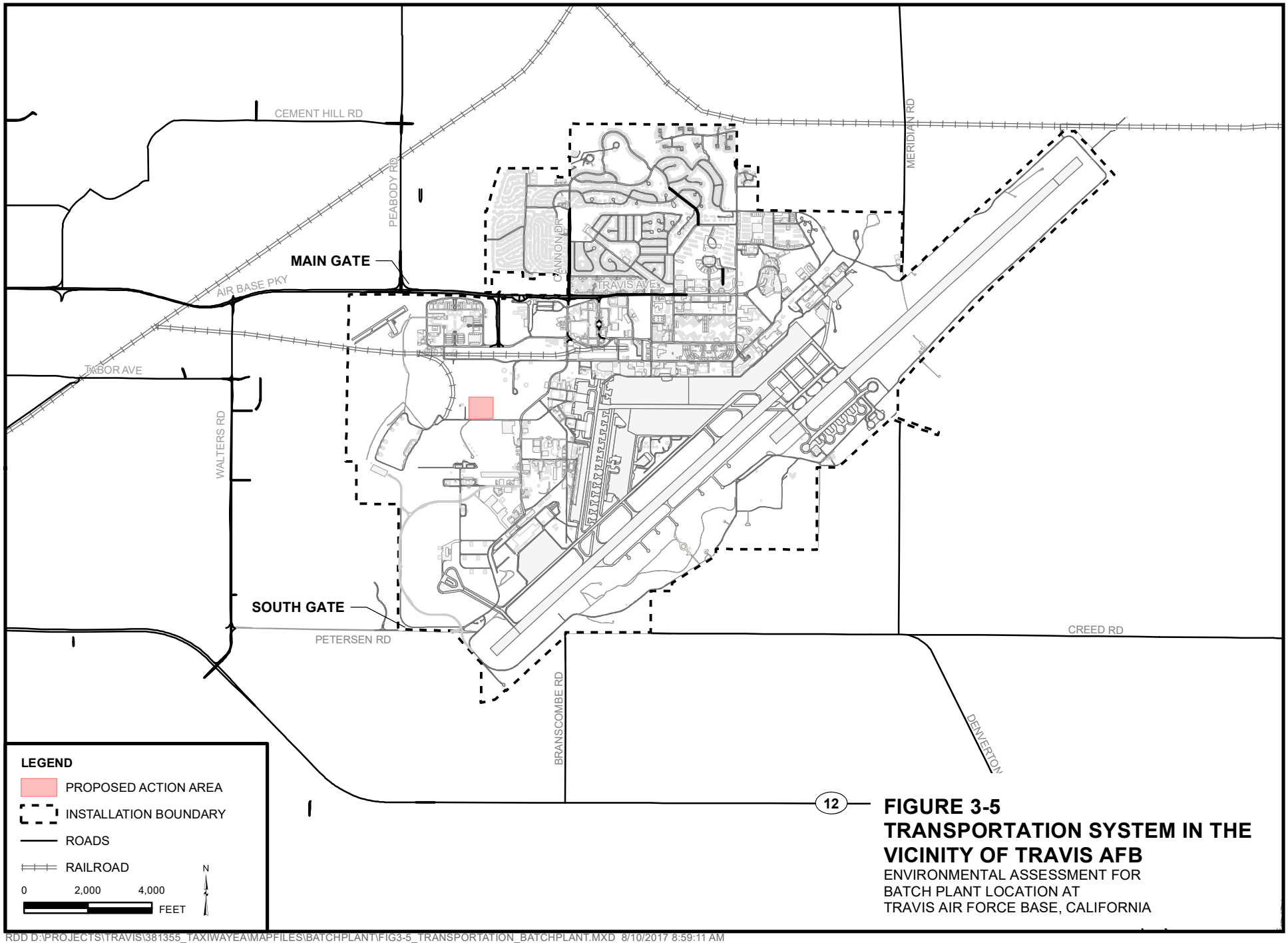

FIGURE 3-5
TRANSPORTATION SYSTEM IN THE VICINITY OF TRAVIS AFB
ENVIRONMENTAL ASSESSMENT FOR
BATCH PLANT LOCATION AT
TRAVIS AIR FORCE BASE, CALIFORNIA

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Environmental Consequences

4.1 Introduction

This section describes the regulatory background, as applicable, for the various environmental resource areas and evaluates potential impacts of the alternatives described in Section 2. Potential impacts on the human and natural environments were evaluated by comparing the Proposed Action (Alternative 2) and the No Action alternative (Alternative 1). The subsection for each environmental resource or issue assesses the anticipated direct and indirect impacts, considering short- and long-term effects.

As described in this section, no significant adverse environmental impacts would occur for the Proposed Action or the No Action alternative.

4.2 Air Quality and Greenhouse Gas Emissions

4.2.1 Laws and Regulations

4.2.1.1 National Ambient Air Quality Standards

Congress passed the CAA in 1963, which established funding for study and cleanup of air pollution. The CAA was amended in 1970 and became a comprehensive federal program to address air pollution, the CAA was amended again in 1977 and 1990. Under the authority of the CAA, EPA establishes nationwide air quality standards to protect public health and welfare with an adequate margin of safety. The federal standards (i.e., NAAQS) represent the maximum allowable atmospheric concentrations for O_3, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5,}$ and lead. If the maximum allowable levels of criteria pollutant air concentrations are exceeded, and depending upon their severity, the EPA may designate an area as "nonattainment." If this occurs, the state (where the nonattainment area is located) must develop a state implementation plan (SIP) that outlines to steps the state will take to meet the NAAQS. The purpose of general conformity is to ensure that federal actions do not interfere with an applicable SIP. Nonattainment areas that achieve attainment with the NAAQS and redesignated as attainment by the EPA are considered "maintenance areas." States must develop maintenance plans (or maintenance SIPs) for maintenance areas to ensure continued compliance with the NAAQS for two consecutive 10-year probationary periods.

If an area is designated as nonattainment or maintenance for any of the criteria pollutants, general conformity (40 CFR 93 subpart B) may apply. General conformity requires federal agencies to prepare a written conformity assessment for federal actions in or affecting NAAQS nonattainment areas or maintenance areas (a separate assessment must be performed for each affected area). An assessment begins with an applicability analysis, which includes screening for exemptions or presume-to-conform actions and, if needed, an estimate of net change in air emissions that would be generated by the Proposed Action compared to the de minimis threshold levels defined in the general conformity rule. If the emission levels are below the threshold levels, a Record of Non-Applicability (RONA) is prepared. If the emission levels are above the threshold levels, a detailed conformity determination is required. In the case of this project, a RONA has been prepared because the air emissions are below the threshold levels defined by the general conformity rule.

An action is exempt from the general conformity rule (i.e., the action is presumed to conform) if the total net project-related emissions (construction and operation) are less than the de minimis thresholds established by the general conformity rule. An action that produces emissions that exceed conformity

thresholds is required to demonstrate conformity with the SIP through mitigation or other accepted practices.

On 24 March 2010, EPA updated the general conformity rule and removed 40 CFR 51.853, which requires federal agencies to conduct conformity determinations for "regionally significant" actions. However, any previously SIP-approved rules, including the BAAQMD general conformity rule approved on 7 September 1994, and adopted into the SIP at 40 CFR 52.220(c)(205)(i)(B)(2) will remain in effect until the SIP is changed to remove or revise the previously approved provisions (see 40 CFR 51.851(g)). Therefore, until a revision is made, projects located within BAAQMD jurisdiction must continue to follow the regulation as written; the "regionally significant test" requirements in the repealed 40 CFR 51.853 are still enforced. As such, projects with emissions greater than 10 percent of the region's emission inventory would trigger conformity determination requirements.

4.2.1.2 Greenhouse Gases

The EPA's authority to regulate GHG emissions stems from the 2007 U.S. Supreme Court decision in Massachusetts v. EPA. The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. On 7 December 2009, the EPA signed the Final Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the CAA. The endangerment finding states that current and projected concentrations of the six key, well-mixed GHGs in the atmosphere—CO_2, methane, nitrous oxide, hydrochlorofluorocarbons, perfluorochemicals, and sulfur hexafluoride—threaten the public health and welfare of current and future generations. Furthermore, the EPA found that the combined emissions of these well-mixed GHGs from motor vehicles contribute to the GHG pollution that threatens public health and welfare.

4.2.2 Air Quality Impacts

4.2.2.1 Alternative 1 – No Action

Under the No Action alternative, construction would not occur and air pollutant emissions associated with construction would not be generated. Emissions from stationary and mobile sources would not change from current conditions. No additional air quality impacts are expected from Alternative 1.

4.2.2.2 Alternative 2 – Proposed Action

Construction Emissions Impacts. Construction of the batch plant was assumed to occur for 1 month in 2018. Construction emissions are expected to occur as a result of engine exhaust from vehicle trips by construction workers, haul trucks, and off-road construction equipment. These emissions would primarily consist of nitrogen oxides (NO_x), VOCs, CO, SO_2, PM_{10}, and $PM_{2.5}$. In addition, earth-moving activities, such as grading and site preparation, would result in fugitive dust emissions. Construction emissions of NO_x, VOCs, CO, SO_2, PM_{10}, and $PM_{2.5}$ were estimated by using the Air Force's Air Conformity Applicability Model (ACAM), Version 5.0.8, with the projected construction duration and estimated hours of construction equipment operations. The expected construction emissions under Alternative 2 are shown in Table 4-1. Detailed construction schedule and equipment usage information are included in the ACAM reports provided in Appendix A.

Table 4-1. Alternative 2 Construction Emissions
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California

Emissions Year	NO_x (tpy)	VOC (tpy)	CO (tpy)	SO_2 (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2018	0.66	0.07	0.34	0.001	0.21	0.02

Alternative 2 would cause temporary, short-term air quality impacts as a result of construction emissions. Construction-related impacts are expected to be local (i.e., confined to the construction site area) and limited to the duration of the construction activities. No significant impacts from construction emissions are anticipated under Alternative 2.

Operation Emissions Impacts.

Operational emissions associated the project would be from the diesel trucks that hauling raw material to the facility and delivering the ready-mix concrete product to construction sites. Emissions associated with the vehicle emissions were estimated using emission factors from EMFAC2014 (ARB, 2017) and the estimated vehicle travel distance during project operation. Fugitive dust emissions from the vehicle travel on paved and unpaved roads were estimated using emission factors from *Air Emissions Guide for Air Force Mobile Sources* (Air Force Civil Engineer Center, 2017a). Fugitive dust emissions from the concrete batching process were estimated by using emission factors from Air Emissions Guide for Air Force Transitory Sources (Air Force Civil Engineer Center, 2017b). The project will include new diesel emergency generators; however, potential emissions during the occasional emergency use and during periodic maintenance and testing would be negligible. Therefore, emissions from emergency engines were not quantified. Other equipment used in the system is electric-powered and will not result in additional criteria pollutants.

Table 4-2 summarizes the project operational emissions from the concrete batching plant operation. Detailed air emission calculations are provided in Appendix B.

Table 4-2. Alternative 2 Operational Emissions
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California

Emissions Year	NO_x (tpy)	VOC (tpy)	CO (tpy)	SO_2 (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
2019 and beyond	0.53	0.02	0.06	0.001	2.59	0.68

General Conformity. The CAA established programs and permitting processes designed to protect and improve air quality. Section 176(c) of the CAA Amendment of 1990, 42 USC 7506(c), established a conformity requirement for federal agencies that has been implemented by 40 CFR 93, Subpart B. A general conformity applicability analysis for the project has been performed (see Appendix C) and is summarized in this section.

The project would be located within Solano County, which attains or is unclassified for all NAAQS except the standards for 8-hour O_3 and $PM_{2.5}$. In addition, the urbanized areas of Solano County (which include the area occupied by Travis AFB) are maintenance areas for CO. As a result, federal actions that emit CO, $PM_{2.5}$, or the O_3 precursor pollutants (NO_x and VOCs) are subject to general conformity requirements. In accordance with the air conformity requirements of 40 CFR 51.853 and 93.153(b)(1), the de minimis threshold for a federal action in a marginal nonattainment area is 100 tpy for each O_3 precursor pollutant (NO_x and VOCs) and 100 tpy for $PM_{2.5}$ and SO_2 (a $PM_{2.5}$ precursor). The de minimis threshold for a CO maintenance area is also 100 tpy per federal action. As shown in Table 4-3, emissions of NO_x, VOCs, CO, SO_2, and $PM_{2.5}$ during 2017 and the years beyond would be below the applicable de minimis thresholds.

In addition, because the regional significance test is still required in areas under BAAQMD jurisdiction, if the project emissions are less than 10 percent of the region's emission inventory, the project emissions are not considered to be regionally significant, and a detailed conformity determination would be required. As shown in Table 4-3, emissions of NO_x, VOCs, CO, SO_2, and $PM_{2.5}$ during construction would be well below the applicable de minimis thresholds. On the basis of the conformity applicability criteria, the project is expected to conform to the most recent EPA-approved SIP; therefore, the project does not require further conformity demonstration.

Table 4-3. Alternative 2 General Conformity Applicability
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California

Emissions Year	NO_x (tpy)	VOC (tpy)	CO (tpy)	SO_2 (tpy)	$PM_{2.5}$ (tpy)
2018 (construction year)	0.66	0.07	0.34	0.001	0.02
2019 and beyond (operation)	0.53	0.02	0.06	0.001	0.68
De Minimis Thresholds	100	100	100	100	100
Basin Emission Inventory	126,655	107,310	692,040	Not applicable	17,885

Notes:
Basin emissions inventory data for CO were obtained from *2004 Revision to the California State Implementation Plan for Carbon Monoxide, Updated Maintenance Plan for Ten Federal Planning Areas* (ARB, 2004). Emissions inventory data for 2010 were used for the emissions comparison.
Basin emissions inventory data of NOx, VOC, and PM2.5 were obtained from the *2012 San Francisco Bay Area $PM_{2.5}$ Emission Inventory* (ARB, 2013). Emission inventory data for 2010 were used for the emission comparison.

Greenhouse Gases. GHG emissions are a cumulative impact; therefore, an individual project is not expected to generate enough GHG emissions to significantly influence global climate change. Currently, no federal agency has adopted a quantitative threshold to evaluate the significance of an individual project's contribution to GHG emissions in the context of NEPA. Nevertheless, GHG emissions were estimated for the project construction and operation; Table 4-4 summarizes the project emissions of the GHG in terms of CO_2e. Direct GHG emissions from project construction and operation were estimated by using the same methodology as described for criteria pollutants. Indirect CO_2e emissions due to the increased electricity use were estimated by using EPA eGrid emission factors. The total estimated CO_2 emissions over the duration of construction for the project are approximately 124 metric tons. The annual GHG emissions from the project operation are approximately 311 metric tons per year.

Table 4-4. Estimated Construction Emissions of GHG for the Proposed Action
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California

Emission Year	CO_2e (metric tons per year)
2018	123.6
2019 and beyond	310.9

4.3 Noise

This section describes noise impact criteria and discusses potential project-related noise impacts. The area of interest for project-related noise impacts of the Proposed Action includes sensitive receivers that are within approximately 2,500 feet (0.5 mile) of the Proposed Action area.

Potential future noise impacts were determined by analyzing the anticipated changes in noise exposure attributable to construction and operations-related activities under the No Action alternative and the Proposed Action alternative. The Proposed Action area currently experiences CNELs from flightline activities ranging from 65 to 69 dB (Travis AFB, 2009).

The fundamental measure of sound levels is expressed in decibels by using a logarithmic scale. Noise is generally defined as sound that is undesirable for the following reasons:

- It is intense enough to damage hearing.
- It interferes with speech communication and sleep.
- It is annoying.

The Air Force has established land use noise compatibility criteria consistent with *Guidelines for Considering Noise in Land Use Planning and Control* (Federal Interagency Committee on Urban Noise, 1980).

CNEL values of 60 dB and less are generally compatible with all land uses; 60 dB is the incompatibility threshold for residential and other noise-sensitive land uses, including schools, hospitals, and religious facilities. Commercial, industrial, and other types of recreational land uses (e.g., sports arenas, golf courses, and amusements parks) are generally considered compatible with annual CNEL ranges between 70 and 75 dB, if measures are incorporated into the design and construction of structures associated with these land uses.

The closest noise-sensitive land uses to the Proposed Action area is David Grant Medical Center, approximately 0.5 mile to the north. Other noise sensitive land uses within 1 mile of the Proposed Action area include Golden West Middle School (approximately 1 mile north), Word of Faith Christian Center (approximately 0.8 mile northeast) and onbase housing (approximately 1 mile northeast). Buildings within 0.5 mile of the Proposed Action area may be occupied by personnel working on Travis AFB.

4.3.1 Alternative 1 – No Action

Under the No Action Alternative, construction or operation of a batch plant location would not occur, and noise levels similar to current levels would continue. Therefore, under the No Action Alternative, no noise impacts would occur.

4.3.2 Alternative 2 – Proposed Action

During construction, use of heavy equipment would generate noise above typical levels in the vicinity of the Proposed Action. Noise generation would be typical of construction activities, and would last the duration of construction (i.e., 30 days). Table 4-5 includes default noise levels for typical equipment that would be used during the Proposed Action.

Table 4-5. Construction Equipment Noise Levels
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California

Equipment Description	Noise Control Specification L_{max} 50 feet (dBA)	Actual Measured L_{max} 50 feet (dBA)
Backhoe	80	78
Front End Loader	85	79
Grader	85	Not available
Dump Truck	84	76
Paver	85	77
Concrete Batch Plant	83	Not available

Source: Federal Highway Administration, 2006
Notes:
dBA = decibels, A-weighted scale
L_{max} = maximum sound level during a single noise event

Construction of the Proposed Action would have temporary impacts on the noise environment in the vicinity of proposed construction activities. Use of heavy equipment for soil removal, grading, laying of gravel and foundations, and installation of utilities may generate noise above existing levels in the vicinity of the Proposed Action. However, noise generation would be typical of construction activities, would last only the duration of construction activities (i.e., 30 days), and could be reduced by using equipment sound mufflers, and restriction of construction activity to normal working hours

(i.e., between 7:00 a.m. and 5:00 p.m.). Furthermore, the closest noise-sensitive receptor, David Grant Medical Center, is approximately 0.5 mile from proposed construction activities; therefore, noise produced by construction activities is not anticipated to affect the surrounding noise environment. Although the Proposed Action would increase noise in the immediate vicinity, construction would be limited in duration and, therefore, have a less than significant, short-term impact on the surrounding environment.

During operation of the Proposed Action, activities at the batch plant location would involve operation of a temporary batch plant and crusher plant, and material delivery trucks. Operation activities would require approximately 800 truck deliveries of raw and material hauling per year and approximately 600 truck deliveries of concrete per year. Trucks would enter the Base through the South Gate, near the airfield. Section 4.10.2 describes the transportation route. The increase in truck traffic would result in an increase in noise along the transportation routes from the South Gate to the Proposed Action area. Table 4-5 lists equipment noise levels for typical construction equipment that would be used during operation of the Proposed Action.

Noise generated during operation (up to 85 dBA) would exceed the existing CNELs at the site (65 to 69 dB). Equipment noise could be reduced by using equipment sound mufflers and restricting operation activity to normal working hours (i.e., between 7:00 a.m. and 5:00 p.m.). The closest noise-sensitive receptor is 0.5 mile north of the Proposed Action area and, therefore, is not anticipated to be adversely affected by the Proposed Action. Operation of the Proposed Action would result in an increase in noise in the vicinity of the Proposed Action and along truck delivery routes in the southern portion of the Base. These activities would be in an area of Travis AFB designated for industrial and transportation uses. With implementation of noise reducing measures, long-term noise impacts on the surrounding environment is anticipated to be less than significant.

4.4 Hazardous Materials, Wastes, Environmental Restoration Program Sites, and Stored Fuels

Congress passed the RCRA in 1976 to protect human health and the environment from the mishandling of solid and hazardous waste and to encourage the conservation of natural resources. RCRA directs EPA to develop a comprehensive set of regulations to implement the law. The RCRA regulations that govern hazardous waste identification, classification, generation, management, and disposal are provided in 40 CFR 260.

Travis AFB has procedures in place for handling and disposing of wastes, hazardous materials, and fuels. The procedures are detailed in the following guidelines:

- AFI 32-7086, *Hazardous Materials Management* (Air Force, 2004)
- AFI 32-7042, Waste Management (Air Force, 2010)
- *Travis AFB Integrated Solid Waste Management Plan* (Travis AFB, 2007)

The Proposed Action would comply with these guidelines. Compliance with waste management procedures would minimize potential impacts.

4.4.1 Alternative 1 – No Action

Implementation of the No Action alternative would not result in changes to current hazardous waste production or waste management practices; therefore, no impact would occur.

4.4.2 Alternative 2 – Proposed Action

Construction of the Proposed Action could generate some hazardous wastes. All hazardous waste materials would be handled in accordance with the *Travis AFB Integrated Solid Waste Management Plan*

(Travis AFB, 2007), which includes protocols for storing, labeling, and disposing of hazardous materials. With implementation of these waste management procedures, impacts resulting from using hazardous materials and generating hazardous wastes during construction would be less than significant.

- Portions of the Proposed Action site overlap ERP sites LF044, and DP039 (see Figure 3-1). At site LF044, the final soil remedy consists of land use and access restrictions. Site DP039 is undergoing active remediation for contamination (see Section 3.4.3). Within the Proposed Action area, Site DP039 contains a bioreactor, extraction wells, groundwater monitoring wells, and treatment performance monitoring wells (see Figure 3-1) (CH2M, 2017). Construction and operation of the Proposed Action would not disturb the area near the bioreactor, below grade. Prior to construction, the following measures would be implemented:
- Consult with the Base Remediation Program Manager (BRPM). A waiver to construct on the ERP sites is required, in accordance with AFI 32-1021, *Planning and Programming Military Construction Projects* (Air Force, 2016).
- Consult with Environmental Flight prior to disturbance of any monitoring well on or near the Proposed Action site.
- Obtain a Base Civil Engineering Work Clearance Request (AF IMT 103).
- Prepare and implement a contingency plan in case soil discoloration is observed or hydrocarbon vapors are detected or if groundwater is encountered during construction. The contingency plan would be reviewed by the BRPM prior to construction.

If contaminated materials are encountered during construction, protective measures would be implemented under direction from the BRPM and in accordance with the Base Civil Engineering Work Clearance Request. With adherence to requirements from the BRPM and the Base Civil Engineering Work Clearance Request, potential impacts on human health and the environment from the existing contamination would be less than significant.

4.5 Water Resources, Floodplains, and Wastewater

4.5.1 Laws and Regulations

EO 11988, *Floodplain Management*, was signed on 24 May 1977; it directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. EO 11988 requires that federal agency construction, permitting, or funding of a project avoid incompatible floodplain development, be consistent with the standards and criteria of the National Flood Insurance Program, and restore and preserve natural and beneficial floodplain values. EO 11988 requires that when a floodplain risk assessment is prepared, the public must be provided the opportunity for early review and comment.

EO 13690, *Establishing a Federal Flood Risk Management Standard*, was signed on 30 January 2015, and it amended EO 11988. EO 13690 established a standard that will reduce the risk and cost of future flood disasters by ensuring that federally funded activities that affect floodplains are constructed to withstand the impacts of flooding better. Under EO 13690 federal agencies are to avoid development either (1) within the 100-year floodplain plus either 2 or 3 feet elevation or (2) the 500-year floodplain. EO 13690 requires early notification to the public upon determination that the most practicable alternative is to locate the proposed or intended action within the floodplain. Early notification provides the public and federal, state, regional and local agencies the opportunity to comment early in the process of federal projects.

The Proposed Action area is within Zone D (an area of possible but undetermined flood hazard) (FEMA, 2014 and 2016). According to the *Memorandum of Record for Revised Section 4.4.5 of INRMP 500 Year*

Floodplain (Department of the Air Force, 2017), the requirements pertaining to EOs 11988 and 13690 do not apply. This conclusion is based on the most recent hydrological data, which state that Travis AFB is located outside of the 500-year floodplain (see Section 3.5.3) (Department of the Air Force, 2017).

4.5.2 Water Resources, Floodplains, and Wastewater Impacts

4.5.2.1 Alternative 1 – No Action

If Alternative 1 is selected, no changes to water resources, floodplains, or wastewater would occur. No changes to the stormwater drainage system or stormwater management would occur.

4.5.2.2 Alternative 2 – Proposed Action

The Proposed Action area is within Zone D (an area of possible but undetermined flood hazard) (FEMA, 2014 and 2016). Alternative 2 would not use groundwater or release water in a way that could impact groundwater. No significant impacts on floodplains or groundwater are expected from implementing the Proposed Action.

The Proposed Action area is mostly unpaved, with a few existing paved areas. Paved areas are in the eastern portion of the site and consist of a driveway and former parking areas and a former building site (see Figure 2-1).

Under the Proposed Action, construction would include grading and leveling of the site and placement of gravel. Approximately 1,600 square feet of foundation (cement pads or concrete blocks) would be constructed. Excavation at the site would range from approximately 1 to 6 feet deep (see Section 2.3.2.1).

Water Quality

Earth-moving activities during construction of the Proposed Action could result in sediment transport and potentially cause short-term impacts on drainages and ultimately Union Creek. An erosion control and restoration plan would be prepared to control short-term and long-term erosion and sedimentation.

A Construction General Permit (CGP) would be required. The CGP regulates stormwater discharges from construction sites that result in a land disturbance of 1 acre or more. All stormwater discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the CGP. Operators of regulated construction sites are required to develop a storm water pollution prevention plan (SWPPP) to implement sediment, erosion, and pollution prevention control measures and to obtain coverage under the CGP.

Operation of concrete batch plants use water and generate wastewater. The Base has a Stormwater Permit (Travis AFB, 2002b) and a SWPPP. Contractors using the site for batch plant operations would be required to follow the appropriate best management practices (BMPs) for operations at the Proposed Action site, including BMPs to control runoff and sedimentation, as required by the SWPPP. The erosion control and restoration plan would include regular and documented site inspections, the use of silt fences, and minimization of earth-moving activities during wet weather.

The Proposed Action would comply with all applicable restrictions in the Stormwater Permit, the SWPPP, and the erosion control and restoration plan; compliance would reduce potential impacts on water quality resulting from the Proposed Action to less than significant levels.

Compliance with the relevant permits and implementation of BMPs would reduce potential impacts from construction activities and stormwater discharges to Union Creek to less than significant levels during construction and operations. No significant impact on water quality is anticipated under the Proposed Action.

Flooding

The Proposed Action area is not within a 100-year floodplain. Under the Proposed Action, cement pads or concrete blocks would be placed on the site as foundations for the crusher plant and batch plant. The cement pads or concrete blocks would cover an area of approximately 1,600 square feet (less than 0.1 acre) of new impermeable surface, which is considered negligible. Therefore, an increase in impermeable surface of 1,600 square feet as a result of implementing the Proposed Action is considered less than significant.

4.6 Biological Resources – Wetlands and Special-status Species

This section analyzes the potential for adverse impacts on biological resources, such as habitat loss, from implementation of the No Action alternative and the Proposed Action alternative. Figure 3-3 depicts the impacts.

4.6.1 Alternative 1 – No Action

Under the No Action Alternative, construction or other changes to the physical environment that could affect biological resources would not occur.

4.6.2 Alternative 2 – Proposed Action

The Proposed Action is designed to avoid and minimize impacts on known special-status plant and animal species and wetlands, to the extent feasible. Implementation of the Proposed Action could result in permanent and temporary direct and indirect impacts on biological resources that are known to occur within the Proposed Action area. For the purposes of this EA, temporary impacts result in the loss of habitat for less than 1 year. Increased noise and vibration from construction could temporarily affect wildlife species in the area; however, the Proposed Action area is located within the developed cantonment area of the Base, where there is regular vehicle activity. The additional noise from construction equipment is not expected to affect wildlife within the Proposed Action area.

4.6.2.1 California Tiger Salamander

Travis AFB received concurrence from the USFWS for a No Effect determination for effects caused by the Proposed Action to CTS and CTS upland habitat (see Appendix D). Suitable breeding ponds are absent from the Proposed Action area, and there is significant urban development and man-made barriers between potential breeding ponds that act as barriers to CTS migration. No adverse impacts on CTS are anticipated with implementation of the Proposed Action.

4.6.2.2 Contra Costa Goldfields

Contra Costa goldfields occur throughout the Base and are associated with vernal pools and seasonal swales. Two occurrences of Contra Costa goldfields occur in vernal pools within 250 feet of the Proposed Action area (VP.CA.666 [229 feet] and VP.GA.882 [162 feet]). Several occurrences are associated with the vernal pools at the Aero Club and Castle Terrace housing complex as well as south of the Base. The Aero Club is approximately 0.7 mile from the Proposed Action area. As mentioned in Section 4.5.2.2, an erosion control and restoration plan would be prepared to control short-term and long-term erosion and sedimentation. Measures described in the CGP and SWPPP will be implemented to minimize runoff and protect adjacent vernal pools during construction. During operation of the batch plant, measures in the SWPPP that protect water quality will be implemented. No adverse impacts on Contra Costa goldfields are anticipated with implementation of the Proposed Action. Concurrence of a Not Likely to Adversely Affect as a result of the Proposed Action has been received from the USFWS (see Appendix D).

4.6.2.3 Vernal Pool Branchiopods

Eleven vernal pools suitable for vernal pool fairy shrimp were identified within 250 feet of the Proposed Action area. Vernal pool fairy shrimp have been documented in one of the pools (VP.GA.826) (CNDDB, 2017) approximately 230 feet south of the Proposed Action area, across Ellis Road. Construction activities are not anticipated to directly affect any of these features, and work would be restricted to the Proposed Action area. Six of the 11 vernal pools within 250 feet of the Proposed Action are located across the road (Ellis Road) or parking lot from the Proposed Action area. BMPs from the CGP and SWPPP to control erosion and sedimentation (see Section 4.5.2.2) will be implemented to minimize the potential for impacts on vernal pool branchiopods. The BMPs could include the following: installation of a combination of silt fencing and orange construction fencing will delineate the area of disturbance, and (2) placement of straw wattles to prohibit runoff into these features. Site controls will be maintained during operation of the batch plant as part of compliance with the SWPPP.

This project is not likely to adversely affect vernal pool branchiopods and concurrence from the USFWS of this opinion has been obtained (see Appendix D). With implementation of proposed measures previously described, the impact on vernal pool branchiopods would be less than significant.

4.6.2.4 Wetlands

To the extent possible, the Proposed Action is designed to avoid wetland impacts. Measures to protect wetlands include the installation of temporary construction fencing around seasonal wetlands and the implementation of stormwater BMPs, including installation of silt fencing and straw wattles to minimize runoff into wetland features. Site controls will be maintained during operation of the batch plant as part of compliance with the SWPPP (see Section 4.5.2.2). Potential impacts on wetland resources would be less than significant with implementation of the proposed measures previously described.

4.7 Cultural Resources

4.7.1 Coordination with the State Historic Preservation Officer

The primary statutes requiring federal agencies to protect cultural resources are the NHPA as amended, EO 11593, the Archaeological and Historic Data Preservation Act, and the Archaeological Resources Protection Act. The Base Cultural Resources Manager, under the supervision of the Environmental Flight Chief, is responsible for managing natural and cultural resources at Travis AFB.

The primary applicable federal laws protecting cultural resources are Section 106 of the NHPA and 36 CFR Part 800. These laws afford the SHPO a reasonable opportunity to comment on any undertaking that would adversely affect historic properties (i.e., locations, features, and objects older than 50 years and determined eligible for nomination to the National Register of Historic Places). Travis AFB initiated consultation with the SHPO on 19 September 2017. The SHPO responded on 9 October 2017, concurring that an earthen berm (associated with demolished Building 755) is not eligible for NRHP inclusion and that a finding of no historic properties affected is appropriate, pursuant to 36 CFR Part 800.4 (d)(1) (see Appendix E).

4.7.2 Coordination with Tribes

According to Department of Defense Instruction 4710.02, *DoD Interactions with Federally-Recognized Tribes*, and AFI 32-7065, *Cultural Resources Management Program*, the installation commander shall establish G2G consultations with Native American tribes when proposing an action that may have the potential to significantly affect the protected tribal resources, tribal rights, or Native American lands. G2G relationships must be established to identify concerns and make sure that areas of sacred or spiritual significance are fully considered for those tribes if an impact could occur.

Travis AFB initiated G2G consultation by contacting the Native American Heritage Commission to request a search for sacred land files on Travis AFB. The Native American Heritage Commission responded on 27 February 2017 that the record search was negative for the area of potential project affect. The Native American Heritage Commission provided a list of Native American organizations that may have knowledge of cultural resources in the project area (see Appendix F).

Travis AFB initiated G2G consultation with local Native American tribes, the Cortina Rancheria Band of Wintun Indians (Kletsel Dehe) and the Yocha Dehe Wintun Nation, by letter on 6 April 2017 (see Appendix F). The letter initiated consultation regarding six projects on Travis AFB, including the Proposed Action. On 1 May 2017, Travis AFB contacted both tribes via telephone to discuss concerns regarding the projects. A representative from the Cortina Rancheria Band of Wintun Indians stated he had no concerns at the time and requested the *Geoarchaeological Overview and Site Sensitivity Assessment* (Far Western Anthropological Research Group, Inc. 2017). Travis AFB sent the assessment to both tribal contacts.

On May 11, 2017, Travis AFB sent follow-up letters to both tribes to see if they had questions or concerns regarding the projects. The Yocha Dehe Wintun Nation responded on 18 May 2017, stating that because the projects are within the aboriginal territories of the Yocha Dehe Wintun Nation, they have concerns regarding impacts on undiscovered archaeological deposits. Travis AFB set up a site visit for tribal representatives to visit the Base.

On June 1, 2017, Travis AFB representatives met with tribal representatives of the Yocha Dehe Wintun Nation for a site visit to multiple, onbase locations, including the Proposed Action site. During the site visit, tribal representatives did not express concerns or issues regarding the Proposed Action site (see Appendix F).

4.7.3 Alternative 1 – No Action

Under the No Action alternative, construction of a batch plant location would not occur. Therefore, no change to cultural resources would occur under the No Action alternative.

4.7.4 Alternative 2 – Proposed Action

Travis AFB has undergone an archaeological survey, and no known NRHP eligible sites have been identified (Travis AFB, 2016a). No known archeological sites, historical buildings, or other culturally sensitive areas exist within the Proposed Action area. Therefore, construction of the Proposed Action is not expected to result in impacts on cultural resources.

If cultural or archaeological resources are inadvertently disturbed during construction, the impact would be considered significant. Therefore, prior to construction, a Base Civil Engineering Work Clearance Request would be acquired from 60 CES/CEA. In addition, a contingency plan in the event cultural resources are discovered would require the following:

- All activities would be performed in compliance with the *Integrated Cultural Resources Management Plan* (Travis AFB, 2016a).
- If human remains or archaeological or cultural artifacts are discovered during construction, ground disturbing activities would cease immediately, and the Cultural Resources Manager would be contacted.

In accordance with Standard Operating Procedure 11: Inadvertent Discovery of Archaeological Resources and Standard Operating Procedure 12: Inadvertent Discovery of Human Remains, specified in the Integrated Cultural Resources Management Plan, the Cultural Resources Manager would determine whether notification to other parties (tribal representative or other interested parties) would be required and assure that the required notifications are made. Onsite work would not proceed unless and until clearance is provided by the Cultural Resources Manager. (Travis AFB, 2016a)

Adherence to the Base Civil Engineering Work Clearance Request and contingency plan, and compliance with federal laws protecting cultural resources, would reduce the potentially significant impact to less than significant levels. A less than significant impact on cultural resources is anticipated under the Proposed Action.

4.8 Socioeconomic Resources

Regional socioeconomic conditions could be affected if implementation of the No Action alternative or the Proposed Action changes the rate of population growth, the demographic characteristics of the Base or Solano County, and employment or economic activity onbase or in the county.

4.8.1 Alternative 1 – No Action

Selection of the No Action alternative would have no effect on socioeconomic resources on the Base or in Solano County because construction would not occur.

4.8.2 Alternative 2 – Proposed Action

Implementation of the Proposed Action could have a short-term beneficial impact on socioeconomic resources because it would require a temporary increase in civilian contract employees (construction workers) at the Base during construction. Given the ample supply of construction labor in the region, it is anticipated that construction workers would commute to the work site and would not require temporary housing. However, there would be short-term economic benefits to local convenience businesses because construction workers would purchase food, gasoline, and other commodities near the Base. The impacts on socioeconomic conditions from temporary employment during construction would be slightly beneficial but negligible compared to the Base or the county economy.

The Proposed Action would not result in a long-term change in socioeconomic conditions, because operation of the batch plant would require approximately 4 to 6 personnel. There would be long-term economic benefits to local convenience businesses because personnel would purchase meals, gasoline, and other commodities near the Base. However, this benefit would be negligible compared to the Base or the county economy. No significant impact on socioeconomic resources is anticipated with operation of the Proposed Action.

4.9 Land Use

This section discusses the potential effects to land use from the two alternatives. Land use at Travis AFB is described in the *General Plan for Travis Air Force Base, California* (Travis AFB, 2006a) and shown on Figure 3-4.

Impacts on land use would be considered significant if the Army actions are (1) substantially incompatible with existing military land uses and land use designations or have major conflicts with Air Force land use plans, policies, or regulations or (2) create a considerable land use conflict with off-post land use.

4.9.1 Alternative 1 – No Action

Under the No Action Alternative, land use designations would not change; therefore, no impact on land use would occur.

4.9.2 Alternative 2 – Proposed Action

The existing land use designation on Travis AFB for the Proposed Action area, and within 500 feet of the Proposed Action area is Open Space and Industrial (see Figure 3-4). No change in land use designation would be required under the Proposed Action. Therefore, no impact on land use would occur.

4.10 Transportation System

4.10.1 Alternative 1 – No Action

The No Action alternative assumes that the construction of the Proposed Action would not occur; therefore, traffic increases would not occur.

4.10.2 Alternative 2 – Proposed Action

Under the Proposed Action, material deliveries and large trucks would enter the Base through the South Gate. All other access to the Base would be through the Main Gate (see Figure 3-5).

It is estimated that approximately 700 truck trips would be required during the 30-day construction period of the Proposed Action for removal of the stockpile. During operation, it is anticipated that up to 800 annual truck deliveries of raw and material hauling per year and 600 annual truck deliveries of concrete would be required. The batch plant would operate approximately 250 days per year. Therefore, approximately five or six truck trips per day of operation are anticipated. Haul routes would be designated to minimize efforts for maintenance of vehicle traffic on the Base. Construction vehicles would stay within haul routes designated by Travis AFB for transportation of materials. Haul routes would be kept clear of debris; signage and flagmen would be provided for safe and efficient traffic flow onbase, as necessary.

Travel by workers in personal vehicles to the Proposed Action site would occur on the main Base thoroughfares, Dixon Avenue and Ragsdale Street (see Figure 2-1). According to the *General Plan for Travis Air Force Base* (Travis AFB, 2006a), there are no transportation or parking issues associated with either Dixon Avenue or Ragsdale Street. It is anticipated that construction would require five personnel, and operation would require approximately four to six personnel.

Offbase roads west of the Base are currently used to access the South Gate. Air Base Parkway and Walters Road are four-lane roads. Petersen Road, west of the South Gate, is a two-lane road and is not frequently traveled by the public (see Figure 3-5). Construction traffic effects would be temporary; therefore, access by construction traffic using offbase roads would result in a less than significant impact on transportation systems. During operation of the Proposed Action, approximately five to six truck trips per day would occur on offbase roads accessing the installation, and approximately four to six personnel could travel to the Proposed Action site in personal vehicles. It is anticipated that this increase in traffic would result in a less than significant impact on offbase roads.

4.11 Airfield Operations

Airfield operations refer to any takeoff or landing at the Base. This section discusses the potential effects on airfield operations from the project alternatives.

4.11.1 Alternative 1 – No Action

Under the No Action Alternative, airfield operations would not change; therefore, no impacts would occur.

4.11.2 Alternative 2 – Proposed Action

The Proposed Action is not located at the airfield; therefore, no impacts on airfield operations would occur during construction or operation activities at the batch plant. However, under the Proposed Action operations at the batch plant location would supply material and support construction activities for the multiphase renovation of the 400-Ramp, and planned construction at the 200- and 600-Ramps at

the airfield (see Section 1.2). Therefore, an indirect beneficial impact would occur where operation of the Proposed Action would support planned construction activities at the airfield.

4.12 Safety and Occupation Health

4.12.1 Alternative 1 – No Action

Implementing the No Action alternative would not change the existing health or safety conditions at the site; therefore, no impact would occur.

4.12.2 Alternative 2 – Proposed Action

Implementing the Proposed Action would require construction involving military and civilian personnel. A health and safety plan for construction would be prepared that would include safety requirements, such as securing construction areas to prevent unauthorized personnel from entering the work sites. In addition, all workers would be provided with appropriate personal protective equipment including, but not limited to, approved hard hats, safety shoes, gloves, goggles, eye and face protection, safety belts, harnesses, respirators, hearing protection, and traffic safety vests. With implementation of the health and safety plan, the potential for adverse impacts on safety and occupational health are expected to be minor during construction and operation of the Proposed Action.

4.13 Environmental Management Including Geology, Soils, and Pollution Prevention

4.13.1 Alternative 1 – No Action

There would be no change to geology, soils, or pollution prevention under the No Action alternative; therefore, no impact would occur.

4.13.2 Alternative 2 – Proposed Action

No important soil resources are present in the Proposed Action area and, therefore, impacts on soils would be less than significant. Implementation of the Proposed Action would not alter the geology of the area.

Soil removed from the site could be hazardous (see Section 3.4.3); if determined to be hazardous, it would be disposed of in accordance with applicable regulations and policies.

Implementation of the Proposed Action would comply with the overall objectives of the Pollution Prevention Program at Travis AFB. The Proposed Action would produce waste in the form of construction debris, and all measures to prevent pollution would be implemented. To the extent possible, all wastes generated during construction and operation of the batch plant would be removed from the site and recycled. If recycling is not possible or feasible, the waste would be disposed of in accordance with all applicable regulations and policies. Generation and management of waste are expected to meet the pollution prevention goals in the *Travis AFB Integrated Solid Waste Management Plan* (Travis AFB, 2007). Implementing measures within the plan would result in less than significant impacts on waste production and pollution prevention management.

No significant impacts on environmental management are anticipated under the Proposed Action.

4.14 Indirect and Cumulative Impacts

Indirect impacts are defined in 40 CFR 1508.8 as those "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." Indirect impacts may include growth-inducing effects and other effects related to induced changes in land use patterns, population density, or growth rate. Indirect impacts may also include growth-related effects on air, water, or other natural systems, including ecosystems.

Indirect impacts under the Proposed Action have been addressed in the preceding resource-specific analyses. Implementing the Proposed Action is expected to result in no impact, less than significant indirect impacts, or beneficial impacts on the natural and human environment. The alternatives would not result in significant growth-inducing effects, induced changes in population, or related effects. Potential impacts on health and safety would be beneficial.

Cumulative impacts are defined in 40 CFR 1508.7 as "impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions."

Actions to consider in the cumulative impacts assessment include past, present, and reasonably foreseeable future actions that have the potential to combine with incremental effects of the Proposed Action. Projects considered for the cumulative impacts assessment have been recently completed, are ongoing, or are planned to begin within the next 2 years. Projects that are under consideration by the Base that would occur beyond 2 years are too uncertain to be evaluated. The following are actions that could affect similar environmental resources in close proximity to the Proposed Action area:

- FY 2015:
  - Repair Taxiway Lights and Shoulders: Reconstruct concrete panels and asphalt shoulders on all taxiways on the northern side of Runway 03L-21R and Taxiway M, replacing the lighting system within the reconstructed taxiway shoulders, and grading unpaved shoulders.
- FY 2016:
  - Repair 400 Ramp: Repairs at the 400 Ramp located at the Travis AFB airfield. Construct new drainage.
  - Wheel and Tire Shop: Construct new addition for storage.
  - Building 971: Construct covered addition and repair paddock.
- FY 2017:
  - Repair Gas Mains and Laterals and Installation of Lighting in the Tactical Airborne Communication and Maritime Operation (TACAMO) Area: Repairs and lighting installation would occur at the Travis AFB airfield and within the TACAMO area.
  - Repair and Upgrade TACAMO Culvert and Drainage: Reconstruct a culvert, headwall, and security grate at the existing culvert at Perimeter Road, and construct a drainage system at the vehicle inspection security entrance to the TACAMO area.
  - Replace Fuel Hydrant System at Area G: Replace fuel storage tanks, underground fuel piping, pump house, and associated fuel hydrant system infrastructure.
  - Repair 200 Ramp: Repair the 200 Ramp at the Travis AFB airfield and install new lighting.
  - Repair Runway 21R/03L: Repair threshold lights and edge lighting, and installation of an Approach Lighting System with Sequenced Flashing Lights (i.e., ALSF-1) system.

- Repair or replace asphalt between COMBS yard and 200 Ramp.
- Demolish Building 927: Demolish dilapidated building and abandon all utilities in place; retain landscaping and parking lot.
- Airfield Painting at 500 and 800 Ramps: Repaint all airfield markings along 500 and 800 ramps.
- Repair 600 Ramp Shoulder: Repair deteriorating asphalt shoulder pavement at the 600 Ramp from 604 to 607.
- Repair Natural Gas Lines for Multiple Facilities: Replace the existing steel pipe with HDPE.
- Repair Roofs of B Bunkers 956, 958, 966, 968, 976, and 978: Remove the existing grass/turf covering, and re-establish the grass/turf to stabilize the earth over the entire bunker.
- Repair Soccer Field: Remove existing grass and irrigation systems and install a synthetic play surface.

- FY 2018 and beyond:
  - Base Civil Engineer (BCE) Complex: Construct a BCE Complex to consolidate BCE functions on Travis AFB into a single area. The BCE complex would include four buildings, parking lots, and shop yards. The BCE complex would also be used for shops and warehouse for bulk storage and bins of materials needed to support Base operations. Materials stored at the facility would include machinery, portable generators and lights, building and maintenance supplies, and some heavy equipment (Travis AFB, 2011c).
  - Repair 200 Ramp: Replace 200 Ramp parking to conform to facility and pavements load requirements. Provide underdrain system and new surface grading and drainage system. Replace aggregate base and subbase.
  - Repair Runway 21R/03L: Repair or replace pavements, airfield lighting, fiber optic communication lines, markers, and drainage systems.
  - Repair Pavement Taxiway Kilo: Repair 1.4 acres of asphalt concrete on Taxiway Kilo. Remove and replace existing portland concrete cement pavement and existing aggregate base. Provide new underdrain system new paint striping.
  - Repair Taxiway November adjacent to 400 Ramp.
  - Repair 500 Ramp, Eight Spots: Remove and replace existing portland concrete cement pavement and under pavement structures. Provide new underdrain system new paint striping.
  - Construct parking lot at Building 924.
  - KC-46 Main Operating Base Beddown: A proposed effort that would provide aerial refueling to Air Force, Navy, and Marine Corps aircraft as well as allied nation and coalition forces aircraft. (Travis AFB, 2017c)

The following are foreseeable future projects in the city of Fairfield and Solano County near Travis AFB:

City of Fairfield

The following are current capital projects in the city of Fairfield (City of Fairfield, 2017a):

- Potable Water Reservoir Cleaning and Inspection Project 2017: This capital project is in the city of Fairfield and consists of various potable water reservoir cleaning and inspection activities consisting of, but not limited to, interior cleaning of various City of Fairfield above ground metal and high lift pump station sumps.

The following are major planning projects in the city of Fairfield (City of Fairfield, 2017b):

- Adopted Heart of Fairfield Specific Plan: This community development project focuses on including updates to zoning and design standards, economic and fee incentives, street and sidewalk enhancements, and infrastructure improvements in the City of Fairfield.
- Northeast Fairfield Development Areas: These projects consist of The Train Station Specific Plan (up to 6,800 housing units, and 300 acres of industrial uses; Hawthorne Mill (up to 1,000 housing units); and Villages at Fairfield (1,830 housing units) in the northeastern portion of the city of Fairfield.

Solano County (Solano County, 2017)

- Suisun Valley Bicycle and Pedestrian Improvements Project: Solano County is proposing a public enhancement project in the Suisun Valley area. The project would widen roadways to accommodate the addition of a network of Class II bicycle routes connecting the city of Fairfield and surrounding areas with agriculture and tourist locations in the rural Suisun Valley area.
- Peasant Valley Road Safety Improvement: This project involves construction of paved shoulders to increase public safety along Peasant Valley Road.
- Cordelia Road–Lake Herman Road Shoulder Widening: Construction of paved shoulders and other road repairs to Lake Herman Road in Solano County.
- Stevenson Road Bridge Rehabilitation: Rehabilitate Stevenson Road Bridge to meet safety requirements.

The Proposed Action would be constructed on Travis AFB. The cumulative projects identified above that are within the city of Fairfield and Solano County but outside the Base boundary were considered and dismissed from analysis, because they are not located within the area of interest for the Proposed Action. Therefore, they are not likely to result in cumulative impacts. Potential cumulative impacts on the resource areas caused by implementation of the Proposed Action on Travis AFB are discussed in the following sections.

4.14.1 Air Quality and Greenhouse Gas Emissions

Cumulative impacts on air quality could result from multiple simultaneous construction projects. Construction of the Proposed Action and planned reasonably foreseeable future projects would cause temporary air quality impacts due to the exhaust emissions from construction equipment and vehicles as well as fugitive dust. The cumulative increases in construction emissions from the Proposed Action and the foreseeable future projects would be minimized because the projects will comply with applicable federal, state, and local regulations for construction equipment and vehicle emission standards and implementing fugitive dust control measures. Air quality impacts from construction of the Proposed Action and foreseeable future projects would be temporary, and permanent impacts on air quality would not be cumulatively significant.

4.14.2 Noise

The area of interest for noise is within 2,500 feet from the Proposed Action area. A planned, reasonably foreseeable future project near the Proposed Action is the BCE Complex, which would be adjacent to the Proposed Action area. Operation of the Proposed Action in combination with construction of the BCE Complex could result in potential cumulative noise impacts. However, because construction of the BCE Complex would be temporary and because there are no noise-sensitive receptors located closer than 0.5 mile from the Proposed Action area, it is anticipated that only minor cumulative noise impacts could result, but they would not be cumulatively significant.

4.14.3 Hazardous Materials, Waste, Environmental Restoration Program Sites, and Stored Fuels

Hazardous materials or wastes encountered or generated during the Proposed Action would be managed in accordance with AFI 32-7086, *Hazardous Materials Management* (Air Force, 2004); AFI 32-7042, *Solid and Hazardous Waste Compliance* (Air Force, 2010); and the *Travis AFB Integrated Solid Waste Management Plan* (Travis AFB, 2007). The Proposed Action and future actions at Travis AFB at locations known to contain hazardous materials or wastes would comply with these guidelines and, therefore, would avoid or minimize any potential adverse effects from hazardous materials and hazardous wastes. With implementation of management practices in accordance with the above regulations, the Proposed Action, in conjunction with other future proposed projects on the Base would not be cumulatively significant. No significant cumulative impacts are anticipated.

4.14.4 Water Resources, Floodplains, and Wastewater

The Proposed Action could result in impacts on water resources during construction. Earth-moving activities associated with multiple construction projects occurring simultaneously could affect water resources by decreasing the quality of surface water runoff during storm events. Travis AFB currently has a basewide Stormwater Permit for industrial activity and a basewide SWPPP. Impacts from multiple actions would be reduced to less than significant levels by complying with the basewide permits and programs that are currently in place or that would be implemented under the Proposed Action. A construction SWPPP would be prepared for this project. No significant cumulative impacts are anticipated.

No changes to floodplains or wastewater would occur with implementation of the Proposed Action. Therefore, the Proposed Action, when combined with other future proposed projects on the Base, would not be cumulatively significant and no cumulative impacts would occur.

4.14.5 Biological Resources – Wetlands and Special-status Species

Construction of the projects could result in unavoidable, permanent impacts on protected biological resources. These impacts require agency approval and implementation of permit requirements, including conservation and minimization measures such as enhancing or restoring habitats or participating in mitigation banks. Planned, reasonably foreseeable future projects would result in impacts on wetlands and protected species, such as CTS and vernal pool branchiopods. Travis AFB has either already obtained necessary permits authorizing construction or is in the process of applying for them. With implementation of permit requirements and associated mitigation requirements, the permanent impacts on biological resources would not be cumulatively significant.

4.14.6 Cultural Resources

The Proposed Action would not affect known historic or cultural resources; therefore, no cumulative impacts on cultural resources would occur. The Proposed Action and other reasonably foreseeable future projects at Travis AFB would adhere to requirements within a Base Civil Engineering Work Clearance Request and cultural resources contingency plan, and it would comply with federal laws protecting cultural resources. Therefore, the Proposed Action, when combined with other future projects on the Base, would not be cumulatively significant and no cumulative impacts would occur.

4.14.7 Socioeconomic Resources

Minor short-term economic benefits on socioeconomic resources would occur with construction and operation of the Proposed Action, and other reasonably foreseeable future actions would also cause a temporary increase in civilian contract employees (construction workers) at the Base. Construction

workers would purchase food, gasoline, and other commodities from local businesses near the Base. The Proposed Action would not result in a long-term change in socioeconomic conditions, because operation would require approximately 4 to 6 personnel, which is considered negligible. Reasonably foreseeable future projects onbase are primarily associated with operation of the BCE Complex and repair of existing infrastructure at the airfield; therefore, long-term changes in socioeconomic conditions would not occur. No cumulative impacts are anticipated, because the Proposed Action combined with other reasonably foreseeable future projects would not affect the existing socioeconomic environment of the region.

4.14.8 Land Use

The Proposed Action would not result in a change to existing land use on Travis AFB. The activities under the Proposed Action are compatible with the industrial and open space land use designations at the site. Other reasonably foreseeable future projects, including the BCE Complex, are not anticipated to require changes in existing land use designations. Therefore, the Proposed Action, when combined with other cumulative projects onbase, would not result in a cumulative impact on land use.

4.14.9 Transportation System

The Proposed Action would temporarily affect the local roadway network during project construction, because of short-term increases in truck traffic and traffic from construction workers in personal vehicles. The Proposed Action would increase truck traffic onbase and on the local roadway network during operation over a period of 15 years. Other reasonably foreseeable future projects constructed concurrently with the Proposed Action would also temporarily affect the local roadway network. However, it is anticipated that traffic volumes during construction and operation would be within the capacity of onbase and offbase roadways, and no long-term increases in traffic volume is anticipated; therefore, the contribution of the Proposed Action to cumulative traffic impacts would not be significant. The Proposed Action, combined with other cumulative projects, would not result in adverse cumulative impacts on transportation.

4.14.10 Airfield Operations

The Proposed Action area is not located at the airfield; however, operations at the batch plant location would supply material and support construction activities for airfield construction projects, to include the future multiphase renovation of the 400-Ramp and planned construction at the 200- and 600-Ramps. Operation of the Proposed Action, along with construction of other future projects at the airfield, would improve airfield operations. Therefore, the Proposed Action, combined with other cumulative projects at the airfield would be considered beneficial to airfield operations.

4.14.11 Safety and Occupational Health

The Proposed Action, along with other reasonable foreseeable future planned projects at Travis AFB, could result in increased risks to health and safety. All construction and operational activities occurring on the Base are subject to federal, state, and local guidelines that regulate health, safety, and hazardous materials. Construction activities associated with the Proposed Action and other actions would occur within the boundaries of Travis AFB, with no public access (except for construction workers). Impacts on safety and environmental health would not be significant because implementation of a health and safety plan would reduce the potential risks to construction workers. Implementation of the Proposed Action and other actions would not result in adverse cumulative impacts on health and safety.

4.14.12 Environmental Management

No impacts on geology or soils are anticipated from the Proposed Action because no important soil resources are present in the Proposed Action area, and it would not alter the geology of the area. The

Proposed Action and future projects implemented on Travis AFB must comply with the overall objectives of the Pollution Prevention Program at Travis AFB and would meet the pollution prevention goals in the *Travis AFB Integrated Solid Waste Management Plan* (Travis AFB, 2007). Therefore, the Proposed Action when combined with other future projects on the Base would not be cumulatively significant and no cumulative impacts would occur.

4.15 Unavoidable Adverse Impacts

As previously described in the resource-specific analyses, no significant unavoidable adverse impacts are expected from the construction or operation of the Proposed Action. Impacts resulting from construction are anticipated to be minor, the duration of construction would be brief, and it would not result in adverse impacts on environmental or socioeconomic resources. Those impacts with adverse impacts would be mitigated by implementing the avoidance and minimization measures described in the preceding resource-specific sections.

4.16 Relationship between Short-term Uses and Enhancement of Long-term Productivity

The purpose of the Proposed Action is to construct a batch plant location on Travis AFB to (1) supply concrete and base course material and (2) provide material storage areas, equipment parking, and lay down and office trailer areas for use during onbase construction projects over the next 15 years. Long-term productivity would be enhanced by implementing the Proposed Action because it would help lower operating and maintenance costs and improve project efficiency for ongoing and planned projects onbase.

4.17 Irreversible and Irretrievable Commitment of Resources

NEPA requires that this environmental analysis identify of irreversible and irretrievable commitments of resources that would be involved in the Proposed Action should it be implemented. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the use of these resources has on future generations. Irreversible effects primarily result from the use or destruction of a specific resource that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action.

Implementation of the Proposed Action would require a commitment of materials (e.g., concrete and other building materials) and energy (e.g., fossil fuels) for construction and operation. Use of raw building materials for construction would be an irretrievable commitment of resources. Energy consumed for project construction and operation activities would be irreversible. Travis AFB would benefit from the operation of a batch plant location over the next 15 years, which would outweigh the irreversible commitment of resources.

SECTION 5

List of Preparers

Name	Education	Experience	Role
Marjorie Eisert	B.S., Wildlife and Fisheries Biology	27 years	Project Manager
Michelle Rau	M.S., Business Administration; B.S., Ecology and Evolutionary Biology	19 years	Senior Reviewer
Julie Petersen	B.S., Biology	12 years	Lead author
Hong Zhuang	M.S., Environmental Science and Engineering B.S., Chemistry and Environmental Engineering	18 years	Air Quality Engineer
John Deaton	B.S., Natural Resources Management	15 years	Technical Publications Specialist

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SECTION 6

List of Agencies and People Consulted or Provided Copies

The following people were consulted during preparation of this EA:

- Chris Krettecos, CES/CEI (Retired)
- Matthew Blazek, CES/CEI
- Sara Bierman, CES/CEN
- Brian Sassaman, 60 CES/CEI
- Milea Franklin, 60 CES/CEIEC
- Jim Christensen, 60 CES/CEN
- Tom Dunsmore
- Captain Bryan Scism
- Captain Josh Martinez

Travis AFB coordinated distribution of this EA to the following public and regulatory agencies, libraries, and local newspapers.

- **Federal**

U.S. Environmental Protection Agency, Region 9
Director, Officer of Federal Activities
75 Hawthorne Street
San Francisco, California 94105

U.S. Department of the Interior
U.S. Fish and Wildlife Service
California/Nevada Operations Office
2800 Cottage Way, Room W-2606
Sacramento, California 95825

U.S. Army Corps of Engineers, San Francisco District
Regulatory Division
1455 Market Street, 16th Floor
San Francisco, California 94103

- **U.S. Air Force**

Department of the Air Force
Air Mobility Command
Attn: Paul Takacs, HQ AMC/A7NP
507 Symington Drive
Scott Air Force Base, Illinois 62225

Ms. Jean Reynolds, AFCEC/CZN
2261 Hughes Ave, Ste 155 JBSA
Lackland AFB TX 78236-9853

Air Force Western Regional Environmental Office
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333 Market Street, Suite 600
San Francisco, California 94105

- **State**

California Air Resources Board
Air Quality and Transportation Division
1001 "I" Street
P.O. Box 2815
Sacramento, California 95812

California Department of Fish and Game
P.O. Box 944209
Sacramento, California 94299-2090

Mr. Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
Department of Parks and Recreation
P.O. Box 942896
Sacramento, California 94296-0001

San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, #1400
Oakland, California 94612

- **City**

City of Fairfield
Community Development Department
1000 Webster Street
Fairfield, California 94533

City of Vacaville
Community Development Department
650 Merchant Street
Vacaville, California 95688

Suisun City
Community Development Department
701 Civic Center Boulevard
Suisun, California 94588

- **Libraries**

Fairfield-Suisun Community Library
1150 Kentucky Avenue
Fairfield, California 94533

Suisun City Library
333 Sunset Avenue
Suisun City, California 94585

Mitchell Memorial Library
510 Travis Avenue (Building 436)
Travis Air Force Base, California 94535

Vacaville Public Library
1020 Ulatis Drive
Vacaville, California 95687

SECTION 7

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Appendix A
Air Conformity Applicability Model Reports

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AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF CONFORMITY ANALYSIS (ROCA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Instruction 32-7040, Air Quality Compliance And Resource Management; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: TRAVIS AFB
County(s): Solano
Regulatory Area(s): San Francisco Bay Area, CA

b. Action Title: Batch Plant Construction and Operation at Travis AFB

c. Project Number/s (if applicable):

d. Projected Action Start Date: 7 / 2018

e. Action Description:

The Proposed Action would construct a batch plant location on Travis AFB. The batch plant location would be used to accommodate batch plant equipment for the manufacture and supply of concrete and base course material for onbase construction projects over the next 15 years.
The Proposed Action area is approximately 12 acres. It includes the construction and operation of a crusher plant and concrete batch plant, raw and finished material storage areas, equipment parking, and lay down and office trailer areas on Travis AFB.

Under the No Action alternative, construction and operation of a batch plant on Travis AFB would not occur, and offbase commercial batch plants would continue to be used to support onbase construction projects at Travis AFB. However, the No Action Alternative does not meet the requirements defined in the Purpose and Need Section.

An existing laydown area that was a former batch plant site south of Hangar Avenue was considered as a possible site for a batch plant location. However, the site does not meet the project need because (1) it is a relatively small site and is incapable of supporting large construction projects and (2) it is located near office buildings and a major transportation through fare, which would disturb Base personnel because operation of a batch plant would generate dust and noise.

A former batch plant site off Baker Drive, northeast of the airfield, was also considered as another possible batch plant site for future projects at the airfield. However, the site does not meet the project need because it is a relatively small site (approximately 3 acres) and is incapable of accommodating support activities for large construction projects.

f. Point of Contact:

Name: Sara Van Klooster
Title: Scientist 5
Organization: CH2M
Email: sara.vanklooster@ch2m.com
Phone Number: 414-429-6681

2. Analysis: Total combined direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" and "steady state" (net gain/loss upon action fully

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location

Base: TRAVIS AFB
County(s): Solano
Regulatory Area(s): San Francisco Bay Area, CA

- Action Title: Batch Plant Construction and Operation at Travis AFB

- Project Number/s (if applicable):

- Projected Action Start Date: 7 / 2018

- Action Purpose and Need:

The purpose of the Proposed action is to lower operating and maintenance costs and improve project efficiency for ongoing and planned projects on base.

The Proposed Action is needed because offbase commercial batch plant facilities would be unlikely to meet USGS 32-13-11 specifications, and they might be too costly and inefficient to support large construction projects planned for the airfield. Commercial batch plants are unlikely to have the capacity to supply and transport the volume of material typically required to keep a paver in continuous motion (approximately 250 cubic yards of pavement per hour). Furthermore, transport of pavement mix to the airfield from an offbase supplier could result in delayed deliveries, which could interrupt continuous operation of the paver. Finally, commercial batch plants do not routinely provide the sampling and testing required for airfield pavements; airfield pavement mix designs include parameters, such as aggregate gradation and slump requirements, that do not correspond with general commercial concrete production. It is difficult for commercial batch plants to provide mix designs that meet Air Force specifications.

- Action Description:

The Proposed Action would construct a batch plant location on Travis AFB. The batch plant location would be used to accommodate batch plant equipment for the manufacture and supply of concrete and base course material for onbase construction projects over the next 15 years.
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- Point of Contact

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Name: Sara Van Klooster
Title: Scientist 5
Organization: CH2M
Email: sara.vanklooster@ch2m.com
Phone Number: 414-429-6681

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Batch Plant Construction

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Solano
Regulatory Area(s): San Francisco Bay Area, CA

- Activity Title: Batch Plant Construction

- Activity Description:
Construction of batch plant.

- Activity Start Date
Start Month: 7
Start Month: 2018

- Activity End Date
Indefinite: False
End Month: 7
End Month: 2018

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.070294
SO_x	0.001321
NO_x	0.659771
CO	0.339106
PM 10	0.214112

Pollutant	Total Emissions (TONs)
PM 2.5	0.024498
Pb	0.000000
NH_3	0.001287
CO_2e	136.2

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 7
Start Quarter: 1
Start Year: 2018

- Phase Duration
Number of Month: 0
Number of Days: 20

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft^2): 28314
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 10920

- Site Grading Default Settings

Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Graders Composite	1	8
Rubber Tired Dozers Composite	1	8
Scrapers Composite	2	8
Tractors/Loaders/Backhoes Composite	2	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 15
Average Hauling Truck Round Trip Commute (mile): 50

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 30

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Excavators Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0848	0.0013	0.5180	0.5159	0.0249	0.0249	0.0076	119.77
Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1049	0.0014	0.7217	0.5812	0.0354	0.0354	0.0094	132.97
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.2343	0.0024	1.8193	0.8818	0.0737	0.0737	0.0211	239.61
Scrapers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.2135	0.0026	1.6041	0.8417	0.0653	0.0653	0.0192	262.96
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0512	0.0007	0.3330	0.3646	0.0189	0.0189	0.0046	66.912

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.138	000.003	000.105	001.204	000.047	000.020		000.025	00316.981
LDGT	000.343	000.004	000.228	002.351	000.048	000.021		000.027	00399.903
HDGV	000.709	000.012	001.546	010.560	000.183	000.078		000.045	01145.768
LDDV	000.032	000.003	000.175	000.310	000.064	000.036		000.008	00288.267
LDDT	000.104	000.004	000.603	000.649	000.120	000.090		000.008	00378.916
HDDV	000.245	000.014	005.811	001.253	000.236	000.142		000.029	01539.947
MC	004.537	000.002	001.259	024.868	000.019	000.009		000.053	00186.229

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF CONFORMITY ANALYSIS (ROCA)

implemented) emissions. General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the action described above according to the requirements of 40 CFR 93, Subpart B.

Based on the analysis, the requirements of this rule are: _____ applicable
__X__ not applicable

Conformity Analysis Summary:

2018

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
San Francisco Bay Area, CA			
VOC	0.070	100	No
NOx	0.660	100	No
CO	0.339		
SOx	0.001	100	No
PM 10	0.214		
PM 2.5	0.024	100	No
Pb	0.000		
NH3	0.001	100	No
CO2e	136.2		

2019 - (Steady State)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
San Francisco Bay Area, CA			
VOC	0.000	100	No
NOx	0.000	100	No
CO	0.000		
SOx	0.000	100	No
PM 10	0.000		
PM 2.5	0.000	100	No
Pb	0.000		
NH3	0.000	100	No
CO2e	0.0		

None of estimated emissions associated with this action are above the conformity threshold values established at 40 CFR 93.153 (b); Therefore, the requirements of the General Conformity Rule are not applicable.

_____ _____

Sara Van Klooster, Scientist 5 DATE

WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

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Appendix B
Air Emission Calculations

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APPENDIX B

Air Emission Calculations for Batch Plant Location

B.1 Construction Emissions

Emission calculations for the Batch Plant Location project assumed that construction emissions would occur entirely in 2018. Construction emissions include engine exhaust from vehicle trips traveled by construction workers, delivery trucks, concrete trucks, and off-road construction equipment. These emissions would primarily consist of carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter less than 10 micrometers in aerodynamic diameter (PM_{10}), particulate matter less than 2.5 micrometers in aerodynamic diameter ($PM_{2.5}$), sulfur dioxide (SO_2), and volatile organic compounds (VOCs). In addition, earth-moving activities would result in fugitive dust emissions. The construction equipment and vehicle emissions of VOC, CO, NO_x, VOC, SO_2, PM_{10}, $PM_{2.5}$, and greenhouse gasses (GHG) were estimated using the Air Force's Air Conformity Applicability Model, Version 5.0.8 (ACAM), with the projected construction duration and estimated hours of construction equipment operations.

B.2 Operation Emissions

Direct operational emissions associated the project would be from the diesel trucks that haul raw material to the facility and deliver the ready-mix concrete product to construction sites. Fugitive emissions would occur during the aggregate crushing and ready-mix concrete production processes. Emissions associated with the vehicle emissions were estimated using emission factors from EMFAC2014 (California Air Resources Board [ARB], 2017) and the estimated vehicle travel distance during project operation. Fugitive dust emissions from vehicle travel on paved and unpaved roads were estimated using emission factors from Air Emissions Guide for Air Force Mobile Sources (Air Force Civil Engineer Center, July 2017a). Fugitive dust emissions from the concrete batching process were estimated by using emission factors from Air Emissions Guide for Air Force Transitory Sources (Air Force Civil Engineer Center, July 2017b). The project may install new diesel emergency generators; however, potential emissions during the occasional emergency use and during periodic maintenance and testing would be negligible. Therefore, emissions from emergency engines were not quantified. Other equipment of the system is electric-powered and will not result in additional criteria pollutants. Direct GHG emissions from project construction and operation were estimated using the same methodology as those described for the criteria pollutants. Indirect carbon dioxide equivalent emissions (CO_2e) due to the increased electricity use were estimated using emission factors from the *Emissions & Generation Resource Integrated Database (eGRID)* (EPA, 2017).

Total construction and operation emissions are summarized in Tables B1 and B2, respectively. The ACAM reports are included in Appendix A.

B.3 Works Cited

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Air Force Civil Engineer Center. 2017b. *Air Emissions Guide for Air Force Transitory Sources*. July.

Table B1. Construction Emissions from Concrete Batch

Plant Operation Operational Vehicle Emissions

				Emission factor						
	Vehicle Trips/year	Distance/truck miles/trip	VMT VMT/year	ROG g/mile	NOx g/mile	CO g/mile	SO2 g/mile	PM10 g/mile	PM2.5 g/mile	CO2e g/mile
Material hauling	800	60	48000	0.242	7.281	0.888	0.016	0.193	0.126	1718.3
Concrete hauling	600	30	18000	0.242	7.281	0.888	0.016	0.193	0.126	1718.3
Worker commute	6	30	180	0.021	0.087	0.882	0.003	0.046	0.019	304.3

	Emissions						
	ROG	NOx	CO	SO2	PM10	PM2.5	CO2e
	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	metric ton/year
Material hauling	0.013	0.385	0.047	0.001	0.010	0.007	82.479
Concrete hauling	0.005	0.144	0.018	0.000	0.004	0.003	30.929
Worker commute	0.000	0.000	0.000	0.000	0.000	0.000	0.055

Notes:

Vehicle emission factors are from EMFAC2014.

Material hauling vehicles are assumed to be heavy heavy-duty vehicles.

Worker commute vehicles are assumed to be light-duty auto.

Fugitive Dust Emissions from Paved and Unpaved Roads

					Emission factors unpaved		Emission factors paved		Emissions	
	VMT	unpaved road %	VMT paved road	MT unpaved roa	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
	VMT/year		VMT/year	VMT/year	g/mile	g/mile	g/mile	g/mile	ton/year	ton/year
Material hauling	48000	5%	45600	2400	505.981	50.598	0.069	0.017	1.34	0.13
Concrete hauling	18000	5%	17100	900	505.981	50.598	0.069	0.017	0.50	0.05
Worker commute	180	5%	171	9	505.981	50.598	0.069	0.017	0.01	0.00
Total									1.85	0.19

Note:

Road dust emission factors were obtained from Air Emissions Guide for Air Force Mobile Sources, Chapter 5, Table 5-10 (Air Force Civil Engineer Center, 2017a)

Summary of Total Operational Emissions

	Emissions						
	ROG	NOx	CO	SO2	PM10	PM2.5	CO2e
	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	metric ton/year
Concrete batching	NA	NA	NA	NA	0.721	0.488	NA
Vehicles	0.018	0.530	0.065	0.001	0.014	0.009	113.5
Road Dust	NA	NA	NA	NA	1.850	0.186	NA
Total	0.018	0.530	0.065	0.001	2.585	0.683	113.463

GHG from Electricity Use

Power Demand	CO2e Emission Factor	CO2e Emissions
kWh/year	lb/MWH	metric ton/year
700,000	621.90	197.47

CO2e emission factors were from eGrid2014, for CAMX (WECC California)

Table B2. Construction Emissions from Concrete Batch Plant Operation

Operation Duration (years):	1.0
Operational Days per Year :	250
Concrete Throughput (ton/year)	48740
Total Volume of Concrete (cy):	24,225
Concrete Batch Plant Rate (cy/day):	97
Concrete density (ton/cy)	2.012

Concrete Batching Emission Factors

Process	Uncontrolled PM_{10} EF (lb/cy3)	Controlled PM_{10} EF (lb/cy3)	Uncontrolled $PM_{2.5}$ EF (lb/cy3)	Controlled $PM_{2.5}$ EF (lb/cy3)
Aggregate delivery to ground storage	0.0031	0.0031	0.0021	0.0021
Sand delivery to ground storage	0.0007	0.0007	0.0005	0.0005
Aggregate transfer to conveyor	0.0031	0.0031	0.0021	0.0021
Sand transfer to conveyor	0.0007	0.0007	0.0005	0.0005
Aggregate transfer to elevated storage	0.0031	0.0031	0.0021	0.0021
Sand transfer to elevated storage	0.0007	0.0007	0.0005	0.0005
Cement delivery to Silo	0.0001	0.0001	0.0001	0.0001
Cement supplement delivery to Silo	0.0002	0.0002	0.0001	0.0001
Weigh hopper loading	0.0038	0.0038	0.0026	0.0026
Central mix loading	0.0440	0.0016	0.0297	0.0010

Note:

Emission factors were from Table 8-2 of the Air Emissions Guide for Air Force Transitory Sources (Air Force Civil Engineer Center, July 2016)

Annual Emissions from Concrete Batching (tons/year)

Material	Operation Emissions (2017 and beyond)		Operation Emissions (2017 and beyond)	
	Uncontrolled PM_{10}	Controlled PM_{10}	Uncontrolled $PM_{2.5}$	Controlled $PM_{2.5}$
	ton/year	*ton/year*	*ton/year*	*ton/year*
Aggregate delivery to ground storage	0.038	0.038	0.025	0.025
Sand delivery to ground storage	0.008	0.008	0.006	0.006
Aggregate transfer to conveyor	0.038	0.038	0.025	0.025
Sand transfer to conveyor	0.008	0.008	0.006	0.006
Aggregate transfer to elevated storage	0.038	0.038	0.025	0.025
Sand transfer to elevated storage	0.008	0.008	0.006	0.006
Cement delivery to Silo (controlled)	0.001	0.001	0.001	0.001
Cement supplement delivery to Silo (controlled)	0.002	0.002	0.001	0.001
Weigh hopper loading	0.046	0.046	0.031	0.031
Central mix loading	0.533	0.019	0.360	0.012
Total Annual Emissions	**0.721**	**0.207**	**0.488**	**0.141**

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Appendix C
Clean Air Act Conformity Applicability Analysis

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APPENDIX C

Clean Air Act Conformity Applicability Analysis for Batch Plant Location

C.1 Purpose

The U.S. Air Force is required to perform a general conformity applicability analysis to determine whether the Batch Plant Location project at Travis Air Force Base (AFB), California, will comply with the U.S. Environmental Protection Agency (EPA) Final Conformity Rule, 40 Code of Federal Regulations (CFR) 93, Subpart B (for federal agencies), and 40 CFR 51, Subpart W (for state agencies) of the Clean Air Act of 1970 (CAA), as amended.

C.2 Background

EPA has issued regulations addressing the applicability and procedures for ensuring that federal activities comply with the amended CAA. The Final Conformity Rule implements Section 176(c) of the CAA, as amended in 42 United States Code 7506(c). The Final Conformity Rule requires federal agencies to ensure that any federal action resulting in emissions of any nonattainment or maintenance criteria pollutants conforms to the approved or promulgated state or federal implementation plans for attaining or maintaining the National Ambient Air Quality Standards (NAAQS). Specifically, this means that the federal action will not (1) cause a new violation of NAAQS, (2) increase the frequency or severity of existing violations of NAAQS, or (3) delay the timely attainment of NAAQS interim or other attainment milestones.

The Final Conformity Rule applies only to federal actions in NAAQS nonattainment or maintenance areas.

C.3 Summary of Air Pollutant Emissions and Regulatory Standards

The Proposed Action would be implemented in Solano County, California, under the jurisdiction of the California Air Resources Board (ARB), the Bay Area Air Quality Management District (BAAQMD), and EPA Region 9. Under NAAQS, the area is designated as nonattainment (marginal) for the 8-hour ozone (O_3) standard and the standard for particulate matter less than 2.5 micrometers in aerodynamic diameter ($PM_{2.5}$). In addition, the urbanized areas of Solano County, which include the area occupied by Travis AFB, are designated as maintenance for carbon monoxide (CO), under the *2004 Revision to the California State Implementation Plan for Carbon Monoxide, Updated Maintenance Plan for Ten Federal Planning Areas* (ARB, 2004). Solano County is in attainment or unclassified for all other criteria pollutants.

The Final Conformity Rule requires that total direct and indirect emissions of nonattainment and maintenance criteria pollutants, including O_3 precursors (volatile organic compounds [VOCs] and nitrogen oxides [NO_x]), be considered in determining conformity. Compliance is relatively straight-forward for actions where total direct and indirect emissions of nonattainment and maintenance criteria pollutants do not exceed the thresholds established in 40 CFR 93.153(b). Tables C-1 and C-2 present the de minimis thresholds for nonattainment and maintenance areas, respectively. If a federal action meets de minimis requirements, detailed conformity analyses are not required, pursuant to 40 CFR 93.153(c). The applicable de minimis thresholds for the Proposed Action are 100 tons per year (tpy) for emissions

of the O_3 precursor pollutants (VOCs and NO_x), $PM_{2.5}$, sulfur dioxide (SO_2) (as a precursor to $PM_{2.5}$), and CO.

On 24 March 2010, EPA updated the general conformity rule and removed 40 CFR 51.853, which requires federal agencies to conduct conformity determinations for "regionally significant" actions. However, previous State Implementation Plan (SIP)-approved rules, including the BAAQMD general conformity rule approved on 7 September 1994, and adopted into the SIP at 40 CFR 52.220(c)(205)(i)(B)(2)) remain in effect until the SIP is revised to remove or revise the previously approved SIP provisions (see 40 CFR 51.851(g)). Therefore, until a revision is made, projects within BAAQMD jurisdiction must continue to follow the regulation as written; the "regionally significant test" requirements in the repealed 40 CFR 51.853 are still enforced. Therefore, projects with emissions greater than 10 percent of the region's emission inventory would trigger conformity determination requirements.

Table C-1. De Minimis Thresholds in Nonattainment Areas

Environmental Assessment for Batch Plant Location at Travis Air Force Base, California
Appendix C, Clean Air Act Conformity Applicability Analysis

Pollutant	Degree of Nonattainment	De Minimis Threshold[a] (tpy)
O_3 (VOCs and NO_x)	Serious	50
	Severe	25
	Extreme	10
	Other O_3 – outside an O_3 transport region	**100**
O_3 (VOCs)	Marginal and moderate – inside an O_3 transport region	50
O_3 (NO_x)	Marginal and moderate – inside an O_3 transport region	100
CO	All	100
PM_{10}	Moderate	100
	Serious	70
$PM_{2.5}$	Direct emissions	**100**
	NOx	**100**
	SO_2	**100**
	VOCs or ammonia	**100**
SO_2 or NO_2	All	100
Lead	All	25

[a] **Bold** values are de minimis thresholds used in this analysis.

Source: 40 CFR 93.153(b)

Note:

NO_2 = nitrogen dioxide

Table C-2. De Minimis Thresholds in Maintenance Areas
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California
Appendix C, Clean Air Act Conformity Applicability Analysis

Pollutant	Maintenance Area	De Minimis Threshold[a]
O_3 (NO_x)	All	100
O_3 (VOC)	Inside an O_3 transport region	50
	Outside an O_3 transport region	100
CO	All	**100**
PM_{10}	All	100
$PM_{2.5}$	Direct emissions	100
	NO_x	100
	SO_2	100
	VOC or ammonia	100
SO_2 or NO_2	All	100
Lead	All	25

[a] De minimis thresholds are listed in tons per year. The **bold** value is the de minimis threshold used in this analysis.

Source: 40 CFR 93.153(b)

C.4 Emission Calculations

C.4.1 Construction Emissions

For emission calculations, project construction emissions were assumed to occur entirely in 2017. Construction emissions include engine exhaust from vehicle trips traveled by construction workers, delivery trucks, concrete trucks, and off-road construction equipment. These emissions would primarily consist of carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter less than 10 micrometers in aerodynamic diameter (PM_{10}), particulate matter less than 2.5 micrometers in aerodynamic diameter ($PM_{2.5}$), sulfur dioxide (SO_2), and volatile organic compounds (VOCs). In addition, earth-moving activities would result in fugitive dust emissions. The construction equipment and vehicle emissions of NO_x, VOC, CO, SO_2, PM_{10}, and $PM_{2.5}$, were estimated using the Air Force's Air Conformity Applicability Model, Version 5.0.8 (ACAM), with the projected construction duration and estimated hours of construction equipment operations based on projected construction duration and estimated numbers and types of equipment. ACAM report is provided in Appendix A.

C.4.2 Operation Emissions

Direct operational emissions associated the project would be from the diesel trucks that haul raw material to the facility and deliver the ready-mix concrete product to construction sites. Fugitive emissions would occur during the aggregate crushing and ready-mix concrete production processes. Emissions associated with the vehicle emissions were estimated using emission factors from EMFAC2014 (California Air Resources Board [ARB], 2017) and the estimated vehicle travel distance during project operation. Fugitive dust emissions from vehicle travel on paved and unpaved roads were estimated using emission factors from *Air Emissions Guide for Air Force Mobile Sources* (Air Force Civil Engineer Center, 2017a). Fugitive dust emissions from the concrete batching process were estimated by using emission factors from *Air Emissions Guide for Air Force Transitory Sources* (Air Force Civil Engineer

Center, 2017b). In accordance with Bay Area Air Quality Management District rules, emergency engines typically require a permit to operate unless exempt, and the emissions from permitted sources are not subject to conformity requirements.

C.4.3 Emissions Summary and Comparison to De Minimis Levels

Table C-3 shows the annual emission increases associated with the Proposed Action and the comparisons with the de minimis thresholds. As shown, emissions of NO_x, VOCs, CO, SO_2, and $PM_{2.5}$ during construction and operation of the project are well below the de minimis thresholds and the 10 percent of regional emission inventory. On the basis of the conformity applicability criteria, the project is assumed to conform to the most recent EPA-approved SIP; therefore, it does not require further conformity demonstration.

Table C-3. General Conformity Analysis for Proposed Action
Environmental Assessment for Batch Plant Location at Travis Air Force Base, California
Appendix C, Clean Air Act Conformity Applicability Analysis

	Annual Emissions (tpy)				
Activity	**NO_x**	**VOCs**	**CO**	**SO_2**	**$PM_{2.5}$**
Construction 2018	0.66	0.07	0.34	0.001	0.02
Operation, 2019 and Beyond	0.53	0.02	0.06	0.001	0.68
De Minimis Threshold	100	100	100	100	100
Exceeds De Minimis Threshold?	No	No	No	No	No
Basin Emission Inventory	107,310	692,040	126,655	NA	17,885
Exceeded 10% Regional Emission Inventory?	No	No	No	No	No

Notes:

Basin emissions inventory data for CO were obtained from *2004 Revision to the California State Implementation Plan for Carbon Monoxide, Updated Maintenance Plan for Ten Federal Planning Areas* (ARB, 2004). Emissions inventory data for 2010 were used for the emissions comparison.

Basin emissions inventory data of NOx, VOC, and $PM_{2.5}$ were obtained from *San Francisco Bay Area 2012 $PM_{2.5}$ Emission Inventory* (ARB, 2013). Emission inventory data for 2010 were used for the emission comparison.

NA = not applicable

C.5 Works Cited

California Air Resources Board (ARB). 2017. *EMFAC2014 Web Database*. Accessed 22 September.

California Air Resources Board (ARB). 2013. *San Francisco Bay Area 2012 $PM_{2.5}$ Emission Inventory.*

California Air Resources Board (ARB). 2004. *2004 Revision to the California State Implementation Plan for Carbon Monoxide, Updated Maintenance Plan for Ten Federal Planning Areas.* 22 July.

Air Force Civil Engineer Center. 2017a. *Air Emissions Guide for Air Force Mobile Sources*. July.

Air Force Civil Engineer Center. 2017b. *Air Emissions Guide for Air Force Transitory Sources*. July.

Appendix D
Biological Concurrence for Not Likely to Adversely Affect

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-2018-
I-2232-1

JUN 13 2018

Mr. Brian L. Sassaman
Flight Chief, Installation Management
60th Civil Engineer Squadron
411 Airman Dr (Building 570)
Travis AFB CA 94535-2001

Subject: Informal Consultation on the Proposed Batch Plant Site Preparation at Travis Air Force Base, Solano County, California

Dear Mr. Sassaman:

This letter is in response to the Travis Air Force Base (Travis AFB) letter received May 29, 2018, requesting initiation of informal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Batch Plant Site Preparation Project (proposed project) at Travis AFB in Solano County, California. At issue are the proposed project's effects on the federally-threatened vernal pool fairy shrimp (*Branchinecta lynchi*; fairy shrimp); and federally-listed as endangered vernal pool tadpole shrimp (*Lepidurus packardi*; tadpole shrimp) and Contra Costa goldfields (*Lasthenia conjugens*; goldfields). No designated critical habitat for any federally listed species exists within the action area of the proposed project; therefore critical habitat will not be affected. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

The federal action on which we are consulting is the preparation and installation of a permanent site for temporary batch plants that will supply concrete and base course material for Travis AFB construction projects over the next 15 years. The proposed project construction area comprises about 12 acres and will contain two concrete pads with utility poles to support batching and crushing operations. Our response is based on the following information: (1) your letter received May 29, 2018, requesting our concurrence; (2) a biological evaluation for the proposed project received May 29, 2018, describing actions of the proposed project, existing conditions, and potential effects to federally listed species; and (3) additional information available to the Service.

Project Description

The proposed project involves the preparation and installation of batch plant site equipment on a 12-acre plot about 0.10 mile east of Building 759, on the north side of Ellis Road at Travis AFB. Onbase construction projects are expected to require concrete and base course material, and the establishment of a permanent batch plant site is expected to reduce operating and maintenance costs of upcoming independent projects over the next 15 years.

Batch plant site establishment is expected to require a crew of five, and construction will start as soon as possible in summer 2018. The proposed project is expected to require 30 days to construct.

Once established, the site is expected to be in operation about 250 days a year servicing multiple temporary projects, and will require a crew of four people to operate.

Material delivery and trucks will access the proposed project construction site via the South Gate. All vehicles will use established roads and will stay within the bounds of the construction site. The entire 12-acre construction site will be leveled and graded, and a perimeter fence will be placed around the site. Two cement or concrete pads for temporary batch equipment, each about 40-feet square in length, will be constructed to a depth of about 3 feet. Also, gravel will be placed on compacted soil in the construction area for material storage, laydown, temporary office trailers, and parking. Water and electricity will be connected to existing lines. Pumping devices will be connected to water lines to provide water to the batch plant site.

Eleven seasonal wetlands and vernal pools were identified within 250 feet of the proposed project construction site. Table 1, taken from the biological evaluation received May 29, 2018, shows 3 of the 11 wetland features are known to provide habitat for listed species.

Table 1. Wetland and Vernal Pools within 250 feet of the Proposed Project.

Travis AFB ID Number	Acreage	Distance from Project Limits (feet)	Known Special-status Species Habitat
VP.CA.483	0.0664	125	
VP.CA.783	0.213	142	
VP.GA.488	0.0193	107	
VP.GA.824	0.00691	162	
VP.GA.489	0.0330	198	Fairy Shrimp
VP.GA.825	0.0175	62	
VP.GA.826	0.0075	227	
VP.GA.665	0.0579	238	
VP.GA.666	0.0915	229	Goldfields
VP.GA.882	0.0239	162	Goldfields
VP.GA.881	0.0165	129	

Proposed Conservation Measures

To reduce the potential for adverse effects from the proposed project to occur on the fairy shrimp, tadpole shrimp, and goldfields, Travis AFB has proposed to implement a series of conservation measures that are included with this letter as Enclosure 1.

Of the 11 sites identified as wetland features within 250 of the proposed project construction site, 5 are on the south side of Ellis Road, and therefore hydrologically independent from the action area. Wetland feature VP.GA.489, which is known to provide habitat for the fairy shrimp, is among the five wetland areas that are hydrologically separated from the construction area by Ellis Road. Goldfields are known to occur at VP.GA.666 to the northeast of the construction area, and VP.GA.882 to the northwest of the construction area.

The proposed project construction is scheduled to occur during the dry season. Construction actions, such as site preparation, concrete base installation, parking, and utility pole installation, are not expected to alter the hydrology of the vernal pool areas within 250 feet of the construction area. Also, future use of the batch plant is not expected to alter the hydrology of the nearby vernal pools. All construction activities are expected to be completed before the next rainy season begins in October, 2018.

After reviewing the information provided, the Service concurs with your determination that the proposed project, as described, is not likely to adversely affect the vernal pool fairy shrimp, the vernal pool tadpole shrimp, or Contra Costa goldfields. The proposed project reached the 'may affect' level, and the subsequent requirement for a biological assessment, due to the fact that the fairy shrimp and tadpole shrimp are both known to occupy vernal pools within 250 feet of the proposed project construction area. However, permanent actions are not expected to alter the hydrology of the vernal pools within 250 feet, and all actions will be completed during the dry season. Also, Travis AFB will implement the enclosed conservation measures as part of the proposed project. Our concurrence is provided specific to the action area, and for the proposed project action only as described within your request. Any change in the proposed project, as described, may require additional consultation with the Service.

This concludes our review of your proposed project and no further coordination with us under the Act is necessary at this time. Please note, however, that this letter does not authorize the take of listed species.

If you have any questions regarding this response, please contact Harry Kahler, Fish and Wildlife Biologist, at (916) 414-6577 or myself at (916) 414-6563.

Sincerely,

Doug Weinrich

Doug Weinrich
Assistant Field Supervisor

Enclosure

Enclosure 1

Avoidance and Minimization Measures

General Avoidance and Minimization Measures[1]

Monitoring

MM-1. A Service-approved Biologist will conduct preconstruction surveys of all ground disturbance areas within sensitive habitats to determine if any federally-listed species may be present prior to the start of construction. These surveys will be conducted prior to the start of construction activities in and around any sensitive habitat. If any federally-listed species are found during the preconstruction surveys, the Service-approved Biologist will contact the Service to determine how to proceed. At least 10 business days prior to the onset of activities, Travis AFB will submit the name(s) and credentials of biologists who will conduct these preconstruction surveys if they have not previously received Service approval for similar surveys. No project activities will begin until proponents have received written approval from the Service that the biologist(s) is qualified to conduct the work.

MM-2. A Service-approved Biologist will monitor construction activities in or adjacent to sensitive habitats as required. The Biologist will ensure compliance with all applicable avoidance and minimization measures required to protect federally-listed species and their habitats. If federally-listed species are found that are likely to be affected by work activities, the Service-approved Biologist will have the authority to stop any aspect of the project that could result in unauthorized take of a federally-listed species. If the Biologist exercises this authority, he/she will coordinate with 60 CES/CEIE who will notify the Service and the California Department of Fish and Wildlife by telephone within one working day and in writing within five working days.

MM-3. A Service-approved Biologist will conduct environmental awareness training for all construction personnel working within and near sensitive habitat on Base. Training will be provided at the start of work and within 15 days of any new worker arrival. The program will consist of a briefing on environmental issues relative to the proposed project. The training program will include an overview of the legal status, biology, distribution, habitat needs, and compliance requirements for each federally-listed species that may occur in the project area. The presentation will also include a discussion of the legal protection for endangered species under the Act, including penalties for violations. A fact sheet conveying this information will be distributed to all personnel who enter the project site. Upon completion of the orientation, employees will sign a form stating that they attended the program and understand all avoidance and minimization measures. These forms will be maintained at Travis AFB and will be accessible to the appropriate resource agencies.

Buffers and Site Restoration

MM-5. Wetlands/drainages/vernal pools, if present, will have erosion control measures (straw waddles, silt fencing) installed where hydrological continuity exists between the construction activities and the wetland. A Service-approved Biologist will determine whether erosion control measures should be utilized, weighing the potential for impacts to other species including California tiger salamander. Construction boundaries within the buffer will be designated with fencing or other suitable means to ensure no equipment and/or construction workers access protected wetland resources.

MM-6. All areas of upland ground disturbance or exposed soil will be reseeded with a native "weedfree" seed mix approved by the 60 CES/CEIE.

Additional Measures

MM-7. Off-road travel outside of the demarcated construction boundaries will be prohibited.

MM-8. Prior to initiation of construction activities, sensitive areas, such as vernal pools, wetlands, riparian areas, and potential habitat for federally-listed species (i.e., Vernal pool fairy shrimp/vernal

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[1] Measures taken from the Programmatic Biological Assessment: Effects of Activities Conducted at Travis Air Force Base, California, on Six Federally Threatened and Endangered Species. 60th Civil Engineer Squadron. March 2018.

pool tadpole shrimp, Contra Costa goldfields, California tiger salamander), will be staked and flagged as exclusion zones where construction activities cannot take place. Orange construction barrier fencing (or an appropriate alternative method) will designate exclusion zones where construction activities cannot occur. The flagging and fencing will be clearly marked as an environmentally sensitive area (ESA). The contractor will remove all fencing, stakes and flagging within 60 days of construction completion.

MM-9. Any worker that inadvertently kills or injures a federally-listed species, or finds one injured or trapped, will immediately report the incident to the on-site Biologist. The Biologist will inform the Travis Natural Resource Manager (NRM) immediately (60 CES/CEIE). The Travis NRM will verbally notify the Sacramento Fish and Wildlife Office within one day and will provide written notification of the incident within five days.

MM-10. Motor vehicles and equipment will only be fueled and serviced in designated service areas. All fueling and maintenance of vehicles and other equipment and staging areas will occur in a designated area with appropriate spill containment. Any newly established, project-specific fueling and maintenance areas will be located at least 250 feet from any wetland/drainage habitat or water body. Prior to the onset of work, Travis AFB will ensure a plan to allow a prompt and effective response to any accidental spills is in place. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

MM-11. During construction activities, all trash that may attract predators will be properly contained, removed from the work site daily, and disposed of properly. Following construction, all refuse and construction debris will be removed from work areas. All garbage and construction-related materials in construction areas will be removed immediately following project completion.

MM-12. Unless otherwise designated as part of a habitat restoration plan, all excess soil excavated during construction occurring near vernal pools and other wetlands will be removed and disposed of outside the project area. Coordination with the Travis AFB Environmental Office and appropriate regulatory agencies is required prior to disposal of the excavated soil.

MM-13. The number of access routes, number and size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goal. Routes and boundaries will be clearly demarcated, and these areas will avoid wetlands/drainage areas whenever feasible.

MM-14. All vehicle operators will follow the posted speed limit on paved roads and a 10-mile per hour speed limit on unpaved roads.

MM-15. No pets or non-military firearms will be allowed in the project area.

MM-17. No trenches will be left open at the end of the day; trenched areas will be compacted and restored to normal grade once the project is completed.

MM-18. No work requiring vehicles/equipment will be done when the ground is soft enough where travel will cause depressions.

Travis AFB is not consulting with Service on threatened or endangered bird species, however, the below Conservation Measures will be implemented for the project for the protection of birds.

GM-1. To protect birds under the Migratory Bird Treaty Act, a pre-construction survey must be performed by a qualified biologist at least 14 calendar days before construction to determine whether any protected species are present on or near the site. If protected birds are present or nesting on or near the site, construction may be temporarily postponed until the nesting season is over. Trees will not be removed or limbed during nesting season unless a qualified biologist determines there are no active bird nests present.

GM-2. Other measures which may be necessary if protected species are found on or near the site during the pre-construction survey include: (1) the work crew may be prohibited from disturbing areas within a specified distance of owl burrows or bird nests; (2) the work crew may be required to shut down or restrict activities during breeding and nesting seasons; (3) construction may be temporarily delayed while birds are encouraged to relocate away from the construction area. The work crew should be advised of these possibilities in contract documents.

Species Specific Avoidance and Minimization Measures for Vernal Pool Species

VP-1. No work will be conducted in the vicinity of vernal pool species' habitat between 16 Oct and 30 Apr, unless specifically approved by the Travis AFB NRM who will field verify soil saturation, visual ponding, and expected surface disturbance. The Service will be notified of any off-pavement work within 250 feet approved between 16 Oct and 30 Apr.

VP-3. Projects that occur on road surfaces and along road shoulders will avoid direct impacts to wetland habitats.

VP-4. A Service-approved Biologist will mark vernal pool species' habitat and a reasonable buffer to be avoided with flagging material. The area will be protected by placing construction fencing or other appropriate protective fencing around the pools including a buffer. Fencing will be used in locations where project equipment and/or personnel will be situated adjacent to or in the near vicinity of suitable vernal pool species habitat.

VP-6. If feasible, equipment used in projects requiring access to sites within vernal pool species' habitat will be situated outside of the habitat. To further minimize adverse effects, the following measures will be implemented at these sites:

a. work shall occur within vernal pool habitat when water is present.
b. Ground disturbances such as trenching, and permanent disturbances such as pole installation will avoid hydrologically connected areas where feasible.
c. As necessary, a Service-approved Biologist will be present during access and project work within vernal pool habitat.
d. For projects adjacent to vernal pool species' habitat or hydrologically connected to the habitat, silt fencing, or other appropriate Best Management Practices (BMPs) to prevent siltation shall be implemented prior to work within that area. A Service-approved Biologist will flag areas where silt fencing or BMPs shall be implemented. BMPs may include sand bags and weed-free straw bales or straw waddles. The biologist will consider potential impacts to California tiger salamanders in Medium and High Risk areas when recommending erosion control measures.

e. Spill containment kits will be present at all sites where petroleum-fueled equipment is used.

Appendix E
State Historic Preservation Officer Correspondence

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DEPARTMENT OF THE AIR FORCE
60TH CIVIL ENGINEER SQUADRON (AMC)
TRAVIS AIR FORCE BASE, CALIFORNIA

Mr. Brian L. Sassaman
Flight Chief, Installation Management
60th Civil Engineer Squadron
411 Airmen Drive, Building 570
Travis AFB CA 94535-2001

Ms. Julianne Polanco
State Historic Preservation Officer
Department of Parks and Recreation
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento CA 95816-7100

Dear Ms. Polanco

In accordance with Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the Department of the Air Force, Travis Air Force Base (AFB), is advising you of an undertaking that has the potential to affect historic properties. The undertaking, "Construction of a Concrete Batch Plant Site" involves the installation of a permanent site for installing temporary concrete processing facilities within the boundaries of the installation in Solano County. Archaeological field surveys and architectural evaluations have been conducted across the installation and within the project area. Currently, the project location is a vacant field with no structures and there exists a very low probability that undisturbed archaeological deposits are present in the area.

This consultation combines a discussion of the Area of Potential Effect (APE) for the undertaking (per 36 CFR 800.4) with our finding of No Historic Properties Affected. We would like your concurrence with our finding that no properties eligible for listing on the National Register of Historic Places (NRHP) will be affected by this undertaking.

Background Information

Travis AFB occupies 6,383 acres within the city limits of Fairfield, and is located 50 miles northeast of San Francisco and about 40 miles southwest of Sacramento (Attachment 1). The base is just north of Suisun Bay and marsh, northeast of San Pablo Bay, on the northeastern boundary of the San Francisco Bay region. In the late prehistoric and early contact periods, this area was occupied by the Southern Patwin, native speakers of the Wintu language.

Known as the Gateway to the Pacific, Travis AFB is among the largest and busiest military air terminals in the country. More than 14,000 military and civilian personnel work on the base, which is under the operational control of the Air Mobility Command. The 60th Air Mobility Wing (AMW) is the host unit, and is responsible for providing strategic airlift and air refueling missions around the world. The 60th AMW also supports air logistics needs for other services and agencies, moving cargo, patients, and passengers throughout the world.

800.4(a)(1) - Description of the Area of Potential Effect

The undertaking involves the preparation of a Batch Plant site for installing temporary concrete processing facilities at Travis AFB (Attachments 2 and 3). The APE is limited to the 13 acre parcel that will contain pads for mounting temporary batch plants, crusher plants, material stockpile areas, and equipment storage areas and a second asphalted laydown area on Hangar Avenue (Attachment 3). All staging, laydown, and equipment maintenance for the undertaking will occur within the APE at the Batch Plant location or on the asphalted area at Hangar Avenue. Currently, the project APE is an undeveloped, open area of disturbed soil to the east of Building 759, a Munitions Flight facility. The central portion of the APE has been undeveloped, but the general area has served to stockpile construction debris, asphalt, and related materials. The eastern portion of the APE was once occupied by Building 755, which was demolished in 2009. The location of Building 755 and the surrounding area has been subjected to environmental clean-up protocols, soil removal actions, and other remediation based on a number of factors. First, the building was originally constructed as a "guided missile run-up shop" in 1961, which may have involved missile fuel contaminants. Later, when changes to the mission at Travis made the missile shop obsolete, the building became the base "battery and electric" shop, and again some caustic chemical processes left contaminated soils behind.

Today, the area has been remediated and is safe for reuse. Photographs of the APE from a casual pedestrian survey are included in Attachment 4. Trash and construction debris still on site shall be removed and the APE shall be graded and leveled prior to construction. Because of grading and clearing, the Area of Direct Impact (ADI) and the APE are essentially the same. However, only limited areas within the APE will be affected by placement of new infrastructure and equipment associated with the Batch Plant operations. Besides the Hangar Avenue laydown area and the main 13-acre project location, there are no other APEs associated with this undertaking.

800.11(d)(1) - Description of the Undertaking

Construction of the Batch Plant site will require grading and leveling of the 13-acre site. Once the area is prepared, shallow concrete foundations will be poured that will be utilized by temporary crusher, mixers, and other necessary equipment. The foundation pads for the temporary crusher and batch plant machinery each will be approximately 1,600 square feet (a total of approximately 3,200 square feet). Storage areas for raw and finished materials will be established, equipment storage and parking areas will be delineated, office trailers will be installed, and a perimeter security fence will be erected. The materials storage areas, equipment parking areas, lay down areas, and office trailer areas would be sited within the APE on leveled, compacted dirt. Gravel will be placed over the storage, parking, and laydown areas and compacted.

Water supply and power for the Batch Plant will be connected to existing service lines within or directly adjacent to the APE. Pumps to control and regulate water service will be permanently installed. During project construction, material delivery trucks will enter Travis AFB through the South Gate and staging, equipment movement, and construction activities will be limited to the APE. Once the Batch Plant site preparation is completed, disturbed areas and

open ground will be graded and seeded to appear similar to the surrounding area and precautions will be taken to control post-construction soil erosion.

800.11(d)(2) - Identification of Historic Properties

A 1996 field survey of open areas on base found no evidence of any archaeological sites in the APE for the Batch Plant undertaking. Today there are no structures extant in the APE, but there is a soil revetment or berm feature that was associated with the now demolished Building 755. The revetment was intended to protect personnel and property during operations involving explosive materials at Building 755. The feature was surveyed and recorded on DPR forms and was found not eligible for the NRHP (Attachment 5). The munitions facility (Building 759) west of the APE, and the demolished Building 755 were located about 550 meters north of the Cold War-era Q Area Historic District. Neither facility was associated with the Q Area and neither were NRHP-eligible elements of that district. In her 1996 Cold War evaluation, Dr. Karen Weitze identified Building 759 as not eligible for the National Register.

Before work begins, contractors will be trained to identify and report any buried artifacts or other anomalies that are encountered. Examples of unexpected discoveries include: glass beads, prehistoric stone tool fragments, arrowheads, bone fragments, shells or fossils, historic bottles, metal artifacts, and china fragments. If artifacts are found during construction work will be halted in the vicinity and the Contracting Officer, project manager, TAFB Installation Management personnel, and the regional Cultural Resource Manager shall be contacted. If it is determined that known or potential historic properties are endangered, the Air Force will reopen this consultation and seek comments from the California State Historic Preservation Officer (SHPO).

800.4(b) - Other Historic Property Identification Efforts

Evidence for prehistoric sites on Travis AFB is scant, and only two sites have been recorded on base in the past. Both sites were located in the northwest part of the base, in association with vernal pools, and both sites were destroyed when the David Grant USAF Medical Center was constructed in the late 1980s. Recently a reevaluation of the materials recovered from one of those sites has determined that the stone materials likely were not prehistoric and may have been unmodified, natural stones. A second recent study of geomorphology on Travis AFB found that less than 5 percent of the installation has any likelihood of having prehistoric sites. Both of these important management studies have been shared with the SHPO in a number of previous Section 106 consultations. In sum, surveys have identified no historic properties in or near the APE, and evaluations based on geotechnical data, soils, and patterns of sedimentation all indicate that extant, unknown buried prehistoric archaeological deposits are extremely unlikely.

Views of the public, Native Americans, and interested parties will be considered regarding this undertaking and its potential impacts. Interested tribal groups are consulted with regularly, and were on base recently for a tour of proposed project locations including the Batch Plant site. No specific comments or negative issues were raised by the tribal representatives about the siting and construction of the Batch Plant. If they offer additional comments regarding this undertaking, their views will be considered and this consultation would be reopened. Although few projects at Travis AFB appear in the local media, if there is coverage of any kind, or any public discussion about the Batch Plant site project, all substantial comments related to the protection of historic properties will be shared with the SHPO and this consultation will be reopened.

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

October 9, 2017

Reply in Reference To: USAF_2017_0928_001

Brian L. Sassaman
Flight Chief, Installation Management
411 Airmen Drive
Travis Air Force Base, CA 94535

Re: Section 106 Consultation for Construction of a Concrete Batch Plant Site, Travis AFB, Solano County

Dear Mr. Sassaman:

The United States Air Force (USAF) is initiating consultation with the State Historic Preservation Officer (SHPO) regarding their efforts to comply with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f), as amended, and its implementing regulation found at 36 CFR Part 800.

The USAF are proposing to construct a concrete batch plant on a 13 acre vacant field at Travis Air Force Base. Project requirements include site preparation and grading, installation of concrete foundation pads, and construction of parking and storage facilities.

A record search and a project area survey resulted in the identification of an earthen berm originally associated with a now defunct guided missile program. No listed or eligible National Register (NRHP) properties were identified in the project area and the USAF is requesting the SHPO's concurrence with their area of potential effects documentation, their determination that the earthen berm does not meet NRHP eligibility requirements and with their finding of no historic properties affected. After reviewing the information provided, the SHPO has the following comments:

1) Pursuant to 36 CFR Part 800.4(a)(1), the APE appears sufficient to take the undertaking's effects on historic properties into account.

2) The SHPO concurs that the earthen berm is not eligible for NRHP inclusion.

3) The SHPO concurs that a finding of no historic properties affected is appropriate pursuant to 36 CFR Part 800.4 (d)(1). Please be advised that under certain circumstances, such as an unanticipated discovery or a change in project description, the USAF may have future responsibilities for this undertaking under 36 CFR Part 800.

If you have any questions or concerns, contact Ed Carroll of my staff at (916) 445-7006 / Ed.Carroll@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

800.11(d)(3) - Determination of No Historic Properties Affected

A field survey that included the APE identified no evidence of prehistoric archaeological sites in the APE. Surveys and evaluations of architectural resources on Travis AFB, completed between the late 1990s to 2013, identified the NRHP-eligible Q Area Historic District that is about 550 meters to the south. The soil revetment, associated with the now demolished Building 755, has been recorded on DPR forms, and is not eligible for the NRHP. None of the historic Cold War-era resources on Travis AFB will be adversely affected by this undertaking.

Prehistoric archaeological sites, visual resources, and architectural resources have all been considered, and none will be affected in any way by the proposed construction. Native Americans have been consulted, but there are no prehistoric, ethnographic, or traditional cultural properties in or near the APE. However, as stated above, if any Native Americans express any concerns or critical interest in this undertaking, TAFB shall contact the SHPO, relay the concerns, and reopen this consultation as appropriate.

Summary

Travis Air Force Base is proposing to construct a Concrete Batch Plant Site over 13 acres of vacant land within the installation, and it will be situated within a previously disturbed area of the base. Project construction and staging will be limited to existing roads and the APE. However, if unanticipated archaeological discoveries are made, TAFB will reopen consultation with the SHPO and other interested parties, per the requirements of 36 CFR Part 800.

Based on the preceding, TAFB requests SHPO concur with our delineation of the APE for the Batch Plant undertaking. Also, we ask that you concur with our finding that the mounded soil feature or revetment in the APE is not eligible for the NRHP and that no historic properties will be affected by this undertaking. If you do not concur we understand that further consultation will be necessary. If you have any questions about the undertaking discussed in this letter, please contact me at (707) 424-8225. You may also contact Matt Blazek (Matthew.Blazek@us.af.mil; 707-424-5127) or Dr. James Carucci (James.Carucci@us.af.mil; 707-424-8625).

Sincerely

Brian L. Sassaman

BRIAN L. SASSAMAN, GS-13, DAFC
Flight Chief, Installation Management

Attachments:

1. General Project Locator Map
2. Batch Plant Location Map
3. Batch Plant APE
4. Photographs of Batch Plant Location
5. DPR Forms for Soil Revetment

Appendix F
Native American Consultation

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NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
Fax (916) 373-5471

February 27, 2017

Matthew Blazek
Department Of The Air Force

Sent by Email: matthew.blazek@us.af.mil
Number of Pages: 2

RE: Travis AFB Batch Plant Construction, Elmira and Denverton, Solano County

Dear Mr. Blazek:

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

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

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

Sincerely,

Sharaya Souza
Staff Services Analyst

Native American Heritage Commission
Native American Contacts
Solano County
2/27/2017

Cortina Indian Rancheria of Wintun Indians
Charlie Wright, Chairperson
P.O. Box 1630 Wintun / Patwin
Williams , CA 95987
(530) 473-3274 Office
(530) 473-3301 Fax

Yocha Dehe Wintun Nation
Leland Kinter, Chairperson
P.O. Box 18 Wintun (Patwin)
Brooks , CA 95606
lkinter@yochadehe-nsn.gov
(530) 796-3400
(530) 796-2143 Fax

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code

This list is only applicable for contacting local Native Americans with regard to cultural resources assessments for the updated contact list for the Travis AFB Batch Plant Construction, Elmira and Denverton, Solano County.

APR 0 6 2017

Colonel John M. Klein, Jr.
Commander
60th Air Mobility Wing
400 Brennan Circle
Travis AFB CA 94535-5000

Mr. Charlie Wright
Chairman
Cortina Indian Rancheria Indians of California
P.O. Box 1630
Williams CA 95987-0018

Dear Chairman Wright

The United States Air Force is preparing an Environmental Assessment (EA) analyzing the development of a new Batch Plant at Travis Air Force Base (AFB). The EA is being prepared pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S. Code (USC) §4321 et seq.); the Council on Environmental Quality Regulations (40 Code of Federal Regulations (CFR) Parts 1500-1508); and the Air Force NEPA policy and procedures (32 CFR Part 989).

As shown on the enclosed Description of the Proposed Action and Alternatives (see Attachment 1), Travis AFB is located in Solano County, and is found on the United States Geological Survey Elmira and Denverton, California 7.5-minute topographic quadrangles. It encompasses the following Sections (Sections are completely in the Elmira quadrangle unless otherwise noted):

- Township 5 North, Range 1 East: Sections 17, 18, and 19
- Township 5 North, Range 1 West: Sections 13, 14, 15, 21, 22, 23, 24, 25, 26 (Denverton), 27 (Denverton), 28, 34 (Denverton), and 35

The EA evaluates potential environmental and cultural resource impacts from the construction of a permanent batch plant on the western side of the base. The batch plant would be used to support large construction projects and activities on base such as ramp and taxiway repairs for the next 15 years. The proposed project would encompass approximately 13 acres and create two concrete pads, each 1,000 square feet, for a concrete crusher plant and a batch plant as well as install water and electrical utility lines. The rest of the area will be compacted dirt for equipment and material storage. The project site is currently a disposal waste site for broken asphalt and other debris which will be removed, and the site leveled and graded before batch plant construction. See attachment 1 for figures and descriptions of the proposed batch plant.

Previous archaeological field surveys have been conducted on Travis AFB and only two prehistoric archaeological sites have been known to occur within the installation boundaries. Both sites, located near vernal pools in the northwest portion of the base, were recorded and artifacts were recovered from them in 1989 prior to the construction of the new medical center. In addition, a field survey of undisturbed areas in 1995 located evidence of seven historic archaeological sites on Travis AFB, but subsequent consultations with the State Historic Preservation Officer determined that none of these sites were eligible for the National Register of Historic Places. Due to the amount of ground disturbance from continuous construction, operation, and maintenance activities across the base, probability analysis suggests that intact prehistoric archaeological deposits would be extremely rare.

In accordance with Executive Order 13175, the NEPA (42 USC 4321 et seq. and 40 CFR Part 1500), and Section 106 of the National Historic Preservation Act (36 CFR Parts 800.2, 800.3, and 800.4) the Air Force would like to initiate Government-to-Government consultation regarding the proposed Batch Plant. The Air Force wishes to discuss this project in detail with you, and to understand and consider any comments, concerns, and suggestions you may have. Please let us know when you would like to meet and do not hesitate to call me at (707) 424-2452 to arrange dates and times for consultation. Thank you for your cooperation and interest in this matter.

Sincerely

JOHN M. KLEIN, JR.
Colonel, USAF

Attachment:
DOPAA for the Batch Plant EA

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 60TH AIR MOBILITY WING (AMC)

APR 0 6 2017

Colonel John M. Klein, Jr.
Commander
60th Air Mobility Wing
400 Brennan Circle
Travis AFB CA 94535-5000

Honorable Leland Kinter
Chairman
Yocha Dehe Wintun Nation
P.O. Box 18
Brooks CA 95606-0018

Dear Chairman Kinter

The United States Air Force is preparing an Environmental Assessment (EA) analyzing the development of a new Batch Plant at Travis Air Force Base (AFB). The EA is being prepared pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S. Code (USC) §4321 et seq.); the Council on Environmental Quality Regulations (40 Code of Federal Regulations (CFR) Parts 1500-1508); and the Air Force NEPA policy and procedures (32 CFR Part 989).

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- Township 5 North, Range 1 East: Sections 17, 18, and 19
- Township 5 North, Range 1 West: Sections 13, 14, 15, 21, 22, 23, 24, 25, 26 (Denverton), 27 (Denverton), 28, 34 (Denverton), and 35

The EA evaluates potential environmental and cultural resource impacts from the construction of a permanent batch plant on the western side of the base. The batch plant would be used to support large construction projects and activities on base such as ramp and taxiway repairs for the next 15 years. The proposed project would encompass approximately 13 acres and create two concrete pads, each 1,000 square feet, for a concrete crusher plant and a batch plant as well as install water and electrical utility lines. The rest of the area will be compacted dirt for equipment and material storage. The project site is currently a disposal waste site for broken asphalt and other debris which will be removed, and the site leveled and graded before batch plant construction. See attachment 1 for figures and descriptions of the proposed batch plant.

Previous archaeological field surveys have been conducted on Travis AFB and only two prehistoric archaeological sites have been known to occur within the installation boundaries. Both sites, located near vernal pools in the northwest portion of the base, were recorded and artifacts were recovered from them in 1989 prior to the construction of the new medical center. In addition, a field survey of undisturbed areas in 1995 located evidence of seven historic archaeological sites on Travis AFB, but subsequent consultations with the State Historic Preservation Officer determined that none of these sites were eligible for the National Register of Historic Places. Due to the amount of ground disturbance from continuous construction, operation, and maintenance activities across the base, probability analysis suggests that intact prehistoric archaeological deposits would be extremely rare.

In accordance with Executive Order 13175, the NEPA (42 USC 4321 et seq. and 40 CFR Part 1500), and Section 106 of the National Historic Preservation Act (36 CFR Parts 800.2, 800.3, and 800.4) the Air Force would like to initiate Government-to-Government consultation regarding the proposed Batch Plant. The Air Force wishes to discuss this project in detail with you, and to understand and consider any comments, concerns, and suggestions you may have. Please let us know when you would like to meet and do not hesitate to call me at (707) 424-2452 to arrange dates and times for consultation. Thank you for your cooperation and interest in this matter.

Sincerely

JOHN M. KLEIN, JR.
Colonel, USAF

Attachment:
DOPAA for the Batch Plant EA

cc:
Mr. James Sarmento, Cultural Resources Manager, Yocha Dehe Wintun Nation

YOCHA DEHE
CULTURAL RESOURCES

April 21, 2017

Department of the Air Force – 60th Air Mobility Wing
Attn: Colonel John M. Klein, Jr., Commander
400 Brennan Circle
Travis AFB, CA 94535-5000

RE: Batch Plant 21 at Travis AFB Project – Fairfield, CA

Dear Colonel John M. Klein, Jr.:

Thank you for your project notification dated, April 6, 2017, regarding cultural information on or near the proposed Batch Plant 21 AFB Project, Travis, Solano County. We appreciate your effort to contact us and wish to respond.

The Cultural Resources Department has reviewed the project and concluded that it is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have a cultural interest and authority in the proposed project area.

Based on the information provided, the Tribe has concerns that the project could impact undiscovered archaeological deposits. Additionally, Yocha Dehe Wintun Nation requests a site visit to the project area to evaluate our cultural concerns.

Please contact the following individual to coordinate a date and time for the site visit.

Laverne Bill, Cultural Resources Department Manager
Yocha Dehe Wintun Nation
Office: (530) 796-3400
Mobile: (530) 723-3891 Email: lbill@yochadehe-nsn.gov

Please refer to identification number YD - 04132017-03 in any correspondence concerning this project.

Thank you for providing us with this notice and the opportunity to comment.

Sincerely,

James Kinter
Tribal Secretary
Tribal Historic Preservation Officer

From: BLAZEK, MATTHEW F GS-12 USAF AMC 60 CES/CEIE
To: "cww281@gmail.com"
Subject: Travis AFB Government to Government Consultation Letters and Site Sensitivity Assessments
Date: Monday, May 1, 2017 10:50:00 AM
Attachments: FINAL Geoarchaeological Overview and Site Sensitivity Assessment.pdf

---

Hello Chairperson Wright,

Thank you for speaking with me briefly today! I'm happy to hear that you have no concerns at this time but if you do think of anything regarding the six upcoming projects that we are proposing here on base (specifically the Batch Plant, Perimeter Fencing, Soccer Complex, BCE Complex, CRW Campus, and Implementing our Wildland Fire Management Plan), please let us know. Also, if you would like to visit us, we would be delighted to show you around and discuss what we do here. Again, just let us know what time works best for you.

Finally, I would like to share with you a recent study we completed here that may interest you. Please find attached our recently completed Geoarchaeological Overview and Site Sensitivity Assessment for Travis Air Force Base (Travis AFB) prepared by Far Western Anthropological Research Group.
In a nutshell, this assessment discusses results of two sensitivity models that looked at the potential for archaeological site presence both on the surface and subsurface of Travis AFB and off-base property. These models took into account common elements of prehistoric Native American sites such as proximity to freshwater resources, land slope, and the age of soils. It was determined by the surface sensitivity model that about half the installation had medium or high potential for archaeological sites. However, this was the potential of discovering sites in a pristine environment before the modern Air Force Base existed. After the base was created in the 1940's, the report notes that the likelihood of finding surface sites is low due to all the development.

The subsurface sensitivity model took into account results of the surface site model and also included geological data on the age of landforms to determine the areas having the highest likelihood of finding buried archaeological sites. Based on the model, it was found that roughly 92% of Travis AFB had the "lowest" probability of buried sites, and only approximately 8 acres (0.2%) along Union Creek in the southwest corner of the base had high potential. In the report, Figure 7 illustrates these results. The assessment stresses that these results are just estimates and that future field studies can help confirm the presence or absence of buried archaeological sites on Travis AFB.

Using the results from this assessment, conclusions from past field studies conducted on Travis AFB, and the understanding that much of the base has been developed or disturbed, we continue to believe that the likelihood of finding prehistoric deposits on-base is rare. Please let me know if you have any questions or want to discuss this assessment further. Thank you and have a good day!

Best,

Matt

****

Matthew Blazek
NEPA Program Manager &
Installation Tribal Liaison Officer
CES/CEIE, Bldg 570, Travis AFB
707-424-5127 | DSN 837-5127

****

Mr. Matthew Blazek
Installation Tribal Liaison Officer
411 Airmen Drive, B570
Travis AFB CA 94535-5000

11 May 2017

Honorable Charlie Wright
Chairman
Cortina Rancheria Band of Wintun Indians
P.O. Box 1630
Williams, CA 95987 – 0018

Dear Chairman Wright,

This letter serves as a follow-up to six Government-to-Government Consultation request letters submitted by Travis Air Force Base (Travis AFB) and received by Cortina Rancheria Band of Wintun Indians on April 11, 2017. You briefly mentioned in a telephone conversation on May 1, 2017 that you had no issues at the time but we just want to confirm with you. As previously stated, the United States Air Force is preparing five Environmental Assessments (EAs) and one Supplemental Environmental Assessment (SEA) analyzing potential environmental impacts from several construction and maintenance activities on base. The EAs and SEA are being prepared pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S. Code (USC) §4321 et seq.); the Council on Environmental Quality Regulations (40 Code of Federal Regulations (CFR) Parts 1500-1508); and the Air Force NEPA policy and procedures (32 CFR Part 989). Our analysis shows that none of the six projects pose any threats to cultural resources, as there are no known prehistoric sites located in or near the project areas.

Below are brief summaries of the six proposed projects that we would like to discuss with the Cortina Rancheria Band of Wintun Indians:

1) Perimeter D Fencing - The EA will cover the Perimeter Fence Phase D project where approximately half of the perimeter fence that outlines the base will be upgraded. Some portions of the fence (cumulatively amount to 41,700 linear feet) are vulnerable to unauthorized vehicular intrusion which could endanger lives and result in the loss of equipment. Implementation of the proposed action would require the excavation of approximately 430, 3-foot diameter by 4.5-foot deep holes along the existing perimeter fence to anchor cables. No cultural resources will be affected by this project.

2) Batch Plant - The EA will examine potential environmental impacts from the construction of a permanent batch plant on the western side of the base. The batch plant would be used to support large construction projects and activities on base for the next 15 years. The proposed project would encompass approximately 13 acres and create two concrete pads, each 1000 square feet, for a concrete crusher plant and a batch plant as well as install water and electrical utility lines. The rest of the area will be compacted dirt

for equipment and material storage. The project site is currently a disposal waste site for broken asphalt and other debris which will be removed, and the site level and graded before batch plant construction. Only Cold War-era historic properties are located within the vicinity of this project.

3) Contingency Response Wing (CRW) Campus - The EA will assess the construction of the CRW Campus which involves the development of five facilities and parking areas that would aid the 621st Air Mobility Command in deploying people and equipment around the globe. The Campus would have a footprint of approximately 670,000 square feet, including 148,000 square feet of buildings and 522,000 square feet of sidewalk, roads, and parking areas. The new buildings will be constructed within an existing complex of similar buildings. We recently received concurrence back from the California State Historic Preservation Officer (SHPO), who agreed with our assessment that this project will have no effect on prehistoric or historic cultural resources.

4) Soccer Field Complex - The EA will analyze potential impacts from the construction of a soccer field, parking lot, support facilities and utilities in previously developed areas of the base. The base's first Soccer Field Complex would provide year-round recreational services for military and civilian personnel and their families, improving base morale and wellbeing that is integral to the Air Force mission. No prehistoric or historic cultural resources will be affected by this project.

5) Wildland Fire Management Plan - The EA will evaluate the Travis AFB Wildland Fire Management Plan and address the implementation of wildfire prevention management practices that ensure continued mission operations, protect valuable natural resources and reduce wildfire risks. These practices include prescribed burns, animal grazing, herbicide application, mowing, and the creation and/or maintenance of firebreaks in the upland grasslands throughout the base via disking. In writing this plan, the proper management of cultural resources will be considered, but there are no prehistoric archaeological sites known on Travis AFB.

6) Base Civil Engineering (BCE) Complex - The SEA will assess updates to project and environmental conditions for the proposed BCE Complex since the original EA was completed in 2011. This proposal includes the construction of a consolidated BCE Complex that would provide administrative space, indoor storage, maintenance spaces, and outdoor storage facilities. Current BCE buildings are dispersed throughout 55 different facilities on Travis AFB, and centralization would provide improvements to efficiency, safety, and working conditions. According to the 2011 BCE EA, the proposed and alternative sites for the new BCE Complex have been previously disturbed from maintenance and ongoing remediation activities. No historic properties or cultural resources will be affected.

To reiterate, previous archaeological field surveys have been conducted on Travis AFB, and those efforts identified only two sites within the installation boundaries. Both were ground surface sites, located near vernal pools in the northwest portion of the base, that were identified as prehistoric based on possible stone tool evidence. Both sites were recorded and artifacts were recovered from them in 1989 prior to the construction of the new medical center. In addition, a

field survey of undisturbed areas in 1995 located evidence for seven historic archaeological sites on Travis AFB, but subsequent consultations with the SHPO have determined that none of those sites were eligible for the National Register of Historic Places. Additionally, a recent reanalysis of all available geological, historical, and sedimentation data has shown that there is extremely low probability for the existence of ground-surface or buried archaeological deposits on Travis AFB. This is due to the amount of ground disturbance from construction, operation, and maintenance activities across the base, and also from the geologic history of the area. These data show that the existence of intact prehistoric archaeological deposits is extremely unlikely.

Within the next couple of weeks, Travis AFB intends on conducting public reviews for the EA and SEA, unless we learn of any potential concerns or issues from the Cortina Rancheria Band of Wintun Indians. Once these NEPA documents are finalized and signed, we will begin executing the six projects. Please notify me (matthew.blazek@us.af.mil or 707-424-5127) if you have any questions, concerns, or need additional information. On behalf of Travis AFB, I thank you in advance for your cooperation and interest in this matter, and we look forward to future collaborations with the Cortina Rancheria Band of Wintun Indians.

Respectfully,

Matthew Blazek
Installation Tribal Liaison Officer

Mr. Matthew Blazek
Installation Tribal Liaison Officer
411 Airmen Drive, B570
Travis AFB CA 94535-5000

11 May 2017

Honorable Leland Kinter
Chairman
Yocha Dehe Wintun Nation
P.O. Box 18
Brooks CA 95606-0018

Dear Chairman Kinter,

This letter serves as a follow-up to six Government-to-Government Consultation request letters submitted by Travis Air Force Base (Travis AFB) and received by Yocha Dehe Wintun Nation on April 11, 2017. As previously mentioned, the United States Air Force is preparing five Environmental Assessments (EAs) and one Supplemental Environmental Assessment (SEA) analyzing potential environmental impacts from several construction and maintenance activities on base. The EAs and SEA are being prepared pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S. Code (USC) §4321 et seq.); the Council on Environmental Quality Regulations (40 Code of Federal Regulations (CFR) Parts 1500-1508); and the Air Force NEPA policy and procedures (32 CFR Part 989). Our analysis shows that none of the six projects pose any threats to cultural resources, as there are no known prehistoric sites located in or near the project areas.

Below are brief summaries of the six proposed projects that we would like to discuss with the Yocha Dehe Wintun Nation:

1) Perimeter D Fencing - The EA will cover the Perimeter Fence Phase D project where approximately half of the perimeter fence that outlines the base will be upgraded. Some portions of the fence (cumulatively amount to 41,700 linear feet) are vulnerable to unauthorized vehicular intrusion which could endanger lives and result in the loss of equipment. Implementation of the proposed action would require the excavation of approximately 430, 3-foot diameter by 4.5-foot deep holes along the existing perimeter fence to anchor cables. No cultural resources will be affected by this project.

2) Batch Plant - The EA will examine potential environmental impacts from the construction of a permanent batch plant on the western side of the base. The batch plant would be used to support large construction projects and activities on base for the next 15 years. The proposed project would encompass approximately 13 acres and create two concrete pads, each 1000 square feet, for a concrete crusher plant and a batch plant as well as install water and electrical utility lines. The rest of the area will be compacted dirt for equipment and material storage. The project site is currently a disposal waste site for

broken asphalt and other debris which will be removed, and the site level and graded before batch plant construction. Only Cold War-era historic properties are located within the vicinity of this project.

3) Contingency Response Wing (CRW) Campus - The EA will assess the construction of the CRW Campus which involves the development of five facilities and parking areas that would aid the 621st Air Mobility Command in deploying people and equipment around the globe. The Campus would have a footprint of approximately 670,000 square feet, including 148,000 square feet of buildings and 522,000 square feet of sidewalk, roads, and parking areas. The new buildings will be constructed within an existing complex of similar buildings. We recently received concurrence back from the California State Historic Preservation Officer (SHPO), who agreed with our assessment that this project will have no effect on prehistoric or historic cultural resources.

4) Soccer Field Complex - The EA will analyze potential impacts from the construction of a soccer field, parking lot, support facilities and utilities in previously developed areas of the base. The base's first Soccer Field Complex would provide year-round recreational services for military and civilian personnel and their families, improving base morale and wellbeing that is integral to the Air Force mission. No prehistoric or historic cultural resources will be affected by this project.

5) Wildland Fire Management Plan - The EA will evaluate the Travis AFB Wildland Fire Management Plan and address the implementation of wildfire prevention management practices that ensure continued mission operations, protect valuable natural resources and reduce wildfire risks. These practices include prescribed burns, animal grazing, herbicide application, mowing, and the creation and/or maintenance of firebreaks in the upland grasslands throughout the base via disking. In writing this plan, the proper management of cultural resources will be considered, but there are no prehistoric archaeological sites known on Travis AFB.

6) Base Civil Engineering (BCE) Complex - The SEA will assess updates to project and environmental conditions for the proposed BCE Complex since the original EA was completed in 2011. This proposal includes the construction of a consolidated BCE Complex that would provide administrative space, indoor storage, maintenance spaces, and outdoor storage facilities. Current BCE buildings are dispersed throughout 55 different facilities on Travis AFB, and centralization would provide improvements to efficiency, safety, and working conditions. According to the 2011 BCE EA, the proposed and alternative sites for the new BCE Complex have been previously disturbed from maintenance and ongoing remediation activities. No historic properties or cultural resources will be affected.

To reiterate, previous archaeological field surveys have been conducted on Travis AFB, and those efforts identified only two sites within the installation boundaries. Both were ground surface sites, located near vernal pools in the northwest portion of the base, that were identified as prehistoric based on possible stone tool evidence. Both sites were recorded and artifacts were recovered from them in 1989 prior to the construction of the new medical center. In addition, a field survey of undisturbed areas in 1995 located evidence for seven historic archaeological sites

on Travis AFB, but subsequent consultations with the SHPO have determined that none of those sites were eligible for the National Register of Historic Places.

Finally, in discussions and letters over the past year between Travis AFB and the tribe, the Yocha Dehe Wintun Nation has expressed interest in seeing additional cultural resource studies performed across the base. A recent reanalysis of all available geological, historical, and sedimentation data was completed in April 2017 and it illustrated that there is an extremely low probability for the existence of ground-surface or buried archaeological deposits on Travis AFB. This is due to the amount of ground disturbance from construction, operation, and maintenance activities across the base, and also from the geologic history of the area. Attached is hardcopy of this analysis, an electronic copy was sent to Mr. James Sarmento on May 4, 2017. Collectively, these data show that the presence of intact prehistoric archaeological deposits is extremely unlikely.

Within the next couple of weeks, Travis AFB intends on conducting public reviews for the EA and SEA, unless we learn of any potential concerns or issues from the Yocha Dehe Wintun Nation. Once these NEPA documents are finalized and signed, we will begin executing the six projects. Please notify me (matthew.blazek@us.af.mil or 707-424-5127) if you have any questions, concerns, or need additional information. On behalf of Travis AFB, I thank you in advance for your cooperation and interest in this matter, and we look forward to future collaborations with the Yocha Dehe Wintun Nation.

Respectfully,

Matthew Blazek
Installation Tribal Liaison Officer

Attachment:

1. A Geoarchaeological Overview and Site Sensitivity Assessment for Travis Air Force Base (April 2017)

cc:

Mr. James Sarmento, Cultural Resources Manager, Yocha Dehe Wintun Nation

From: BLAZEK, MATTHEW F GS-12 USAF AMC 60 CES/CEIE
To: "James Sarmento"; "llongee@yochadehe-nsn.gov"
Cc: CARUCCI, JAMES GS-12 USAF AFMC AFCEC/CZOW; Laverne Bill
Subject: Travis AFB Site Visit 06/01/17
Date: Thursday, June 1, 2017 4:19:00 PM

Hello James and Larry,

It was great having you both visit the base today and discuss with us the six proposed projects as well as learn about the upcoming KC-46 Beddown effort. We were delighted to highlight some of our activities here and learn about the needs and interests of the Yocha Dehe Wintun Nation. As promised, you will be receiving a link from our AMRDEC system that contains the "Archaeological Analysis of a Legacy Collection from CA-SOL-313" which came from a site that is now the hospital here on base. According to this study, the artifacts collected in the mid-1980s are most likely historic-era and/or modern quarry material. In addition, the AMRDEC link contains the "A Geoarchaeological Overview and Site Sensitivity Assessment" that we provided and briefly discussed today. If you have any questions or want to talk about these studies further, please do not hesitate to ask us.

We are also eager to learn more about the cultural resources training that you suggested we perform prior to any major construction. If you have any materials or presentations, please send along. Moreover, if someone from the Tribe would like to walk us through such an orientation, we would be happy to have them out here and demonstrate things.

Finally, please let us know soon if you have any more questions or concerns regarding the CRW Campus, Perimeter Fence Upgrade, BCE Complex, Batch Plant, the Wildland Fire Plan implementation, and/or the Soccer Field Complex projects. If you have no further issues, we would appreciate it if you let us know as we are eager to proceed on these projects within the next couple of weeks. Thank you both again for traveling out here and we look forward to hosting you again in the future!

Best,

Matt

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Matthew Blazek, M.S.
NEPA Program Manager &
Installation Tribal Liaison Officer
CES/CEIE, Bldg 570, Travis AFB
707-424-5127 | DSN 837-5127

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-----Original Message-----
From: James Sarmento [mailto:JSarmento@yochadehe-nsn.gov]
Sent: Wednesday, May 31, 2017 3:11 PM
To: BLAZEK, MATTHEW F GS-12 USAF AMC 60 CES/CEIE <matthew.blazek@us.af.mil>
Cc: Laverne Bill <LBill@yochadehe-nsn.gov>
Subject: [Non-DoD Source] Re: Travis AFB Site Visit

Hi Matt,
I will be bringing Duke Ellingson and Larry Longee with me. I believe that I gave you their names earlier. We will be in the same vehicle, so it shouldn¹t be a problem with the registration, although it is a work vehicle, so it will be registered to the Tribe.

DEPARTMENT OF THE AIR FORCE
60TH CIVIL ENGINEER SQUADRON (AMC)

MEMORANDUM FOR RECORD

FROM: 60 CES/CEI INSTALLATION MANAGEMENT FLIGHT

SUBJECT: Tribal Correspondence and Site Visit for Six (6) Proposed Projects at Travis Air Force Base (AFB)

National Historic Preservation Act Section 106 Government to Government (G2G) letters were sent by Travis Air Force Base (AFB) to two federally recognized tribes, the Cortina Rancheria Band of Wintun Indians and the Yocha Dehe Wintun Nation on April 6, 2017 for six projects:

1. Contingency Response Wing (CRW) Campus
2. Base Civil Engineering (BCE) Complex
3. Perimeter Fence Upgrade
4. Soccer Field Complex
5. Implementation of the Wildland Fire Management Plan
6. Permanent Batch Plant

On May 1, 2017, Matthew Blazek, Travis AFB Installation Tribal Liaison Officer (ITLO), contacted via telephone both tribes to see if they reviewed the G2G letters and project information as well as to see if the tribes wanted to discuss any concerns that they may have. The ITLO was able to reach Honorable Charlie Wright of the Cortina Rancheria Band of Wintun Indians who verbally stated he had no concerns at the time and to email him the "A Geoarchaeological Overview and Site Sensitivity Assessment" that Travis AFB recently completed. A voicemail was left with Mr. James Sarmento, Cultural Resources Manager of the Yocha Dehe Wintun Nation. Emails with the "A Geoarchaeological Overview and Site Sensitivity Assessment" were sent to both tribal contacts.

On May 11, 2017, follow-up letters were sent to both tribes to see if they had any questions or concerns regarding the six proposed projects. The letters expressed Travis AFB's intent to proceed with the NEPA process within a couple of weeks for all projects unless the base received a response from the tribes.

On May 18, 2017, the ITLO received letters dated April 21, 2017 from the Yocha Dehe Wintun Nation stating that they had concerns of impacts to undiscovered archaeological deposits from a few of the projects and requested a site visit to Travis AFB. Per instructions in the letters, the ITLO immediately contacted Mr. Laverne Bill, Cultural Resources Department Manager of the Yocha Dehe Wintun Nation, to set up a time for tribal representatives to visit the base and project sites. After subsequent correspondence with Mr. Bill and eventually Mr. James Sarmento, the date was set for June 1, 2017.

On the morning of June 1, 2017, the ITLO met with Mr. Sarmento and Mr. Larry Longee of the Yocha Dehe Wintun Nation and escorted them to the 60th Civil Engineering Squadron Command Section. Travis AFB representations from civil engineering, fire, and environment were in attendance as well as

Dr. James Carucci, California Regional Archaeologist with Travis Installation Support Team - AFCEC/CZOW (see attachment for complete list of attendees).

The ITLO provided a brief overview of the six projects as well as an introduction to an upcoming G2G consultation request from Travis AFB concerning the Main Operating Base #4 Beddown of the KC-46A tanker aircraft. In addition, methods and results from the "A Geoarchaeological Overview and Site Sensitivity Assessment" were shared. Mr. Sarmento and Mr. Longee asked some general questions of where structures were being constructed for the KC46A Beddown, how deep structures for the BCE Complex and CRW Campus were going, techniques and examples for wildland fire prevention as well as noted that they are looking forward to the G2G letter for the KC-46A Beddown effort.

Representatives from fire and civil engineering joined the ITLO, Dr. Carucci, Mr. Sarmento and Mr. Longee on the site visits to an area proposed for prescribed burning. The prescribed burning site was also the only area on base of high probability for buried cultural artifacts per the "A Geoarchaeological Overview and Site Sensitivity Assessment". At this site, Travis AFB Fire Chief explained how prescribed burning would work as well as illustrated the history of past wildfires stemming from this area. Mr. Sarmento and Mr. Longee asked about the methodology but didn't raise any issues.

Next the group visited a section of the perimeter fence that was already upgraded to illustrate what would happen at other sections. The tribal representatives verbally stated they didn't have any issues with the upgrades but noted that, before any major project begins, Travis AFB should offer a short training that highlights cultural resources and best management practices should buried artifacts be discovered during construction. The group then traveled to the CRW Campus site where Mr. Sarmento and Mr. Longee asked questions about grading and where soil would come from. Civil engineering representatives stated that soils leveled from other CRW Campus construction sites would help fill the main area. The tribal representative didn't raise any issues.

Finally, the group visited the Batch Plant and BCE Complex site where Mr. Sarmento and Mr. Longee didn't offer any concerns or issues but simply stated they were wanting to get a visual of the project areas. Dr. Carucci discussed a recent "Archaeological Analysis of a Legacy
Collection from CA-SOL-313", a potential prehistoric site where artifacts were collected in the 1980s from a nearby site that is now the hospital. The tribal representatives requested a copy of this report. Mr. Sarmento and Mr. Longee also stated that they had no concerns with the Soccer Field Complex and did not wish to see the sites since they had to leave for another arrangement.

After the site visit, the ITLO emailed Mr. Sarmento, Mr. Longee, and Mr. Bill the "Archaeological Analysis of a Legacy Collection from CA-SOL-313" and thanked them for visiting the base and discussing the projects. The ITLO re-emphasized that the base wishes to proceed on these six projects unless Travis AFB learns of any concerns from the tribes. No response has been received to date.

X

MATTHEW F. BLAZEK, GS-12, DAFC
ITLO, 60 CES/CEIE

Yocha Dehe Wintun Nation Site Visit to Travis AFB
June 1, 2017

Sign In Sheet

Name	Organization	Phone Number	Email
Matthew Blazek	60CES/CEIE	707-424-5727	matthew.blazek@us.af.mil
MILEA FRANKLIN	60 CES/CEIE	7074244321	MILEA.FRANKLIN@USAF.MIL
Carmen Chan	60 CES/CENPL	707816-3640	carmen.chan@us.af.mil
Brett Foster	60 CES/CENPL	707-424-0785	brett.foster.3@us.af.mil
Rachel Grossknueger	60 CES/CGMP	707-424-0871	rachel.grossknueger.1@us.af.mil
James Sarmento	Yocha Dehe	(530)723-0452	jsarmento@yochadehe-nsn.gov
Larry Longee	Yochadehe	5306054455	llongee@yochadehe-nsn.gov
Paul Hughes	60 CES/CD	707 424 5918	paul.hughes.1@us.af.mil
JAMES CARUCCI	AFLEC/CZOW	424-8625	James.CARucci@us.AF.MIL
JOHN SPEAKMAN	60CES/CEF	424-0850	JOHN.SPEAKMAN@US.AF.MIL
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Brian Sassaman	60CES/CEI	424-9225	brian.sassaman.1@us.af.mil