

**FINAL
ENVIRONMENTAL ASSESSMENT**

**RUNWAY 15/33 RECONSTRUCTION PROJECT
Lincoln Regional Airport - Karl Harder Field
City of Lincoln
Placer County, California**

Prepared for:

City of Lincoln, California
600 Sixth Street, City of Lincoln, California 95648

**U.S. Department of Transportation
Federal Aviation Administration**

As lead Federal Agency pursuant to the National Environmental Policy Act of 1969

Prepared by
Wallace Environmental Consulting, Inc.

December 2022

This environmental assessment becomes a Federal document when evaluated, signed and dated by the Responsible FAA Official.

Christopher D. Jones

Responsible FAA Official

12/19/2022

Date

GENERAL INFORMATION ABOUT THIS DOCUMENT

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WHAT IS IN THIS DOCUMENT? This National Environmental Policy Act, Final Environmental Assessment (EA) was prepared for the City of Lincoln (City) to evaluate a proposed runway reconstruction at the Lincoln Regional Airport (LHM). The runway reconstruction project includes reconstructing Runway 15/33, the Airport's only runway; regrading the runway safety areas; realigning two service roads which encroach on the runway object free area and removal of a small topographic feature which penetrates airspace. This Final EA provides information on the Proposed Action; discusses the purpose of and need for the Proposed Action; describes alternatives considered; and discloses the analysis and findings of potential environmental, social, and economic impacts associated with the Proposed Action and reasonable alternatives.

BACKGROUND: LHM is a regional airport owned and operated by the City approximately three miles northwest of downtown. When originally constructed by the U.S. Army Air Corps during World War II, the Airport consisted of four runways — three in a triangular arrangement and a fourth running through the center — each about 4,000 feet long by 300 feet wide. By the early 1970s, all but the center runway (now designated Runway 15/33) was closed and abandoned. In the early 1980's, the City acquired additional property and Runway 15/33 was extended northward to its present length of 6,001 feet and width of 100 feet. A full-length parallel taxiway (Taxiway 'A') east of Runway 15/33 is connected by five cross taxiways.

WHAT SHOULD YOU DO? Read this Final EA to understand the potential environmental effects of the Proposed Runway Reconstruction Project and the actions that the City of Lincoln and the FAA may take relative to the proposal. Copies of the document may be viewed on the City's webpage at <https://www.lincolncalifornia.gov/Modules/News/en> and at the following physical locations:

City of Lincoln
3rd Floor Engineering
600 6th Street
Lincoln, CA
(916) 434-3233

Twelve Bridges Library
485 Twelve Bridges Dr.
Lincoln, CA
(916) 434-2410

Lincoln Regional Airport
1480 Flightline Drive
Lincoln, CA
(916) 645-3443

WHAT HAPPENS AFTER THIS? Following review of the Final EA, the FAA will decide to either issue a Finding of No Significant Impact (FONSI) or decide to prepare an Environmental Impact Statement (EIS).

Lincoln Regional Airport Final Environmental Assessment

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LIST OF ACRONYMS

AIP	Airport Improvement Program
ALP	Airport Layout Plan
APE	Area of Potential Effect
ARC	Airport Resource Code
ARB	Air Resources Board
CAA	U.S. Clean Air Act
CARP	Western Placer County Aquatic Resources Program
CCAA	California Clean Air Act of 1988
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
City	City of Lincoln, California
CORPS	U.S. Army Corps of Engineers
CRHR	California Register of Historical Resources
CWA	U.S. Clean Water Act
DEA	Draft Environmental Assessment
EA	Environmental Assessment (National Environmental Policy Act)
EO	Executive Order
ESA	U.S. Endangered Species Act
FAA	Federal Aviation Administration – U.S. Department of Transportation
FBO	Fixed Based Operator
FONSI	Finding of No Significant Impact
FR	Federal Register
HCP	Habitat Conservation Plan
ICAO	International Civil Aviation Organization
ILF	In-Lieu Fee Program
ITP	Incidental Take Permit
LHM	Lincoln Regional Airport (Karl Harder Field)
NCCP	Natural Community Conversation Plan
NCCPA	California Natural Community Conservation Planning Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOTAM	Notice to Air Missions
NRHP	National Register of Historic Places
PCA	Placer Conservation Authority
PCAPCD	Placer County Air Pollution Control District
PCCP	Placer County Conservation Program
PGP	Programmatic General Permit
RCRA	Resource Conservation Recovery Act
ROG	Reactive Organic Gas
ROFA	Runway Object Free Area (or OFA)
RSA	Runway Safety Area
RWQCB	Regional Water Quality Control Board (State of California)
SHPO	State Historic Preservation Officer (California)
SIP	State Implementation Plan
SWPPP	Stormwater Pollution Prevention Plan
U.S. DOT	Department of Transportation
U.S. EPA	Environmental Protection Agency
USFWS	Fish and Wildlife Service (U.S. Department of Interior)
WRSL	Western Regional Sanitary Landfill

CHAPTER 1.0: PURPOSE AND NEED

1.1 INTRODUCTION

The City of Lincoln (City) is the sponsor of the Lincoln Regional Airport, Karl Harder Field (LHM or the Airport). The City proposes to reconstruct Runway 15-33, the Airport's only runway; regrade the runway safety areas (RSA) and realign two service roads which encroach on the Runway Object Free Area (ROFA or OFA). To do so, the City requests Federal Aviation Administration (FAA) approval of the proposed action on its Airport Layout Plan (ALP) and potential federal funding assistance for eligible elements of its proposed project.

This Environmental Assessment (EA) has been prepared pursuant to the requirements of Section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA, Title 42 of the United States Code [U.S.C.] §§ 4321-4335), and as codified by the Council on Environmental Quality Regulations (CEQ Regulations, Title 40 of the Code of Federal Regulations [C.F.R.] Parts 1500-1508), FAA Order 1050.1F, Environmental Impacts: Policies and Procedures and FAA Order 5050.4B National Environmental Policy Act Implementing Instructions for Airport Actions. The FAA is the lead federal NEPA agency. This EA analyzes and documents the potential environmental impacts of implementing the proposed action, and identifies mitigation measures that may be necessary to reduce the magnitude of those impacts.

1.2 AIRPORT BACKGROUND

Lincoln Regional Airport is owned and operated by the City and is located approximately three miles northwest of downtown (Exhibit 1-1). When originally constructed by the U.S. Army Air Corps during World War II, the Airport consisted of four runways — three in a triangular arrangement and a fourth running through the center — each about 4,000 feet long by 300 feet wide. By the early 1970s, all but the center runway (now designated Runway 15-33) was closed and abandoned. In the early 1980's, the City acquired additional property and Runway 15-33 was extended northward to its present length of 6,001 feet and width of 100 feet. This property acquisition increased the size of the Airport to 775-acres. A full-length parallel taxiway (Taxiway 'A') east of Runway 15-33 is connected by five cross taxiways (Exhibit 1-2).

The Airport sits at an elevation of 121.4 feet above sea level and includes an area of 775 acres. The National Plan of Integrated Airport Systems (NPIAS) categorizes the Airport as a general aviation – regional airport¹. LHM accommodates a variety of general aviation operations including single and multi-engine propeller driven aircraft, business jets and helicopters.

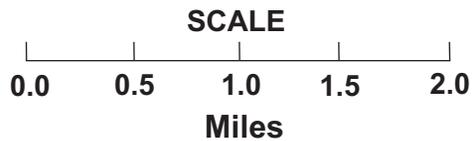
The Airport is bordered by Nicolas Road, Airport Road, West Wise Road and Aviation Boulevard and is accessible via Flightline Drive. In 2012, State Highway 65 (Lincoln Bypass) was opened to relieve traffic through downtown Lincoln. The highway is one-mile south of Runway 33, and one-mile west of Runway 15-33 (Exhibit 1-1). The only public entrance to the active portions (aircraft operational areas) of the Airport is via controlled access from Flightline Drive west of Aviation Boulevard as shown in Exhibit 1-2.

¹ Regional airports support regional economies by connecting communities to regional and national markets. Generally located in metropolitan areas and serve relatively large populations. Regional airports have high levels of activity with some jets and multiengine propeller aircraft. The metropolitan areas in which regional airports are located can be Metropolitan Statistical Areas with an urban core population of at least 50,000 or Micropolitan Statistical Areas with a core urban population between 10,000 and 50,000.



Source: GoogleEarth

Regional Location: Northern California



**Lincoln Regional Airport
Environmental Assessment
Runway 15-33 Reconstruction**

**EXHIBIT 1-1
REGIONAL LOCATION
LINCOLN REGIONAL AIRPORT
CITY OF LINCOLN, CALIFORNIA**

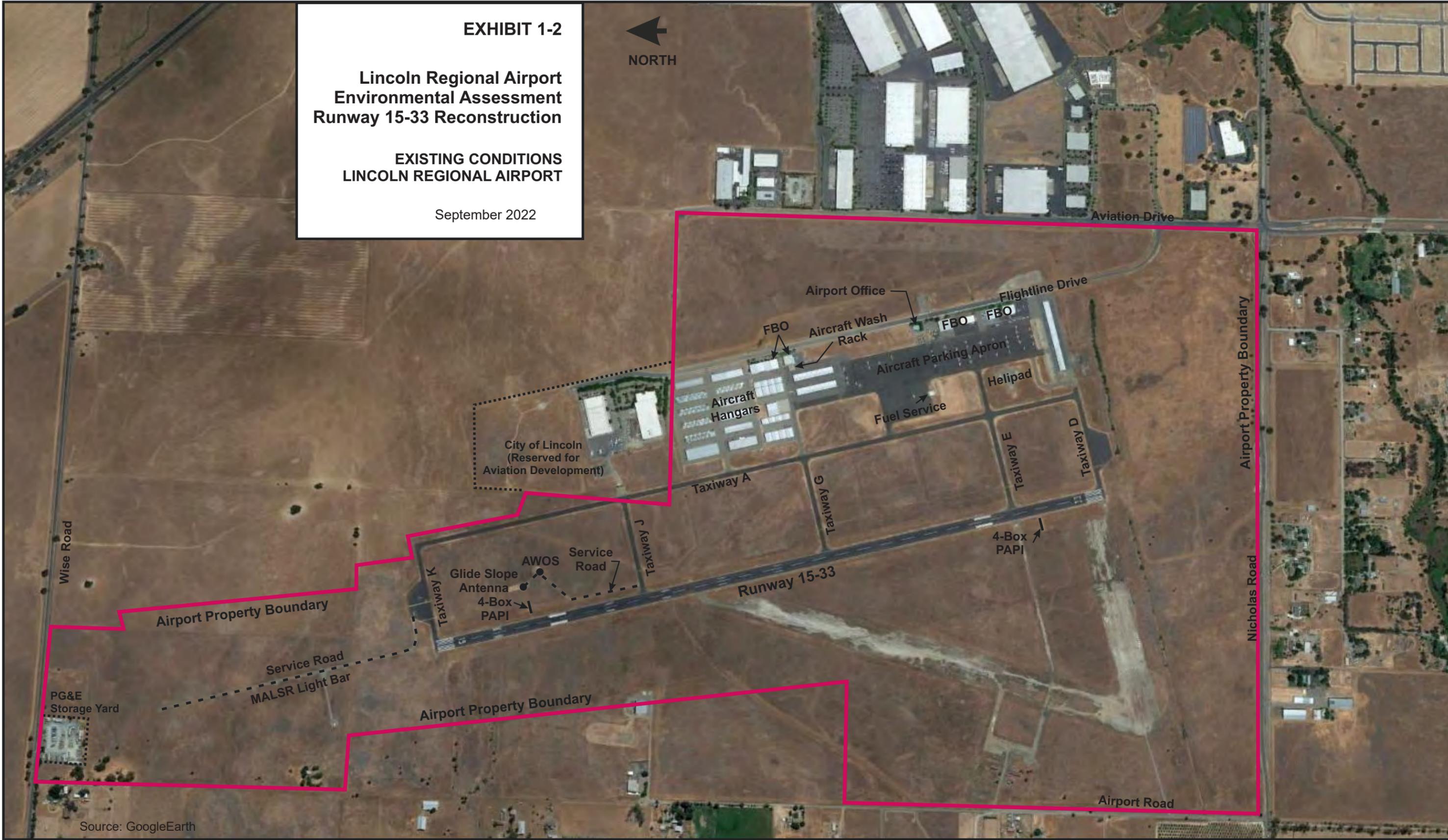
September 2022

EXHIBIT 1-2

Lincoln Regional Airport
Environmental Assessment
Runway 15-33 Reconstruction

EXISTING CONDITIONS
LINCOLN REGIONAL AIRPORT

September 2022



1.2.1 Summary of Existing Airport Layout

Lincoln Regional Airport is designated an Airport Reference Code (ARC) B-I². The ARC is used for planning and design purposes, and does not limit the aircraft that may be able to operate safely at an airport. The ARC is a coding system developed by the FAA to relate airport design criteria to the operational and physical characteristics of the airplane types that will operate at a particular airport. The ARC has two components relating to the airport design aircraft. The first component, depicted by a letter, is the aircraft approach category and relates to aircraft approach speed. The second component, depicted by a Roman numeral, is the airplane design group and relates to airplane wingspan.

As shown in Exhibit 1-2, the Airport layout includes

- Runway 15-33; 6,001-feet in length and 100-feet wide; medium intensity edge lighting.
- Taxiway 'A': Full length taxiway; 6,001-feet in length and 40-feet wide; centerline distance to Runway 15-33 centerline is 900-feet.
- Aircraft parking apron (22.1 acres) with 240 aircraft parking positions.
- 207 aircraft hangars.
- 4-box PAPI units on Runways 15 and 33.
- Helipad with three parking positions.
- Airport office and pilot's lounge.
- Four Fixed Based Operators (FBOs).
- Aviation fuel dispensers.
- MALSR 18-light bar.
- Aircraft wash rack.

1.2.2 Aviation Forecasts

The proposed project is not related to, or influenced by, the number of aircraft using the Airport and therefore, is unaffected by aviation forecasts, that is, the number of aircraft using the Airport annually. In 2019, prior to the COVID-19 pandemic, annual aircraft operations were estimated to be 75,387³ which included itinerant general aviation operations, local operations and air taxi operations; aviation forecasts were estimated on 291 aircraft based on the Airport. Those aircraft include piston driven single engine aircraft such as the Cessna 182 and the Piper Cherokee; piston driven twin-engine aircraft such as the Beech Baron and Piper Chieftain, and business class jets such as the Citation III and Gulfstream II. However, the COVID pandemic has affected operations at general aviation airports.

General aviation aircraft traffic experienced a decline of about a 19-percent nationwide between 2020 and 2021⁴. It is likely that aircraft operations at the Airport have decreased by a similar

² ARC B I references aircraft with approach speed between 91-120 knots (1 knot = 1.15078 miles per hour) and with a wingspan between 20 to 49 feet. In order to determine the appropriate ARC for an airport, a "design aircraft" is first determined. The design aircraft is typically the most demanding aircraft (in terms of an airport's physical features) that conducts at least 500 annual operations at the airport.

³ *Airport Layout Plan Update Narrative Report, Lincoln Regional Airport, Karl Harder Field*, June 2020, prepared by Brandley Engineering, Inc.

⁴ Forecasts of IFR Aircraft Handled by FAA Air Route Traffic Control Centers FY 2021-2004

percentage. Therefore, aircraft operations could be estimated to have decreased to a total of 61,065 annual operations in 2022. Recovery of aircraft operations from the effects of the pandemic on general aviation are difficult to estimate. However, based on the same number of Airport-based aircraft and a consistent fleet mix, recovery could be expected to be faster than the Airport's historical growth rate of about 0.006 percent per annum. However, there is no estimated time frame under which the Airport's 2019 post-COVID operational numbers would be realized.

1.3 DESCRIPTION OF PROPOSED ACTION

Based upon pavement testing, engineer reports and recommendations contained in the *Lincoln Regional Airport Pavement Evaluation Study [and] Pavement Management Plan, January 2008, Updated October 2015* (Reinard W. Brandley Consulting Airport Engineer) and the *Lincoln Regional Airport, Karl Harder Field, Lincoln, Placer County, Airport Layout Plan Update, Narrative, 2020*, the City has determined that it would be necessary to reconstruct Runway 15-33.

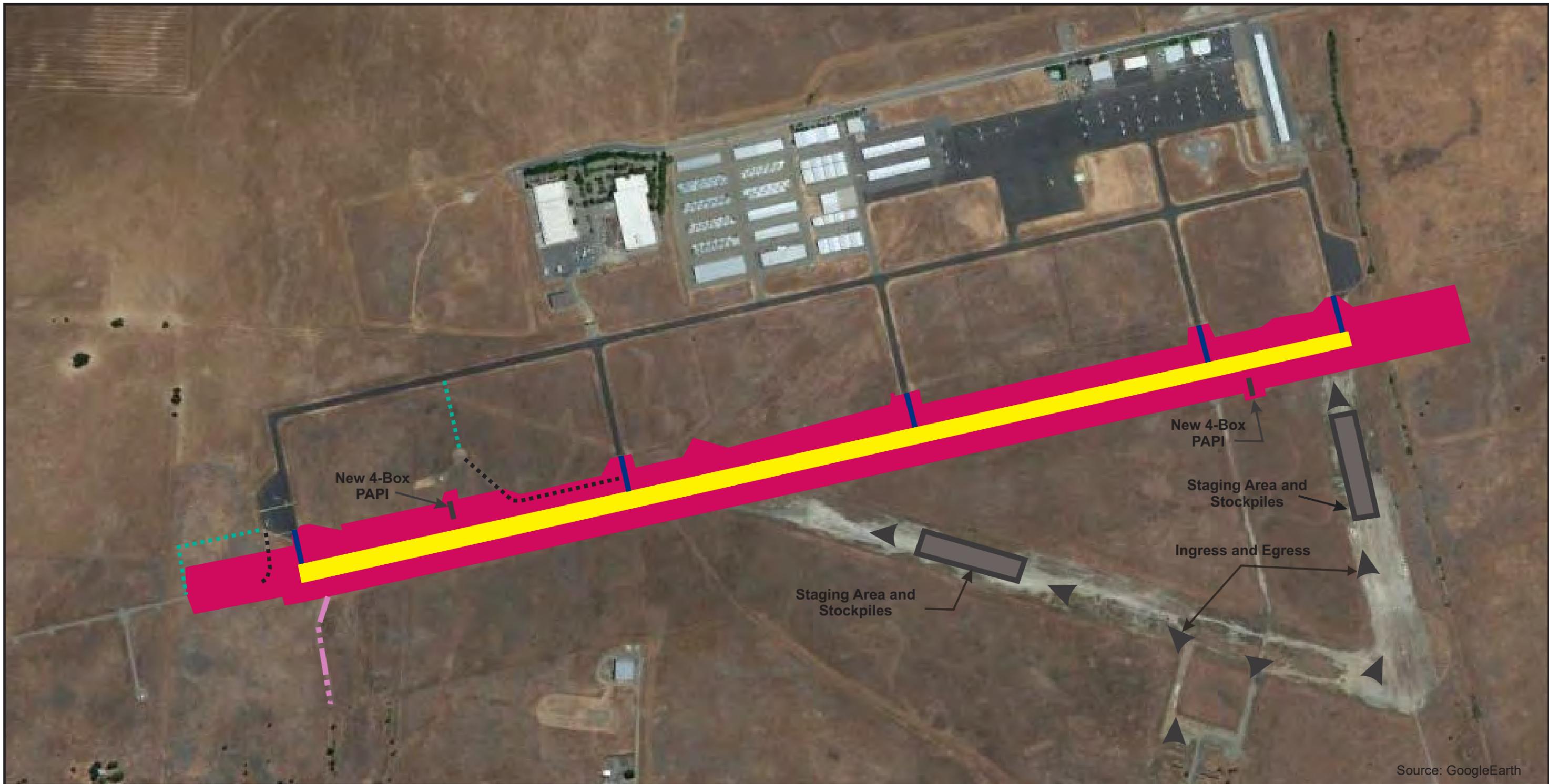
Runway 15-33, the Airport's only runway, was originally constructed in 1973 to a length of 3,700-feet. In 1983 the runway was extended 2,301-feet to the north and the existing 3,700-feet was overlaid with 3-inches of bituminous surface course. The pavement section for the southerly 3,700-feet of this runway consists of five-inches of bituminous surface course over seven-inches of aggregate base course. The pavement section for the northerly 2,301-feet of runway consists of three-inches of bituminous surface course over ten-inches of aggregate base course. To date, the runway surface has lasted almost 40-years, twice as long as its anticipated useful life.

Thermal stresses and seasonal weathering have resulted in significant runway pavement cracking and pavement surface deterioration. Despite ongoing runway maintenance programs, pavement cracks continue to appear. Pavement testing indicated that pavement strengths varied along the 6,001-foot length of the runway; the result of the tests indicated that the existing aggregate base course under the existing asphalt surface is in good condition, but the cracked asphalt surface requires replacement.

In order to reduce and protect against ongoing runway deterioration and to provide safe and economically sustainable asphaltic surface, the runway and runway safety area (RSA) would be reconstructed. The existing runway surface elevation would be raised by a maximum of eight-inches. Raising the runway surface and then maintaining a 2% grade sloping away from the runway shoulder meets FAA design standards and would result in extending the toe of the RSA 12 to 15-feet beyond its existing position. This extension of the RSA toe would require filling wetlands which have formed at the toe of the existing RSA. Two existing service roads which encroach into the ROFA would be relocated, all objects within the ROFA which are not fixed by function, would be removed. A small topographic feature which penetrates Part 77 Airspace near the end of Runway 15 would also be removed.

The Airport's ALP with RSA provides specifics regarding project components and the Runway 15-33 items to-be-touched spreadsheet are found in Appendix A. The proposed project would include project component locations shown in Exhibit 1-3

- Close runway during project construction; issue Notice to Air Mission (NOTAM)
- Demolish existing runway pavement surface and temporarily stockpile asphaltic



Source: GoogleEarth

EXPLANATION

- | | | | |
|---|--|--|---------------------------------|
|  | Runway 15-33 Reconstruction |  | Service Road
(To be removed) |
|  | RSA Reconstruction |  | New Service Road |
|  | Topographic Penetration
(To be removed) |  | Reconstruct Cross
Taxiway |



**Lincoln Regional Airport
Environmental Assessment
Runway 15-33 Reconstruction**

**EXHIBIT 1-3
PROPOSED PROJECT
LINCOLN REGIONAL AIRPORT**

September 2022

concrete on old runway pavements west of the existing runway; this material could be used for as fill for the raised runway shoulders, the material would provide a stable runway shoulder to prevent erosion and vegetation growth.

- Existing aggregate base coarse would be left in place and recompact as reconstruction subbase.
- Additional base coarse would be placed and compacted.
- Reconstruct runway with new asphaltic concrete and new markings: resulting reconstruction would raise the runway elevation approximately six to eight inches above existing grade
- Reconstruct portions of connecting taxiways, as necessary, to tie into new runway grades; associated taxiway edge lights would be raised.
- Place and compact fill along the runway shoulders to match grade of new runway elevation.
- Regrade runway safety areas (RSA) to match new runway grades and correct non-standard RSA grades.
- Excavate topographic Part 77 airspace and OFA ground penetration identified in the December 2020 "Obstruction Mitigation Plan and Aeronautical Study"; this material could be used as fill. OFA ground penetration is located 200-feet to 410-feet west of Runway 15 threshold.
- Remove old existing asphalt pavement from Army Air Corps runway surface on the west side of the runway approximately at the middle of the runway. This pavement surface does not serve any active airfield facilities.
- Raise the existing runway lights to match the shoulder grading required along the raised runway. New runway lights, transformers, and cable would be installed on the existing light cans with new light can extensions. Existing conduit will be used for new runway light power cable. Conduit that is found to be damaged will be repaired or replaced. Constant Current Regulators would be removed and replaced in the existing airfield electrical vault. Existing homerun conduits would be used to install new cable for runway lighting circuit.
- Install new runway exit guidance signs. Existing airfield guidance signs are 30-years old and do not meet current FAA standards. Existing signs would be removed, and new lighted airfield guidance signs will be installed with concrete foundations.
- Replace the existing sponsor-owned 4-box PAPI systems for Runway 33 and Runway 15. The existing 4-box PAPIs are L-880 Style A systems, which are voltage driven PAPIs. They have a power control unit (PCU) that is located within the Runway Object Free Area (ROFA). The PAPI light units are fixed by function in the RSA/ROFA, but the PCU is not fixed by function. It is necessary to either relocate the PCU outside of the ROFA or replace each PAPI with an L-880 Style B system. The Style B PAPI is a current driven PAPI that does not require a PCU. The project would replace the PAPIs

on Runway 15 and 33 with L-880 Style B PAPIs. The existing PAPIs and PCU would be removed, new PAPI light units would be installed on the existing concrete pads, new wire would be installed in existing conduit, and a new regulator would be installed in the existing electrical vault building. There would be a short portion of new conduit that would be required to be installed at the existing concrete foundations. It is anticipated that approximately 30 feet of new electrical conduit will be required to be installed at each PAPI location to bypass the location of the existing PCUs.

- Replace the FAA MALSR 18-light threshold light bar located 5-feet behind the Runway 15 threshold. This light bar would be impacted by the runway surface elevation change. It would be necessary to remove and replace this MALSR light bar for the new runway elevation in the same location. The MALSR 5-light bars at 200-feet and 420-feet behind the threshold would require minor grading performed around them in the extended RSA. FAA ATO Navaids Specialist Jeremy Cook indicated in a meeting on 10/14/21 that adjustments to the light units on these light bars would likely be unnecessary as they should fall within allowable tolerances.
- Construct new gravel service roads for FAA navigational aid maintenance. The existing service roads are located within the RSA, which does not meet standards. The existing service roads would be removed. The new service roads would be located in two separate locations, one serving the FAA MALSR and one serving the FAA Glideslope and Sponsor AWOS and PAPI.
- An FAA Flight Check would be required at the conclusion of the project for the Runway 15 and 33 PAPIs, FAA Localizer, FAA Glideslope, and FAA MALSR. Replacement of the PAPIs, replacement of the MALSR threshold light bar, and RSA grading within the critical areas of the FAA LOC and FAA GS will require a Flight Check of these systems at the conclusion of the project. A FAA Reimbursable Agreement will be created for the Flight Check. FAA ground check points and monuments for the Navaids will be protected or removed and replaced in the same location as they exist.

1.4 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.4.1 FAA Purpose and Need

The FAA's statutory mission is to ensure the safe and efficient use of navigable airspace in the United States. The FAA must ensure that the proposed action does not derogate the safety of aircraft and airport operations at LHM. Moreover, it is the policy of the FAA under 49 U.S.C. Section 47101(a)(1) and (6) safe operation of the airport is the highest aviation priority and that airport development projects provide for the protection and enhancement of natural resources and the quality of the environment of the United States.

1.4.2 Sponsor's Purpose and Need

The purpose and need of the proposed project are to meet FAA design standards during the reconstruction of the runway pavement that has reached the end of its useful life. This proposed project is necessary for the Airport to achieve FAA design standards as designated in FAA Advisory Circular 150/5300-13B, *Airport Design*, dated July 2020.

1.5 REQUESTED FEDERAL ACTIONS

The Federal actions requested by the City of the FAA are:

- Unconditional approval of the portion of the ALP that depicts the runway reconstruction area (project area) pursuant to 49 U.S.C. §§ 40103(b) and 47107(a)(16);
- Determinations under Title 49 U.S.C. § 47106, *Project Grant Application Approval Conditioned on Satisfaction of Project Requirements*, and § 47107, *Project Grant Application Approval Conditioned on Assurances about Airport Operations*, relating to the eligibility of the Proposed Action for federal funding under the Airport Improvement Program (AIP) and/or under Title 49 U.S.C. § 40117, *Passenger Facility Charges*, as implemented by 14 C.F.R. § 158.25, *Applications*, to impose and use passenger facility charges (PFCs) collected at the Airport for the Proposed Action to assist with construction of potentially eligible development items shown on the ALP; and if necessary, approval of a construction safety and phasing plan to maintain aviation and airfield safety during construction pursuant to FAA Advisory Circular 150-5370-2F, *Operational Safety on Airports During Construction*, under 14 C.F.R. Part 139, *Airport Certification* (49 U.S.C. § 44706, *Airport Operating Certificates*).

CHAPTER 2.0: ALTERNATIVES

2.1 INTRODUCTION

CEQ regulations (40 Code of Federal Regulations [CFR] Part 1500 Purpose, Policy and Mandate and 40 CFR Sections 1500.2, 1502.14 and 1505.1) implementing NEPA requires that alternatives be considered in environmental documents. As part of the alternatives analysis, agencies are to conduct the following: explore and objectively evaluate all reasonable alternatives and briefly discuss why alternatives were eliminated; treat each alternative similarly and compare the results so that reviewers may evaluate the alternatives comparative merits and include reasonable alternatives not within the jurisdiction of the lead agency. If there are no unresolved conflicts concerning alternative uses of available resources, the range of alternatives may be limited to the No Action and Proposed Action alternatives (FAA Orders 1050.1F, paragraph 6-2.1.d. and 5050.4B, paragraph 706d.(5)). The No Action alternative is retained for analysis in the EA pursuant to CEQ regulations at 49 CFR § 1502.14(d).

CEQ regulations (40 CFR § 1502.14) require that federal agencies perform the following tasks for alternative analysis:

- (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their elimination.
- (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
- (c) Include reasonable alternatives not within the jurisdiction of the lead agency.
- (d) Include the alternative of No Action.
- (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
- (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

Alternatives evaluated for the Proposed Action include those alternatives that are responsive to the purpose and need established by the City (the airport sponsor). The purpose of the Proposed Action, as identified in Section 1.3 of this EA is to reconstruct Runway 15-33, regrade the RSA, excavate and remove a topographic penetration into Part 77 airspace and realign an existing access road.

This chapter describes alternatives to the proposed project. In addition, this chapter summarizes the alternative screening process, and evaluation criteria used to identify, compare, and evaluate the alternatives.

2.2 IDENTIFICATION OF POTENTIAL ALTERNATIVES

The following alternatives were considered as part of the alternative evaluation process:

- Proposed Action (Exhibit 1-3; Preferred Alternative): Reconstruct Runway 15-33, regrade the RSA, relocate service roads in the OFA and remove a topographic penetration into Part 77 airspace; runway reconstruction would raise the existing runway surface elevation by at least eight inches, therefore, to meet FAA design standards for an RSA slope (FAA AC 150/1300-13B), the toe of the RSA would be extended about 12 to 15-feet beyond the toe of the existing RSA slope on both sides of the runway and therefore, would have an effect on vernal pools (wetlands).
- No Action Alternative: Continue to use Runway 15-33 and the RSA in its current condition; do not regrade or reconstruct RSA's; do not relocate the service roads and do not remove topographic intrusion; no change to the location of the toe of the RSA and therefore no effect to vernal pools.
- Alternative A-1: Crack seal Runway 15-33's deteriorating asphalt surface, regrade the RSA, remove topographic intrusion; does not require relocating service roads; would not extend toe of RSA slope.

This section includes an evaluation of each alternative and its ability to satisfy the Step-One and Step-Two Screening criteria.

2.2.1 Alternatives Screening Process Overview and Summary of Results

The alternative screening process relies on a two-step process to determine which alternatives would be carried forward for further evaluation. Step-One evaluates the ability of an alternative to satisfy the purpose and need outlined in Chapter 1.0, Purpose and Need. Step-Two evaluates the ability of alternatives to satisfy a list of screening factors.

Table 2-1 Alternatives Screening Summary

Step-One Screening and Criteria		Preferred Alternative	No Action Alternative**	Alternative A-1
**The No Action Alternative serves as the baseline against which the environmental, economic and operational performance of other alternatives are compared. It is retained for further analysis pursuant to CEQ guidance.				
Step-One: Purpose and Need	Does alternative meet the purpose and need?	YES	NO**	YES
Proceed to Step-Two Screening		YES	YES	YES
Step-Two: Does Alternative Satisfy Step-Two Screening Factors?	Achieve design standards for Runway 15-33	YES	NO	YES
	Achieve FAA RSA design standards	YES	NO	YES
	Remove Part 77 topographic penetration	YES	NO	YES
	Achieve design standards for ROFA	YES	NO	YES
	Economically Sustainable	YES	NO	NO
Retained for Detailed Analysis in the EA		YES	YES**	NO

2.2.2. Step-One Screening: Purpose and Need

The Step-One screening process evaluates each alternative’s ability to satisfy the purpose and need discussed in Section 1.4 Purpose and Need. Alternatives are considered to meet this criterion if they satisfy the following:

- Provides Runway 15-33 with a new paved surface to replace a deteriorating asphaltic surface.
- Provides economic sustainable solution to Runway 15-33’s deteriorating paved surface.
- Bring Runway 15-33 RSAs into compliance with FAA design standards.
- Remove objects from the Runway Object Free Area (ROFA).
- Remove obstruction (topographic) which penetrates Part 77 airspace.

2.2.3 Step-Two Screening: Feasibility

The Step-Two screening analysis is used to determine if an alternative would be feasible. In this case, feasibility was reviewed to ensure that the alternative could be implemented, or be practical, from a technical or economic perspective.

2.2.3.1 Meet FAA Design Standards: Runway 15-33

This criterion is intended to determine if an alternative would meet FAA design standards in accordance with FAA Advisory Circular 150/5300-13B, *Airport Design*, (July 2020).

2.2.3.2 Economically Sustainable

This criterion focuses on an alternative's ability to demonstrate a sustainable long-term cost effectiveness and avoidance of unnecessary financial expenditures. This is accomplished by examining the conclusions and recommendations in the *Lincoln Regional Airport Pavement Evaluation Study [and] Pavement Management Plan, January 2008, Updated October 2015*.

2.2.3.3 Meet FAA Design Standards: Runway Safety Area

Provides a defined surface surrounding the runway which is prepared, or suitable, for reducing the risk of damage to aircraft should an aircraft overrun the paved runway surface.

2.2.3.4 Meet FAA Design Standards: Objects Within the Object Free Area

Provides an OFA that is free of objects, including service roads, except for objects that need to be located in the OFA because of their function.

2.2.3.5 Meet FAA Design Standards: Objects Penetrating Part 77 Airspace

Provides that objects which penetrate into Part 77 airspace, including topographic features, be removed to avoid effects on air navigation.

2.3 ALTERNATIVE EVALUATION

2.3.1 Step-One Screening

The Step-One Screening evaluated each alternative's ability to satisfy the Purpose and Need. The results of this screening are presented in this section.

2.3.1.1 Preferred Alternative Step-One Evaluation

The Preferred Alternative would involve construction of the following project elements as shown in Exhibit 1-3:

- Close runway during project construction; issue Notice to Air Mission (NOTAM)
- Demolish existing runway pavement surface and temporarily stockpile asphaltic concrete on old runway pavements west of the existing runway; this material could be

used for as fill for the raised runway shoulders, the material would provide a stable runway shoulder to prevent erosion and vegetation growth.

- Existing aggregate base coarse would be left in place and recompact as reconstruction subbase.
- Additional base coarse would be placed and compacted.
- Reconstruct runway with new asphaltic concrete and new markings: resulting reconstruction would raise the runway elevation approximately six to eight inches above existing grade
- Reconstruct portions of connecting taxiways, as necessary, to tie into new runway grades; associated taxiway edge lights would be raised.
- Place and compact fill along the runway shoulders to match grade of new runway elevation.
- Regrade runway safety areas (RSA) to match new runway grades and correct non-standard RSA grades.
- Excavate topographic Part 77 airspace and OFA ground penetration identified in the December 2020 “Obstruction Mitigation Plan and Aeronautical Study”; this material could be used as fill. OFA ground penetration is located 200-feet to 410-feet west of Runway 15 threshold.
- Remove old existing asphalt pavement from Army Air Corps runway surface on the west side of the runway approximately at the middle of the runway. This pavement surface does not serve any active airfield facilities.
- Raise the existing runway lights to match the shoulder grading required along the raised runway. New runway lights, transformers, and cable would be installed on the existing light cans with new light can extensions. Existing conduit will be used for new runway light power cable. Conduit that is found to be damaged will be repaired or replaced. Constant Current Regulators would be removed and replaced in the existing airfield electrical vault. Existing homerun conduits would be used to install new cable for runway lighting circuit.
- Install new runway exit guidance signs. Existing airfield guidance signs are 30-years old and do not meet current FAA standards. Existing signs would be removed, and new lighted airfield guidance signs will be installed with concrete foundations.
- Replace the existing sponsor-owned 4-box PAPI systems for Runway 33 and Runway 15. The existing 4-box PAPIs are L-880 Style A systems, which are voltage driven PAPIs. They have a power control unit (PCU) that is located within the Runway Object Free Area (ROFA). The PAPI light units are fixed by function in the RSA/ROFA, but the PCU is not fixed by function. It is necessary to either relocate the PCU outside of the ROFA or replace each PAPI with an L-880 Style B system. The Style B PAPI is a current driven PAPI that does not require a PCU. The project would replace the PAPIs on Runway 15 and 33 with L-880 Style B PAPIs. The existing PAPIs and PCU would

be removed, new PAPI light units would be installed on the existing concrete pads, new wire would be installed in existing conduit, and a new regulator would be installed in the existing electrical vault building. There would be a short portion of new conduit that would be required to be installed at the existing concrete foundations. It is anticipated that approximately 30 feet of new electrical conduit will be required to be installed at each PAPI location to bypass the location of the existing PCUs.

- Replace the FAA MALSR 18-light threshold light bar located 5-feet behind the Runway 15 threshold. This light bar would be impacted by the runway surface elevation change, It would be necessary to remove and replace this MALSR light bar for the new runway elevation in the same location. The MALSR 5-light bars at 200-feet and 420-feet behind the threshold would require minor grading performed around them in the extended RSA. FAA ATO Nav aids Specialist Jeremy Cook indicated in a meeting on 10/14/21 that adjustments to the light units on these light bars would likely be unnecessary as they should fall within allowable tolerances.
- Construct new gravel service roads for FAA navigational aid maintenance. The existing service roads are located within the RSA, which does not meet standards. The existing service roads would be removed. The new service roads would be located in two separate locations, one serving the FAA MALSR and one serving the FAA Glideslope and Sponsor AWOS and PAPI.
- An FAA Flight Check would be required at the conclusion of the project for the Runway 15 and 33 PAPIs, FAA Localizer, FAA Glideslope, and FAA MALSR. Replacement of the PAPIs, replacement of the MALSR threshold light bar, and RSA grading within the critical areas of the FAA LOC and FAA GS will require a Flight Check of these systems at the conclusion of the project. A FAA Reimbursable Agreement will be created for the Flight Check. FAA ground check points and monuments for the Nav aids will be protected or removed and replaced in the same location as they exist.

The Proposed Action (Preferred Alternative) meets the Step-One Screening criteria because it brings the RSA and OFA up to FAA design standards and provides the City with an economically sustainable runway.

The Proposed Action was retained for the Step-Two Screening analysis.

2.3.1.2 No Action Alternative Step-One Evaluation

Although the No Action Alternative does not meet the Purpose and Need, it was retained for detailed analysis in Step-Two Screening analysis in accordance with CEQ regulations at 40 CFR § 1502.14(d) and FAA Order 1050.1F, Paragraph 6-2.1. d and FAA Order 5050.4B Paragraph 706d.

2.3.1.3 Alternative A-1 Step-One Evaluation

Alternative A-1 which would use crack seal techniques to repair the runway surface. This alternative would include regrading the RSA, removal of objects within the OFA and removal of the topographic penetration into Part 77 airspace. However, this alternative is not considered a sustainable economic solution and, therefore, was not retained for the Step-Two Screening analysis.

2.3.2 Step-Two Screening

The Step-Two Screening evaluated the remaining alternatives to determine which alternative would most effectively meet the purpose and need.

2.3.2.1 Proposed Action Alternative Step-Two Evaluation

The Proposed Action passes the Step-Two Screening process because the project is technically and economically feasible.

2.3.2.2 No Action Alternative Step-Two Evaluation

The No Action Alternative does not meet the Step-One Screening criteria because it does not meet the Purpose and Need. Despite this, the No Action Alternative is retained for further analysis in this EA pursuant to CEQ regulations at 40 C.F.R. § 1502.14(d).

2.4. ALTERNATIVES REVIEWED BUT ELIMINATED FROM DETAILED ANALYSIS

FAA Order 1050.1F, paragraph 6-2.1.d states that, “An EA may limit the range of alternatives to the proposed action and no action when there are no unresolved conflicts concerning alternative uses of available resources.” The results of the alternatives analysis indicate that the Proposed Action is the only viable alternative that would fully satisfy the Purpose and Need for the Proposed Action. The No Action Alternative is also retained for further analysis in this EA, as required by CEQ guidance. A summary comparison of alternatives considered as part of the alternative’s evaluation process can be found in Table 2-1. Table 2-1 provides a summary of the alternatives considered during the screening process and whether they were carried forward for further detailed evaluation.

2.4.1 Alternative A-1: Apply Crack Seal Technique to Repair Runway 15-33

Alternative A-1 would use a crack seal technique to repair Runway 15-33. This technique has been applied to the runway; however, the runway surface continues to fail. According to recommendations and conclusions in the *Lincoln Regional Airport Pavement Evaluation Study [and] Pavement Management Plan, January 2008, Updated October 2015* the only economically sustainable solution is to reconstruct the runway. Therefore, Alternative A-1 was not retained for further consideration.

2.5 ALTERNATIVES CONSIDERED AND RETAINED FOR CONSIDERATION

2.5.1 Alternatives Considered

Based on the City’s decision to accept recommendations presented in the *Lincoln Regional Airport Pavement Evaluation Study [and] Pavement Management Plan, January 2008, Updated October 2015* to reconstruct Runway 15-33, regrade the RSA and remove objects from the OFA this DEA considered the Proposed Action Alternative which met the City’s Purpose and Need. As required by NEPA and in accordance with FAA implementation NEPA guidance, this DEA also evaluated the project “No-Action Alternative”.

2.5.2 Proposed Action Alternative

The Proposed Action alternative (Chapter 1.0, Section 1.4), shown in Exhibit 1-3, is based

on the *Lincoln Regional Airport Pavement Evaluation Study [and] Pavement Management Plan, January 2008, Updated October 2015* and includes RSA reconstruction, removal of a topographic penetration into Part 77 airspace and relocation of service roads.

The Proposed Action is described in Section 2.3.1.1.

The Proposed Action Alternative achieves FAA design standards for RSA, OFA and Part 77 airspace and is an economically sustainable. Therefore, the Proposed Action Alternative was retained for further consideration.

2.5.3. No Action Alternative

CEQ regulations provide specific guidance relating to the consideration of alternatives. CEQ Section 1502.14 (d) states: “Agencies shall include the alternative of no-action in any environmental analysis.” Under the No Action Alternative, the existing runway and RSA would remain in their current conditions. No attempt would be made to correct any design or operational deficiency.

Under the No Action Alternative the FAA’s design standards which identifies operational conditions for runways, RSA’s, OFA’s and Part 77 airspace cannot be accomplished. Although the No Action Alternative does not meet the Purpose and Need for the Proposed Project, it was retained for detailed analysis in accordance with CEQ regulations, and FAA Order 1050.1F, Paragraph 6-2.1.d and FAA Order 5050.4B Paragraph 706d.

2.6 SUMMARY OF EFFECTS AND ALTERNATIVES

Table 2-2 provides a summary of alternatives carried forward for analysis from Section 2.5 and the environmental resource categories likely effected by the proposed project. The complete analysis results are found in Chapter 3, Affected Environment and Chapter 4, Environmental Consequences.

Table 2-2 Summary Comparisons of Alternatives

Resource Category	Proposed Action	No Action Alternative
Air Quality	The project construction emissions would not exceed the <i>de minimis</i> thresholds, therefore it conforms to the State Implementation Plan and conformity determination requirements do not apply.	Incremental aircraft emission increases independent of the Proposed Action; no new construction effects.
Biological Resources	The Proposed Action could affect federally-listed vernal pool fairy shrimp.	Airport operations would continue under current conditions; federally listed species known to occur on the airport would not be affected.
Water Resources: Wetlands	Extending the toe of the RSA would affect wetlands along Runway 15-33.	Wetlands would not be affected.

2.7 APPLICABLE LAWS AND REGULATIONS

Pursuant to FAA Order 1050.1F, the applicable federal statutes, regulations, executive orders, Department of Transportation orders for the alternatives considered in this DEA are listed below.

2.7.1 Federal Statutes

Airport and Airway Improvement Act of 1982 (Public Law 97-248). Airport and Airway Archaeological and Historic Data Preservation Act of 1974 (Public Law 86-253, as amended by Public Law 93291, 16 USC 469).

Aviation Programs: Subtitle VII, Title 49 U.S. Code (USC) (Section 40101, et seq.) recodified from, and formerly known as the “Federal Aviation Act of 1958” as amended (Public Law 85-726).

Clean Air Act (As amended by Public Law 91-604; 42 USC 7401, et seq.). Clean Water Act

(Public Law 92-500, 33 USC 1251, et seq.).

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by Community Environmental Resource Facilitation Act (CERFA), October 1992. 42 USC 9601, et seq.

Department of Transportation Act of 1966 (49 USC 303), recodified from and formerly known as Section 4(f) (Public Law 89-670).

Endangered Species Act of 1973 (Public Law 85-624; 16 USC 661, 664, 1008 note). Farmland Protection Policy Act (Public Law 97-98 and 7 Code of Federal Regulations [CFR] Part 658).

Federal Land Policy and Management Act of 1976 (Public Law 94-579; 43 USC 1701 et seq.), Section 201(a).

Federal Water Pollution Control Act Amendments of 1972, Section 404 (Public Law 92-500; 33 USC 1344), as amended by the Clean Water Act of 1977 (Public Law 95-217; 33 USC 1251).

Land and Water Conservation Fund Act (Public Law 88-578); 16 USC 4601-8(f)(3).

National Environmental Policy Act of 1969 (NEPA, Public Law 91-190; 42 USC 4321, et seq.) as amended by Public Law 94-52, Public Law 94-83, and Public Law 97-258, 4(b).

National Historic Preservation Act of 1966, Section 106 (Public Law 89-665; 16 USC 470(f)). Noise Control Act of 1972 (Public Law 92-574; 42 USC 4901).

Resource Conservation and Recovery Act of 1976 (Public Law 94-580; 42 USC 6901 et seq.) as amended by the Solid Waste Disposal Act of 1980 (Public Law 96-482); and the 1984 Hazardous and Solid Waste Amendments (Public Law 98-616).

Water Bank Act (Public Law 91-559; 16 USC 1301 note), Section 2.

2.7.2 Federal Regulations

7 CFR Part 657 (43 Federal Register [FR] 4030, January 31, 1978), Prime and Unique Farmlands.

36 CFR Part 59 (July 1, 1996), Land and Water Conservation Fund Program of Assistance to States; Post-Completion Compliance Responsibilities.

36 CFR Part 800 (39 FR 3365, January 25, 1974, and 51 FR 31115, September 2, 1986), Protection of Historic Properties.

49 CFR Part 17, Intergovernmental Review of DOT Programs and Activities.

49 CFR Part 18 (March 11, 1988), Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Government.

40 CFR Part 93.153, Subpart B (58 FR 63247, November 30, 1993), Determining Conformity of General Federal Action to State or Federal Implementation Plans.

40 CFR Parts 1500-1508, CEQ implementation of NEPA procedural provisions establishes uniform procedures, terminology, and standards for implementing the procedural requirements of NEPA's Section 102(2).

50 CFR Part 17.11, 17.12 (Subpart B), (May 31, 1997), Endangered and Threatened Wildlife and Endangered and Threatened Plants.

2.7.3 Federal Executive Orders

Promoting Energy Independence and Economic Growth, Executive Order 13783, March 28, 2017.

Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Executive Order 12898.

Evaluation of Flood Hazard in Locating Federally Owned or Financed Buildings, Roads, and Other Facilities, and in Disposing of Federal Lands and Properties, Executive Order 11296

(43 FR 6030) Protection of Wetlands, Executive Order 11990.

Protection and Enhancement of Environmental Quality, Executive Order 11514 (dated March 4, 1970).

Protection and Enhancement of the Cultural Environment, Executive Order 11593 (dated May 13, 1971).

2.7.4 U.S. Department of Transportation and FAA Orders

FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, July 16, 2015. FAA Order 1100.154A, Delegation of Authority, June 1990.

FAA Order 1210.20, American Indian and Alaska Native Tribal Consultation Policy and Procedures, January 28, 2004.

FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, April 28, 2006.

Order DOT 5660.IA, Preservation of the Nation's Wetlands (dated August 24, 1978).

Order DOT 5301.1, Department of Transportation Programs, Policies and Procedures Affecting American Indian, Alaska Native, and Tribes; November 6, 1999.

Order DOT 5610.2, Environmental Justice in Low-Income Populations and Minority Populations, April 15, 1997.

Order DOT 5650.2, Floodplain Management and Protection (dated April 23, 1979).

Order DOT 5610.1C, Procedures for Considering Environmental Impacts (44 FR 56420, October 1, 1979), and Order DOT 5610.1, Changes 1 and 2 (July 13, 1982 and July 30, 1985).

CHAPTER 3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

On July 16, 2020 the CEQ promulgated revised regulations implementing NEPA (40 CFR Parts 1500-1508) that became effective on September 14, 2020. This EA was prepared in accordance with CEQ's final rule was published in the Federal Register (85 FR 43304).

CEQ Regulations, 40 CFR Parts 1500-1508, as referenced in Section 1.1, state that the effects on the human environment shall be interpreted to include the natural and physical environment and the relationship of present and future generations of Americans with that environment. This chapter describes the existing physical and natural environment that the Proposed Action, No Action, and reasonable alternatives may affect. The amount of information provided on a potentially affected resource is proportional to the extent of the potential impact.

All of the proposed project elements would be built within the existing Airport boundaries shown in Exhibit 1-2, which is the study area for the environmental effects of the project unless otherwise noted. The following review of the environmental conditions follows the sequence of resources listed in the FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, in paragraph 4-1, as follows:

- Air Quality
- Biological Resources
- Climate (and Greenhouse Gases)
- Coastal Resources
- Department of Transportation Act, Section 4(f)
- Farmlands
- Hazardous Materials, Solid Waste, Pollution Prevention
- Historical, Architectural, Archaeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Noise and Noise-Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
- Visual Effects
- Water Resources
 - Wetlands
 - Floodplains
 - Surface Waters
 - Groundwater
 - Wild and Scenic Rivers

3.2 ENVIRONMENTAL RESOURCES NOT AFFECTED

FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* directs that the amount of information provided on a potentially affected resource is proportional to the extent of the potential impact. In accordance with guidance provided in FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, the following environmental resources are not present within the study area and, therefore, would not be affected by the Proposed Action Alternative or the No Action Alternative; for these reasons, they are eliminated from further consideration.

Climate: Research has shown there is a direct correlation between hydrocarbon fuel combustion and Greenhouse gas (GHG) emissions that trap heat in the earth's atmosphere. Climate change is a global phenomenon; therefore, the potentially affected environment for climate is the entire world. As noted in FAA 1050.1F Desk Reference Section 3.2, for FAA project-level actions, the affected environment for climate is highly dependent on the project itself and is defined as the entire geographic area that could be either directly or indirectly affected by the Proposed Action. For this project, this would be the regional area shown in Exhibit 1-1. Analysis of GHG emissions is quantitatively assessed in certain circumstances, but otherwise may be qualitatively assessed.

The scientific community's understanding of the fundamental processes responsible for global climate change has improved over the past decade, and its predictive capabilities are advancing. Greenhouse gases (GHGs) include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Increasing concentrations of GHGs in the atmosphere affect global climate. Anthropogenic (i.e., man-made) sources of GHG emissions are primarily associated with the combustion of fossil fuels, including aircraft fuel. GHGs result primarily from combustion of fuels, and there is a direct relationship between fuel combustion and metric tons of CO₂(MTCO₂). Consistent with FAA 1050.1F Desk Reference guidance, emissions are reported in metric tons of CO₂ equivalent (MTCO₂e).

The scientific community is continuing efforts to understand the impact of aviation emissions on the global atmosphere more fully. The FAA is leading and participating in a number of initiatives intended to clarify the role that commercial aviation plays in GHG emissions and climate. The FAA, with support from the U.S. Global Change Research Program and its participating federal agencies (the National Aeronautics and Space Administration, National Oceanic and Atmospheric Administration, USEPA, and U.S. Department of Energy) has developed the Aviation Climate Change Research Initiative to advance scientific understanding of regional and global climate impacts from aircraft emissions. The FAA also funds the Partnership for Air Transportation Noise & Emissions Reduction Center of Excellence research initiative to quantify the effects of aircraft exhaust and contrails on global and U.S. climate and atmospheric composition. The ICAO is examining similar research topics at the international level.¹

¹ Maurice, L. Q., & Lee, D. S. (2007). Aviation Impacts on Climate. In Interactional Civil Aviation Organization, Final Report of the Interactional Civil Aviation Organization Committee on Aviation and Environmental Protection Workshop (pp. 25-32). Washington, DC and Manchester: U.S. Federal Aviation Administration and Manchester Metropolitan University. Retrieved January 2022.

For FAA project-level actions, the affected environment for climate is highly dependent on the project itself and is defined as the entire geographic area that could be either directly or indirectly affected by the Proposed Action. For airport actions, the study area is defined by the extent of the project changes (i.e., immediate vicinity of the airport) and should reflect the full extent of aircraft movements as part of the project changes. Analysis of GHG emissions is quantitatively assessed in certain circumstances, but otherwise may be qualitatively assessed. The proposed action is a short-term project and does not involve aircraft movement or modification of aircraft flight paths. No further analysis is required.

Coastal Resources: The Airport is located approximately 100-miles east of the Pacific Ocean and therefore, is not located in a coastal zone. No further analysis is required.

Department of Transportation Act, Section 4(f): There are no publicly owned parks, recreation areas, wildlife and waterfowl refuges, multi-land use properties such as National Forests or any historic and archaeological sites properties on or near the Airport which could be affected by the proposed project. The closest public parks are: Markham Ravine Park, 1.3 miles southeast of the airport and Foskett Regional Park, 1.5 miles east of the airport. There are no other properties subject to Section 4(f) within the vicinity of the Airport. No further action is required.

Farmlands: There are no soil units on the Airport, including soils within the project area, that qualify as prime, unique, statewide, or locally important, as identified by the State of California's Farmland Mapping and Monitoring Program based on soil survey information provided by the Natural Resources Conservation Service (<https://maps.conservation.ca.gov/DLRP/CIFF> dated 2018). No further analysis is required.

Hazardous Materials, Solid Waste, and Pollution Prevention: A hazardous material is defined as any substance or material that could adversely affect the safety of the public, handlers, or carriers during transportation. Certain materials and wastes are specifically regulated by the USEPA under the Superfund Amendments and Reauthorization Act of 1986 (40 CFR §355 et seq.)

All other hazardous material designated as wastes are regulated under the Resource Conservation and Recovery Act (RCRA) Section 1004(5) which 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" (USEPA, 2005).

Activities conducted at the Airport's FBOs along Flightline Road, which are outside of the project area, that use hazardous materials include aircraft maintenance, fueling and equipment and facilities maintenance. These activities use various materials including aviation fuels, solvents and lubricants, which generate waste oil, waste paint and absorbent materials. None of the activities which use hazardous materials are located within the project area. No Superfund or RCRA sites, cleanups or corrective actions have been identified on the Airport ².

² <https://cumulis.epa.gov/supercpad/cursites/srchrsflt.cfm>; <https://www.epa.gov/cleanups/cleanups-my-community>; <https://www.epa.gov/hwcorrectiveactionsites/corrective> - downloaded January 2022.

Aviation fuel is currently stored and dispensed from above ground storage tanks approximately 1,000-feet east of, and up gradient (groundwater) of the project area. There have been no reported unauthorized releases from the fuel tanks. Abandoned underground aviation fuel storage tanks were located near the Airport offices. The City has removed these tanks (2022) in accordance with California Health and Safety Code Division 20, Chapters 6.7 and 6.75, which gives local agencies the authority to oversee investigation and cleanup of underground storage tank sites. This action by the City is not a part of the proposed runway reconstruction project and therefore, is not evaluated in this EA.

During runway reconstruction, fuel and other hydrocarbons to be used by construction equipment will not be stored on the Airport. Construction equipment would be refueled and maintained off-site at the contractor's facilities.

Solid waste generated in the City is collected and hauled by the City to the Western Regional Sanitary Landfill (WRSL) which is owned and operated by the Western Placer Waste Management Authority. The WRSL is a Class III non-hazardous landfill located about 4.25-miles south of the Airport. The WRSL is currently permitted to receive waste through January 2058³.

The proposed action is not expected to significantly increase solid waste quantities generated at the Airport. No further analysis is required.

Historical, Architectural, and Cultural Resources:

In August 2021 a cultural resources report was prepared for the project's Area of Potential Effects (APE)⁴. The results of the surveys and inventories concluded that one cultural resource, the Lincoln Auxiliary Field, is present within the APE. This feature consists of the remains of the World War II-era military airport, including the remnant asphalt runways, structure foundations, and a parking lot. According to the report, all of the constituent features have been severely impacted by the construction of the modern Airport facilities and by demolition and neglect; these impacts have almost entirely destroyed the World War II-era site. A previous evaluation of the site⁵ conducted in 2007 concluded that it is ineligible for listing in both the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) given its lack of data potential and the severity of past impacts; the current report concurs. As such, the airfield remnants do not appear to constitute an historic property as defined under NHPA 36 CFR § 800.16(l)(1). Therefore, the FAA relied on [FAA] Desk Reference 1050.1.F Section 8.1.1 and 36 CFR § 800.3(a)(1) to conclude that there is no potential to cause an effect and that no further consideration of the resource is required. No further analysis is required.

Land Use: No change in land use designation would be required with implementation of any of the proposed alternatives. Permanent impacts of any of the proposed alternatives would be confined to the boundaries of the Airport. This action is consistent with City of Lincoln's zoning designations of Airport land use. A sponsor's Land Use Assurance letter (Appendix B) acknowledges that the City cooperates with Placer County to restrict land uses in the immediate vicinity of the Airport to those compatible

³ <https://www.wpwma.ca.gov/about-wpwma/> - downloaded January 2022.

⁴ *Cultural Resources and Paleontological Resources Inventory for the Lincoln Regional Airport Improvements Project*, City of Lincoln, Placer County, California, August 2021, prepared by Natural Investigations Company, Sacramento, California.

⁵ *Archeological Reconnaissance for the Lincoln Regional Airport Updated Airport Master Plan*, Lincoln, Placer County, California, 2007, prepared by Coyote & Fox Enterprises, Redding, California.

with normal Airport operations. Therefore, no impact on existing land use would occur and this resource category was eliminated from further analysis.

Natural Resources and Energy Supply: The City of Lincoln provides water, sewer, and solid waste pick up service within the incorporated City limits which includes the Airport. Electrical service and natural gas are supplied by Pacific Gas & Electric; aviation fuel is supplied under a contract with Epic Fuel. Construction material such as base coarse and clean fill would be derived from the reuse of on-Airport materials or from local sources. Asphalt would be supplied by local contractors within less than a 20-mile radius of the Airport. There is no shortage of locally sourced construction materials and the proposed project would not significantly impact the amount of material available for local or regional construction projects. None of the alternatives increase the amount of electricity used by the Airport on runway or taxiway lighting systems. No further analysis is required.

Noise and Noise Compatible Land Use: As discussed in FAA Order 1050.1F Appendix B, no aircraft noise analysis is needed for projects involving Design Group I and II aircraft (wingspan less than 79 feet) in Approach Categories A through D (landing speed less than 166 knots) operating at airports whose forecast operations in the period covered by the NEPA document do not exceed 90,000 annual propeller operations (247 average daily operations) or 700 annual jet operations (2 average daily operations).

The Airport currently serves aircraft in FAA Design Groups I and II. The critical design aircraft is a Cessna Citation I, a turboprop-powered small-sized business jet with a wing span of 47-feet 1-inch. The design aircraft is designated Approach Category B (landing speed less than 166-knots). Based on 2020 revised aviation forecasts⁶, the total annual aircraft operations in 2020 were 75,386 and were estimated to increase to 86,129 by the year 2040. The Proposed Action does not change the aircraft types operating at the Airport, runway geometry or approach and departure flight paths.

Land uses within two miles of the airport are compatible with aircraft operations; future uses are subject to review and approval by the Placer County Transportation Planning Agency which serves as the Airport Land Use Commission⁷. Therefore, based on critical aircraft design, annual operations and proposed runway configuration, no noise analysis is required for the Proposed Action. No further analysis is required.

Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks: Executive Order (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.

All of the alternatives analyzed would occur within Airport boundaries. No residences are located within the disturbance area of any of the alternatives analyzed and no minority or low-income populations in the surrounding area would be affected by the construction of any of the analyzed alternatives. The nearest residential area to the Proposed Action is approximately

⁶ *Lincoln Regional Airport, Karl Harder Field, Lincoln, Placer County, California, Airport Layout Plan Update Narrative*, June 1, 2020, prepared by Brandley Engineering.

⁷ *Placer County Airport Land Use Compatibility Plan for the Lincoln Regional Airport*, updated January 2014.

one-mile to the east.

The Proposed Action would generate some additional traffic on Nicolaus Road during construction operations; however, the additional traffic would not travel through residential or low-income areas. Traffic would enter the Airport from the south via Nicolaus Road and Airport Road and could exit via Flightline Road and Aviation Boulevard (Exhibit 1-3). All roads to be used during project construction are thoroughfares or agricultural/industrial roads which are regularly used for truck and heavy equipment traffic.

The Proposed Action would not disproportionately affect minority populations, low-income populations, or children⁸. No further analysis is required.

Visual Effects: Visual and aesthetic resources include natural and manmade physical features that provide the landscape its character and value as an environmental resource. There are no surrounding land uses which rely upon or utilize scenic resources related to the Airport or to Airport operations. In general, the runway, cross taxiways and runway safety areas where the Proposed Action would take place are typically subjected to aircraft operations and routine maintenance uses and cannot be observed from outside of the Airport. No permanent changes to the overall use or general appearance of the runway or surrounding area are proposed under this project. Persons not visiting the Airport would not likely be able to see the construction work, therefore there is a low likelihood of effecting off-Airport visual resources. No further analysis is required.

Water Resource – Floodplains: Lincoln Regional Airport is not located within either a 100-year or 500-year flood plain. The closest designated 100-year flood plain is along Markham Ravine south and east of the airport (*Flood Insurance Rate Map 06061C0382-F*, June 1998). No proposed actions would occur in a designated 100-year floodplain. No further analysis is required.

Water Resource – Surface Waters: As defined by FAA Order 1050.1F Desk Reference Section 14.3⁹, surface waters include streams, rivers, lakes, ponds, estuaries, and oceans. The aquatic resources delineation prepared for the project area, available in Appendix C, did not identify the presence of any surface waters. No further analysis is required.

Water Resources – Groundwater: Lincoln Regional Airport is located near the eastern boundary of the 351,000-acre North American sub-basin of the Sacramento Valley Groundwater Basin. Groundwater gradient throughout the region is generally southwest. Groundwater recharge areas for the aquifers underlying the Airport are generally limited to Racoon Creek on the north and Markham Ravine on the south. Shallow groundwater aquifers beneath the Airport range in depth from about 40 to 60 feet below the existing ground surface. Deeper groundwater producing zones, usually in buried Tertiary-age stream channels, for the region range in depth from approximately 250 to 400 feet below the existing ground surface¹⁰. Two groundwater wells in the southern portion of the Airport supply water to the Airport and would not be affected by

⁸ Detailed demographic and economic details may be found at <http://www.lincolnca.gov/city-hall/departments-divisions/economic-development/demographics> - downloaded January 2022.

⁹ 1050.1F Desk Reference, Paragraph 14.3, Surface Waters: "Surface waters include streams, rivers, lakes, ponds, estuaries, and oceans. Note that this section discusses how to conduct the analysis for surface waters that is not otherwise captured in the wetlands, floodplains, groundwater, or Wild and Scenic Rivers sections."

¹⁰ City of Lincoln, Groundwater Management Plan, November 2003

the Proposed Action. No further analysis is required.

Water Resource – Wild and Scenic Rivers: The Wild and Scenic Rivers Act of 1968, as amended, describes those river segments designated as, or eligible to be included in, the Wild and Scenic Rivers System. Lincoln Regional Airport is located within the Sacramento River watershed, but is not within any designated wild and scenic river corridor. No segment of the Sacramento River, or its tributaries, within the vicinity of the Airport is included in the Wild and Scenic Rivers Act¹¹. No further analysis is required.

3.3 AFFECTED ENVIRONMENTAL RESOURCES

Exhibit 1-3 shows the location of the airport relative to regional features. The impacts of construction and operation of the Proposed Action and any reasonable alternatives may differ for each environmental resource. For that reason, the affected environment for each resource is described individually in the following sections.

3.3.1 Air Quality

The Clean Air Act (CAA) (42 U.S.C. §§ 7401-7671q) is the primary federal statute which addresses air quality. The U.S. Environmental Protection Agency (USEPA) sets National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. Placer County Air Pollution Control District (PCAPCD) has local air quality jurisdiction over projects in Placer County including those within the City of Lincoln. PCAPCD is responsible for adopting and enforcing rules and regulations to achieve and maintain federal and state ambient air quality standards in all areas affected by emission sources under PCAPCD jurisdiction, including the enforcement of all applicable provisions of state and federal law.

3.3.1.1 National and California Ambient Air Quality Standards

The USEPA has established NAAQS for the following six “criteria” pollutants based on human health-based and/or environmental (science-based) criteria. The USEPA regulates these pollutants by developing guidelines for setting permissible levels:

- Carbon monoxide (CO)
- Lead (Pb)
- Nitrogen dioxide (NO₂)
- Ozone (O₃)
- Particulate matter (PM₁₀ and PM_{2.5})
- Sulfur dioxide (SO₂)

Table 3-1 shows federal and California ambient air quality standards. California standards, established by the California Clean Air Act, include four other criteria pollutants besides the six under the federal Clean Air Act. There are no federal standards for these four additional pollutants.

Table 3-1 National and California Ambient Air Quality Standards

US Environmental Protection Agency (Retrieved January 2022) Criteria Air Pollutants. Retrieved September 2019, from <https://www.epa.gov/criteria-air-pollutants>

¹¹ National Wild and Scenic Rivers System, Retrieved January 2022, from <https://www.rivers.gov/california.php>.

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Air Pollutant	Averaging Time	California Standards	Primary National (NAAQS) Standards ¹	Secondary National Standards ²
Ozone	1 Hour	0.090 ppm	--	--
	8 Hour	0.070 ppm	0.070 ppm	0.070 ppm
PM10	24 Hour	50 µg/m ³	150 µg/m ³	--
	Annual Mean	20 µg/m ³	--	--
PM2.5	24 Hour	--	35 µg/m ³	35 µg/m ³
	Annual Mean	12 µg/m ³	12 µg/m ³	15 µg/m ³
Sulfate	24 Hour	25 µg/m ³	--	--
Carbon Monoxide	1 Hour	20 ppm	35 ppm	--
	8 Hour	9 ppm	9 ppm	--
Nitrogen Dioxide	1 Hour	0.18 ppm	100 ppb	--
	Annual Mean	0.030 ppm	53 ppb	53 ppb
Sulfur Dioxide	1 Hour	0.25 ppm	75 ppb	--
	3 Hour	--	--	0.5 ppm
	3 Month Average	--	0.15 µg/m ³	0.15 µg/m ³

Table 3-1 National and California Ambient Air Quality Standards (Continued)

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Air Pollutant	Averaging Time	California Standards	Primary National Standards ¹	Secondary National Standards ²
Nitrogen Dioxide	1 Hour	0.18 ppm	100 ppb	--
	Annual Mean	0.030 ppm	53 ppb	53 ppb
Sulfur Dioxide	1 Hour	0.25 ppm	75 ppb	--
	3 Hour	--	--	0.5 ppm
	3 Month Average	--	0.15 µg/m ³	0.15 µg/m ³
Lead	30 Day Average	1.5 µg/m ³	--	--
	Calendar Quarter		1.5 µg/m ³	1.5 µg/m ³
	3 Month Average		0.15 µg/m ³	0.15 µg/m ³
Hydrogen Sulfide	1 Hour	0.03 ppm	--	--
Vinyl Chloride	24 Hour	0.01 ppm	--	--
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer	--	--
<p>Notes: ppm – parts per million; ppb – parts per billion; µg/m³ – micrograms per cubic meter; N/A – not applicable ¹ National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health. ² National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. * For certain areas.</p>				

3.3.1.2 General Conformity and the State Implementation Plan

Geographic areas found to be in violation of one or more NAAQS are designated as “nonattainment” areas. Nonattainment designations can be marginal, moderate, serious, severe, or extreme, depending on the degree to which they exceed the NAAQS. Areas where concentrations of the criteria pollutants are below the NAAQS are “attainment” areas for those pollutants. Areas with prior nonattainment status that have since transitioned to attainment are designated as maintenance areas.

States having nonattainment areas must develop a State Implementation Plan (SIP) that demonstrates how the area will be brought back into attainment of the NAAQS within designated timeframes. The California Air Resources Board (ARB) develops the SIP for nonattainment areas in the State.

Table 3-2 summarizes the attainment status of the PCAPCD for all federal and California criteria pollutants, based on their respective ambient air quality standards.

Table 3-2 Federal and State Attainment Status (PCAPCD)

Pollutant	Designation	
	Federal	California
Carbon monoxide (CO)	Attainment	Attainment
Lead (Pb)	Attainment	Attainment
Nitrogen dioxide (NO ₂)	Attainment	Attainment
Ozone (O ₃), 8-Hour (2017)	Nonattainment	Nonattainment
Particulate Matter (coarse or PM ₁₀)	Attainment	Nonattainment
Particulate Matter (fine or PM _{2.5})	Attainment	Attainment
Sulfur dioxide (SO ₂)	Attainment	Attainment
Hydrogen sulfide (H ₂ S)	No standard	Unclassified
Sulfates	No standard	Attainment
Vinyl chloride	No standard	Attainment
Visibility Reducing Particles	No standard	Unclassified

Note: “Unclassified” means data do not support a designation of attainment or nonattainment. US Environmental Protection Agency (2019, August 31) Greenbook, California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Retrieved September 2019, from https://www3.epa.gov/airquality/greenbook/anayo_ca.html.

3.2.1.3 Air Quality Monitoring

PCAPCD maintains a network of air quality monitoring stations throughout Placer County. These monitors record concentrations of pollutants in the ambient air to determine compliance with the NAAQS. The closest monitoring station to the Airport is in the City of Lincoln, which monitors O₃. Air quality monitoring data from four county-wide monitoring stations indicates that NAAQS 8-hour O₃ was exceeded 26-days in 2020; PM_{2.5} exceeded air quality standards a total of 35-days in 2020¹². However, in 2020, air quality in Placer County was significantly affected by wildfires burning in the county and throughout Northern California.

3.3.2 Biological Resources

Lincoln Regional Airport is located in the eastern portion of the Great Valley (Sacramento Valley) geomorphic province near the base of the Sierra Nevada foothills in Western Placer County at an elevation of 121-feet above mean sea level. Western Placer County is considered an upland habitat characterized by grasslands with seasonally flooded vernal pools (vernal pool complex) and riparian corridors along major water courses. The Airport is built on relatively level ground which, before Airport construction in the mid-1940's, was crossed by numerous shallow west-flowing intermittent drainages and swales.

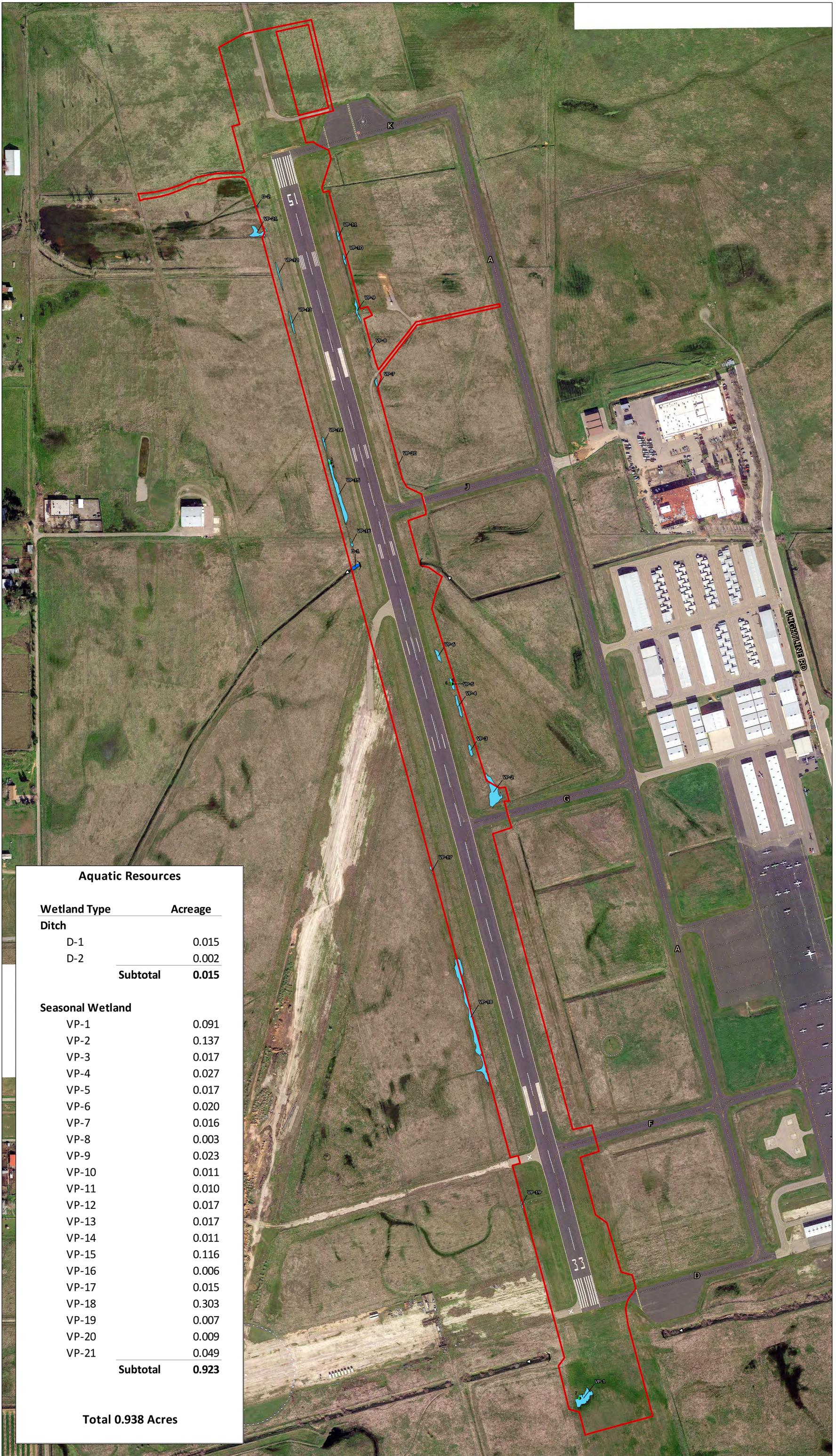
As a result of Airport construction, vernal pools have formed in seasonally flooded depressions along the toe of the runway RSA. Under certain climatic, soil, hydrologic, and topographic conditions the vernal pools provide suitable habitat for three species of fairy shrimp. The vernal pool wetlands and the surrounding upland areas upon which they depend constitute a vernal pool complex. Vernal pool complex lands can be included in grasslands, but are often defined as a separate community to focus on special status species which must carry out their life cycle in a wetland habitat.

Potentially affected environment for biological resources includes the study area as shown in Exhibit 3-1. In 2007 and 2021 biological resource field studies of the entire Airport, including the study area, were conducted by various consultants. Those field assessments included wetland delineations, botanical surveys, special status species surveys and endangered species sampling.

The studies assessed the presence of plants and wildlife. During field assessments, biological communities, including wetlands, were mapped and assessed for the potential to support special status species. The results of the biological resource studies are described in *Biological Resource Assessment for the 822-Acre Lincoln Regional Airport Study Area, 2007*, North Fork Associates; *Wetland Delineation for the 704-Acre Lincoln Regional Airport Study Area, 2007* North Fork Associates; *Large Branchiopod Sampling at the Lincoln Regional Airport, City of Lincoln, Placer County, California, 2007*, Helm Biological Consulting. In 2021 a project-specific report was prepared for the project area (*Aquatic Resources Delineation for the 60-acre Lincoln Regional Airport Runway Reconstruction Study Area, City of Lincoln, Placer County, California, 2021*, Salix Consulting, Inc.).

The 2021 report (included as Appendix C) concluded that all areas adjacent to the runway are

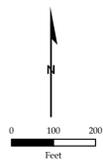
¹² Placer County Air Pollution Control District 2021 Annual Report (Retrieved January 2022).



Aquatic Resources

Wetland Type	Acreage
Ditch	
D-1	0.015
D-2	0.002
Subtotal	0.015
Seasonal Wetland	
VP-1	0.091
VP-2	0.137
VP-3	0.017
VP-4	0.027
VP-5	0.017
VP-6	0.020
VP-7	0.016
VP-8	0.003
VP-9	0.023
VP-10	0.011
VP-11	0.010
VP-12	0.017
VP-13	0.017
VP-14	0.011
VP-15	0.116
VP-16	0.006
VP-17	0.015
VP-18	0.303
VP-19	0.007
VP-20	0.009
VP-21	0.049
Subtotal	0.923

Total 0.938 Acres



- Study Area (461.74 acres)
- Upland Data Point
- Wetland Data Point
- Ditch
- Vernal Pool

**Environmental Assessment
Runway 15-33 Reconstruction**

EXHIBIT 3-1

AQUATIC RESOURCES
 Lincoln Regional Airport
 City of Lincoln, California

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upland habitat which is managed for aviation safety and that the vegetation growing in the study area is entirely herbaceous and comprised mostly of weedy annual species. The field study identified common species which includes wild oat (*Avena fatua*), Italian ryegrass (*Festuca perennis*), soft chess (*Bromus hordeaceus*), Bermudagrass (*Cynodon dactylon*), medusahead (*Elymus caput-medusae*), broad-leaf filaree (*Erodium botrys*), dove's foot geranium (*Geranium molle*), long-beaked hawkbit (*Leontodon saxatilis*), wild radish (*Raphanus sativus*), sheep sorrel (*Rumex acetosella*), and rose clover (*Trifolium hirtum*). No special status plants were identified in the study area.

Wildlife within the upland grassland habitat study area adjacent to the runway is limited to foraging birds which may roost or nest in riparian habitat off of the Airport. Grassland habitat may provide year-round foraging habitat for raptors such as red-tailed hawk (*Buteo jamaicensis*) and seasonal foraging habitat for migratory raptors that winter in the region, such as rough-legged hawk (*Buteo lagopus*). Other bird species common to the Airport include Canada goose (*Branta canadensis*), killdeer (*Charadrius vociferus*), common snipe (*Gallinago gallinago*), red-winged blackbird (*Agelaius phoeniceus*), mallard (*Anas platyrhynchos*), great egret (*Ardea alba*) and black phoebe (*Sayornis saya*).

Based on the presence of vernal pools in the study area, there is the possibility of two federally protected special status - Conservancy fairy shrimp (*Branchinecta conservatio*) and Vernal pool fairy shrimp (*Branchinecta lynchi*). The lack of suitable habitat eliminates the likelihood of other federally listed special status species in the study area as listed in Table 3.1. Depressional wetlands which serve as fairy shrimp habitat are embedded within the annual grassland; these wetland features are addressed in Section 3.3.3.

Table 3.1, "Special Status Species with Potential to Occur in the Lincoln Regional Airport Study Area", identifies federally protected species with the potential to occur in the vicinity of the Airport and identifies the potential for occurrence within the project area.

Table 3.1
Special Status Species with Potential to Occur
in the Lincoln Regional Airport Study Area

Species		Habitat	Potential for Occurrence**
Plants			
Slender Orcutt grass <i>Orcuttia tenuis</i>	FT	Vernal pools	<u>Unlikely</u> . Marginal habitat occurs in the study area. Prefers larger, deeper pools. Not known from Placer County.
Sacramento Valley Orcutt grass <i>Orcuttia viscida</i>	FE	Vernal pools	<u>Unlikely</u> . Marginal habitat occurs in the study area. Prefers larger, deeper pools. Not known from Placer County.
Invertebrates			
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	FE	Vernal pools.	<u>Possible</u> . Potential habitat present in study area. Documented occurrence in western Placer County.

Species	Habitat		Potential for Occurrence**
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	Vernal pools and seasonal wetlands.	Observed in dry-season (2007) surveys. Habitat occurs on Airport. Numerous known occurrences in project region and project vicinity.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	FE	Vernal pools and seasonal wetlands.	Possible. Potential habitat present in study area. Few known occurrences in project region.
Amphibians			
California tiger salamander <i>Ambystoma californiense</i>	FT	Breeds in vernal pools, seasonal wetlands or stock ponds.	Unlikely. Limited potential habitat in study area. No known occurrences in project region or in Placer County.
California red-legged frog <i>Rana aurora draytonii</i>	FT	Deeper pools and streams with emergent or overhanging vegetation.	Unlikely. No suitable aquatic habitat present in study area. No known occurrences in project region.

Status Codes:

Federal FE Federal Endangered
 FT Federal Threatened

**Definitions for the Potential to Occur:

- **Unlikely.** Some habitat may occur, but disturbance or other activities may restrict or eliminate the possibility of the species occurring. Habitat may be very marginal, or the study area may be outside the range of the species.
- **Possible.** Marginal to suitable habitat occurs, and the study area occurs within the range of the species.
- **Likely.** Good habitat occurs, but the species was not observed during surveys.

3.3.3 Water Resources - Wetlands

In 2007 a wetland delineation was prepared for the entire Airport¹³. That delineation identified 28.44-acres of jurisdictional wetlands which included five types of wetland features – marsh, seasonal wetland, vernal pool, wetland swale and channel. The delineation was submitted to the U.S Army Corps of Engineers (Corps) Sacramento District. The Corps conducted five verification field visits in 2007 and 2008. However, the delineation was never officially verified and the City did not pursue a final determination.

Non-delineated wetlands identified in the U.S. Fish and Wildlife Service wetlands mapper were located in the general vicinity of the project area. However, these wetland features, shown in Appendix C, are outside of the wetlands-specific study area outlined in red on Exhibit 3-1 which, for the purposes of this EA, was determined to be the affected wetlands environment.

In 2021, two types of wetland resources were mapped in the Airport’s study area for the project addressed in this Environmental Assessment vernal pools and ditches. The study area for wetlands includes areas along the runway (outlined in red) as shown in Exhibit 3-1 and further shown in Appendix C. The study area is generally the areas of surface disturbance or fill at the

¹³ Wetland Delineation for the ±704-acre Lincoln Regional Airport Study Area. Prepared for the Federal Aviation Administration. City of Lincoln, Placer County, California, July 2007, North Fork Associates (now Salix Consulting, Inc.)

toe of the runway shoulders.

Based on the current wetland delineation there are 0.923-acres of Vernal pools and 0.015-acres of ditch in the study area. The vernal pools are located along the toe of the runway's RSA, likely the result of Airport construction and ongoing maintenance.

Vernal pools in the study area are depressional wetlands that support a mostly native flora. They fill with winter/spring rainfall and remain inundated for longer periods than the surrounding upland due to an impermeable or semi-permeable subsurface layer, consisting of a hardpan, duripan and/or clay pan. In general, the vernal pools represent the least disturbed depressions in the study area. In the best examples of these features, vegetation consists of vernal pool species such as stipitate popcornflower (*Plagiobothrys stipitatus*), Vasey's coyote-thistle (*Eryngium vaseyi*), white-flowered navarretia (*Navarretia leucocephala*), Fremont's goldfield (*Lasthenia fremontii*), vernal pool buttercup, double-horned downingia (*Downingia bicornuta*), Sacramento mesamint (*Pogogyne zizyphoroides*), and annual hairgrass.

Twenty-one vernal pools were mapped in the study area along Runway 15-33 and in the runway's RSA¹⁴ (Appendix C).

Because they are regularly managed (i.e., mowed), these features are generally similar, ranging in depth from approximately three to eight inches and supporting a mix of vernal pool and seasonal wetland botanical species. These include stalked popcorn-flower (*Plagiobothrys stipitatus*), coyote thistle (*Eryngium vaseyi*), vernal pool buttercup (*Ranunculus bonariensis*), Italian ryegrass (*Festuca perennis*), long-beaked hawkbit (*Leontodon saxatilis*), Mediterranean barley (*Hordeum marinum*), broad-leaf filaree (*Erodium botrys*), hyssop loosestrife (*Lythrum hyssopifolia*).

Wetland features on the Airport are likely perched over a shallow hardpan, which is prevalent throughout western Placer County and known from the mapped soil units. Many of these depressions are linear and are in a toe drain or along a drainage swale. The linear wetlands are not considered wetland swales because they are situated in localized depressions within the low-lying areas where runoff and precipitation collect. The wetland features are considered vernal pools because they support a substantial vernal pool plant species and have vernal pool hydrology.

Portions of two ditches are mapped along the western edge of the study area. These features carry water under Runway 15-33 from east to west. They are framed by concrete headwalls and are relatively deep trapezoidal channels (Exhibit 3-1 and Appendix C). Generally, water flows trend northerly in the northern portion of the study area to a small ditch and then westerly. Water in the southern portion of the study area flows north to the main ditch transecting the airport or south towards the ditch at end of Runway 15-33. Both ditches flow westerly in the northern portion of the study area and converge west of the Airport. From the point of convergence this unnamed drainageway flows approximately one-mile before entering Markham Ravine. The northern ditch flows westerly through a series of agricultural canals and into an unnamed tributary of Racoon Creek three-miles away. Both Racoon Creek and Markham Ravine eventually drain into the Cross Canal that eventually drains into the Sacramento River.

¹⁴ *Aquatic Resources Delineation for the Lincoln Regional Airport Runway Reconstruction Study Area, City of Lincoln, Placer County, California*, July 2021, Salix Consulting, Inc.

CHAPTER 4.0: ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

This chapter evaluates the potential environmental impacts associated with implementation of the Proposed Action compared to the No Action Alternative. The focus of this analysis is on resources that could be directly or indirectly affected and whether the impact would be considered significant utilizing criteria and procedures established in FAA Orders 1050.1F and 5050.4B.

Potential environmental consequences are evaluated for the No Action Alternative and the Proposed Action.

The No Action Alternative involves operating Runway 15-33 in its current condition, with no new construction or other improvements.

The Proposed Action involves the reconstruction of Runway 15-33 and improvements to the RSA as described in Chapter 1.0 Section 1.3.

As outlined FAA Order 5050.4B, in paragraph 706.f concise analysis is undertaken only for the no action, proposed action, and each reasonable alternative. Resources listed below, will not be impacted by implementing the Proposed Action or the No Action Alternative and therefore are not discussed in detail. As described in Section 3.1, the following resources are not impacted by the Proposed Action or No Action Alternatives:

- Climate (and Greenhouse Gases)
- Coastal Resources
- Department of Transportation Act, Section 4(f)
- Farmlands
- Hazardous Materials, Solid Waste, Pollution Prevention
- Historical, Architectural, Archaeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Noise and Noise-Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
- Visual Effects
- Water Resources
 - Floodplains
 - Surface Waters
 - Groundwater
 - Wild and Scenic Rivers

The environmental consequences analysis involves the following potentially affected environmental resources, as set forth in Chapter 3.0:

- Air Quality
- Biological Resources
- Water Resources - Wetlands
- Cumulative Effects

4.2 Potentially Affected Resource Categories

4.2.1 Air Quality

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance determinations for air quality, which states, "The action would cause pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards (NAAQS), as established by the U.S. Environmental Protection Agency (USEPA) under the Clean Air Act (CAA), for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations."

Section 176(c) of the CAA and associated regulations requires the conformity of general federal actions to the applicable State Implementation Plan. A federal agency must make a conformity determination that a federal action conforms to the applicable implementation plan where the total of direct and indirect emissions in a nonattainment or maintenance area caused by a federal action would equal or exceed specified rates.

For the Lincoln area, which is designated a nonattainment area for O₃ – 8 hour, the following emission factors apply as the EPA's General Conformity De Minimis thresholds - Ozone (NO_x, SO₂, or NO₂): 100 tons per year Ozone (VOC), within ozone transport region: 50 tons per year CO and PM₁₀: 100 tons per year Lead: 25 tons per year.

Project emissions from the Proposed Action, were estimated using the Road Construction Emissions Model (RCEM). The RCEM is a spreadsheet-based model, a derivative of the CalEEMod air quality modeling process, that is able to use basic project information (total construction months, project type, total project area) to estimate a construction schedule and quantify NO_x and other exhaust emissions from heavy-duty construction equipment, haul trucks, and worker commute trips associated with linear construction projects and fugitive dust. The RCEM is applied to linear construction projects such as construction of a new roadway, road widening, roadway overpass, levee, or pipeline. An airport runway would be considered a linear project and its construction parameter similar to other linear projects. Air Quality model inputs and results are attached in Appendix D.

4.2.1.1 No Action Alternative

Under the No Action Alternative, no construction would occur, therefore, no construction emissions would be generated. Operational emissions are typically generated by aircraft, aircraft support equipment, and surface vehicles. These sources are not controlled by an airport.

4.2.1.2 Proposed Action

The Proposed Action would generate air pollutant emissions associated with construction activities, but would not generate any aircraft or aircraft support operational emissions which would occur independent of the project itself. The proposed action would generate construction-related emissions, primarily associated with the exhaust from heavy equipment (e.g., backhoes, bulldozers, graders, etc.), delivery trucks (e.g., cement trucks, dump trucks, etc.) and construction worker vehicles getting to and from the project site; dust from site preparation, land clearing, material handling, and equipment movement on unpaved areas, wind erosion; and demolition activities. These emissions are temporary in nature (during the four-to-six-week construction period only) and generally confined to the project area site and the access/egress roadways. Construction activities would involve the storage and transportation of raw materials, the disposal of construction debris and the production of asphalt and minor quantities of concrete.

Site preparation and construction activities such as clearing, grading, digging, trenching, roadwork, and temporary soil stockpiling could generate fugitive dust emissions (particulate matter). Exhaust from construction equipment and construction vehicles accessing the site would also contain criteria pollutant emissions. Short-term emissions would last only during construction activities and Best Management Practices (BMPs) would be utilized to minimize temporary effects.

The air quality analysis uses thresholds of significance established by the U.S. EPA to determine if emissions associated with project construction, as estimated by the RCEM, would have a significant environmental impact. Thresholds were established for three pollutants: reactive organic gases (ROG), nitrogen oxides (NO_x), and particulate matter less than 10 microns in diameter (PM₁₀). The results of the RCEM and the applicable significance thresholds, identified as “General Conformity de minimis Threshold, Tons/Year”, are provided in Table 4-1.

Table 4-1 Construction Emissions

Pollutant	Construction Emissions Tons/Year	General Conformity <i>de minimis</i> Threshold Tons/Year
ROG	0.09	100
NO _x	0.01	100
PM ₁₀	0.21	100

As shown Table 4-1, the analysis concluded that emissions for all applicable pollutants would be less than the General Conformity de minimis thresholds. Construction activities would generate fugitive dust and combustion emissions. However, this increased dust would be short-term and minimized by implementing industry-standard dust control measures. The increase in vehicle emissions would be short-term, minimal, and below the de minimis threshold. Therefore, the Proposed Action would not result in significant effects to air quality.

4.2.1.3 Mitigation Measures

Although there would be no significant impacts from construction of the Proposed Action, and changes in emissions due to construction would be negligible, the following measures would be implemented to reduce emissions during construction:

- Implement the Clean Air Construction Standards.
- Minimize the amount of disturbed soils at any given time during project activities.
- If needed, spray water for dust suppression and prevent fugitive dust from becoming airborne.
- Suspend or adjust intensity of project activities during periods of sustained high wind speeds (e.g., 30 miles per hour and over), as defined by the Occupational Safety and Health Administration.
- Maintain vehicles and equipment in good working condition.
- Decrease vehicle speed limits while at project site to reduce fugitive dust generation and obey posted vehicle speed limits while off-site.
- Load trucks with debris below their maximum hauling capacity.
- Use tarp covers on trucks transporting construction materials and construction debris to and from the site.

4.2.2 Biological Resources

4.2.2.1 Placer County Conservation Program

Critical to conservation, mitigation and permitting for Biological (Section 4.2.2.2) and Water Resources (Section 4.2.3) impacts resulting from ground disturbing activities in western Placer County including projects on the Airport is the Placer County Conservation Program (PCCP). The PCCP provides a methodology to determine potential impact significance

The PCCP is a regional, comprehensive program intended to protect, enhance, and restore natural resources in western Placer County where the Lincoln Regional Airport is located, while streamlining permitting for Covered Activities (Appendix E). The PCCP divides western Placer County into two plan areas, “Plan Area A” includes Foothills and Valley and “Plan Area B” includes all non-participating public entities; Lincoln Regional Airport is located within Plan Area A – Valley. Within this framework, the PCCP achieves conservation goals and complies with federal and state environmental regulations while streamlining planning and permitting for anticipated construction and infrastructure maintenance.

The PCCP comprises three integrated program components.

- The *Western Placer County Habitat Conservation Plan and Natural Community Conservation Plan* (Plan), a joint habitat conservation plan and natural community conservation plan (HCP/NCCP) that protects fish, wildlife, plants, and their habitats and fulfills the requirements of the federal Endangered Species Act of 1973, as amended (ESA), and the California Natural Community Conservation Planning Act (NCCPA).
- The *Western Placer County Aquatic Resources Program* (CARP) that would protect streams, wetlands, and other water resources and fulfill the requirements of the Clean Water Act (CWA) and analogous state laws and regulations.

- The *Western Placer County In-Lieu Fee Program (ILF Program)* that fulfills compensatory mitigation requirements under Section 404 of the CWA.

Implementation of these PCCP programs require permits for the incidental take of federal and state listed species. The City of Lincoln, the Airport sponsor, is one of five regional public entities which jointly applied for, and received, these permits from federal and state agencies.

These entities are collectively referred to as the “Permit Applicants” or the “Permittees”. The Permit Applicants applying for incidental take permits (ITPs) from the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS), collectively referred to as the “Wildlife Agencies”. pursuant to Section 10(a)(1)(B) of the ESA. The permits from the Wildlife Agencies authorize take of certain federally listed species i.e., Covered Species (Appendix E) during the course of otherwise lawful activities (Covered Activities) which includes discharges of dredged and/or fill material into waters of the U.S.

To fulfill application requirements for these permits, the Permit Applicants have prepared the Plan, which serves as an HCP under the ESA (and an NCCP under the NCCPA). The Plan is intended to support the issuance of ITPs from USFWS and NMFS with a term of 50 years. The Plan includes a long-term conservation plan to protect and contribute to the recovery of Covered Species and natural communities in the Plan Area, while streamlining development and maintenance activities that are compatible with local policies and regulations. The Plan identifies where future impacts on protected species would likely occur and lays out a strategy for avoidance, minimization, and mitigation of the impacts on natural resources that would result from these activities. The Plan also goes beyond the mitigation requirements of the ESA to include measures that protect and contribute to the recovery of Covered Species and natural communities in the Plan Area, as required by the state’s NCCPA.

The second component of the PCCP, the CARP, establishes a local program to conserve aquatic resources (Section 4.2.4 Water Resources – Wetlands). The CARP provides a program, implemented by Placer County and the City of Lincoln through local implementing ordinances, to evaluate activities that would impact aquatic resources considered to be waters of the U.S. or waters of the State. It provides for the conservation of wetlands, streams, and the waters and the watersheds that support them in the Plan Area while streamlining the U.S. Army Corps of Engineers’ (USACE’s) CWA Section 404 and the State of California Regional Water Quality Control Board’s Section 401 permit processes for Covered Activities.

The third component of the PCCP, the ILF Program, provides a mechanism under which compensatory mitigation requirements under Section 404 of the CWA can be fulfilled by payment of a fee to purchase mitigation “credits.” The ILF Program would provide compensatory mitigation for impacts on aquatic resources for projects and activities that are covered under the HCP/NCCP and the CARP through funds paid to Placer Conservation Authority (PCA).

4.2.2.2 FAA Evaluation Criteria for Biological Resources

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance determinations for biological resources. A significant impact to biological resources would occur when the U.S. Fish and Wildlife Service or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a federally-listed threatened or endangered species, or would result in the destruction or adverse modification of federally designated critical habitat.

In addition to the determination above, Exhibit 4-1 of FAA Order 1050.1F provides additional factors to consider in evaluating the context and intensity of potential environmental impacts for biological resources:

- A long-term or permanent loss of unlisted plant or wildlife species, i.e., extirpation of the species from a large project area (e.g., a new commercial service airport);
- Adverse impacts to special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats;
- Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or
- Adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance.

4.2.2.3 No Action Alternative

Under the No Action Alternative, no construction activities would occur; therefore, no construction related ground-disturbing activities would alter existing habitats, including wetlands. Airport operations would continue under current conditions. The Airport would need to maintain its facilities which includes keeping ground cover vegetation at height of 6 to 12-inches.

4.2.2.4 Proposed Action

The proposed action (Chapter 1.0, Section 1.4) would impact 0.938-acres of wetlands. As noted in Chapter 3, Section 3.3.2, three federally listed species may occur in vernal pool habitat located within the project area – Conservancy fairy shrimp, Vernal pool fairy shrimp and Vernal pool tadpole shrimp.

In November 2021, following the first substantial rain event, wet season fairy shrimp sampling was initiated in twenty-one inundated vernal pools. All sampling procedures were conducted in accordance with PCCP and USFWS survey guidance documents and protocols.¹ The sampling period included seven sampling rounds spaced approximately two weeks apart. The sampling ended in February 2022 when the vernal pools dried up due to lack of rainfall. Sampling results indicated that no endangered branchiopods were collected. Therefore, the Proposed Action would have no effect on endangered species. To support this conclusion, sampling did reveal the presence of a non-listed branchiopod (*Linderiella occidentalis*) which indicated that

¹ United States Department of Interior, Fish and Wildlife Service, Pacific Southwest Region, *Survey Guidelines for the Listed Large Branchiopods*, May 31, 2015.

branchiopods were hatching in the pools and if listed species were present, they would have likely been identified.

Subsequently, based on sampling results, the lack of inundated pools and in accordance with guidance in the PCCP, further sampling was deemed un-necessary. The sampling results and the biologist's opinion that endangered branchiopods are not present are included in Appendix F. The results of the fairy shrimp sampling indicate that the Proposed Action, which would include filling wetlands, would not affect endangered species.

4.2.3 Water Resources – Wetlands

4.2.3.1 FAA Significance Threshold for Wetlands

FAA guidance provided in Order 1050.1F, Exhibit 4-1, *Significance Determination for FAA Actions* for wetlands states that impacts resulting from the proposed action are significant if the action would:

1. Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers;
2. Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected;
3. Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public);
4. Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands;
5. Promote development of secondary activities or services that would cause the circumstances listed above to occur; or
6. Be inconsistent with applicable state wetland strategies.

The proposed action affects number 2, above, and is, therefore, subject to conditions set forth in the PCCP as described in Section 4.2.3.2.

4.2.3.2 PCCP: Programmatic General Permit

In May 2021, the U.S. Army Corps of Engineers, Sacramento District, issued *Programmatic General Permit [PGP] 18 – Minimal Impact Covered Activities Under the Western Placer County Habitat Conservation Plan/Natural Community Conservation Plan*²; its purpose is summarized below:

This PGP is intended to minimize duplication between the CARP and the Corps' Regulatory Program, for authorization of HCP/NCCP Covered Activities subject to CWA [Section] 404 that are substantially similar in nature, and would result in minimal individual and cumulative impacts on the aquatic environment. The PGP is premised on the CARP as implemented under local ordinances, resulting in the

² <https://www.spk.usace.army.mil/Missions/Regulatory/Permitting/Regional-and-Programmatic-General-Permits/> Downloaded January 2022

same or better level of protection of waters of the U.S. as currently exists under CWA [Section] 404. Subject to certain exclusions and conditions, the PGP eliminates the need for project applicants to seek separate review from this office for covered activities [PCCP Section 2.2 and Section 2.6.5.1] that result in minimal impacts to waters of the U.S., [U. S. Army Corps of Engineers, *Western Placer County HCP/NCCP Programmatic General Permit, Minimal Impact Covered Activities Under the Western Placer County Habitat Conservation Plan/Natural Community Conservation Plan*, Effective Date: May 18, 2021] when such activities are authorized by the HCP/NCCP, in compliance with the CARP and implementing ordinances. In addition to reducing duplication with the CARP, the PGP is designed to expedite review of certain covered activities through other programmatic elements, such as compliance with Section 7 of the federal Endangered Species Act (ESA) and Section 106 of the National Historic Preservation Act (NHPA). The PGP will increase certainty, reduce time, and improve efficiency for project applicants through synergies with processes implemented by local jurisdictions, such as those associated with land use entitlements, while protecting aquatic resources.

4.2.3.3 No Action Alternative

Under the No Action Alternative, no construction activities would occur; therefore, no construction related ground-disturbing activities would alter existing wetlands. The Airport would continue to maintain (mowing) the drainage features at the toe of the runway shoulder and within the RSA.

4.2.3.4 Proposed Action

As described in Section 3.3.3, 23 wetland features totaling 0.938-acres are mapped within the project area; 0.923-acres are vernal pools, most at the toe of the runway RSA and two short portions of ditches which cross under Runway 15-33 daylight along the western edge of the project area and total 0.015-acres. Exhibit 3-1 shows the extent of the wetlands within the project area.

The Proposed Action would require filling 0.938-acres of wetlands and is subject to CWA Section 404 permitting in accordance with provisions in the PCCP as described in Section 4.2.3.2.

4.2.3.5 Mitigation Measures

Runway 15-33 reconstruction would not avoid discharging fill material into 0.938-acres of wetlands within the project area and is subject to CWA Section 404. Based on the City's participation in the PCCP and its no net loss policy, permitted conservation and mitigation measures affecting impacts to wetlands are covered activities, and are therefore, covered under PGP-18 as described in Section 4.2.3.2. Compensatory mitigation for impacts on wetlands for activities associated with the Proposed Action are covered under the HCP and the CARP through funds paid by the City to Placer Conservation Authority (PCA). PCCP mitigation ratios are established at 1:1.5 – that is, 1.5-acres of mitigation for each acre of effected wetlands. In the case of the Proposed Action, 0.938-acres of effected wetlands would be mitigated by the placement of 1.407-acres of wetlands.

4.2.4 Cumulative Impacts

4.2.4.1 Cumulative Impact Evaluation

Potential cumulative impacts of the Proposed Action and the No Action alternative on environmental resource categories are analyzed in Section 4.2. Cumulative impacts result from the incremental environmental impacts of the Proposed Action added to other past, present, and reasonably foreseeable future actions. Cumulative impacts associated with the Proposed Action are confined to the Airport.

CEQ guidance requires an analysis of changes to the human environment from the Proposed Action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the Proposed Action or alternatives, including those effects that occur at the same time and place as the Proposed Action or alternatives and may include effects that are later in time or farther removed in distance from the Proposed Action or alternatives (40 CFR § 1508.7)³.

4.2.4.2 Past, Present and Reasonably Foreseeable Airport Projects

Since 2008, Lincoln Regional Airport has constructed a limited number of improvement projects which include:

- Construct 32 Tee Hangars.
- Crack seal airfield pavements.
- Remark and stripe airfield pavements.
- Construct fire suppression system – looped main.
- Construct solarized aircraft shade structures
- Construct North Tee and Small Box Hangars
- Construct fuel island
- Replace drive-through security gates

In 2020, the Airport proposed reasonably foreseeable projects which could include:

- Reconstruct Taxiways A, D, E, G, J and K.
- Land acquisition: 1.6-acres adjacent to Taxiway A
- Rehabilitate aircraft parking aprons
- Construct additional tee and box hangars

All past Airport projects, except the fuel island which was evaluated under a NEPA Categorical Exclusion in 2019, are located on existing paved surfaces and would not impact sensitive habitat or species. Reasonably foreseeable projects not constructed on existing paved surfaces,

³ This EA was prepared using Council on Environmental Quality Regulations adopted November 28, 1978. On July 16, 2020 the CEQ promulgated revised regulations implementing NEPA (40 CFR Parts 1500-1508) that became effective on September 14, 2020. This EA was already in progress before CEQ's final rule was published in the Federal Register (85 FR 43304). Accordingly, the EA was prepared in compliance with the previous version of the regulations, 40 CFR Parts 1500-1508 (1978, as amended in 1986 and 2005).

such as taxiway reconstruction, would be subject to the PCCP, no net loss of wetlands, and incidental take permits requirements. Land acquisition is subject to FAA NEPA evaluation; the parcel is located in upland habitat east of Taxiway A. It is unlikely that any past or proposed Airport project would contribute to cumulative effects.

4.2.4.3 Reasonably Foreseeable Projects: City of Lincoln

Regionally, Placer County is one of the fastest growing counties in California, with most growth occurring in the cities of Roseville, Rocklin and Lincoln; there are hundreds of past, present and reasonably foreseeable projects within the City and Placer County. The PCCP anticipated the loss of wetlands, including vernal pool wetlands. The City of Lincoln and Placer County are party to the PCCP, as such, projects located within those two entities are subject to regional conservation strategies or conservation measures. The PCCP provides for protection, enhancement, restoration, and creation of the aquatic/wetland complex natural community including the surrounding upland necessary to sustain the wetlands' hydrological function. Restoration and creation of wetlands would provide in-kind compensatory habitat.

CHAPTER 5.0 PUBLIC INVOLVEMENT AND COORDINATION

5.1 Public Involvement

Public scoping is not required for an environmental assessment (EA) (43 CFR § 46.305(a)(2)). The City of Lincoln is responsible for the preparation of this EA and in conjunction with the FAA determined that the runway reconstruction project did not require a public scoping comment period prior to completing a draft EA.

The FAA must notify the public of the availability of the EA and any associated finding of no significant impact (FONSI) once the EA is completed. The City published a notice of availability in the *Lincoln News Messenger*, a newspaper of general circulation, and on the City's web page and accept comments for a period of 30 days beginning on March 24, 2022.

On March 24, 2022 the following Notice of Availability was published in the *Lincoln News Messenger*:

**NOTICE OF AVAILABILITY
OF A DRAFT ENVIRONMENTAL ASSESSMENT
LINCOLN REGIONAL AIRPORT, KARL HARDER FIELD
PROPOSED RUNWAY 15/33 RECONSTRUCTION,
CITY OF LINCOLN, CALIFORNIA**

The City of Lincoln (City) is the owner and sponsor of the Lincoln Regional Airport, Karl Harder Field. The City proposes to reconstruct Runway 15-33, the Airport's only runway; regrade the runway safety areas; realign two service roads which encroach on the runway object free area and remove a small topographic feature which penetrates airspace. Therefore, pursuant to the requirements of the National Environmental Policy Act of 1969 as amended, the City has prepared a Draft Environmental Assessment (DEA) to identify potential environmental impacts associated with proposed action.

Copies of the DEA were available for a 30-day review and public comment period beginning on **March 24, 2022** and ending on **April 22, 2022**. Documents may be viewed on the City's web page at <https://www.lincolnca.gov/Modules/News/en> and at the following physical locations:

City of Lincoln
3rd Floor Engineering
600 6th Street
Lincoln, CA
(916) 434-3233

Twelve Bridges Library
485 Twelve Bridges Dr.
Lincoln, CA
(916) 434-2410

Lincoln Regional Airport
1480 Flightline Drive
Lincoln, CA
(916) 645-3443

All written and electronically submitted comments must be received by close of business (5 p.m. PDT) on April 22, 2022. Please send any comments you may have to:

Roland Neufeld, Senior Engineer
City of Lincoln
600 6th Street Lincoln, CA 95648
(916) 434-2481
roland.neufeld@lincolnca.gov

PRIVACY NOTICE: *Before including your name, address and telephone number, email or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information - may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.*

5.2 Public Comments Received

During the 30-day public comment period, the City received no public comments on the Proposed Action as evaluated in the Draft Environmental Assessment.

5.3 Agency Coordination

Based on the conclusions reached in *the Cultural Resources and Paleontological Resources Inventory for the Lincoln Regional Airport Improvements Project, City of Lincoln, Placer County, California (2021)*, the FAA determined that coordination with local tribal organizations and the State Historic Preservation Officer (SHPO) were not required.

Coordination with other federal and state resource agencies are addressed in the PCCP.

On September 28, 2022, the FAA and U.S. Fish and Wildlife Service (USFWS) conducted a verbal informal consultation regarding the PCCP. The USFWS explained that the LHM runway reconstruction project is a covered action under the PCCP and that no further consultation is needed.

CHAPTER 6.0: LIST OF PREPARERS

The professionals primarily responsible for preparation, or for the review, of this EA are listed in Table 6.0.

Table 6.0 List of Preparers

Name	Title and Role	Contribution	Relevant Experience
Richard Doucette	FAA Environmental Protection Specialist	EA Review	25 years as an Environmental Planner on airport projects
Christopher D. Jones	FAA Environmental Protection Specialist	EA Review	11 years of experience as Environmental Planner for federal projects
Roland Neufeld	City of Lincoln Public Works, Senior Engineer	EA Review; FAA coordination	10 years of experience in civil engineering
Jim Wallace	Project Manager: Wallace Environmental Consulting, Inc.	Primary Author	25 years of experience as a NEPA consultant on airport projects.
Donald Moore	Senior Advisor: Wallace Environmental Consulting, Inc.	Hydrology/Geology	30 years of experience in groundwater and geology.
Damon Brandley	Airport Engineer Brandley Engineering, Inc.	EA Review Project Design	15 years of experience in airport engineering
Hunter Gallant	GIS Specialist Salix Consulting	GIS/Exhibits	10 years of experience in GIS
Jeff Glazner	Senior Biologist Salix Consulting	Biological Resources	25 Years of experience in biological resources and wetland mapping
Tim Spillane	Senior Cultural Resources Consultant: Natural Investigations Company	Cultural Resources	15 years of experience in cultural resources and archeology
Phil Hanes	Senior Cultural Resources Consultant: Natural Investigations Company	Cultural Resources	15 years of experience in cultural resources and archeology
Terry Farmer	Air Quality Specialist Base Camp Environmental	Air Quality Modeling	20 years of experience in air quality analysis

CHAPTER 7.0 REFERENCES

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Lincoln Regional Airport Final Environmental Assessment

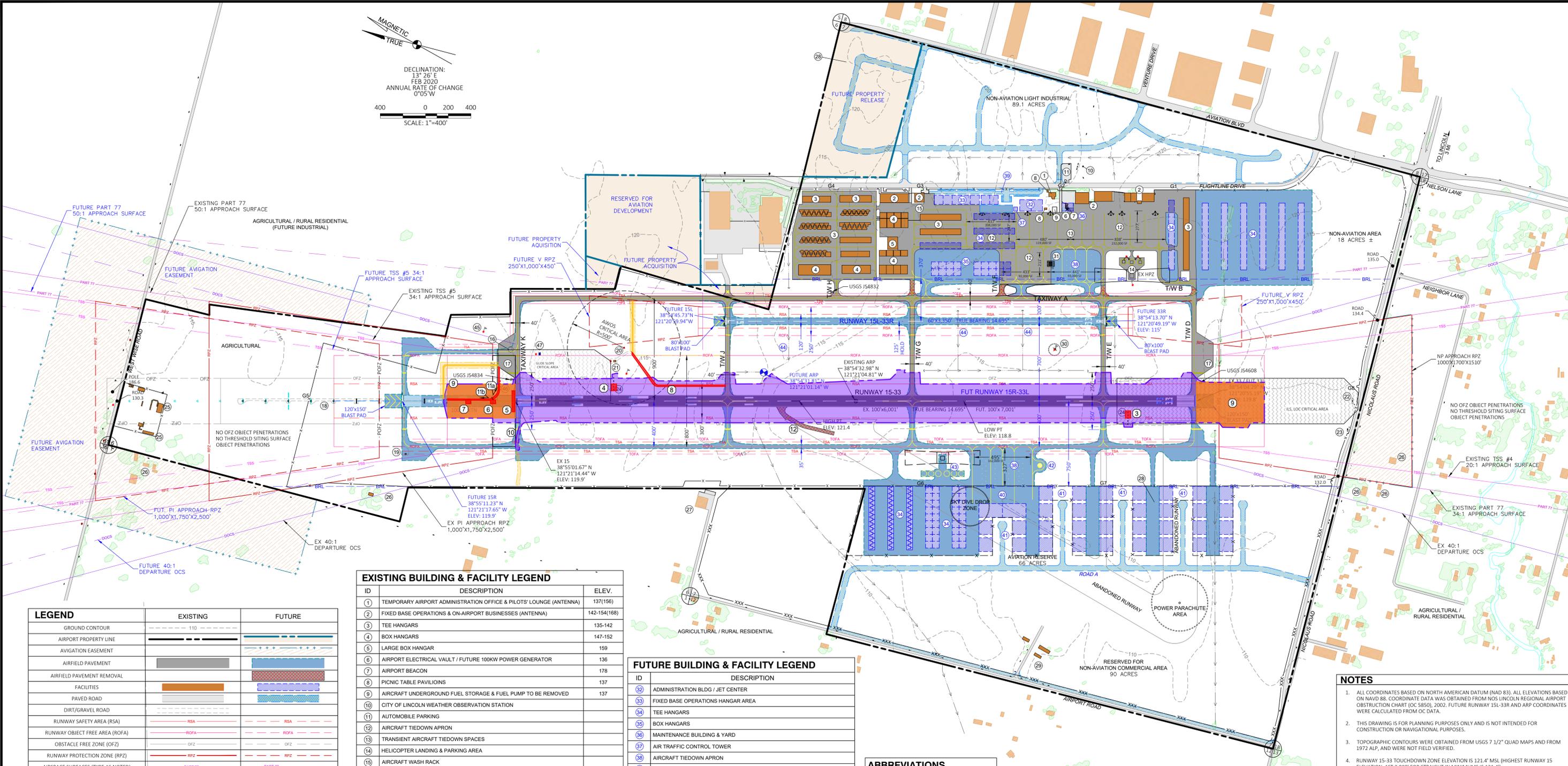
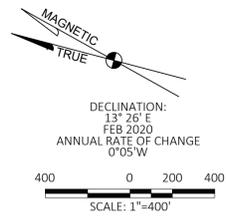
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U.S. Army Corps of Engineers, Sacramento District, Programmatic General Permit 18 – Minimal Impact Covered Activities Under the Western Placer County Habitat Conservation Plan/Natural Community Conservation Plan, 2019

Lincoln Regional Airport
Runway 15-33 Reconstruction
Final Environmental Assessment

APPENDIX A

Airport Layout Plan
And
Touchsheet



LEGEND	EXISTING	FUTURE
GROUND CONTOUR	--- 110	---
AIRPORT PROPERTY LINE	---	---
AVIGATION EASEMENT	---	---
AIRFIELD PAVEMENT	---	---
AIRFIELD PAVEMENT REMOVAL	---	---
FACILITIES	---	---
PAVED ROAD	---	---
DIRT/GRAVEL ROAD	---	---
RUNWAY SAFETY AREA (RSA)	---	---
RUNWAY OBJECT FREE AREA (ROFA)	---	---
OBSTACLE FREE ZONE (OFZ)	---	---
RUNWAY PROTECTION ZONE (RPZ)	---	---
AIRSPACE SURFACES (TYPE AS NOTED)	---	---
TAXIWAY SAFETY AREA (TSA)	---	---
TAXIWAY OBJECT FREE AREA (TOFA)	---	---
35' BUILDING RESTRICTION LINE	---	---
6' CHAINLINK FENCE GATE IDENTIFICATION	---	---
5' BARBED WIRE FENCE	---	---
RUNWAY THRESHOLD LIGHT	---	---
AIRPORT REFERENCE POINT	---	---
SECTION CORNER	---	---
FLOODLIGHT, UTILITY POLE, STREET LIGHT	---	---
OBSTRUCTION LIGHT	---	---
WIND CONE	---	---
DRAINAGE SWALE	---	---
TOP OF STRUCTURE ELEVATION	---	---
AIRPORT CONTROL STATION	---	---

EXISTING BUILDING & FACILITY LEGEND		
ID	DESCRIPTION	ELEV.
1	TEMPORARY AIRPORT ADMINISTRATION OFFICE & PILOTS' LOUNGE (ANTENNA)	137(156)
2	FIXED BASE OPERATIONS & ON-AIRPORT BUSINESSES (ANTENNA)	142-154(168)
3	TEE HANGARS	135-142
4	BOX HANGARS	147-152
5	LARGE BOX HANGAR	159
6	AIRPORT ELECTRICAL VAULT / FUTURE 100KW POWER GENERATOR	136
7	AIRPORT BEACON	178
8	PICNIC TABLE PAVILIONS	137
9	AIRCRAFT UNDERGROUND FUEL STORAGE & FUEL PUMP TO BE REMOVED	137
10	CITY OF LINCOLN WEATHER OBSERVATION STATION	
11	AUTOMOBILE PARKING	
12	AIRCRAFT TIEDOWN APRON	
13	TRANSIENT AIRCRAFT TIEDOWN SPACES	
14	HELICOPTER LANDING & PARKING AREA	
15	AIRCRAFT WASH RACK	
16	AIRCRAFT COMPASS CALIBRATION AREA	
17	AIRCRAFT HOLDING BAY / RUN-UP PAD	
18	MEDIUM-INTENSITY AIRPORT LIGHTING SYSTEM - WITH RUNWAY ALIGNMENT INDICATOR LIGHTS (MALSR)	
19	MALSR ELECTRICAL VAULT	
20	AUTOMATED WEATHER OBSERVING SYSTEM (AWOS)	
21	ILS GLIDE SLOPE ANTENNA	
22	ILS LOCALIZER ANTENNA	
23	ILS ELECTRICAL VAULT AND DME ANTENNA	
24	4-LIGHT PAPI	
25	PG&E MAINTENANCE & STORAGE YARD	
26	RESIDENTIAL BUILDING, AGRICULTURAL SHEDS	
27	OFF-AIRPORT UNOCCUPIED BUILDING	
28	CITY OF LINCOLN WATER WELL	
29	ABANDONED STRUCTURES (TO BE DEMOLISHED)	
30	SEGMENTED CIRCLE AND WINDCONE	
31	ABOVEGROUND FUEL STORAGE & FUEL SERVICE STATION	130

FUTURE BUILDING & FACILITY LEGEND	
ID	DESCRIPTION
32	ADMINISTRATION BLDG / JET CENTER
33	FIXED BASE OPERATIONS HANGAR AREA
34	TEE HANGARS
35	BOX HANGARS
36	MAINTENANCE BUILDING & YARD
37	AIR TRAFFIC CONTROL TOWER
38	AIRCRAFT TIEDOWN APRON
39	AUTOMOBILE PARKING
40	JET CENTER
41	AVIATION BUSINESSES
42	WEST FUEL ISLAND
43	WEST HELICOPTER LANDING & PARKING AREA
44	UNDERGROUND CULVERT
45	RELOCATED WIND CONE
46	RELOCATED PAPI
47	RELOCATED GLIDE SLOPE ANTENNA AND EQUIPMENT SHELTER

AIRPORT CONTROL				
PID	Description	NAD 83 Position		NAVD 88
		Latitude	Longitude	Elevation - Ft.
JS4608	PACS - Primary Airport Control Station - Runway 33	38° 54' 03.81137" N	121° 20' 56.03642" W	118.00
JS4832	SACS - Secondary Airport Control Station - Taxiway A	38° 54' 37.32772" N	121° 20' 53.87000" W	120.2
JS4834	SACS - Secondary Airport Control Station - Runway 15	38° 55' 02.39725" N	121° 21' 12.635140" W	118.6

ABBREVIATIONS	
EX	EXISTING
FUT	FUTURE
V	VISUAL
PI	PRECISION INSTRUMENT
OCS	OBSTACLE CLEARANCE SURFACE
TSS	TRESHOLD SITING SURFACE
EXTN	EXTENSION
HPZ	HELICOPTER PROTECTION ZONE

RSAI & RUNWAY RECONSTRUCTION LEGEND	
---	RUNWAY SAFETY AREA OBSTRUCTION
---	EXTENDED RSA UNEVEN TERRAIN OBSTRUCTION
---	RELOCATED SERVICE ROAD & SHOULDER GRADING
---	RUNWAY CONSTRUCTION & RSA-ROFA GRADING
---	RSAI OBJECT ID #

RSAI OBJECT IDENTIFICATION	
ID #	NAME
3	R/W 33 4-BOX PAPI
4	R/W 15 4-BOX PAPI
5	MALSR 18-LIGHT BAR
6	MALSR 5-LIGHT BAR
7	MALSR 5-LIGHT BAR
8	FAA SERVICE ROAD
9	UNEVEN TERRAIN
10	TERRAIN PENETRATING ROFA
11a	FAA MALSR SERVICE RD TO BE REMOVED
11b	FAA MALSR SERVICE RD TO REMAIN
12	PAVEMENT TO BE REMOVED

- NOTES**
- ALL COORDINATES BASED ON NORTH AMERICAN DATUM (NAD 83). ALL ELEVATIONS BASED ON NAVD 88. COORDINATE DATA WAS OBTAINED FROM NOS LINCOLN REGIONAL AIRPORT OBSTRUCTION CHART (OC 885), 2002. FUTURE RUNWAY 15L-33R AND ARP COORDINATES WERE CALCULATED FROM OC DATA.
 - THIS DRAWING IS FOR PLANNING PURPOSES ONLY AND IS NOT INTENDED FOR CONSTRUCTION OR NAVIGATIONAL PURPOSES.
 - TOPOGRAPHIC CONTOURS WERE OBTAINED FROM USGS 7 1/2" QUAD MAPS AND FROM 1972 ALP, AND WERE NOT FIELD VERIFIED.
 - RUNWAY 15-33 TOUCHDOWN ZONE ELEVATION IS 121.4' MSL (HIGHEST RUNWAY 15 ELEVATION, 1ST 3,000' FOR STRAIGHT IN MINIMUMS IS 121.4').
 - FUTURE RUNWAY END ELEVATIONS ARE ESTIMATED.
 - EXISTING HELICOPTER PROTECTION ZONE (HPZ): 100'x280'x128'. 8:1 APPROACH FUTURE HELICOPTER PROTECTION ZONE: 100'x280'x128'. 8:1 APPROACH
 - AT LOCATION OF EXISTING BUILDING RESTRICTION LINE (BRL) ANY OBJECT 35 FT HIGHER THAN ADJACENT RUNWAY CENTERLINE ELEVATION PENETRATES 7:1 TRANSITIONAL SURFACE.
 - SINGLE WHEEL RUNWAY STRENGTH OBTAINED FROM 1993 EDR. DUAL WHEEL RUNWAY STRENGTH DETERMINED THROUGH CALCULATION.
 - WIND DATA FROM AWOS ON SITE 2010 TO 2016. ONLY "ALL WEATHER" WIND INFORMATION IS PRESENTED. W/M/C DIFFERENTIATION INFORMATION IS NOT AVAILABLE.
 - MAGNETIC DECLINATION FROM NOAA AT WWW.NGCD.NOAA.GOV/GEOMAG
 - EXISTING PERIMETER CHAINLINK FENCE IS LOCATED ON AIRPORT PROPERTY LINE.
 - RUNWAY LIGHTING & VISUAL AIDS - PILOT ACTIVATED.
 - THE PROPOSED RUNWAY 15R EXTENSION PROJECT SHOWN IS FOR LONG TERM PLANNING PURPOSES ONLY. THIS PROPOSED PROJECT SHALL NOT BE UNDERTAKEN WITHOUT PRIOR NEPA ENVIRONMENTAL PROCESS AND FAA APPROVAL.
 - SKYDIVE OPERATION AND LANDING ZONE AREA WILL BE RELOCATED TO POWER PARACHUTE AREA WHEN THE FUTURE WEST SIDE DEVELOPMENT BEGINS.



CITY OF LINCOLN
STATE OF CALIFORNIA

LINCOLN REGIONAL AIRPORT

LINCOLN, CALIFORNIA

RSAI & RUNWAY RECONSTRUCTION SKETCHMAP
WITH 2020 ALP

NO.	REVISIONS	BY	APR	DATE
				DATE 12/9/21 / ALP 6/1/20
				SCALE 1"=300'
				DRAWN KDC CHECKED DB
				FILE LHM alp w-RSA
				SHEET No. 1

Lincoln Regional Airport (KLHM)
Items to be addressed during Runway Reconstruction Project

RSAI / Object ID	Item	RSAI Disposition	Existing Conditions	Proposed Action in Project	Impacts on ALP	Impact on other Airport/Airfield Safety Areas
1	Runway/Taxiway Edge Lights	Located in RSA. Fixed by function	Airfield Lighting system is >30 years old and runway grade change will require raising the lights.	Raising existing lights, replacing lights, cable, transformers, utilizing existing base cans and conduit.	No Change on ALP	No Impact
2	Runway Exit Guidance Signs	Located in RSA. Fixed by function	Airfield Sign System is >30 years old and runway grade change will require raising the signs. Existing signs do not meet current FAA standards	Remove existing signs and sign pads. Install new LED signs and new sign pads.	No Change on ALP	Brings Guidance Signs up to current standards.
3	Runway 33 4-box PAPI (sponsor owned)	3 LHMs Located in RSA. Fixed by function	Existing PAPI is a voltage driven PAPI with the PAPI power control unit located within the ROFA.	Replace PAPI with a current driven PAPI. This allows the PAPI Control Unit (PCU) to be removed from the ROFA. New regulator will be installed in the existing airfield electrical vault. New PAPI light units will be installed on the existing concrete foundations. Existing conduit used for new power cable from the existing electrical vault to the PAPI. Approx 30' of new conduit installed at PAPI units to bypass the existing PCU.	Existing PAPI Power Control Unit will be removed from ROFA. Removal will be shown on a Pen & Ink Update	Removes PAPI PCU from ROFA to meet standards.
4	Runway 15 4-box PAPI (sponsor owned)	3 LHMs Located in RSA. Fixed by function	Existing PAPI is a voltage driven PAPI with the PAPI power control unit located within the ROFA.	Replace PAPI with a current driven PAPI. This allows the PAPI Control Unit (PCU) to be removed from the ROFA. New regulator will be installed in the existing airfield electrical vault. New PAPI light units will be installed on the existing concrete foundations. Existing conduit used for new power cable from the existing electrical vault to the PAPI. Approx 30' of new conduit installed at PAPI units to bypass the existing PCU.	Existing PAPI Power Control Unit will be removed from ROFA. Removal will be shown on a Pen & Ink Update	Removes PAPI PCU from ROFA to meet standards.
5	MALSR 18-Light Bar (FAA Owned)	Located in RSA. Fixed by function	Item located in RSA and will require grade adjustment	Runway grade changes will require this light bar to be removed and replaced to meet RSA grading standards during the runway reconstruction project.	No Change on ALP	No Impact
6	MALSR 5-Light Bar (Sta -2+00) (FAA Owned)	Located in RSA. Fixed by function	Item located in RSA.	ATO will make final determination, likely no impact as light units may be within allowable tolerances	No Change on ALP	No Impact
7	MALSR 5-Light Bar (Sta -4+20) (FAA Owned)	Located in RSA. Fixed by function	Item located in RSA.	ATO will make final determination, likely no impact as light units may be within allowable tolerances	No Change on ALP	No Impact
8	FAA Glideslope Service Road	Located in RSA. Can be relocated.	Located in RSA. Can be relocated.	Remove existing service road, install new service road outside the RSA.	Show existing gravel service road to be removed. Show new service road to be constructed. Pen & Ink Update.	Proposed Future Service Road is located in the RPZ of the future second runway. This second runway is a long term project that is not near to being justified. Service road will need to be relocated if the second runway is ever constructed. Proposed location is better for airfield safety today in the proposed location.
9	Terrain beyond Runway Ends in extended RSA.	Non-standard RSA grading	Ruts, humps, depressions, surface variations and poor drainage areas exist in the extended RSA that need to be corrected.	Regrade extended RSA to meet standards.	No Change on ALP	Brings RSA grading into FAA compliance
10	Terrain penetrating ROFA	Noted on RSAI as an ROFA penetration	Existing terrain that is higher than the runway centerline elevation. This causes a violation of ROFA grading standards and Part 77 Primary Surface penetration.	Excavate existing ground. Remove terrain penetration to meet ROFA and Part 77 standards.	No Change on ALP	Brings ROFA grading into FAA compliance
11a	FAA MALSR Service Road (Portion of road that connects to Taxiways)	Located in RSA. Can be relocated.	Located in RSA. Can be relocated.	Remove gravel existing service road, install new gravel service road outside the RSA.	Show portion of existing gravel service road to be removed. Show new gravel service road to be constructed. Pen & Ink Update.	No Impact
11b	FAA MALSR Service Road (Portion of road between light bars)	Located in RSA. Fixed by function	Item located in RSA	Existing gravel service road between light stations will have minor grading around the road and on the road. This portion of the service road is fixed by function and will be required to remain in the RSA as it serves light bars located in the RSA that are fixed by function.	No Change on ALP	No Impact
12	Pavement with Access to Runway	Not Included in RSAI, Located in RSA, meets RSA requirements.	Existing piece of AC pavement that connects to abandoned runways. ALP shows this pavement to be removed.	Removal of AC Pavement in the RSA.	No Change. ALP indicates removal of this pavement	Improves safety as it removes an access point to the runway.

Lincoln Regional Airport
Runway 15-33 Reconstruction
Final Environmental Assessment

APPENDIX B

Sponsor's Land Use Assurance Letter



December 12, 2022

Ms. Laurie Suttmeier,
Manager Federal Aviation
Administration
San Francisco Airports District
Office 1000 Marina Boulevard,
Suite 220
Brisbane, CA 94005-1863

Re: Federal Grant Assurances and Compatible Land
Use For Lincoln Regional Airport (LHM)

Dear Ms. Suttmeier:

The City of Lincoln's Lincoln Regional Airport (LHM) is part of the federal National Plan of integrated Airport Systems (NPIAS), and the City of Lincoln accepts federal Airport Improvement Program (AIP) grant funds to construct and maintain airport facilities. As a condition of federal funding, the City is obligated to maintain, operate, and improve its facilities to comply with grant assurances and to be as self-sustaining as possible.

Grant Assurance 6, Consistency with Local Plans, (49 U.S.C. 47107) requires proposed projects to be reasonably consistent with local plans of public agencies responsible for planning development of the area surrounding the airport. As the owner and operator of the Lincoln Regional Airport (LHM), the City complies with and provides the necessary Airport Sponsor's compatible land use assurance for existing and proposed land uses in accordance with 49 U.S.C. Section 47101 (a)(10). The City provides assurance that appropriate action, including the adoption and enforcement of zoning laws and coordination with Placer County, to the extent reasonable, to restrict the use of land adjacent to or in the vicinity of LHM to activities and purposes that are compatible with normal airport operations including the takeoff and landing of aircraft.

Please let me know if you have any questions or require additional information about LHM and the City's commitment to complying with federal grant assurances.

Sincerely,

Travis Williams, PE
Interim City Engineer

City Hall

600 Sixth Street

Lincoln, CA 95648

(916) 434-2400

www.lincolnca.gov

**City Manager's Office ♦ Community Development ♦ Engineering ♦ Fire
Library ♦ Recreation ♦ Police ♦ Public Works ♦ Finance**

Lincoln Regional Airport
Runway 15-33 Reconstruction
Final Environmental Assessment

APPENDIX C

AQUATIC RESOURCES DELINEATION
FOR THE
±60-ACRE LINCOLN REGIONAL AIRPORT
RUNWAY RECONSTRUCTION STUDY AREA
CITY OF LINCOLN, PLACER COUNTY, CALIFORNIA

And

U.S. FISH AND WILDLIFE WETLAND INVENTORY MAP

**AQUATIC RESOURCES DELINEATION
FOR THE
±60-ACRE LINCOLN REGIONAL AIRPORT
RUNWAY RECONSTRUCTION STUDY AREA
CITY OF LINCOLN, PLACER COUNTY, CALIFORNIA**



Prepared for:
Wallace Environmental Consulting
P.O. Box 266
Courtland, CA 95615

Prepared by:

11601 Blocker Drive, Ste. 100
Auburn, California 95603
(530) 888-0130

JULY 2021

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AQUATIC RESOURCES DELINEATION FOR THE ±60-ACRE LINCOLN REGIONAL AIRPORT RUNWAY RECONSTRUCTION STUDY AREA

INTRODUCTION

Location and Setting

Salix Consulting, Inc. (Salix) prepared an aquatic resources delineation for the ±60-acre Lincoln Regional Airport runway reconstruction study area located on the Lincoln Regional Airport property, between Airport Road and Flightline Drive, north of Nicolaus Road and south of West Wise Road, approximately 1 mile west of Highway 65 and 2 ½ miles from downtown Lincoln, Placer County, California. It is within Section 7, Township 12 North, Range 6 East on the Lincoln 7.5 minute USGS quadrangle (Figure 1). The approximate coordinates for the center of the study area are 38°54'33.79" N and 121°21'05.03" W.

The study area is located in the Sacramento Valley at approximately 115 feet in elevation. It is comprised of the paved runway (Runway 15-33) and adjacent areas. The study area is approximately 180-feet from each side of the runway centerline and 640-feet from the end of each runway. The study area is not an even rectangle (Figure 2).

Previous Delineation

In 2007, Jeff Glazner (as North Fork Associates) prepared a wetland delineation for the entire airport. A verification was requested by the Corps, but the Corps did not complete the verification. The 2007 mapping was used as a starting point for the current delineation. Regularly required maintenance around the runway has inadvertently modified the ground surface and wetland boundaries within the runway study area.

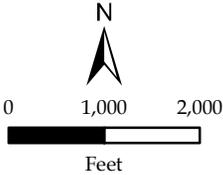
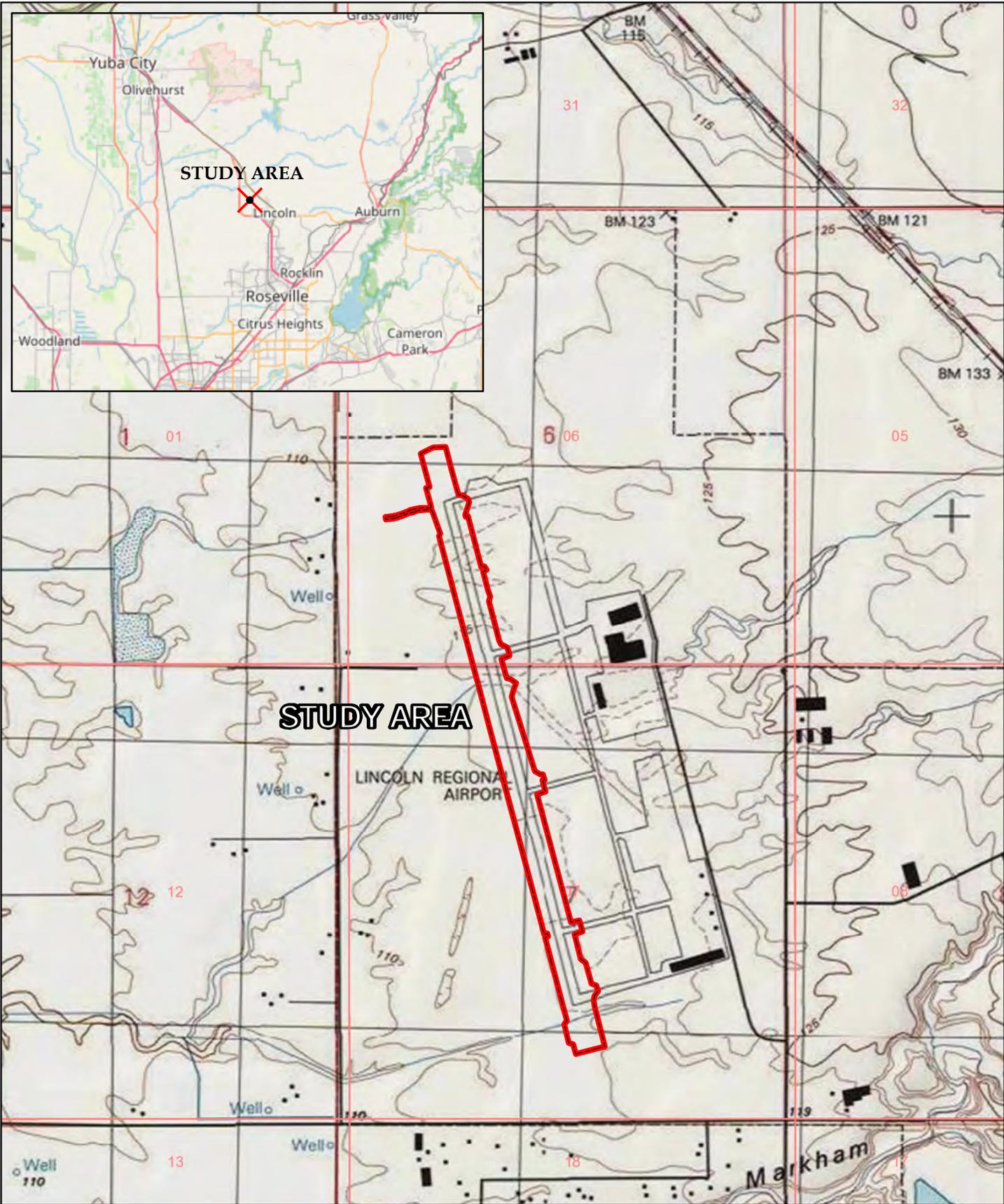
CONTACT INFORMATION

Applicant:

Lincoln Regional Airport
City of Lincoln, California
600 6th Street
Lincoln, CA 95648
Phone: (916) 434-2450
Contact: Roland Neufeld
Environmental Services Manager

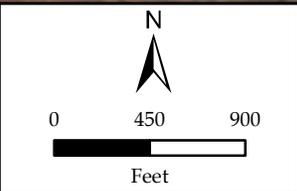
Delineated by:

Salix Consulting, Inc.
11601 Blocker Drive, Suite 100
Auburn, California 95603
Phone: (530) 888-0130
Contact: Jeff Glazner



Source Maps: USGS Topographic Map
 Lincoln Quad 1:24,000
 S6+7 T12N R6E

Figure 1
SITE AND VICINITY MAP
Lincoln Regional Airport
 City of Lincoln, Placer County, CA



 Study Area
 (±61.07 acres)

Figure 2
AERIAL MAP
Lincoln Regional Airport
 City of Lincoln, Placer County, CA

METHODOLOGY

Aquatic resources were delineated on February 11, 2021, by Jeff Glazner and Hunter Gallant, and on March 26, 2021, by Jeff Glazner. The delineation was conducted according to the 1987 Corps Manual (Environmental Laboratory 1987) as amended by the Arid West Regional Supplement (U.S. Army Corps of Engineers 2008). Potential aquatic resources were evaluated and mapped using a Trimble GeoXT 6000 GPS (submeter). Three parameter data sheets (Appendix A) were filled out at six (6) locations as indicated on the Aquatic Resources Delineation Map. Biological communities of the study area were mapped, and representative photographs were taken.

Information on soils of the study area was obtained from the U.S. Department of Agriculture – National Resource Conservation Service’s online Web Soil Survey (NRCS 2021). In the field, a Munsell Color chart was used to determine moist soil colors. Appendix B is a list of plants observed during the delineation, along with the scientific name and wetland status of each species. Where a plant species observed has a wetland indicator status (not UPL), plant nomenclature follows the National Wetland Plant List, version 3.4 (USACE 2018). Otherwise, species names are according to the *The Jepson Flora Project (Jepson eflora)*.

Field data collected with the GPS were differentially corrected and were used to create an Aquatic Resources Delineation Map using ArcGIS software. The Corps of Engineers Aquatic Resources spreadsheet is included in Appendix C.

FINDINGS

Climate

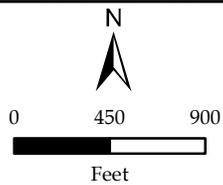
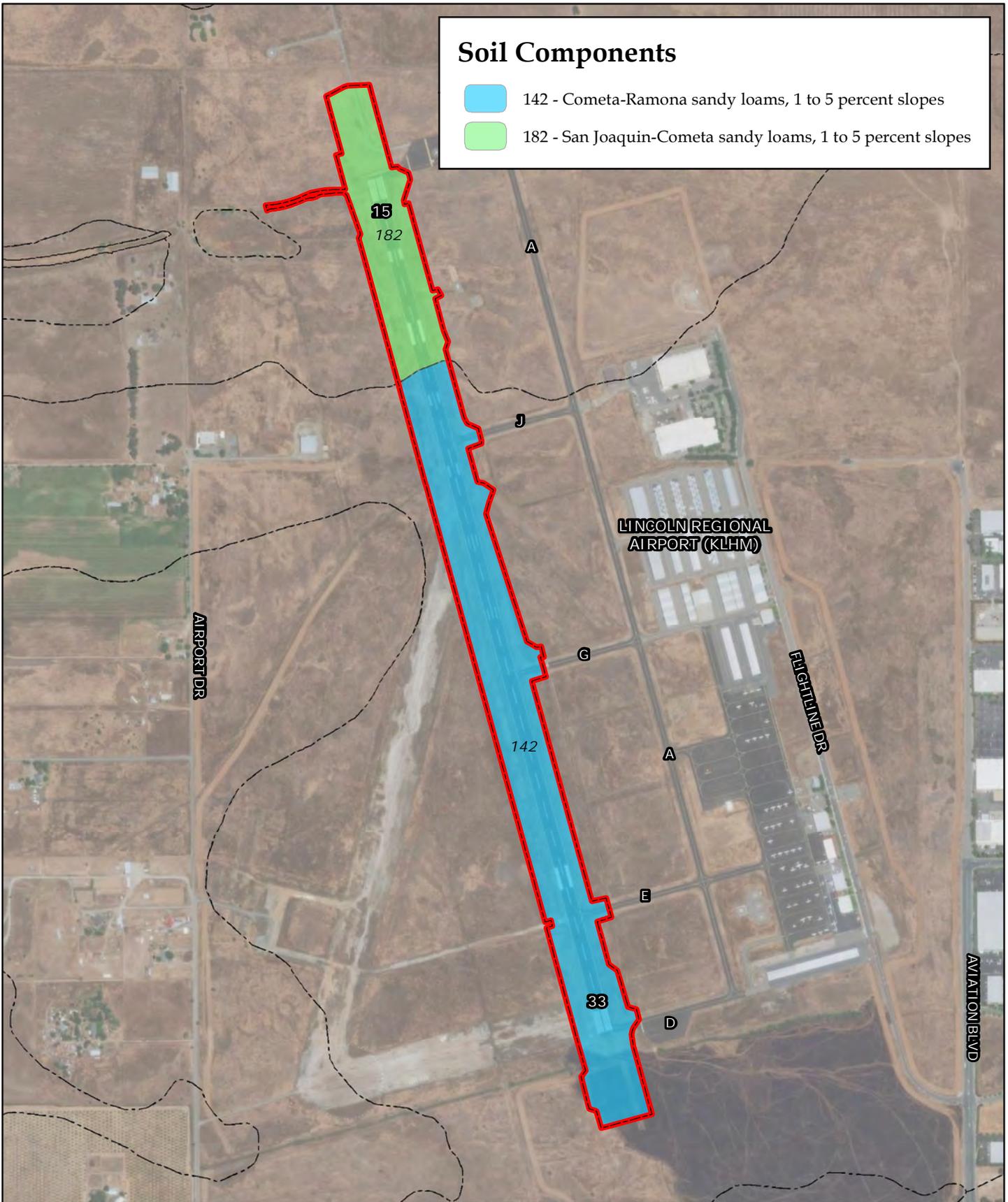
Lincoln has a Mediterranean climate with cool, wet winters and hot, dry summers. Lincoln averages about 250 sunny days per year. During summer, days can become quite hot with an average high of 94°F in July. Some days have even hit 104°F, and these conditions have been known to last several weeks. The cooling effect of the delta breeze from the San Francisco Bay Area helps bring night temperatures down to comfortable levels. Spring and fall months are quite short transitional periods with mild temperatures. The "wet season" is generally October through April. During winter months, temperatures are quite chilly with an average low of 39°F in January. Although uncommon, some nights have reported below freezing temperatures. Lincoln receives an average of a little over 20.45 inches of precipitation a year. Snowfall is extremely rare in Lincoln, but it does occur from time to time.

Soils

Two soil units have been mapped within the study area: Cometa-Ramona sandy loams, 1 to 5 % slopes and San Joaquin-Cometa sandy loams, 1 to 5% slopes, as illustrated in Figure 3. Most of the soils mapped in the region of the study area are Alfisols, soils with a dense clay layer, or, like San Joaquin soils, have a duripan that restricts the percolation of water. As such, these soils tend to become inundated in swales and depressions

Soil Components

-  142 - Cometa-Ramona sandy loams, 1 to 5 percent slopes
-  182 - San Joaquin-Cometa sandy loams, 1 to 5 percent slopes



Study Area
(±61.07 acres)

Figure 3

SOILS MAP

Lincoln Regional Airport
City of Lincoln, Placer County, CA

during the rainy season. Several of these soils are known to support vernal pools in this part of the Central Valley. The components of each complex are described below.

Cometa-Ramona sandy loams, 1 to 5 % slopes

The **Cometa component** makes up 50 percent of this map unit. Slopes are 1 to 5 percent. This component is on terraces. Cometa soils are Alfisols formed from granitic rocks. Depth to a root restrictive layer, abrupt textural change, inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria.

The **Ramona component** makes up 30 percent of this map unit. Slopes are 1 to 5 percent. This component is on terraces. The parent material consists of alluvium derived from granite. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria.

San Joaquin-Cometa sandy loams, 1 to 5% slopes

San Joaquin soils are Alfisols derived mostly from granitic rocks. These soils have clay later that starts about six inches from the surface and a duripan between 20 and 40 inches. The San Joaquin component makes up 40 percent of this map unit. Slopes are 1 to 5 percent. This component is on terraces. The parent material consists of alluvium derived from granite. Depth to a root restrictive layer, duripan, is 35 to 50 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R017XD093CA Claypan ecological site. Nonirrigated land capability classification is 4e. Irrigated land capability classification is 4e. This soil does not meet hydric criteria.

The Cometa component makes up 30 percent of this map unit. Slopes are 1 to 5 percent. This component is on terraces. The parent material consists of alluvium derived from granite. Depth to a root restrictive layer, abrupt textural change, inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R017XD093CA Claypan ecological site.

Nonirrigated land capability classification is 4e. Irrigated land capability classification is 4e. This soil does not meet hydric criteria.

Hydrology

The study area is within two HUC12 watershed units, Ping Slough-Coon Creek (180201610204) to the north and Markham Ravine (180201610301) to the south. Both are part of the greater Upper Coon-Upper Auburn HUC8 (18020161) watershed.

The runway surface is crowned, and surface water sheds easterly or westerly toward “toe drains” at the base of the crown. These drains are not all graded to drain and have formed depressional areas, some of which support wetlands. Most of the wetlands within the study area occur along these toe drains. Generally, water trends northerly in the northern portion of the study area to a small ditch and then westerly. Water in the southern portion of the study area flows north to the main ditch transecting the airport or south towards the ditch at end of runway. Both ditches flow westerly in the southern portion of the study area and converge just offsite. From the point of convergence this unnamed stream flows approximately 1 mile before entering Markham Ravine. The ditch to the north flows westerly through a series of agricultural canals and into an unnamed tributary of Coon Creek 3 miles away. Both Coon Creek and Markham Ravine eventually drain into the Cross Canal that eventually drains into the Sacramento River.

Vegetation

Two landcover types are identified within the study area – annual grassland and pavement. Aquatic resources are embedded within the annual grassland and are discussed below under “Aquatic Resources.”

Annual grassland

All areas adjacent to the runway are managed for aviation safety. They are mowed several times a year and kept sculpted to maintain a relatively smooth surface. Vegetation growing in this area is entirely herbaceous and comprised mostly of weedy annual species. Our field study was conducted during the early growing season for these species; thus, diversity was low, and many species had not yet germinated or were not yet identifiable. Common species observed included wild oat (*Avena fatua*), Italian ryegrass (*Festuca perennis*), soft chess (*Bromus hordeaceus*), Bermudagrass (*Cynodon dactylon*), medusahead (*Elymus caput-medusae*), broad-leaf filaree (*Erodium botrys*), dove's-foot geranium (*Geranium molle*), long-beaked hawkbit (*Leontodon saxatilis*), wild radish (*Raphanus sativus*), sheep sorrel (*Rumex acetosella*), and rose clover (*Trifolium hirtum*). Typical views of the annual grassland habitat are presented in the site photos, Figures 4a-4e.

Depressional wetlands are embedded within the annual grassland and these features are discussed in the *Aquatic Resources* section below.

Paved

The remaining portion of the study area includes the existing runway (15-33) and associated taxiways connected to the runway, mostly from the east. No vegetation occurs within the paved area or immediately adjacent to most of the hard surfaces.

Aquatic Resources

Two categories of aquatic resources are mapped in the study area: vernal pool and ditch, as summarized in Table 1. These features are illustrated in the site photos in Figures 4a-4e and in Figure 5, the Delineation of Aquatic Resources map.

Table 1.
Aquatic Resources within the Lincoln Regional Airport Study Area

Type	Acreage
Aquatic Resources	
Vernal Pools	0.923
Ditch	0.015
Total	0.938

Vernal Pools

A total of 21 vernal pools were mapped on both sides and at the south end of the runway. Because they are regularly managed, these features are generally similar, ranging in depth from approximately three to eight inches and supporting a mix of vernal pool and seasonal wetland species. These include stalked popcorn-flower (*Plagiobothrys stipitatus*), coyote thistle (*Eryngium vaseyi*), vernal pool buttercup (*Ranunculus bonariensis*), Italian ryegrass (*Festuca perennis*), long-beaked hawkbit (*Leontodon saxatilis*), Mediterranean barley (*Hordeum marinum*), broad-leaf filaree (*Erodium botrys*), hyssop loosestrife (*Lythrum hyssopifolia*).

The entire non-paved study area is regularly maintained by mowing or disking. The wetlands are likely perched over a shallow hardpan, which is prevalent throughout the Lincoln area and known from the mapped soil units. Many of these depressions are linear and are in a toe drain or along a drainage swale. The linear wetlands are not considered wetland swales here because they are situated in localized depressions within the low-lying areas where runoff and precipitation collect. They are considered vernal pools because they support a substantial vernal pool species component and have vernal pool hydrology. Refer to Figures 4a-4c and Figure 4e for photos of vernal pools in the study area.

Ditch

Two ditches are mapped in the study area. These features move water under the runway from east to west. They are framed by concrete headwalls and are relatively deep trapezoidal channels (Figure 4d). Ditch function is described above in *Hydrology*.



Vernal pool 1.

Photo date 2-4-21



Vernal pool 2.

Photo date 3-26-21



Figure 4a

SITE PHOTOS
Lincoln Regional Airport
City of Lincoln, Placer County, CA



Vernal pool 13.

Photo date 3-26-21



Vernal pool 8.

Photo date 3-26-21



Figure 4b

SITE PHOTOS

*Lincoln Regional Airport
City of Lincoln, Placer County, CA*



Vernal pool 12.

Photo date 3-26-21



Vernal pool 16.

Photo date 3-26-21



Figure 4c

SITE PHOTOS

*Lincoln Regional Airport
City of Lincoln, Placer County, CA*



Ditch 1.

Photo date 3-26-21



Ditch 2.

Photo date 3-26-21



Figure 4d

SITE PHOTOS

*Lincoln Regional Airport
City of Lincoln, Placer County, CA*



Vernal pool 18.

Photo date 3-26-21



Vernal pool 19.

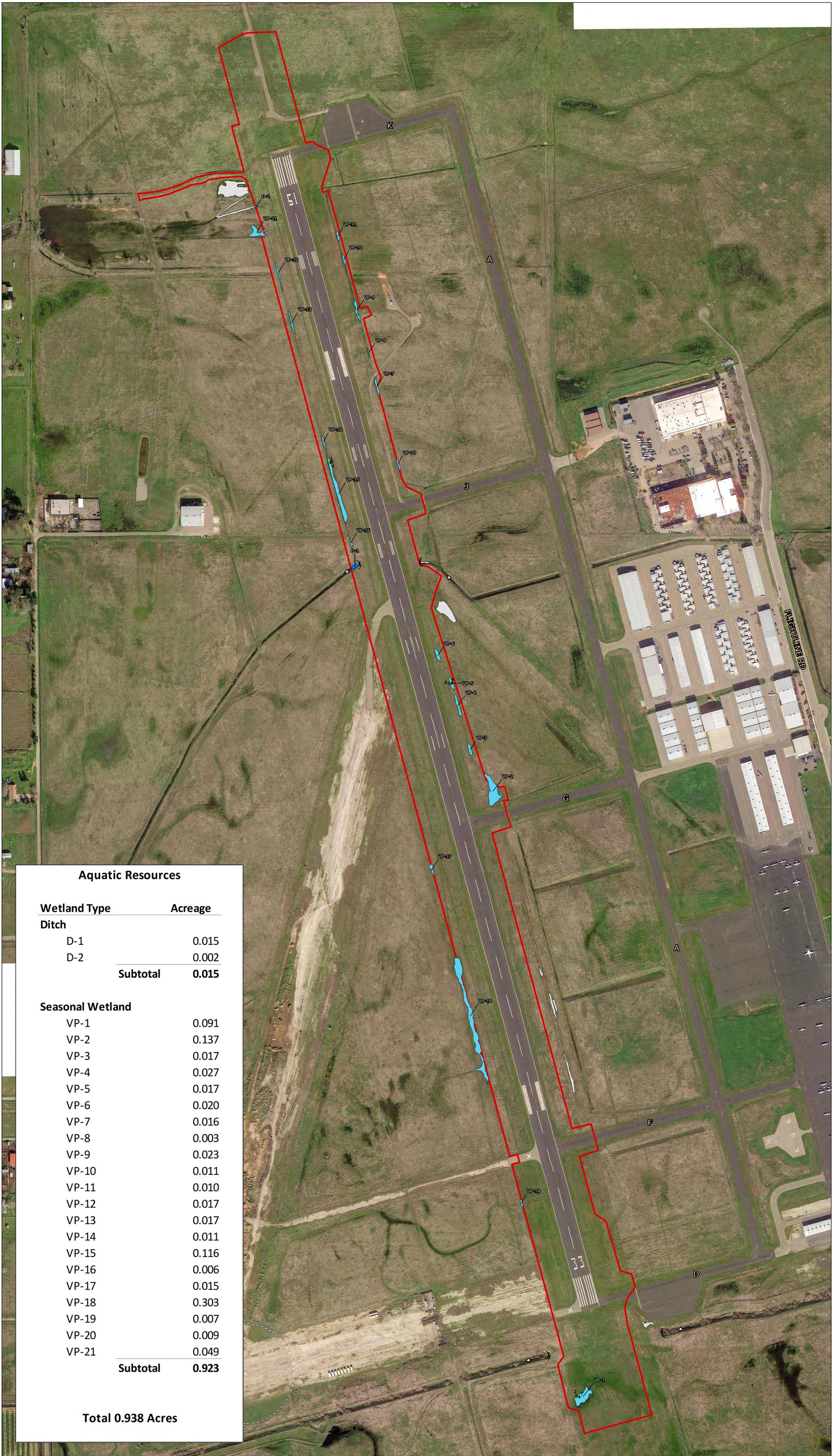
Photo date 3-26-21



Figure 4e

SITE PHOTOS

*Lincoln Regional Airport
City of Lincoln, Placer County, CA*



Aquatic Resources

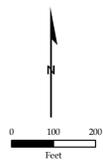
Wetland Type	Acreage
Ditch	
D-1	0.015
D-2	0.002
Subtotal	0.015
Seasonal Wetland	
VP-1	0.091
VP-2	0.137
VP-3	0.017
VP-4	0.027
VP-5	0.017
VP-6	0.020
VP-7	0.016
VP-8	0.003
VP-9	0.023
VP-10	0.011
VP-11	0.010
VP-12	0.017
VP-13	0.017
VP-14	0.011
VP-15	0.116
VP-16	0.006
VP-17	0.015
VP-18	0.303
VP-19	0.007
VP-20	0.009
VP-21	0.049
Subtotal	0.923

Total 0.938 Acres



Prepared By: J. Glazner and H. Gallant, Feb-March 2021
 DRAWN BY: H. Gallant
 COORDINATE SYSTEM: NAD83 CA State Plane II (0402)
 IMAGERY: Google, Feb. 2018

Prepared For:
 City of Lincoln



- Study Area (461.07 acres)
- ⊕ Upland Data Point
- Wetland Data Point
- ▭ Ditch
- ▭ Offsite Seasonal Wetlands
- ▭ Vernal Pool

Figure 5

DELINEATION OF AQUATIC RESOURCES

Lincoln Regional Airport
 City of Lincoln, Placer County, CA

July 12, 2021

REFERENCES

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Appendix A.
Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Lincoln Airport City/County: Lincoln/Placer Sampling Date: 02-03-21

Applicant/Owner: City of Lincoln State: CA Sampling Point: 01

Investigator(s): Jeff Glazner, Hunter Gallant Section, Township, Range: S7, T12N, R6E

Landform (hillslope, terrace, etc.): terrace - flat Local relief (concave, convex, none): concave Slope (%): 0-1

Subregion (LRR): LRRC Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
--	--

Remarks:

Shallow depression in disked field in runway safety area, recently burned, but seedling vegetation is markedly different than surrounding areas. Evidence of prolonged saturation.

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
_____ = Total Cover				UPL species _____ x 5 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = _____
<u>Herb Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>Plagiobothrys stipitatus</u>	<u>40</u>	<u>X</u>	<u>FACW</u>	<input checked="" type="checkbox"/> Dominance Test is >50%
2. <u>Rumex crispus</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. <u>Leontodon saxatilis</u>	<u>5</u>		<u>FACU</u>	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Unknown forbs</u>	<u>15</u>		<u>FAC</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>20</u> % Cover of Biotic Crust _____				

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No _____

Remarks:

Burned last year, unknown forb seedlings too small for definitive identification. Appear to be wetland species.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Lincoln Airport City/County: Lincoln/Placer Sampling Date: 02-03-21

Applicant/Owner: City of Lincoln State: CA Sampling Point: 02

Investigator(s): Jeff Glazner, Hunter Gallant Section, Township, Range: S7, T12N, R6E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): LRRC Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: Upland comparison to data point 01. On side slope of depression.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Rumex crispus</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Erodium botrys</u>	<u>1</u>		<u>FACU</u>	
3. <u>Festuca perennis</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>60</u> % Cover of Biotic Crust _____				
Remarks: Recently burned, disked. Vegetation is sparse.				

SOIL

Sampling Point: 02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	7.5YR 4/3	95	5YR 4/6	5			loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

Disked soil. More loamy than in adjacent depression (less clay).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____
 Water Table Present? Yes _____ No Depth (inches): _____
 Saturation Present? Yes _____ No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

On sideslope of basin and above pool elevation.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Lincoln Airport City/County: Lincoln/Placer Sampling Date: 02-03-21
 Applicant/Owner: City of Lincoln State: CA Sampling Point: 03
 Investigator(s): Jeff Glazner, Hunter Gallant Section, Township, Range: S7, T12N, R6E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): LRRC Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: Toe drain capturing runway runoff. Evidence of prolonged saturation.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Eryngium vaseyi</u>	10		FACW	
2. <u>Ranunculus bonariensis var. trisepalus</u>	35	X	OBL	
3. <u>Eleocharis macrostachya</u>	35	X	OBL	
4. <u>Hordeum marinum subsp. gussoneanum</u>	15		FAC	
5. <u>Festuca perennis</u>	5		FAC	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>	% Cover of Biotic Crust _____			

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No _____

Remarks:
 Locally dense patch of Eleocharis.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Lincoln Airport City/County: Lincoln/Placer Sampling Date: 02-03-21

Applicant/Owner: City of Lincoln State: CA Sampling Point: 04

Investigator(s): Jeff Glazner, Hunter Gallant Section, Township, Range: S7, T12N, R6E

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): LRRC Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
--	---

Remarks:

Upland comparison to data point 03.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ = Total Cover				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>100</u></td> <td>x 5 = <u>500</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>500</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>5</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>100</u>	x 5 = <u>500</u>	Column Totals: <u>100</u> (A)	<u>500</u> (B)	Prevalence Index = B/A = <u>5</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>100</u>	x 5 = <u>500</u>																			
Column Totals: <u>100</u> (A)	<u>500</u> (B)																			
Prevalence Index = B/A = <u>5</u>																				
Sapling/Shrub Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover																				
Herb Stratum (Plot size: _____)																				
1. <u>Elymus caput-medusae</u>	<u>60</u>	<u>X</u>	<u>UPL</u>																	
2. <u>Holocarpha virgata subsp. virgata</u>	<u>40</u>	<u>x</u>	<u>UPL</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
_____ = Total Cover																				
Woody Vine Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
_____ = Total Cover																				
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____																		

Hydrophytic Vegetation Indicators:
 ___ Dominance Test is >50%
 ___ Prevalence Index is ≤3.0¹
 ___ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No

Remarks:

Dense upland grassland species from 2020, seedlings of 2021.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Lincoln Airport City/County: Lincoln/Placer Sampling Date: 02-03-21

Applicant/Owner: City of Lincoln State: CA Sampling Point: 05

Investigator(s): Jeff Glazner, Hunter Gallant Section, Township, Range: S7, T12N, R6E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): LRRC Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: Depression in shallow swale.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Centromadia fitchii</u>	<u>15</u>		<u>FACU</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Festuca perennis</u>	<u>35</u>	<u>X</u>	<u>FAC</u>	
3. <u>Erodium botrys</u>	<u>10</u>		<u>FACU</u>	
4. <u>Limnanthes sp.</u>	<u>15</u>		<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>25</u> % Cover of Biotic Crust _____				
Remarks: Weedy vegetation that can occur in hydric conditions.				

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Lincoln Airport City/County: Lincoln/Placer Sampling Date: 02-03-21

Applicant/Owner: City of Lincoln State: CA Sampling Point: 06

Investigator(s): Jeff Glazner, Hunter Gallant Section, Township, Range: S7, T12N, R6E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): LRRC Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
--	---

Remarks:

Upland comparison to data point 05.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Elymus caput-medusae</u>	60	X	UPL	
2. <u>Festuca perennis</u>	30	X	FAC	
3. <u>Epilobium brachycarpum</u>	5		UPL	
4. <u>Acmispon americanus</u>	5		UPL	
5. <u>Bromus hordeaceus</u>	5		FACU	
6. _____				
7. _____				
8. _____				
_____ = Total Cover				
105 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust _____				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>70</u>	x 5 = <u>350</u>
Column Totals: <u>105</u> (A)	<u>460</u> (B)

Prevalence Index = B/A = 4.4

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0¹

___ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No

Remarks:

Dense upland grassland vegetation.

Appendix B.
Plant Species Observed on the Lincoln Airport Study Area

Appendix B-Plants Observed Lincoln Airport Runway - Feb & Mar 2021

Taxon	Common Name	Wetland Status
<i>Acmispon americanus</i>	Spanish lotus	UPL
<i>Aira caryophylla</i>	Silver European hairgrass	FACU
<i>Avena barbata</i>	Slender wild oat	UPL
<i>Bromus diandrus</i>	Ripgut grass	UPL
<i>Bromus hordeaceus</i>	Soft chess	FACU
<i>Calandrinia menziesii</i>	Red maids	FACU
<i>Cardamine oligosperma</i>	Western bitter-cress	FAC
<i>Centaurea solstitialis</i>	Yellow starthistle	UPL
<i>Centromadia fitchii</i>	Fitch's spikeweed	FACU
<i>Cicendia quadragnularis</i>	Oregon timwort	FAC
<i>Cichorium intybus</i>	Chicory	FACU
<i>Convolvulus arvensis</i>	Bindweed	UPL
<i>Croton setiger</i>	Turkey mullein	UPL
<i>Cynodon dactylon</i>	Bermudagrass	FACU
<i>Dittrichia graveolens</i>	Stinkwort	UPL
<i>Eleocharis macrostachya</i>	Creeping spikerush	OBL
<i>Elymus caput-medusae</i>	Medusahead	UPL
<i>Epilobium brachycarpum</i>	Summer cottonweed	UPL
<i>Erodium botrys</i>	Broad-leaf filaree	FACU
<i>Erodium cicutarium</i>	Red-stem filaree	UPL
<i>Eryngium vaseyi</i>	Coyote thistle	FACW
<i>Festuca myuros</i>	Rattail sixweeks grass	FACU
<i>Festuca perennis</i>	Italian ryegrass	FAC
<i>Geranium molle</i>	Dove's-foot geranium	UPL
<i>Holocarpa virgata subsp. virgata</i>	Virgate tarweed	UPL
<i>Hordeum marinum subsp. gussoneanum</i>	Mediterranean barley	FAC
<i>Hypochaeris glabra</i>	Smooth cat's-ear	UPL
<i>Juncus balticus</i>	Baltic rush	FACW
<i>Juncus bufonius</i>	Toad rush	FACW
<i>Lactuca serriola</i>	Prickly lettuce	FACU
<i>Lasthenia fremontii</i>	Fremont's goldfield	OBL
<i>Leontodon saxatilis</i>	Long-beaked hawkbit	FACU
<i>Lepidium nitidum</i>	Shining peppergrass	FAC
<i>Limnanthes sp.</i>	Meadowfoam	VARIES
<i>Lythrum hyssopifolia</i>	Hyssop loosestrife	OBL
<i>Medicago polymorpha</i>	California burclover	FACU
<i>Navarretia intertexta</i>	Needle-leaved navarretia	FACW
<i>Plagiobothrys stipitatus</i>	Stalked popcorn-flower	FACW

Taxon	Common Name	Wetland Status
<i>Pogogyne zizphoroides</i>	Sacramento mesamint	OBL
<i>Psilocarphus brevissimus</i>	Short woollyheads	FACW
<i>Ranunculus bonariensis var. trisepalus</i>	Vernal pool buttercup	OBL
<i>Raphanus sativus</i>	Wild radish	UPL
<i>Rumex acetosella</i>	Sheep sorrel	FACU
<i>Rumex crispus</i>	Curly dock	FAC
<i>Stellaria media</i>	Common chickweed	FACU
<i>Trifolium dubium</i>	Little hop clover	UPL
<i>Trifolium hirtum</i>	Rose clover	UPL
<i>Trifolium variegatum</i>	Whitetip clover	FAC
<i>Triphysaria eriantha</i>	Butter-and-eggs	UPL
<i>Vicia villosa</i>	Winter vetch	UPL

Appendix C.
USACOE Aquatic Resources Spreadsheet

Lincoln Regional Airport: National Wetlands Inventory, U.S. Fish and Wildlife Service



Source: U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin | Earthstar Geographics

Lincoln Regional Airport
Runway 15-33 Reconstruction
Final Environmental Assessment

APPENDIX D

AIR QUALITY MODEL INPUT AND RESULTS

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Lincoln Airport														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.68	6.19	7.09	8.61	0.31	8.30	2.00	0.27	1.73	0.02	1,608.85	0.41	0.04	1,631.15
Grading/Excavation	4.08	38.56	49.95	10.33	2.03	8.30	3.41	1.69	1.73	0.13	12,700.84	2.46	0.81	13,002.51
Drainage/Utilities/Sub-Grade	3.40	32.35	33.64	9.74	1.44	8.30	3.04	1.32	1.73	0.07	6,807.49	1.55	0.09	6,872.95
Paving	1.34	17.94	22.57	0.98	0.98	0.00	0.72	0.72	0.00	0.08	7,760.50	0.73	0.84	8,030.00
Maximum (pounds/day)	4.08	38.56	49.95	10.33	2.03	8.30	3.41	1.69	1.73	0.13	12,700.84	2.46	0.84	13,002.51
Total (tons/construction project)	0.09	0.90	1.08	0.26	0.04	0.21	0.08	0.04	0.04	0.00	263.64	0.05	0.01	269.22

Notes: Project Start Year -> 2023
 Project Length (months) -> 2
 Total Project Area (acres) -> 50
 Maximum Area Disturbed/Day (acres) -> 1
 Water Truck Used? -> Yes

Phase	Total Material Imported/Exported Volume (yd ³ /day)		Daily VMT (miles/day)			
	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	280	40
Grading/Excavation	771	0	1,170	0	760	40
Drainage/Utilities/Sub-Grade	0	0	0	0	680	40
Paving	0	872	0	1,320	520	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Lincoln Airport														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.00	0.02	0.02	0.03	0.00	0.02	0.01	0.00	0.01	0.00	4.83	0.00	0.00	4.44
Grading/Excavation	0.05	0.46	0.60	0.12	0.02	0.10	0.04	0.02	0.02	0.00	152.41	0.03	0.01	141.55
Drainage/Utilities/Sub-Grade	0.04	0.34	0.35	0.10	0.02	0.09	0.03	0.01	0.02	0.00	71.48	0.02	0.00	65.47
Paving	0.01	0.08	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.92	0.00	0.00	32.78
Maximum (tons/phase)	0.05	0.46	0.60	0.12	0.02	0.10	0.04	0.02	0.02	0.00	152.41	0.03	0.01	141.55
Total (tons/construction project)	0.09	0.90	1.08	0.26	0.04	0.21	0.08	0.04	0.04	0.00	263.64	0.05	0.01	244.24

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Lincoln Regional Airport
Runway 15-33 Reconstruction
Environmental Assessment

APPENDIX E

**PLACER COUNTY CONSERVATION PROGRAM (PCCP)
EXECUTIVE SUMMARY
INCLUDES
COVERED ACTIVITIES
COVERED SPECIES**

**PLACER COUNTY
CONSERVATION PROGRAM**

**WESTERN PLACER COUNTY
HABITAT CONSERVATION PLAN/
NATURAL COMMUNITY CONSERVATION PLAN**



Executive Summary

SEPTEMBER 2018

FOR MORE INFORMATION, VISIT:
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PLACER COUNTY CONSERVATION PROGRAM

WESTERN PLACER COUNTY HABITAT CONSERVATION PLAN / NATURAL COMMUNITY CONSERVATION PLAN

EXECUTIVE SUMMARY SEPTEMBER 2018

The Placer County Conservation Program (PCCP) is a framework for conservation of certain special status species and natural communities in western Placer County and supports local agencies' application for state and federal regulatory permits. The PCCP comprises three planning documents published by the County of Placer:

- **Western Placer County Habitat Conservation Plan and Natural Community Conservation Plan**
- **Western Placer County Aquatic Resources Program**
- **Western Placer County In-Lieu Fee Program**

This Executive Summary offers an overview of the PCCP; the program is described in detail in the planning documents, in the Implementing Agreement, and in other supporting material. The executive summary covers:

- 1. Program:** Local Agency Permittees and Regulatory Agencies, Covered Activities, the Plan Area, Covered Communities and Covered Species, the PCCP Map, and the Stream System
- 2. Conservation Strategy:** Conservation Strategy, Reserve System, Stream Protection and Enhancement, Wetland Conservation and No Overall Net Loss of Wetland Values and Functions, and Avoidance, Minimization, and Mitigation
- 3. Cost and Funding:** Plan Cost, Plan Funding, and Development Fees
- 4. Permit:** Launching the Plan, The Plan in Action, Proceeding with Covered Activities, Changing the Plan
- 5. References**

Acronyms

PCCP The Placer County Conservation Program

PCA The Placer Conservation Authority, created to implement the Plan

RAA Reserve Acquisition Area, where the majority of reserve acquisition will occur

PFG Potential Future Growth area, where the majority of future growth will occur

EXR Existing reserves and protected areas, private mitigation banks and public lands

1. PROGRAM

1. THE PLACER COUNTY CONSERVATION PROGRAM

Local Agency Permittees and Regulatory Agencies

The goal of the Placer County Conservation Program (PCCP) is to provide an effective framework to protect, enhance, and restore the natural resources in specific areas of western Placer County, while streamlining environmental permitting for Covered Activities. Within this framework, the PCCP will achieve conservation goals for certain special status species and natural communities, comply with state and federal environmental regulations, accommodate anticipated urban and rural growth, and permit the construction and maintenance of needed infrastructure.

The PCCP was prepared by the local agencies that will become Permittees, in cooperation with state and federal regulatory agencies.

The PCCP includes three separate, but complementary, components that support two sets of state and federal permits:

- **Western Placer County Habitat Conservation Plan and Natural Community Conservation Plan** (HCP/NCCP or "Plan") will protect fish and wildlife and their habitats and fulfill the requirements of the federal Endangered

Species Act (ESA), and the California Natural Community and Conservation Planning Act (NCCP Act).

- **Western Placer County Aquatic Resources Program** (CARP) will protect streams, wetlands, and other water resources and fulfill the requirements of the federal Clean Water Act and analogous state laws and regulations.
- **In-Lieu Fee Program** allows requirements under Section 404 of the Clean Water Act to be fulfilled by payment of a fee for compensatory mitigation of impacts on aquatic resources from activities covered under the HCP/NCCP and the CARP.

The state and federal endangered species laws prohibit "take" of protected species without a permit. Take is broadly defined to include harm and habitat loss, as well as killing individuals. The PCCP permits allow "incidental take" of species. The Plan does not provide compliance under the Clean Water Act, but permits issued by the U.S. Army Corps of Engineers will streamline future compliance under the Clean Water Act.

Covered Activities

The permits cover activities that will be undertaken by or approved by the Permittees. Most significant is the private development and public infrastructure for urban, suburban, and

Permittees are the local agencies that will implement the PCCP.

- Placer County
- City of Lincoln
- South Placer Regional Transportation Authority
- Placer County Water Agency
- Placer Conservation Authority (PCA), created to implement the HCP/NCCP and the CARP on behalf of the other Permittees
- Other parties may elect to seek coverage under the HCP/NCCP as "Participating Special Entities,"

Resource Agencies are state and federal regulatory agencies

- **Wildlife Agencies** are the permitting agencies under the federal Endangered Species Act and the California Natural Communities Conservation Planning Act:
 - California Department of Fish and Wildlife
 - U.S. Fish and Wildlife Service
 - National Marine Fisheries Service, National Oceanic and Atmospheric Administration
- **Water Resource Agencies** are the permitting or overseeing agencies under the state Porter-Cologne Water Quality Control Act and the federal Clean Water Act:
 - Central Valley Regional Water Quality Control Board
 - U.S. Army Corps of Engineers
 - U.S. Environmental Protection Agency

1. PROGRAM

rural residential development to accommodate population and employment growth in the City of Lincoln and in unincorporated western Placer County over the next 50 years. Other Permittees have specific public works projects that will be covered: South Placer Regional Transportation Authority for the Placer Parkway project running west from Highway 65 to Sacramento County, and the Placer County Water Agency for construction/operations of new and existing water transmission facilities in western Placer County.

The strong growth of the past few decades is expected to continue and the population of western Placer as a whole is expected to roughly double by 2065. The estimate of 50-year covered growth is based on a scenario derived from City and County General Plans, regional demographic projections, and an analysis of existing patterns of built up and open land. In 2014, there were 109,000 people

living in 40,000 households and 33,000 jobs in Lincoln and unincorporated western Placer County; the growth scenario shows an increase of 93,000 housing units and 91,000 jobs on roughly 30,000 acres of land. The PCCP minimizes and mitigates the impacts of that growth on Covered Communities and Covered Species.

Activities not covered by this Plan are listed fully in HCP/NCCP Section 2.7 and include agriculture, quarrying, and minor activities on already developed land, on small existing parcels, of limited scope, or not requiring a permit.

The Plan Area

The PCCP Plan Area is western Placer County and specific conservation activity areas in neighboring Sutter County. The Plan Area is where the permits will apply. See Figure 1.

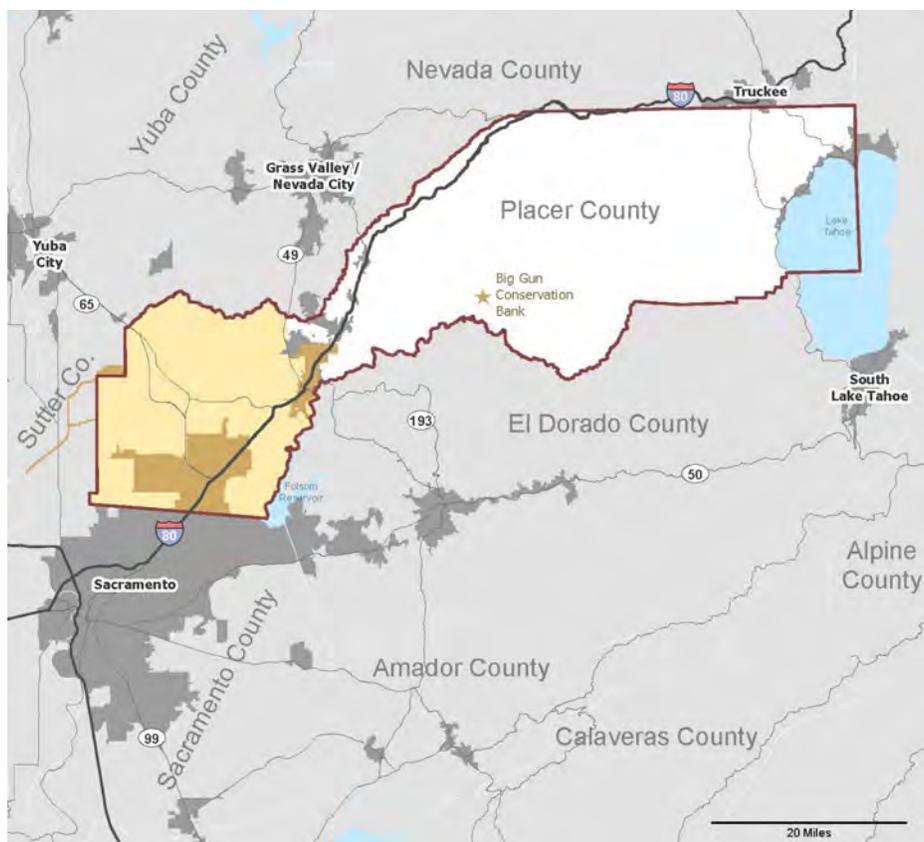


Figure 1.
PCCP Location

Placer County Conservation Program
Western Placer County HCP/NCCP

- Plan Area A
- Plan Area B

Western Placer County refers to roughly 261,000 acres, ranging from California State Route 49 westward to Sutter and Sacramento Counties. Plan Area A includes the City of Lincoln and unincorporated Placer County, which are the two general land use authorities permitted under the PCCP. The cities of Auburn, Loomis, Rocklin, and Roseville are not Permittees and are referred to as the Non-participating Cities, although County actions there are covered as Plan Area B along with a portion of adjoining Sutter County.

1. PROGRAM



Figure 2.
Plan Area

- Plan Area A: Valley (100,700 acres)**
The Valley portion of Plan Area A comprises the city of Lincoln and unincorporated western Placer County below roughly 200 feet in elevation.
- Plan Area A: Foothills (109,295 acres)**
The Foothills portion comprises unincorporated western Placer County.
- Valley/Foothill Divide
- Plan Area B:**
 - B1: Permittee Activity carrying out public projects in Non-participating City Jurisdiction (50,600 acres)
 - B2: PCWA Zone 1 Operations and Maintenance (6,315 acres)
 - B3: Racoon Creek Floodplain Conservation (1,724 acres)
 - B4: Fish Passage Channel Improvement (559 acres, 32.9 miles of stream channel)
 - B5: Big Gun Conservation Bank (52 acres)

Plan Area A is the main focus of the HCP/ NCCP and where all future growth and most of the Covered Activities will take place. Plan Area A is the City of Lincoln, plus all unincorporated lands within western Placer County: approximately 209,800 acres, or roughly five-sixths of western Placer County.

Plan Area B comprises several additional areas in Placer County and adjacent Sutter County where only specific public agency or conservation Covered Activities may occur.

The changing landscape of agriculture, urban development, and woodland across Western Placer County marks the transition from the Sacramento Valley on the west to the Sierra Nevada foothills on the east. The PCCP uses the natural break roughly along the 200 foot

contour to demark the Valley and the Foothills as a way of organizing the Plan, as shown in Figure 2.

Covered Communities

The Plan uses the terms land-cover type, community, and constituent habitat to classify and describe the biological and land use setting of the Plan Area.

Land-cover type is the dominant feature of the land surface discernible from aerial photographs and defined by vegetation, water, or human uses and serves as the basic mapping unit. Land-cover types are modeled after the California Wildlife Habitat Relationship system adapted to better describe the mosaic of agricultural and urban uses in the Plan Area.

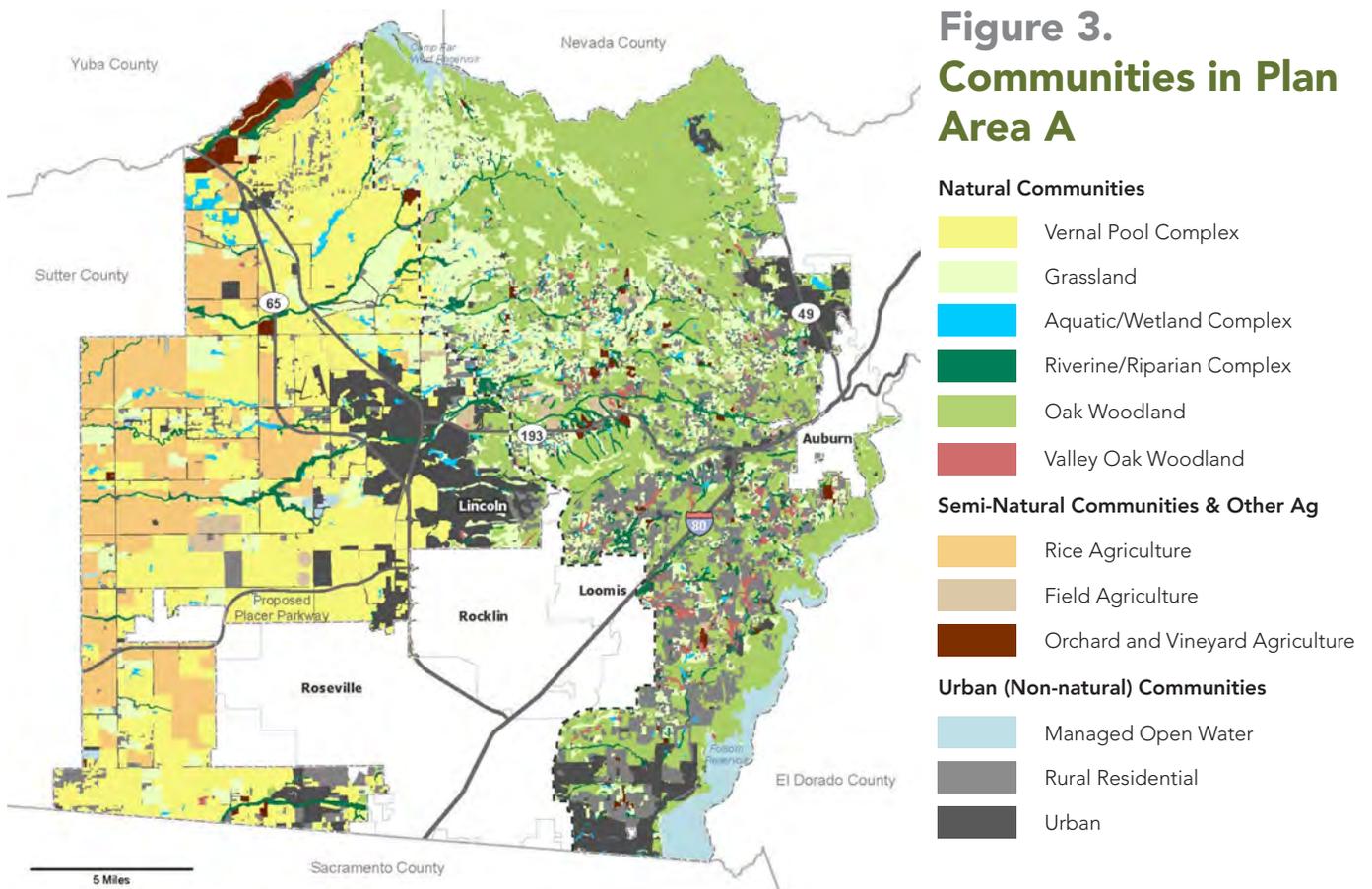
Community in the context of the PCCP means land-cover types that are grouped together because of similarity in vegetation type, vegetation structure, ecological function, and current land use. This plan recognizes four types of communities: natural communities, semi-natural communities (e.g., rice, field crop), other agriculture (e.g., orchards and vineyards), and urban (non-natural) communities.

Constituent habitats are wetlands or other patches of habitat that are not directly mapped and their presence is inferred by association with land-cover types.

Figure 3 shows the existing distribution of communities in Plan Area A, where all covered future growth would occur. The mapping reflects the environmental setting

prevailing during the PCCP planning period and accordingly, the Wildlife Agencies have set 2011 as the baseline year for evaluating covered effects. The mapping is a compilation of Placer County data and air photo interpretation, offering sufficient accuracy for regional scale planning. Table 1 provides a description of the natural communities found in Figure 3. Application of the PCCP to future projects will be based on detailed vegetation mapping, wetland delineation, and selective species surveys where applicable.

The PCCP conservation strategy addresses certain covered natural communities which serve as habitat for Covered Species or contribute to sustaining the biological resources of the region.



1. PROGRAM

Table 1. Communities

NATURAL COMMUNITIES



Vernal Pool Complex

Vernal pools form in seasonally flooded depressions in annual grasslands under certain climatic, soil, hydrologic, and topographic conditions. The vernal pool wetlands and the surrounding upland areas upon which they depend constitute the vernal pool complex. Vernal pool complex lands are also grasslands, but the PCCP defines them as a separate community to focus on those Covered Species which must carry out their entire life cycle in one of three types of wetland constituent habitats.

Photo: Placer County



VERNAL POOL WETLAND

Vernal pools are seasonal wetlands found in depressions with an impervious soil layer that prevents percolation; water loss from vernal pools occurs only through evaporation. Vernal pools provide habitat for specialized plants that are able to tolerate several months of inundation and anaerobic conditions, followed by months of hot, dry weather.

Photo: Mariner Mitigation Bank, Placer County



SEASONAL WETLAND IN VERNAL POOL COMPLEX

Seasonal wetland is a general term for wetlands formed in depressions or behind berms that remain saturated until spring but become dry before emergent marsh species can become established. Seasonal wetlands serve as vernal pool complex constituent habitat within the vernal pool/grassland matrix but do not support full vernal pool flora often due to degradation from past activities such as agricultural disking.

Photo: Jeff Glazner



SEASONAL SWALES

Seasonal swales are natural features that drain gently sloped topography. Water flow during rainy periods lacks the intensity or duration needed to create the bed-and-bank morphology that is characteristic of riverine systems. Seasonal swales are usually dominated by species that can occur in either wetlands or uplands. Seasonal swales in a vernal pool complex are those that convey water within the vernal pool/grassland matrix.

Photo: Loren Clark



Aquatic/Wetland Complex

The aquatic/wetland complex community consists of aquatic vegetation and wildlife that is not primarily riverine or riparian, and not primarily associated with vernal pools. The different types of wetlands and open water that comprise aquatic/wetland complex change during the year and from year-to-year as rainfall and water levels change, but the overall complex is a persistent community.

Photo: Placer County



FRESH EMERGENT MARSH

Fresh emergent marsh occurs at a range of elevations throughout both Valley and Foothills. Fresh emergent marsh is distinguished from deepwater aquatic habitats and wet meadows or grassland habitats by the presence of tall, perennial grass-like plants that are rooted in soils and permanently or seasonally flooded or inundated.

Photo: Miners Ravine, Placer Land Trust



LACUSTRINE

Lacustrine ecosystems are natural ponds and lakes as well as artificial features such as stock ponds or small reservoirs which have similar habitat based on ecological function and association with other habitats in the complex. The relatively calm waters of lakes and ponds contrast with flowing water in riverine ecosystems. The oxygen content of lakes is low due to a combination of decomposition occurring at the bottom of lakes and the lower proportion of the water in direct contact with air at the surface.

Photo: Jeff Glazner



NON-VERNAL POOL SEASONAL WETLAND

Seasonal wetlands not associated with vernal pool complex occur as isolated wetlands and swales that pond water or have saturated soil during the rainy season in a variety of topography throughout western Placer County. These are typically small, and most occur within grazed annual grassland and irrigated pasture ecosystems. Larger areas occur adjacent to fresh emergent marshes in agricultural settings in the Valley.

Photo: Jeff Glazner

1. PROGRAM

NATURAL COMMUNITIES



Riverine/Riparian Complex

Riverine and associated riparian ecosystems are present in a diverse mosaic around the streams and rivers in the Plan Area, which is mapped as a single riverine/riparian complex. Closely associated land-cover types and constituent habitats interspersed within the riverine/riparian complex include grasslands, valley oak woodland, fresh emergent marsh, and seasonal wetlands.

Photo: Doty Ravine, Placer County



RIVERINE

The riverine constituent habitat is the stream channel actively flowing year round in perennial streams, or seasonally and occasionally flowing in intermittent and ephemeral streams. Riverine systems in western Placer County receive some input from groundwater, irrigation, municipal discharge, as well as precipitation runoff and seasonal flow. The flow regime in a stream profoundly affects its ecology; in particular, its ability to support fish and other aquatic organisms. The riverine constituent habitat nominally represents the entire stream ecosystem for aquatic species, including the covered salmonids.

Photo: Harvego Bear River Preserve, Placer Land Trust



RIPARIAN

These water-dependent woody and woodland ecosystems include widely distributed riparian habitats in western Placer County. Riparian ecosystems are recognized throughout California as important natural communities because of their limited extent compared to historical distributions, their importance to dependent plant and wildlife species, and the threats facing remaining stands. Significant riparian stands are generally restricted to low-gradient depositional reaches with some floodplain development along larger rivers and as narrow and generally discontinuous bands of trees on disturbed and intermittent streams.

Photo: Jeff Glazner



Oak Woodland

The oak woodland community occurs mainly in the Foothills and comprises a diversity of dominant tree species, which are represented by five woodland land-cover types: blue oak woodland, interior live oak woodland, mixed oak woodland, oak-foothill pine woodland, and oak savanna. Foothill chaparral and rock outcrop have minor extent and are mapped with the oak woodland community.

Photo: Garden Bar, Placer Land Trust



Valley Oak Woodland

Valley oak woodland is treated as a separate community because of its conservation importance where it occurs in larger stands. Valley oak also occurs in the oak woodland and riverine/riparian communities.

Photo: Aitken Ranch, Loren Clark



Grassland

The grassland community in the Plan is defined as annual grassland and pasture land-cover types. In western Placer County, annual grasslands occur naturally at the lower elevations below 300 feet. Annual grasslands in the Valley are dominated by non-native grasses and forbs, with few trees. There are still a few remnant examples of native grasslands, which are often found around the edges of wetlands or moist bottomlands in the Valley. Taken together with vernal pool complex lands, nearly half of the Valley landscape is in some form of annual grassland.

Photo: Hidden Falls, Loren Clark

1. PROGRAM

SEMI-NATURAL COMMUNITIES and AGRICULTURE



RICE

Rice is mapped as a community because of its large extent, its relationship to historic vernal pool complex lands, and potential for wetland restoration. Mapped rice includes fields that are under current cultivation and fallow fields with water control structures in place. Fields are flooded in spring for seeding and often again after the fall harvest to control pests and to provide waterfowl habitat. Wetland vegetation can occur in surrounding ditches and canals.

Photo: Tom Reid



FIELD AGRICULTURE

Field agriculture is mainly row crops; only small amounts of alfalfa are grown in western Placer County as a hay crop in irrigated fields. Apart from the cultivated area, vegetation remaining on field margins may include a variety of introduced grasses and legumes as well as noxious weeds and other non-native invasive plants.

Photo: Loren Clark



ORCHARD AND VINEYARD

Orchards and vineyards are considered together as an agriculture community separate from other agricultural lands that have some value for Covered Species. Orchards in western Placer County are planted with walnuts and citrus, usually by conversion of vernal pool complex, grassland, or oak woodland communities and often adjacent to streams or irrigation canals.

Photo: Walnut Orchard, Placer County

URBAN and OTHER NON-NATURAL COMMUNITIES



MANAGED OPEN WATER

The managed open water community was created to differentiate the highly artificial open water found in canal, reservoir, and the urban landscape from ponds that would have lacustrine ecological function as a constituent habitat in the aquatic/wetland community.

Photo: Wise Canal Forebay, Google



RURAL RESIDENTIAL

The rural residential community maps very low-density (1 to 10 acres per dwelling unit) residential development. Because of the low density, rural residential can retain some natural habitat: grassland or vernal pool complex land in the Valley and woodland in the Foothills.

Photo: Placer County



URBAN

The urban community represents a variety of developed land-cover types, generally based on the Placer County Planning Services Division land use categories where urban and suburban is defined as greater than one dwelling unit per acre. This includes land use categories: urban/suburban, urban golf course, urban parks, urban riparian, urban wetland, and urban woodland.

Photo: Placer County

Covered Species

The PCCP and permits name 14 special status species as Covered Species. A description of the federal status, state status, and associated habitats for these species in Placer County is included in Table 2.

PCCP Map

The PCCP uses a map shown in Figure 4 to designate:

RAA: Reserve Acquisition Area, where the majority of reserve acquisition will occur. Covered Activities in the RAA include some public projects such as the Placer Parkway, and private projects allowed under the mainly agricultural or rural development designation of the existing City and County general plans.

PFG: Potential Future Growth area, where the majority of future growth will occur. Lands with high conservation value and lands along the Stream System in the PFG may be included in the reserve system.

EXR: Existing reserves and protected areas, private mitigation banks, and public lands used primarily for biological resource conservation.

The Reserve Acquisition Area is the principal conservation focus of the PCCP. The Existing reserves and protected areas are not expected to change over the permit term, and PCCP implementation combines them with the Reserve Acquisition Area for the purpose of limiting take and administering Covered Activities as a Plan Area component termed "Conservation and Rural Development" (CRD).

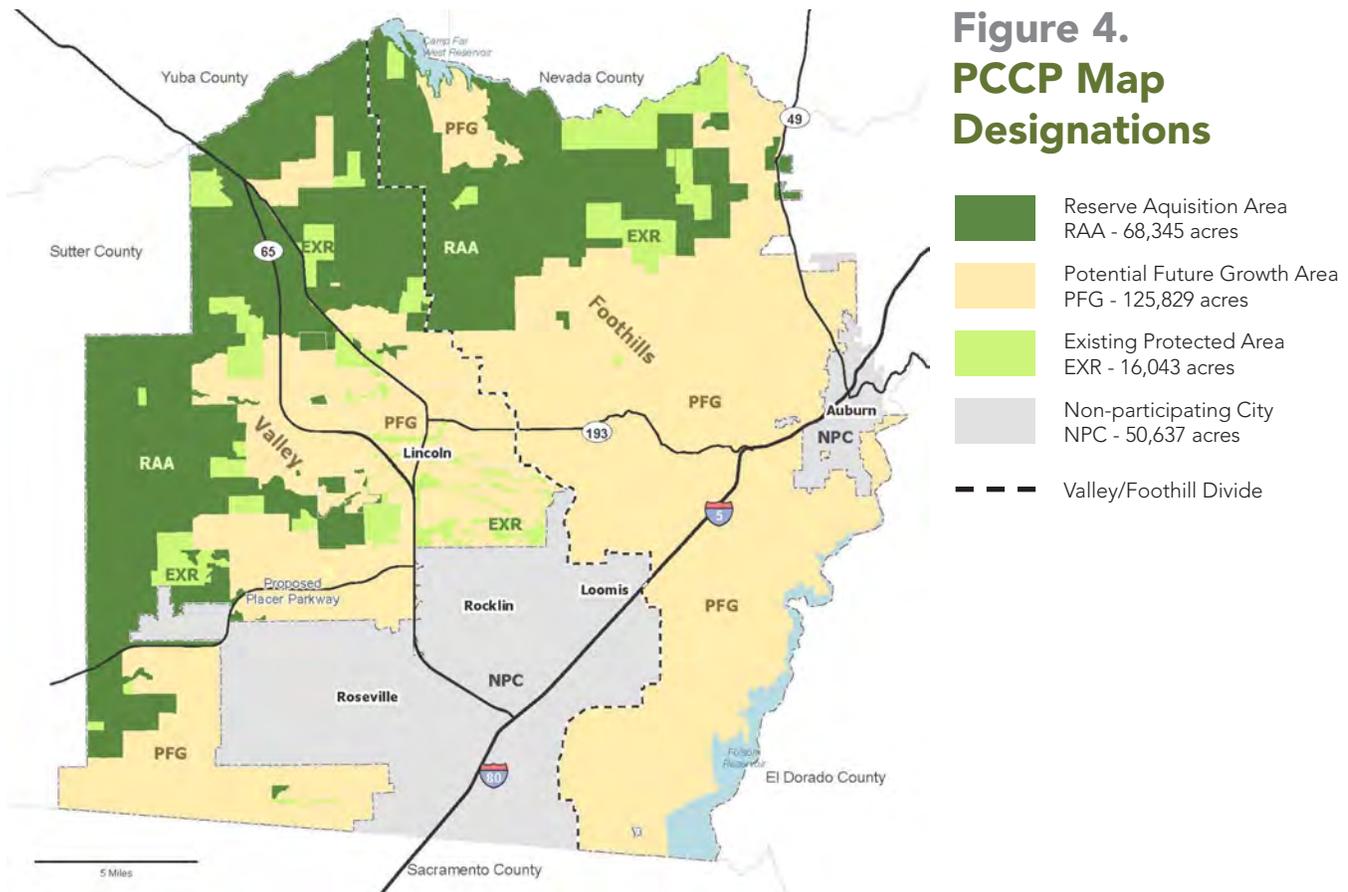


Figure 4.
PCCP Map
Designations

- Reserve Acquisition Area
RAA - 68,345 acres
- Potential Future Growth Area
PFG - 125,829 acres
- Existing Protected Area
EXR - 16,043 acres
- Non-participating City
NPC - 50,637 acres
- Valley/Foothill Divide

1. PROGRAM

Table 2. Covered Species

BIRDS		<p>Burrowing Owl <i>Athene cunicularia</i></p> <p>FEDERAL STATUS Bird Species of Conservation Concern, Migratory Bird Treaty Act</p> <p>STATE STATUS Species of Special Concern</p>	<p>HABITAT IN PLACER COUNTY Nests and forages in grassland habitats. Also found in agricultural and rangelands. Potentially nests and overwinters in oak woodland and vernal pool complexes.</p> <p>Photo: Cornell Lab of Ornithology</p>
		<p>Tricolored Blackbird <i>Agelaius tricolor</i></p> <p>FEDERAL STATUS Bird Species of Conservation Concern, Migratory Bird Treaty Act</p> <p>STATE STATUS Species of Special Concern</p>	<p>HABITAT IN PLACER COUNTY Nesting habitat is marsh complexes and in large stands of Himalayan blackberry in the valley and foothills where there is open accessible water; protected nesting areas such as flooded, thorny, or spiny vegetation; and suitable foraging habitat. Foraging habitats in all seasons include annual grasslands; wet and dry vernal pools and other seasonal wetlands; agricultural fields; cattle feedlots; dairies; and occasionally in riparian scrub and marsh borders.</p> <p>Photo: Audubon</p>
		<p>California Black Rail <i>Laterallus jamaicensis coturniculus</i></p> <p>FEDERAL STATUS Bird Species of Conservation Concern, Migratory Bird Treaty Act</p> <p>STATE STATUS Threatened, Fully Protected</p>	<p>HABITAT IN PLACER COUNTY Nesting habitat is perennial wetlands with standing or flowing water dominated by dense vegetation.</p> <p>Photo: Phil Robertson</p>
REPTILES		<p>Swainson's Hawk <i>Buteo swainsoni</i></p> <p>FEDERAL STATUS Bird Species of Conservation Concern, Migratory Bird Treaty Act</p> <p>STATE STATUS Threatened</p>	<p>HABITAT IN PLACER COUNTY Nests and forages in the Valley in mature trees such as valley oaks, cottonwoods, and eucalyptus. Swainson's hawks nest in trees within open landscapes with suitable foraging habitat such as grasslands, vernal pool complexes, and agricultural lands such as fallow fields, pasture, and alfalfa. Swainson's hawks also nest in riverine/riparian and valley oak woodland adjacent to suitable foraging habitat.</p> <p>Photo: Cornell Lab of Ornithology</p>
		<p>Giant Garter Snake <i>Thamnophis gigas</i></p> <p>FEDERAL STATUS Threatened</p> <p>STATE STATUS Threatened</p>	<p>HABITAT IN PLACER COUNTY Aquatic habitat is found in marshes and agricultural wetlands, particularly rice lands and associated slow-moving waterways, including irrigation and drainage canals, sloughs, ponds, small lakes, and low-gradient streams. Adjacent upland habitat is used for basking, seeking cover from predators, and refuge from floodwaters during the inactive season from mid-fall through early spring.</p> <p>Photo: Gary Nafis, Californiaherps.com</p>

REPTILES



Western Pond Turtle

Emys marmorata

FEDERAL STATUS
N/A

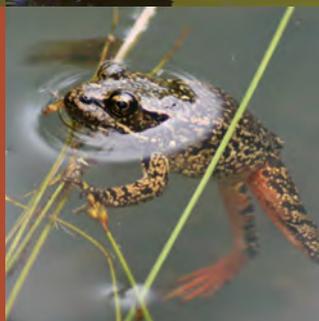
STATE STATUS
Species of Special Concern

HABITAT IN PLACER COUNTY

Aquatic habitat includes fresh emergent wetlands, seasonal wetland, riverine/riparian, and ponds. Upland habitat includes grasslands and oak woodlands within 150 feet of aquatic habitat.

Photo: Yathis Krishnappa, Hilltromper Santa Cruz

AMPHIBIANS



California Red-Legged Frog

Rana draytonii

FEDERAL STATUS
Threatened

STATE STATUS
Species of Special Concern

HABITAT IN PLACER COUNTY

Aquatic habitat includes ponds, wetlands, riverine, riparian, and marsh habitats in the Foothills above 200 foot elevation. Upland habitat includes grasslands and oak woodlands within a mile of aquatic habitat.

Photo: Big Gun Preserve, Placer Land Trust



Foothill Yellow-Legged Frog

Rana boylei

FEDERAL STATUS
N/A

STATE STATUS
Species of Special Concern

HABITAT IN PLACER COUNTY

Year-round habitat is riverine and riparian habitats in rocky perennial streams in the Foothills above 500 foot elevation.

Photo: Gary Nafis, Californiaherps.com

FISH



Central Valley Steelhead

Oncorhynchus mykiss irideus

FEDERAL STATUS
Threatened

STATE STATUS
N/A

HABITAT IN PLACER COUNTY

Streams connected to the Pacific Ocean, below major barriers to movement such as dams. Water temperature and stream substrate are important spawning and incubation habitat indicators. Spawning and incubation require correct velocity, temperature (30–52°F), and substrate (e.g., gravel without too much silt) to be successful. Instream and overhead cover (e.g., undercut banks, overhanging tree branches, etc.) is important for juveniles. Photo: Underwater-fish.blogspot.com

Chinook Salmon

(Central Valley Fall/Late Fall-Run)
Oncorhynchus tshawytscha

FEDERAL STATUS
Species of Concern, Magnuson-Stevens Act Managed Species

STATE STATUS
Species of Special Concern

HABITAT IN PLACER COUNTY

Streams connected to the Pacific Ocean, below major barriers to movement such as dams. Water temperature and stream substrate are important spawning and incubation habitat indicators. Spawning and incubation require correct water velocity, temperature (<53–60°F), depth, and substrate to be successful. Instream and overhead cover (e.g., undercut banks, overhanging tree branches, etc.) are important for juveniles. Photo: Oregon State University

1. PROGRAM

Table 2. (continued)

INVERTEBRATES		<p>Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i></p> <p>FEDERAL STATUS Endangered</p> <p>STATE STATUS N/A</p>	<p>HABITAT IN PLACER COUNTY Rain-filled vernal pools, seasonal wetlands, and seasonal swales situated within grasslands in the Valley. Pools occupied by vernal pool tadpole shrimp typically have turbid waters or aquatic vegetation that may provide shelter from predators.</p> <p>Photo: Doug Wirtz, Arkive.org</p>
		<p>Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i></p> <p>FEDERAL STATUS Threatened</p> <p>STATE STATUS N/A</p>	<p>HABITAT IN PLACER COUNTY Rain-filled vernal pools, seasonal wetlands, and seasonal swales, often with grass or mud bottoms, situated within grasslands in the Valley.</p> <p>Photo: Earth.com</p>
		<p>Conservancy Fairy Shrimp <i>Branchinecta conservatio</i></p> <p>FEDERAL STATUS Endangered</p> <p>STATE STATUS N/A</p>	<p>HABITAT IN PLACER COUNTY A single known vernal pool at the Mariner Conservation Bank within the Southeastern Sacramento Valley vernal pool region.</p> <p>Photo: USFWS</p>
		<p>Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i></p> <p>FEDERAL STATUS Threatened</p> <p>STATE STATUS N/A</p>	<p>HABITAT IN PLACER COUNTY Elderberry shrubs occurring in valley oak woodland or elderberry savannas adjacent to riparian vegetation. Primarily found in wet or riverine areas that support significant riparian zones.</p> <p>Photo: Brian Hansen, USFWS</p>

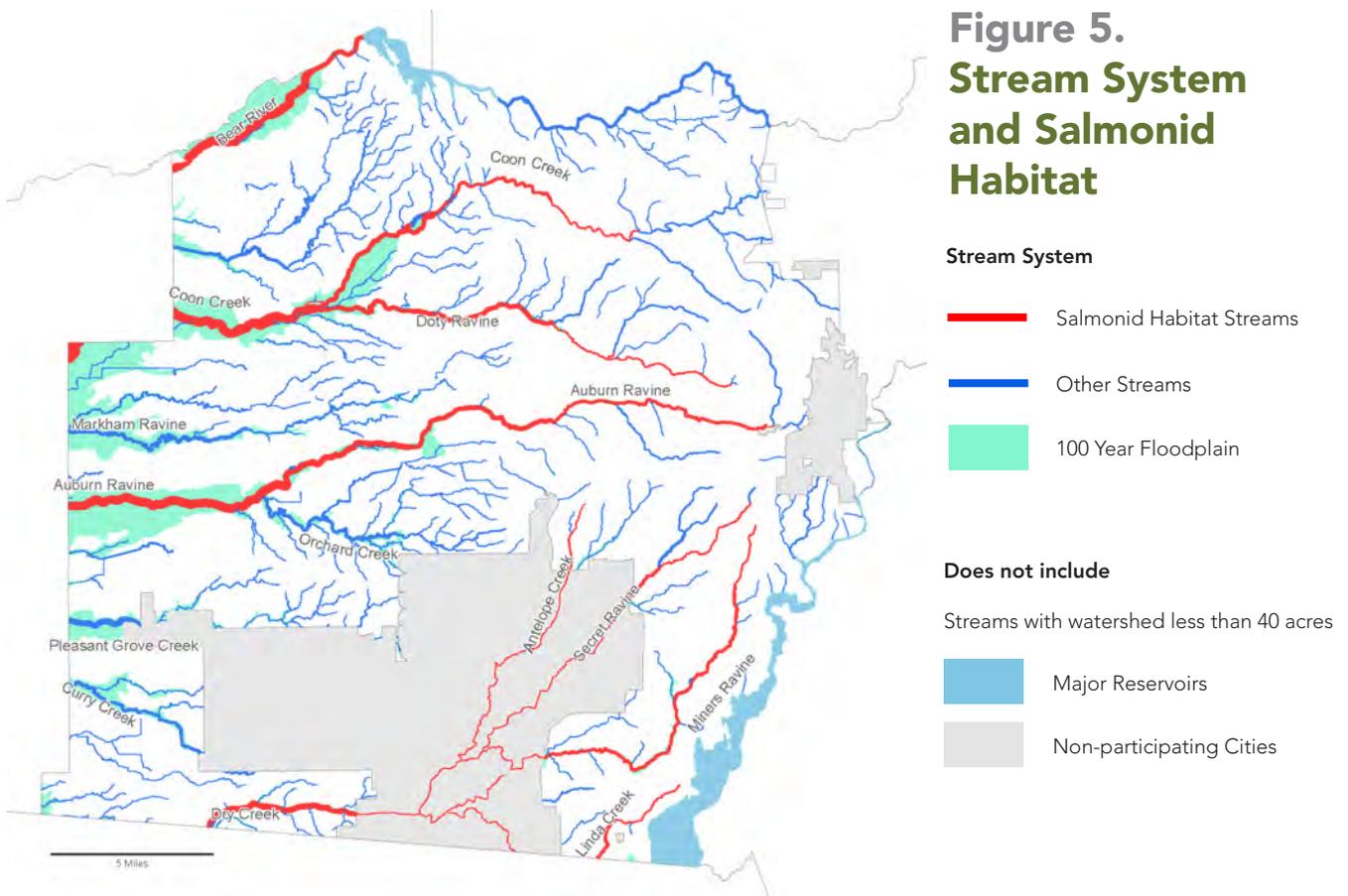
Stream System

The PCCP defines the Stream System around major streams and creeks as a way to focus conservation on this important resource. The Stream System and salmonid habitat are shown in Figure 5.

The Stream System is established by the outermost line of:

1. The 100-year floodplain, or
2. The boundary width distance for certain named stream reaches measured outward from the Ordinary High Water Mark, or
3. The area within 50 feet of the Ordinary High Water Mark for other “blueline” streams located on the National Hydrography Dataset.

The PCA map will identify which reaches are included in the Stream System, but the actual location of the stream banks and the 100-year floodplain will be determined based on a site survey. The PCA will add sections of streams, where needed, to provide hydraulic continuity throughout the watershed. Canals or artificial water courses are included only if they serve to convey natural runoff through the watershed in lieu of a natural stream and they are not completely lined with impervious material. Minor drainages at the headwaters of watersheds where the watershed falls below 40 acres in extent are not included in the Stream System; any riverine or riparian vegetation present will be addressed by the separate requirements for constituent habitats.



2. CONSERVATION

2. CONSERVATION

Conservation Strategy

The PCCP conservation strategy has four main components:

- 1. Reserve System.** The Plan proposes to progressively establish a large system of interconnected blocks of land. The reserve system will provide a means for protecting, managing, enhancing, and restoring or creating the natural and semi-natural communities and habitats that support the Covered Species.
- 2. Stream Protection, Enhancement, and Avoidance.** The Plan designates the Stream System to protect and enhance Covered Species' habitats, water quality, and maintain connectivity in the reserve system. In-stream enhancement actions include removal or modification of barriers to fish passage, screening water diversions, improvement of in-channel features, and non-native fish control.
- 3. Wetland Conservation and No Overall Net Loss of Wetland Values and Functions.** The Plan provides for protection, enhancement, restoration, and creation of the aquatic/wetland complex natural community including the surrounding upland necessary to sustain the wetlands' hydrological function. The Plan anticipates loss of wetlands, including vernal pool wetlands. Restoration and creation of wetlands will provide in-kind compensatory habitat.

- 4. Avoidance and Minimization.** Covered Activities will avoid and minimize take by complying with specific conditions that apply to certain communities and species including take limits that apply cumulatively to all activities covered under the permit. Conservation measures on the reserve lands and implementation of the conservation strategy will accomplish avoidance and minimization on a regional scale; project site-specific avoidance and minimization will be focused only on specific resources.

Biological Goals and Objectives

In the HCP/NCCP, the strategy is expressed as:

- Biological goals are guiding principles for conservation of the Covered Species and natural communities,
- Biological objectives are measurable targets for reaching goals, and
- Conservation measures are actions taken to achieve the biological goals and objectives.

The Biological Goals and Objectives are summarized here; the reader is referred to the HCP/NCCP Chapter 5 and Table 5-8 Biological Goals, Objectives, and Conservation Measures for specific language and the detailed conservation measures.

Regional Approach to Conservation

The Covered Species, natural communities and Stream System addressed in the Plan represent nearly all of the present biological values in western Placer County. The conservation strategy maps out a path to protecting and

Summary of Landscape Level Biological Goals and Objectives

Reserve System. Include representative natural communities along a range of environmental gradients large enough to support ecosystem function, sustain populations of Covered Species, maintain or increase biological diversity of native species, and accommodate changing environmental conditions.

Establish a large, interconnected reserve system of at least 47,300 acres of natural communities, agricultural habitat, and Covered Species' habitat.

Connectivity. Sustain the effective movement and genetic interchange of organisms between natural communities in a manner that maintains the ecological integrity of the natural communities within the Plan Area.

Summary of Landscape Level Biological Goals and Objectives (cont.)

Remove barriers and protect habitat linkages that allow covered and other native species to move between protected natural communities using east-west corridors along the Stream System and north-south connectivity throughout the Valley and to adjacent counties. Protect upland natural communities surrounding wetlands.

Ecological processes Maintain conditions that sustain and reestablish natural communities and native species.

Implement low impact development standards. Reduce invasive non-native species and increase native species. Manage fire.

restoring these values on a large land area, consistent with foreseen continuing urban growth and thus serving to mitigate the impact of growth on biological resources at a regional scale. Accordingly, biological objectives are expressed as quantitative commitments for land acquisition, protection, and natural and semi-natural community restoration. Some commitments are independent of effects and are not directly tied to the impacts of Covered Activities; some commitments are dependent on effects and provide for

additional restoration and creation to mitigate specific Covered Activities. To illustrate this distinction: the Plan commits to protecting a certain acreage of vernal pool complex lands independent of effects because those resources need to be protected to meet the regional scale conservation objective, regardless of impact on that resource; the Plan also commits to restoring or creating additional vernal pool wetland acreage dependent on effect, in a prescribed 1.5:1 ratio to the amount of wetlands actually lost to

Summary of Natural Community Goals and Objectives

Vernal Pool Complex and Grassland: protect and restore.

Protect 17,000 acres of existing vernal pool complex, including 790 wetted acres of vernal pool habitat. Restore/create 3,000 acres of vernal pool complex and up to 900 wetted acres of vernal pool constituent habitat dependent on effect.

Protect 2,740 and restore 1,000 acres of grassland natural community other than vernal pool complex grassland. Promote regeneration and recruitment of Covered Species and support native biodiversity.

Enhance vegetation and hydrology of degraded vernal pool constituent habitat. Increase the population of ground squirrels to enhance prey populations and habitat for burrowing owls.

Aquatic/Wetlands Complex: protect and restore. Protect 600 acres of aquatic/wetlands complex natural community with particular emphasis on fresh emergent marsh. Restore at least 20 acres of fresh emergent marsh plus wetlands at 1.5:1 ratio of restored/created to affected aquatic/wetland constituent habitat. Maintain and enhance hydrological functions, native biodiversity, and habitats for populations of Covered Species.

Riverine and Riparian Complex: protect and restore. Protect 2,200 acres of riverine/riparian natural community including at least 88.6 linear miles of stream, (riverine). Restore a minimum of 32 acres of riparian plus riverine/riparian constituent habitat at 1.52:1 ratio of restored/

created to affected. Impacts to the Stream System not otherwise mitigated will be offset by restoration of riverine and riparian constituent habitat at 1.52:1 ratio. Enhance the cover, structural diversity, and native species diversity of riparian vegetation.

Remove or modify fish barriers and unscreened water diversions. Enhance stream reaches to promote habitat complexity and function. Effects on Salmonid habitat will be mitigated in-kind; improve in-channel features at a 1.5:1 enhanced to affected ratio in the same watershed and salmonid habitat type, including Plan Area B3, Coon Creek Floodplain Conservation, and Plan Area B4, Fish Passage Channel Improvement.

Oak Woodland: protect and restore. Protect 10,110 acres and restore 100 acres of a diversity of oak woodland land-cover types. Maintain and enhance by promoting regeneration and recruitment of representative species and managing vegetation and invasive plants. Protect 190 acres and restore 225 acres of valley oak woodland with additional restoration in the Valley at 1.5:1 restored to affected ratio.

Agriculture and Other Open Space: incorporate in reserve system. Protect at least 8,240 acres of agricultural lands or natural communities in the Valley, including patches of natural vegetation and large blocks of open space between protected natural communities to preclude development, enhance connectivity, and provide opportunities for protecting, restoring, and managing habitat for Covered Species and other native species.

2. CONSERVATION

further mitigate Covered Activity impacts and to meet the no net loss requirement.

Covered Species Conservation

The PCCP will conserve Covered Species by

regional scale conservation of the natural communities that comprise their habitat. The species level Biological Goals and Objectives are summarized below.

Summary of Species Biological Goals and Objectives

Swainson's Hawk: protect and improve habitat to provide for a sustained population. Protect at least four active Swainson's hawk nest trees distributed within at least 2,964 acres of suitable Swainson's hawk foraging habitat in the reserve system. Protect at least 20 isolated trees with the potential to be used as nesting sites. Maintain or increase prey availability and improve foraging habitat.

California Black Rail: protect and restore habitat to provide for a sustained population. Include at least 10 fresh emergent marsh sites, each at least 2 acres in size and suitable for supporting California black rail within the protected and restored/created wetlands and aquatic land-cover types and including a prescribed number of occupied sites.

Western Burrowing Owl: provide sufficient habitat to maintain or increase the overwintering population and to promote the expansion of a breeding population onto the reserve system. Protect and manage at least three ground squirrel colonies on three separate sites, within protected grasslands providing suitable habitat for western burrowing owl. Artificial burrows may be used if already existing ground squirrel colonies are not present.

Tricolored Blackbird: provide habitat for a sustained population. Protect, manage, and enhance at least 187 acres of modeled tricolored blackbird nesting habitat and 22,138 acres of suitably located foraging habitat within protected or restored vernal pool grassland or grassland natural communities in the Valley reserve system. Protect at least five active tricolored blackbird colony sites and open, accessible water nearby, and at least 200 acres of foraging habitat surrounding each colony site. Locate at least 87 acres of restored/created aquatic/wetland complex with at least five separate suitable nesting habitat sites in the Valley tricolored blackbird range.

Giant Garter Snake: provide habitat to facilitate the expansion of giant garter snake into the reserve system. Protect and manage at least 2,000 acres of rice lands with the necessary perennial water supply in the western portion of the Valley RAA as habitat. Fresh emergent marsh with sufficient water supply can serve in lieu of rice.

Western Pond Turtle: protect and restore habitat for a sustained population. Protect at least 2,800 acres of aquatic and 3,859 acres of upland habitat and manage to provide specific habitat requirements. Restore at least 1,850 acres of aquatic habitat and 1,930 acres of suitable adjacent upland

habitat for western pond turtle.

Foothill Yellow-legged Frog: protect and restore habitat to facilitate the expansion of foothill yellow-legged frog into the Plan Area. Protect 6 miles of streams with 83 acres of riparian vegetation. Restore at least 83 additional acres in the Foothills as foraging and movement habitat.

California Red-legged Frog: protect occupied habitat; restore and create additional habitat. Protect at least 4 acres of occupied California red-legged frog habitat in the Plan Area B5, Big Gun. Protect 1,168 acres of aquatic and 12,484 acres of upland habitat; restore and create 1,241 acres of aquatic and 160 acres of upland habitat in the Foothills.

Salmonids - Central Valley Steelhead, Distinct Population Segment and Central Valley Fall-/Late Fall-Run Chinook Salmon: increase spawning, rearing, and migratory success in the Auburn Ravine, Coon Creek, and Dry Creek watersheds. Protect 25 stream miles of salmonid spawning habitat with 558 acres of associated riparian habitat and protect 10 miles of salmonid migrating habitat with 342 acres of associated riparian habitat, primarily on stream reaches along Coon Creek, Doty Ravine (a major tributary to Coon Creek), and Auburn Ravine. Protect 9,869 acres of oak woodlands and grasslands in the Coon Creek watershed to protect and improve water quality and watershed integrity in the Coon Creek watershed, the primary salmonid Stream System within the RAA.

Valley Elderberry Longhorn Beetle: enhance habitat to support a sustained population. Plant elderberry shrubs and associated riparian species within the restored riparian natural community sufficient to offset loss of valley elderberry longhorn beetle and consistent with USFWS standards.

Vernal Pool Fairy Shrimp & Vernal Pool Tadpole Shrimp: maintain sustained populations. Within the 20,000 acres of protected, restored, and created vernal pool complex, maintain vernal pool fairy shrimp and vernal pool tadpole shrimp occupancy rates equal to or greater than the occupancy rates of vernal pools lost as a result of Covered Activities.

Conservancy Fairy Shrimp: maintain sustained populations. Protect two Conservancy fairy shrimp occurrences for the first occurrence taken and three additional occurrences for each additional occurrence taken, prior to such take.

Reserve System

The reserve system will provide for protection, management, enhancement, restoration, and creation of community types, particularly as habitat for Covered Species and for protection for individuals and enhancement of populations of Covered Species.

The reserve system will be created by acquiring and managing large interconnected blocks of land where ecological sustainability can be maintained, including hydrologic function and land-cover diversity, while minimizing incompatibility of any continuing land use.

The reserve system established for the PCCP will build on a large area of existing protected lands which includes private mitigation banks, land trust holdings, and public lands, much of which was acquired by Placer County under the Placer Legacy program in anticipation of a regional conservation plan. The reserve system will mainly be located in the western and northern Valley and in the northern Foothills and along the Stream System. Table 3 and Figure 6 show how the PCCP will increase community protection, substantially adding to present vernal pool complex lands in the Valley and oak woodland in the Foothills and adding a significant component of aquatic/wetland and riverine/riparian complex conservation in the Stream System and agricultural lands surrounding Valley reserves.

Over the 50-year permit term for the Plan, the PCA will acquire approximately 47,300 acres for natural and semi-natural community protection and restoration, including at least 33,000 acres in the Valley and at least 14,300 acres in the Foothills. Within that land, the PCA will restore from 4,405 to 6,220 acres of natural communities. The PCCP reserves will augment the approximately 16,000 acres of existing protected area. Cumulatively, 38

Table 3.

PCCP Addition to Community Protection

Community	Existing Protected Areas	PCCP Reserve System	All Protected Lands
Vernal Pool Complex	7,067	20,000	27,067
Grassland	1,097	3,740	4,837
Aquatic Wetland Complex	591	1,100	1,691
Riverine/Riparian	458	3,550	4,008
Valley Oak Woodland	21	460	481
Oak Woodland	6,122	10,210	16,332
Agriculture	601	8,240	8,841
All Protected Communities	15,957	47,300	63,257

percent of the present natural and semi-natural landscape in Plan Area A would ultimately be subject to conservation management. This progression is illustrated in Figure 7 which shows the proportion of developed land, protected land, and open land, meaning natural and agriculture not under conservation management, for the Valley and the Foothills in the present and at the end of the 50-year permit term as a consequence of the PCCP.

Stream Protection and Enhancement

Maintaining and enhancing the integrity of the streams and floodplains of western Placer County is a key provision of the PCCP. Salmonid and many other Covered Species' habitat is within the Stream System. The Stream System provides a connection linking protected lands along east-west corridors and habitat connectivity north and south. The PCCP

2. CONSERVATION

sets conditions on Covered Activities affecting streams and watersheds. Because the physical geography of the Stream System cannot be recreated, impacts on the Stream System need to be mitigated by restoring higher biological value to what Stream System remains. Thus, the PCCP assesses a fee for encroachment on the Stream System sufficient to restore the riverine/riparian complex community elsewhere in the western Placer Stream System.

Wetland Conservation and No Overall Net Loss of Wetland Values and Functions

The PCCP, through both the HCP/NCCP and the companion CARP, identifies several constituent wetland habitats for protection

and restoration. Protection is accomplished by emphasizing wetland habitats in land acquisition for the reserve system and by setting conditions on Covered Activities to minimize impacts on wetland habitats. Where impacts are not avoided, restoration will occur at a 1.5:1 ratio as mitigation to ensure that there would be no net loss of wetland area, biological values, and ecological function.

Avoidance, Minimization, and Mitigation

The Plan contains conditions on Covered Activities to avoid and minimize effects and, where avoidance is not feasible, requires mitigation for loss of Covered Species habitat. Regional-scale avoidance and minimization

Figure 6. Increase in Community Protection

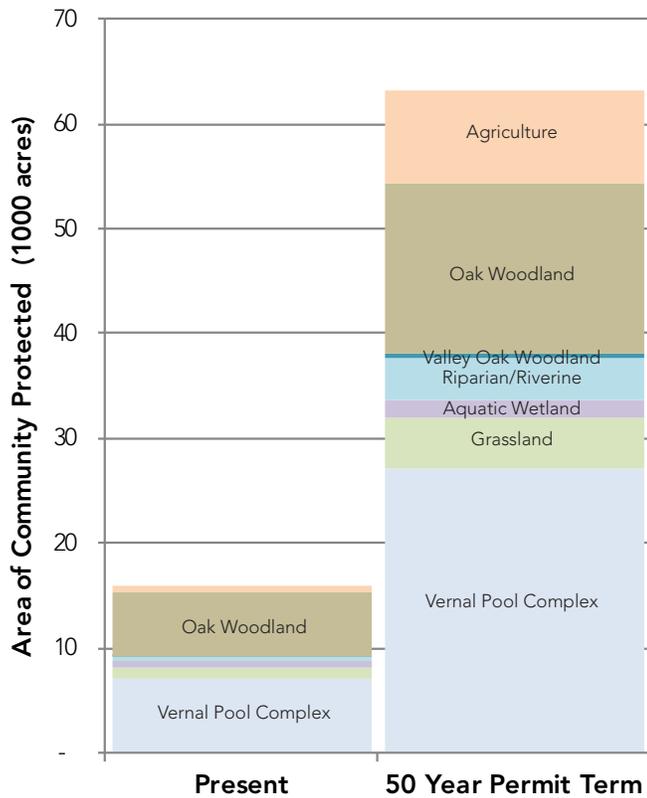
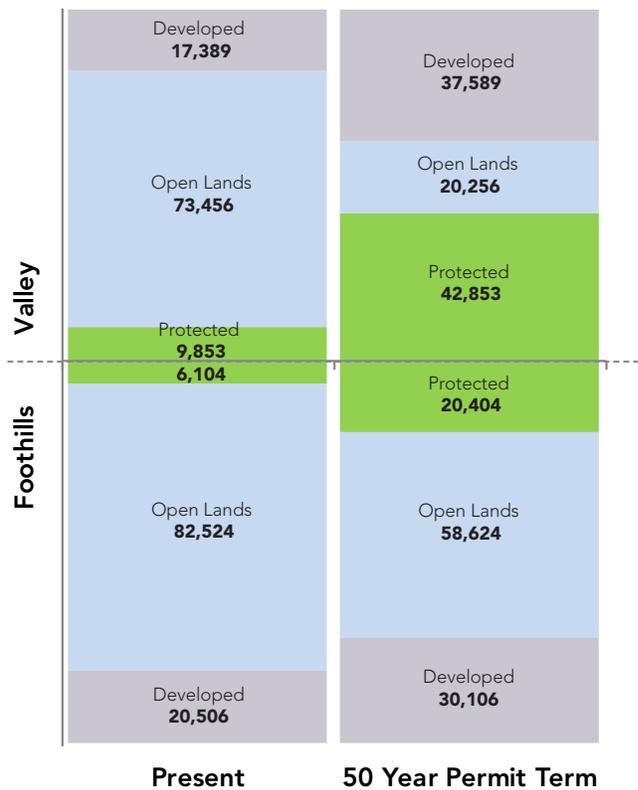


Figure 7. Change in Conservation & Development Area in Acres



reduce the need for individual projects to avoid and minimize effects at the project scale and allow streamlining of regulatory requirements. This Plan assumes take will result from individual Covered Activities and mitigates the aggregate effects through implementation of the conservation strategy protecting and restoring wetlands, vernal pools, oak woodlands, riparian, and other high quality habitats. The regional approach is complemented by species level conditions, including survey requirements in some areas.

Conditions on Covered Activities

The effects of Covered Activities are mitigated by conditions that will apply to the project site and by requirements to pay development fees to contribute to funding acquisition and operation of the reserve system and the other functions of the PCA, summarized here. The reader is referred to the HCP/NCCP Chapter

6 for specifics. Conditions on species survey requirements and avoidance setbacks are subject to adaptive management and will be modified based on experience to maximize effectiveness.

Adaptive management measures performance, tests alternative management methods, and adjusts future management actions based on the best available information. It allows the PCCP to respond to changing conditions, new scientific findings, and experience gained in implementing the Plan.

General Conditions

Watershed Hydrology and Water Quality. Comply with California general construction permit requirements.

Conservation Lands: Development Interface Design Requirements. Plan reserves are required to provide internal buffers, when necessary, to protect reserves from impact of adjacent development, but Covered Activities that occur in or adjacent to the Reserve System, or adjacent to existing reserves, mitigation sites, and conservation banks, will incorporate design requirements to minimize indirect effects.

Land Conversion. A project is subject to development fees for permanent effects for all land conversion, meaning land changed from any non-urban use (natural, semi-natural or agricultural landcover) to urban use. The fee applies to all of a parcel area excepting only areas qualifying as avoided.

- Avoidance in the PFG: Because of the diminishing biological value of isolated habitat blocks, a portion of a parcel is only considered avoided if it is: over 200 acres, adjacent to the Reserve Acquisition Area or an existing protected area; in or abuts the Stream System,

contributes to the PCA meeting biological objectives; avoids occurrences of Covered Species; or is required to be avoided by a Permittee, Wildlife Agency, or other regulatory agency to meet Plan goals.

- Avoidance for rural development: Fees for new rural residential development are based on a typical development footprint which is reflected in a graduated fee based on parcel size. Fees will apply to the actual development footprint for structures appurtenant to existing rural residential use and ancillary development for non-residential use on existing parcels.
- Lands accepted by the PCA in lieu of fees are exempt.

Temporary Effects. A project is subject to reduced development fees for temporary effects if it can return habitat to pre-project conditions within one year from the time of initial disturbance.

Worker Training. Where PCCP specific conditions apply, workers will be instructed how to comply.

2. CONSERVATION

Conditions to Avoid and Minimize Effects on Specific Natural Communities

Wetland Avoidance and Minimization (Vernal Pool and Aquatic/Wetland Complex).

Avoidance of Vernal Pool Complex Constituent Habitat: mitigates for impacts, generally through payment of fees if ground disturbance encroaches on either 1) the delineated wetland or on 2) the immediate watershed of a vernal pool constituent habitat feature.

Avoidance of Aquatic/Wetland Complex Constituent Habitat: if ground disturbance encroaches on the delineated wetland, mitigate for impacts, generally through payment of fees.

Aquatic/Wetland Complex Impact Minimization Measures: comply with minimization criteria to have project effects count as temporary instead of permanent.

Salvage of Vernal Pool Constituent Habitat: grant adequate and timely access to allow for salvage prior to development as directed by the permitting jurisdiction or PCA.

Wetlands Restoration: contribute to restoration or creation of these resources as mitigation.

Riverine and Riparian.

Riverine and Riparian Avoidance: exclude construction or other ground disturbance from existing riparian vegetation or mitigate, generally through payment of fees.

Minimize Riverine and Riparian Effects: apply design, construction, and operations minimization measures.

Riverine and Riparian Restoration: contribute to restoration as mitigation.

Placer County Water Agency Operations and Maintenance Best Management Practices: apply in addition to any other applicable conditions.

Valley Oak Woodland.

Valley Oak Woodland Avoidance: exclude construction or other ground disturbance from existing valley oak woodland or mitigate through payment of land conversion fee.

Valley Oak Woodland and Individual Valley Oak Trees Restoration: compensate for loss of Valley Oak Woodland natural community, and individual valley oak trees.

Conditions to Avoid and Minimize Effects on the Stream System

Avoid and minimize. Design and implement Covered Activities in such a way as to avoid or minimize permanent encroachment on the Stream System.

Restoration. Regardless of the community affected, mitigate loss of Stream System by appropriate restoration or enhancement of Stream System elsewhere – generally as the riverine/riparian complex community.

Summary of Species Conditions for Avoidance, Minimization, and Mitigation

Swainson's Hawk. Pre-construction surveys: for activity during nesting season (Feb 1 to Sept 15) in Valley, survey for occupied nesting trees if potentially on-site or within 0.25 mile vicinity of project site.

Construction: active nest trees on-site cannot be removed during nesting season. If active trees in vicinity, activity on site prohibited or buffered during nesting season; construction monitoring.

California Black Rail. Pre-construction surveys: if fresh emergent marsh on-site, or within 500 feet of occurrence, or if activity would alter water supply to fresh emergent marsh.

Construction: The Plan limits the number of occupied wetlands that may be affected by covered activities. If take coverage is granted by the PCA, clearing of habitat or dewatering must take place between September 15 and February 1. Activity near occupied habitat is prohibited

or 500 foot buffer during breeding season; construction monitoring is required.

Western Burrowing Owl. Pre-construction surveys: if potential habitat on-site or within 250 feet of project disturbance.

Construction: during breeding season (Feb 1 to Aug 31), occupied burrows on-site cannot be disturbed; activity near occupied habitat prohibited or 250 foot buffer; during non-breeding season, occupied burrows buffered by 160 feet or with approval, owls can be excluded from burrows; construction monitoring.

Tricolored Blackbird. Pre-construction surveys: for nesting, for certain communities on-site, below elevation 300, and within 1640 feet of open water, or within 300 feet of known active colony; for foraging, if site is in certain communities and within 3 miles of known active colony.

Summary of Species Conditions for Avoidance, Minimization, and Mitigation (continued)

Construction: during nesting season (Mar 15 to July 31), activity prohibited within 1300 feet of nest colony or if site or the area within 1300 feet around site are used for foraging; construction monitoring.

Giant Garter Snake. Pre-construction surveys: assess whether habitat is present for rice or certain aquatic communities shown on PCA range map, typically at elevations below 100 feet.

Construction: No activity in-water/in-channel or within 200 feet of potentially occupied aquatic habitat unless during active period (May 1 to Oct 1) with approved measures allowing escape of individuals.

Western Pond Turtle, Foothill Yellow-legged Frog, and California Red-legged Frog. Project conditions protecting the natural communities providing aquatic and upland habitat serve to minimize impact on these species.

Salmonids - Central Valley Steelhead, Distinct Population Segment and Central Valley Fall-/Late Fall-Run Chinook Salmon. The PCA will maintain a map of known salmonid streams where project conditions protecting the Stream System and special fees will apply. Additional conditions include design guidelines for salmonid passage at stream crossings to preserve a natural stream bed and free passage; maintaining fish passage during construction; pre-construction diversion or exclusion from work areas, and specifications for spawning gravel cleaning.

Valley Elderberry Longhorn Beetle. Pre-construction surveys: if potential riparian or woodland habitat present.

Construction: avoid or replace habitat following Wildlife Agency protocol.

Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp. Pre-construction surveys: During an initial survey phase of permit (roughly the first 10 years) vernal pool and other potential habitat wetlands on project sites will be surveyed. The data will be used to derive an overall estimate of occupancy rate for each species which will serve as a standard to be applied to the reserve system. After that initial period, further surveys will not be required as long as the vernal pool preservation on the reserve system meets the occupancy standard.

Construction: Most of the protection for these species will come from protection of the vernal pool complex lands and their associated wetland habitats. Occurrences on project site to be avoided will require a 250 foot upland buffer.

Conservancy Fairy Shrimp. Pre-construction surveys: Required in sub-watersheds adjacent to known occurrence in the Mariner Vernal Pool Conservation Bank, west of the Lincoln Airport.

Construction: avoid with 250 foot upland buffer; may be taken in accordance with identification and protection of other colonies in PCCP reserve.

Conditions on Regional Public Programs

Design. Projects located in the RAA reduce the effects of barriers in potential conservation lands and minimize effects on Covered Species, natural communities, and wildlife movement.

Construction Best Management Practices. Apply in the rural portion of the Plan Area to reduce the effects of

construction on natural communities and native species.

Operation and Maintenance Best Management Practices. Apply in the rural portion of the Plan Area to reduce the effects of construction on natural communities and native species.

Conditions for Reserve Management

Public Access and Recreation on Future Reserve Lands. Limited recreational access allowed if it does not impede the PCA achieving the biological goals and objectives of the Plan

Recreation Component of Reserve Unit Management Plans. Recreational activities and associated infrastructure will only be allowed in accordance with the recreation component of an approved reserve unit management plan.

Jump-Start Lands. Recreational uses on jump-start lands to be enrolled in the reserve system may continue at the same level and intensity until the recreation component of the Reserve Unit Management Plan is completed and approved by the PCA and Wildlife Agencies.

3. COST AND FUNDING

3. COST AND FUNDING

This section covers the following:

- What it will cost to implement the plan and how the money will be spent.
- Where funding will come from.
- How development fees are structured.

Plan Cost

The cost of the plan during the 50-year permit covers the wide range of activities described in the proposed conservation strategy. Plan cost is estimated from detailed analysis of conservation measures and unit cost factors for the land, labor, materials, and supplies that implement those measures.

Over a 50-year permit term, the Plan funds \$980 million of reserve acquisition, habitat restoration, land management, and habitat and species monitoring (see Figure 8). About three-quarters of plan costs are one-time capital costs including land acquisition and the restoration of natural communities needed to establish the reserve system.

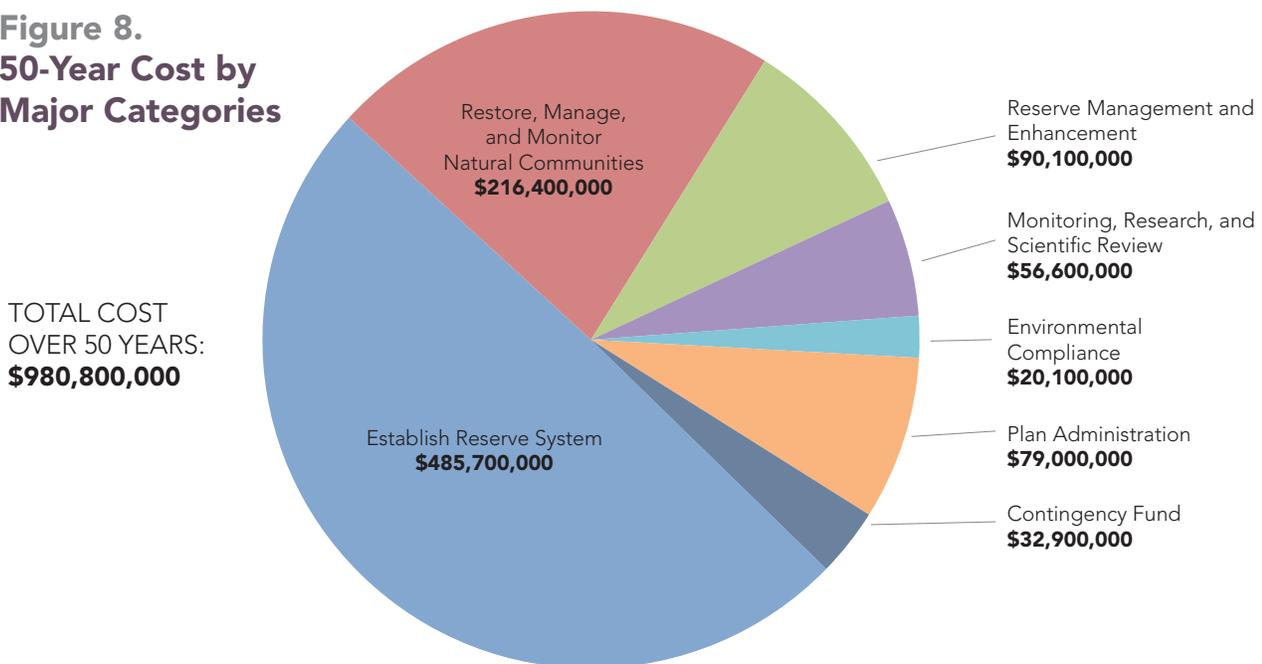
During the permit term, operating costs average about \$6 million per year. Plan operations during the permit term include the following major categories of activities:

- Reserve land and restoration project management: \$3.3 million per year
- Species and habitat monitoring: \$1.1 million per year
- Plan administration: \$1.6 million per year

Plan costs will vary over the course of the permit term, driven largely by the pace of development by covered activities, the acquisition of reserve land, and the implementation of restoration activities. Plan cost estimates will be updated annually and fully reviewed at least every five years based on implementation experience.

Because the reserve system is intended to operate in perpetuity, funding is set aside to establish an endowment to continue management of the reserves in the Valley and Foothills after the end of the permit. Endowment costs as well as a small amount for plan preparation costs are not included in the Plan cost chart in Figure 8.

Figure 8.
50-Year Cost by Major Categories



3. COST AND FUNDING

After the permit term, annual costs are less—estimated to be on the order of \$3.3 million per year.

- Reserve management: \$1.9 million per year
- Monitoring: \$600,000 per year
- Program administration: \$700,000 per year

The biological resources present and the greater extent of future growth in the Valley dictate that roughly four fifths of the overall Plan cost will go to the Valley Conservation Strategy, as shown in Figure 9.

Plan Funding

Plan funding will come from a combination of local, state and federal sources. The local share is projected to cover 77% of Plan cost and will mainly come from development

fees from Covered Activity projects. The City of Lincoln and the County will not be committing general funds to pay for the Plan, but development fees will apply to public projects such as roads and bridges covered by the Plan.

Estimates of local funding from Valley and Foothills development fees are based on scenarios of expected future land development and public projects in each area. Local funding may also come from sources outside the PCCP such as an open space fee in the Foothills.

Expected state and federal grants would be proportional to projected costs so Valley and Foothills funding balances Valley and Foothills cost. See Figure 10. State and federal grant funding is expected to meet

Figure 9. Valley and Foothills Share of Plan Cost

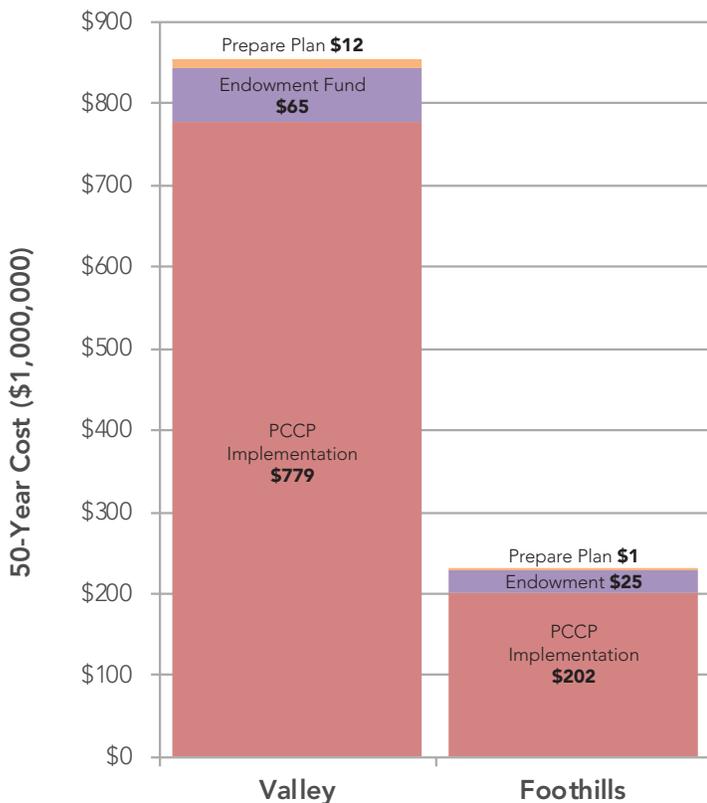
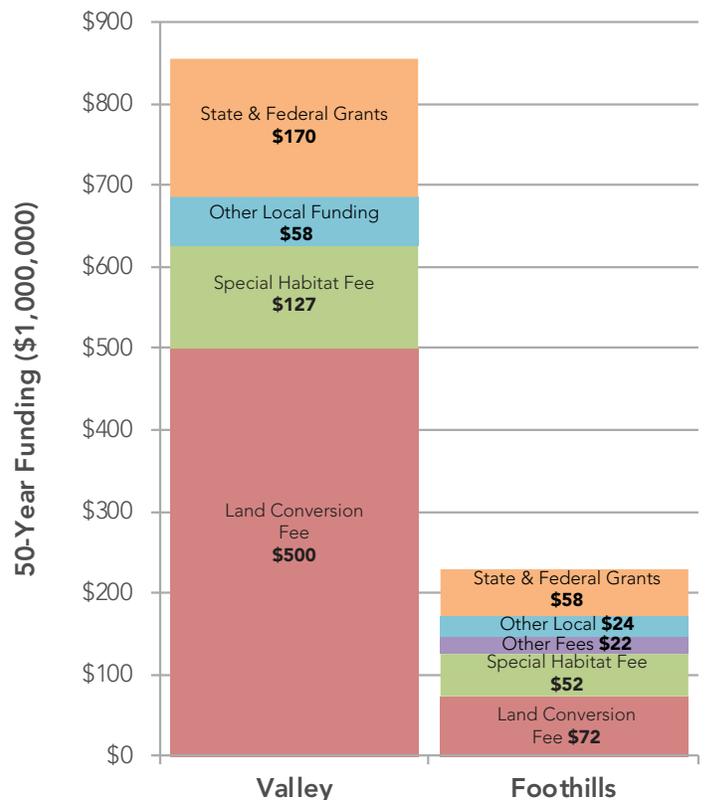


Figure 10. Valley and Foothills Share of Plan Funding



3. COST AND FUNDING

21% of funding needs over the 50-year permit term. Although the state and federal funds cannot be committed to the PCCP in advance, there are several present programs that may be available. See Table 4 for a list of existing federal and state funding sources.

Development Fees

Development fees will only apply to Covered Activities and fall into three categories: land conversion fees, special habitat fees, and temporary effect fees. Permittees will collect fees based on an assessment of each project. The fee will be due at whichever step in the permitting process first applies:

1. Grading permit or grading plan issuance
2. Improvement plan approval
3. Building permit issuance

Table 4.
Federal and State Funding Sources for HCPs and NCCPs in California

Federal Funding Sources
Cooperative Endangered Species Conservation Fund (ESA Section 6)
Land and Water Conservation Fund
Environmental Quality Incentives Program (through Farm Bill)
North American Wetlands Conservation Act Grant Program
Central Valley Project Improvement Act Habitat Restoration Program
State Funding Sources
Watershed Restoration and Delta Water Quality and Ecosystem Restoration Program
Water Quality, Supply, and Infrastructure Improvement Act of 2014
Oak Woodlands Conservation Act of 2001 and Rangelands, Grazing Land and Grassland Protection Program
Habitat Conservation Fund
Sustainable Agricultural Lands Conservation program
Parks, Environment, and Water Bond (Proposition 68)

4. Any other final permit action that authorizes an action impacting a Covered Species or its habitat

For some projects, the fee payment can be split across several steps. Under certain circumstances, private applicants may fund all or a portion of fees with a special tax or special assessment or dedicate land to the reserve system in lieu of development fees. Every five years, the PCA will complete a fee assessment in coordination with the Wildlife Agencies to review the costs and the underlying assumptions of the original funding plan, to evaluate trends in covered activities such as the rate and density of land development, and to estimate the remaining costs to implement the HCP/NCCP. The PCA will adjust fees based on this analysis.

Land conversion fees will apply wherever natural, semi-natural, or other agricultural land is affected and are applied at the same rate regardless of the land cover type present. The basic fee is set to provide funding for the establishment of the reserve system overall, averaging across the costs of acquisition and management of the various natural communities to be protected. Table 5 shows how the fee will be applied. Because of differences in both the biological resources present and the character of future land development, the Valley and the Foothills do not have the same fee schedule. Much of the impact on habitat and species results from development and fragmentation of large parcels, so smaller parcels already existing at the time the Plan is adopted pay lower land conversion fees.

Special habitat fees will apply wherever Covered Activities affect wetlands or the Stream System. Table 6 shows how the fee will be applied. All special habitat fees are

Table 5.
Land Conversion Fee Schedule

ID	Fee Name	Fee	
Plan Area A - Valley (Components A1 and A2)			
	Any existing parcel less than 20,000 square feet	no fee	(not a Covered Activity)
1a	Covered Activities on any existing parcel from 20,000 square feet to 1.0 acres	\$4,887	per acre
1b	Single Family Residential on an existing parcel greater than 1.0 acre, or on any parcel created by subdivision of an existing parcel into four or fewer total parcels	\$3,665	per dwelling unit
			plus
		\$1,222	per acre up to a max. of \$24,440
1c	All other Covered Activities	\$24,894	per acre
Plan Area A - Foothills (Components A3 and A4)			
	Any existing parcel less than 20,000 square feet	no fee	(not a Covered Activity)
2a	Residential Development Projects on Existing Parcel from 20,000 square feet to 1.0 acres	\$2,015	per dwelling unit
2b	Non-residential Development Projects on Existing Parcel from 20,000 square feet to 1.0 acres	\$2,901	per acre
2c	Single Family Residential on an Existing Parcel greater than 1.0 acre or on any parcel created by subdivision of an Existing Parcel into four or fewer total parcels	\$2,015	per dwelling unit
			plus
		\$1,163	per acre up to a max. of \$23,260
2d	Single Family Residential on any parcel created by subdivision of any parcel into five or more total parcels and any multi-family residential	\$2,015	per dwelling unit
			plus
		\$5,800	per acre
2e	All Non-residential projects on Existing Parcel greater than 1.0 acre or on any parcel created by subdivision	\$8,701	per acre
Plan Area B - Valley (Component B1: Roseville / Rocklin / Loomis area)			
3a	All Covered Activities	\$24,894	per acre
Plan Area B - Foothills (Component B1: Auburn area and Component B2)			
3b	Covered Activities on Existing Parcels less than 1.0 acres	\$2,901	per acre
3c	Covered Activities on Existing Parcels greater than 1.0 acres	\$8,701	per acre
Notes:			
<ul style="list-style-type: none"> Fees reflect 2017 cost estimates. Changes in land cost and other inflation factors will be applied annually to the HCP/ NCCP development fees ensure that funding keeps pace with Plan costs (see Section 9.4.1.7, Adjustment of Development Fees). Non-covered activities are not subject to PCCP Development Fees, but may be subject to other local fees. Per acre fees apply to the entire parcel area excluding any areas already improved or where avoidance occurs pursuant to Section 6.3.1.3, General Condition 3, Land Conversion. Such exclusions may comprise land approved by the PCA to be set aside as habitat or the balance of existing parcels subject to low density rural development. An "existing parcel" refers to a parcel at time of Plan adoption. Foothills fee also applies to the higher elevation portion of the City of Lincoln planning area roughly eastward of a line dropped due south from the intersection of Virginiatown Road and Hungry Hollow Road, and pulled west to follow the 200' elevation line which runs roughly along the NID irrigation ditch north of Hwy. 193 and Oak Tree Lane. 			

3. COST AND FUNDING

paid in addition to the land conversion fee. The special habitat fees mitigate loss of specific, valuable habitats and are set to provide adequate funding for restoration and enhancement; the fee varies depending on what habitat is affected.

Temporary effect fees are assessed at 2% of listed permanent fees and apply only when a

natural community is restored within one year of initial ground disturbance. This condition will usually not be easily met and temporary fees will apply mainly to projects such as stream channel maintenance, pipelines, or lay down areas adjacent to short term public works construction.

Table 6.
Special Habitats Fee Schedule

ID	Fee Name	Fee
4a	Vernal Pool Direct Effects	\$109,550 per acre of vernal pool constituent habitat altered by ground disturbance; includes entire delineated wetland area if any part is affected
4b	Vernal Pool Immediate Watershed Effects. Not subject to temporary effects fee.	\$18,296 per acre of vernal pool constituent habitat on project site not altered by ground disturbance, but within an immediate watershed that is altered by ground disturbance. Set equal to 1/6 of fee 4a-Vernal Pool Direct Effects
4c	Aquatic/Wetland	\$74,964 per acre of aquatic/wetland constituent habitat altered by ground disturbance
4d	Riverine/Riparian	\$101,020 per acre of riverine/riparian constituent habitat altered by ground disturbance
4e	Riverine/Riparian Buffer	\$50,510 per acre of ground disturbance not in Stream System, but within 50 feet of delineated riverine/ riparian constituent habitat. Set equal to 1/2 of fee 4d-Riverine/ Riparian.
4f	Stream System Encroachment Not subject to temporary effects fee.	\$101,020 per acre of natural, semi-natural, and other agricultural communities in Stream System altered by ground disturbance and not subject to a separate special habitat fee
4g	Salmonid Stream Channel Not subject to temporary effects fee.	\$591 per linear foot; paid in addition to any other special habitat fee

Notes:

- All special habitat fees are paid in addition to the land conversion fee.
- All amounts are in 2017 dollars.
- The PCA will update fees on an annual basis to reflect cost inflation.

4. PLAN PARTICIPATION AND PERMIT ADMINISTRATION

This section discusses plan start-up and operation, the role of the Placer Conservation Authority, how the Permit applies to individual projects, and how the Plan can change.

Launching the Plan

Start-up. A series of actions by Permittees are needed to set the Plan in action. The County and the City will enact implementing ordinances establishing Plan fees and conditions for Covered Activities within their land use authority and integrate PCCP permit participation into the customary project review process. Permittees will form the Placer Conservation Authority (PCA) as a joint exercise of powers agency, defining its responsibilities and relationship to parties involved in the PCCP.

The Placer Conservation Authority will:

- Establish the reserve system. The PCA may hold title to lands or conservation easements it purchases and may enter into cooperative agreements with other land management entities to own or manage lands for the PCA as part of the reserve system.
- Manage the reserve system, overseeing planning and design, habitat restoration, monitoring, and management programs.
- Keep the account of take and mitigation. The PCA will receive documentation from the other Permittees on Covered Activities, track the amount of take coverage granted, the mitigation conditions applied, and the amount and payment schedule of development fees.
- Maintain the PCCP database and serve as

the primary clearinghouse of resource data associated with implementation of the Plan.

- Coordinate with Wildlife Agencies on a regular basis and provide annual reports.
- Coordinate with science advisors, outside consultants, and land management agencies.
- Apply for and manage grants, contracts, and other funding sources.
- Hire staff and/or contract with existing local agencies, non-profit organizations, or private consultants to carry out its responsibilities.

The PCA will maintain the PCCP Database, including:

- Current land cover map. A compilation of air photos, land cover, and habitat mapping used to plan reserve acquisition and guide project review.
- Baseline land cover map. A compilation of data used during the PCCP planning process to be used for baseline land-cover map consistency finding during project review.
- Stream System/salmonid habitat map. The “blue line” streams from the National Hydrography Dataset and 100-year flood zones defining the PCCP Stream System, adapted to reflect current conditions with respect to stream continuity, channel lining, watershed size, and stream reaches serving as salmonid habitat.
- Covered Species occurrence records. A compilation of current and historical data for occurrences and occupied and potential habitat.
- Survey areas for select Covered Species. A map and calendar defining where and in what season surveys will be needed for

4. P E R M I T

certain species. The map will show where specific conditions on Covered Activities will apply.

- Established Reserves. A map and tabulation of the reserve system lands, ownership status, and natural communities protected.
- Covered Activities. A map and tabulation of affected lands and conditions applied.

The PCA will establish a formal relationship with parties involved in the PCCP:

- Inter-agency working group, comprising representatives of the Wildlife Agencies will assist in the implementation of the PCCP by providing coordinated advice, recommendations, proposals, and review and approval where required by the Plan.
- Science advisors will provide science-based expert opinion and recommendations, peer review, and feedback regarding key scientific aspects of PCCP implementation such as reserve design, reserve management, monitoring protocols, and grant proposals.
- Public advisory committee will solicit input from stakeholders interested in Plan implementation.
- Permittees (County, Lincoln, PCWA, SPRTA) will involve the PCA in review of public and private projects and convey fees collected.

Stay-ahead and Jump-Start. The benefits of the regional reserve system will offset the adverse effects of loss of habitat to Covered Activities because assembly of the reserve system will lead or “stay-ahead” of impacts – the PCA is required to preserve habitat faster than Covered Activities remove habitat. To meet the stay-ahead provision during the early phase, nearly 2,400 acres of existing conservation lands contributing to the

biological goals and objectives of the PCCP already purchased by the County under the Placer Legacy program will be included in the reserve system and will be counted toward Plan acquisition commitments in order to “jump-start” implementation. Several already established and proposed conservation or mitigation banks may seek approval for credits to help meet Plan stay-ahead commitments, including purchase of California red-legged frog conservation credits at the Big Gun Conservation Bank, east of Auburn.

The Plan in Action

Assembling the Reserve System. By permit year 45, the PCA will assemble a reserve system spanning 47,000 acres in Western Placer County. The land will mainly be acquired by purchase, but some will come from land dedicated in lieu of paying fees and cooperative agreements with other land management entities, including private mitigation banks. Lands will only be acquired through a willing seller process. Acquisition may be by outright purchase of fee title or by a conservation easement.

Land acquisition will follow an initial process of site assessment for conservation objectives, followed by Wildlife Agency concurrence. Once the purchase is complete, the PCA will develop a Reserve Unit Management Plan for Wildlife Agency approval.

All Reserve Unit Management Plans will include:

- Biological goals and objectives of the reserve unit;
- Biological inventory of the site;
- Community and Covered Species’ habitat management, enhancement, and restoration;

- Monitoring and adaptive management;
- Fire management;
- Reserve buffer areas on adjacent development sites; and
- Invasive species management.

Where relevant, Reserve Unit Management Plans will include:

- Management of water and aquatic resources
- Management of rice lands or other agriculture
- Maintenance of infrastructure
- Recreational use and public access
- Mosquito and vector control
- Measures to reduce invasive species and disease affecting Covered Species.

The Plan assumes that the PCA will purchase approximately 20 percent of the land for the reserve system in conservation easements. An easement allows productive use of land consistent with the land's conservation purpose and is recorded in the favor of the wildlife agencies to assure that purpose. In some cases, after a conservation easement is recorded, the land may be sold to a third party. For example, rice lands may be purchased, placed under a conservation easement, and then sold to a rice farmer to continue rice cultivation on the lands - subject to the terms and conditions of the easement.

Operating Reserves, Management and Monitoring. Lands in the reserve system with similar management needs will operate under a reserve unit management plan based on either a Valley or Foothills template. The unit plans will set long range objectives and guide day-to-day operations. Operations will

comprise enhancement and restoration of natural communities and Covered Species habitats as well as land stewardship such as maintaining fencing and fire breaks.

Monitoring will be used to show compliance with the Plan and to verify progress toward achieving the biological goals and objectives. Monitoring will measure the effectiveness of management actions and guide future implementation. Monitoring for Covered Species will rely on protocols adopted by the wildlife agencies, where available. Monitoring for other species and for habitat is based on current knowledge of their ecology.

The Plan outlines the general approach to monitoring; Western Placer-specific protocols will be developed during the first five years of Plan implementation and as land is acquired as part of the reserve system.

The conservation strategy sets forth comprehensive objectives. At the planning stage, it is uncertain which management techniques are best suited to fulfilling objectives, particularly for habitat enhancement and restoration—all habitat restoration and creation measures must be completed by year 40 to allow time to meet performance criteria within the permit term. The PCA will begin applying methods from other programs to Western Placer County and improve on those methods using an adaptive management approach which measures performance, tests alternative management methods, and adjusts future management actions based on the new information. The formal adaptive management process will be administered by the PCA. An independent science advisor group will evaluate the effectiveness of existing and proposed management actions and changes would be

4. P E R M I T

subject to approval by the Wildlife Agencies.

The PCA will prepare annual reports over the term of the PCCP that documents permit compliance, conservation measures, management measures, restoration/creation measures, and monitoring results.

Proceeding with Covered Activities

Plan Permittees will have take authorization for projects if they are Covered Activities and comply with the terms of the Plan. The process of initiating participation in the Plan will be integrated into the local jurisdictions' normal CEQA procedures for discretionary permits or, for ministerial projects, the normal land development review process. For public projects, carried out by a Permittee, the Permittee must document consistency with the Plan and provide a copy of this documentation to the PCA.

Private projects subject to permits or other land use regulations by either the City of Lincoln or Placer County will need to provide information to the City or County so it can determine the type and scope of Covered Activities, the impact on Covered Species and wetlands, applicable project conditions, and applicable fees.

The City and the County will develop an HCP/NCCP participation process that will integrate the steps needed for PCCP permit coverage with each Permittee's already established land use and CEQA process. The scope and detail of documentation will be tailored to the scope and complexity of the project under consideration: large subdivisions or specific plans that affect Covered Species habitat may require extensive documentation; a building permit or minor grading permit may require

only a few checklist items and verification with an aerial photograph.

The HCP/NCCP participation package will provide Permittees and the PCA with the information needed to apply appropriate Plan conditions on Covered Activities:

- Provide project description and map permanent, direct, indirect, and temporary effects.
- Document natural community types on site and baseline consistency based on the most recent natural community information provided by the PCA and other applicable biological surveys.
- Identify aquatic features present on the project site, including any areas within an adjacent wetland zone.
- Map the Stream System and salmonid streams, if present.
- Determine project effects on biological resources addressed by the Plan which include the natural community type, Stream System, and Covered Species' habitat.
- Report results of applicable species surveys.
- Assess fees or land in lieu of fees if the project includes land that will be offered for dedication or as a contribution to the reserve system.
- Specify applicable avoidance and minimization requirements including pre-construction surveys and construction monitoring requirements.

The Wildlife Agencies issue the PCCP permits based on a consideration of the environmental setting prevailing during the PCCP planning period, and have set 2011 as the baseline year against which effects are evaluated. The baseline consistency determination would

show whether wetlands that may have been present may have been altered by activities not covered by the PCCP. If this is the case, the City or County will assess special habitat fees based on the baseline conditions rather than current conditions.

Changing the Plan

Adaptive management is incorporated into the Plan so that most of its operation, including management of the reserves and application of conditions on Covered Activities, can be adjusted to maximize effectiveness based on experience. Changed operation resulting from adaptive management is not considered a modification to the Plan itself.

Administrative changes are internal changes or corrections to the Plan that do not require authorization from the Wildlife Agencies. Examples include changes to monitoring protocols to conform to new or changed Wildlife Agency protocols, automatic annual fee adjustments for inflation, and the 5-year periodic review of plan costs and development fees.

Minor modifications are changes that do not affect the impact assessment or conservation strategy, and do not affect the ability of the PCA to achieve the biological goals and objectives of the Plan. Minor modifications do not require an amendment to the permits, but they do require approval by the Wildlife Agencies. Examples of minor modifications include changes in conservation measures consistent with overall Plan goals, changes to the reporting protocol, and changes in the land acquisition strategy necessary to address changing land use patterns or a lack of willing sellers.

Amendments are changes that may affect the conservation strategy in the Plan. Amendments to the Plan will also require an amendment to the permits and hence will follow a formal state and federal review process. Examples of changes that will require an amendment include changing the Plan Area boundary, changing the list of Covered Species or Covered Activities, increasing the allowable take limit, or modifying any important component of the conservation strategy.

Adapting to the future. The PCCP reflects the best information available at the time the Plan was developed. The Plan provides for implementation to overcome planning stage limitations: ground-level survey and high accuracy delineation will be used for project review. Monitoring results will be used for adaptive management to improve applied conservation techniques and to respond to changing regional trends, including those associated with global climate change. The Permittees will be responsible for implementing and funding measures needed to respond to reasonably foreseeable changed circumstances spelled out in the Plan. Accordingly, a portion of the Plan implementation budget is allocated to respond to foreseeable events such as wild fire, drought, flooding, and disease that would affect reserve management and protected populations of Covered Species. Should unforeseen circumstances requiring additional mitigation arise once the permit is in place, the federal No Surprises Regulation provides assurances to the Permittees that no additional money, commitments, or restrictions of land or water will be required. The Plan sets thresholds for unforeseen circumstances.

5. REFERENCES

5. REFERENCES

All references below are to the Western Placer County Habitat Conservation Plan and Natural Community Conservation Plan.

Figures

- Figure 1. PCCP Location. Figure 1-1
- Figure 2. Plan Area. Figure 1-2
- Figure 3. Communities in Plan Area A. Figure 3-8. NOTE: Mapping reflects baseline conditions 2003 - 2011
- Figure 4. PCCP Map Designations. Figure 1-5
- Figure 5. Stream System and Salmonid Habitat. Figures 1-6, 4-3, and 5-4
- Figure 6. Increase in Community Protection. Tables 5-2 and 5-3
- Figure 7. Change in Conservation & Development Area. Tables 4-2, 5-2, and 5-3. Note: Surface area of the major reservoirs not included; although reservoirs as managed open water are classed as a non-natural community, they do not represent “developed” area in the usual sense.
- Figure 8. 50-Year Cost by Major Categories. Table 9-1
- Figure 9. Valley and Foothills Share of Plan Cost. Table 9-4
- Figure 10. Valley and Foothills Share of Plan Funding. Table 9-4

Tables

- Table 1. Covered Communities. Section 3.3.1
- Table 2. Covered Species. Section 3.3.2 and Appendix D Species Accounts
- Table 3. PCCP Addition to Community Protection. Tables 5-2 and 5-3

- Table 4. Federal and State Funding Sources for HCPs and NCCPs in California. Section 9.4.3 and Table 9-9
- Table 5. Land Conversion Fee Schedule. Section 9.4.1 and Table 9-6
- Table 6. Special Habitats Fee Schedule. Table 9-7
- Table 7. Private Project Plan Participation. Section 6.2.4

Goals and Objectives

- Summary of Landscape Level Biological Goals and Objectives. Section 5.2.5
- Summary of Natural Community Goals and Objectives. Section 5.2.6
- Summary of Species Biological Goals and Objectives. Section 5.2.7

Conditions

- List of General Conditions. Section 6.3.1
- Conditions to Avoid and Minimize Effects on Specific Natural Communities. Section 6.3.2
- Conditions to Avoid and Minimize Effects on the Stream System. Section 6.3.3
- Conditions on Regional Public Programs. Section 6.3.4
- Summary of Species-level Conditions for Avoidance, Minimization, and Mitigation. Section 6.3.5
- Conditions for Reserve Management. Section 6.3.6

Cover Photos

From top to bottom, left to right:

- Freshwater Marsh - Loren Clark
- Burrowing Owl - Cornell Lab of Ornithology

5. R E F E R E N C E S

- Western Pond Turtle - Yathin S. Krishnappa
- Black Rail - Phil Robertson
- Grassland/Poppies - Loren Clark
- Oak Woodland - Loren Clark
- Chinook Salmon - Oregon State University
- Riparian/Riverine Habitat - Placer County
- Swainson's Hawk - Placer Land Trust
- Agriculture - Loren Clark
- California Red-Legged Frog - Edgar Ortega on CaliforniaHerps.com
- Vernal Pool Fairy Shrimp - Earth.com
- Oak Woodland - Loren Clark
- Riverine and Vernal Pool Complex - Placer County

PLACER COUNTY CONSERVATION PROGRAM
PCCP/CARP AUTHORIZATION APPLICATION FORM

BOX A: BASIC INFORMATION		
APPLICATION INFORMATION		
1. Project name	Lincoln Regional Airport; Runway 15-33 Reconstruction	
2. Submittal date		
3. Application file number (assigned by jurisdiction)		
CONTACT INFORMATION		
Property Owner(s)		
4. Property owner name(s)	City of Lincoln	
5. Mailing address (street)	600 Sixth Street	
	Lincoln, CA 95648	
6. Phone	916 434 2481	7. Mobile
8. Email	Roland.Neufeld@lincolnca.gov	
Project Agent/Applicant		
9. Company/Organization	City of Lincoln	
10. Representative's name	Roland Neufeld	
11. Mailing address (street)	600 Sixth Street	
	(city, state, zip code) Lincoln, CA 95648	
12. Phone	916 434 2481	13. Mobile
14. Email	Roland.Neufeld@lincolnca.gov	

BOX B: PROJECT DESCRIPTION AND SITE MAP		
1. Project street address (street)	1480 Flightline Drive	
	(city, state, zip code) Lincoln, CA 95648	
2. Assessor's parcel number(s)	021-151-042 and 021-590-021	
3. Total acreage of proposed project and parcel	The project area boundary is 60.480 acres	
4. What land conversion authorization(s) are you seeking for your project? Land conversion	The City of Lincoln will issue improvement plans or a grading permit.	

authorizations including building permits, grading permits and improvement plans. List all that apply.	
5. PCCP Coverage Area (See User's Guide, Figure 3-1.)	<input checked="" type="checkbox"/> Valley Potential Future Growth Area (PFG) <input type="checkbox"/> Valley Reserve Acquisition Area (RAA) <input type="checkbox"/> Foothills PFG <input type="checkbox"/> Foothills RAA <input type="checkbox"/> In-stream activities in any location <input type="checkbox"/> Existing Protected Area
6. <input checked="" type="checkbox"/> Provide a project description. Label as Attachment 1 .	
7. <input checked="" type="checkbox"/> Provide a site plan and all spatial data , including refined land cover, aquatic resources, and covered species locations: Electronic, PDF, and GIS data (ESRI shapefile format, CA Stateplane Zone 2, feet OR WGS Web Mercator). Label as Attachment 2 .	

BOX C: BIOLOGICAL RESOURCES ASSESSMENT CHECKLIST	Biological Resources Assessment Page Number(s), or Attachments to Biological Resources Assessment
1. <input checked="" type="checkbox"/> Biological Resources Assessment (Label as Attachment 3)	
2. <input checked="" type="checkbox"/> Name & Qualifications of qualified biologist	
3. <input checked="" type="checkbox"/> Vicinity Map	
4. <input checked="" type="checkbox"/> Community and Land Cover Mapping (Spatial data included with Attachment 2) (Planner to determine Baseline Consistency)	
5. <input checked="" type="checkbox"/> Covered Species Assessment and Surveys (Spatial data included with Attachment 2)	
6. <input checked="" type="checkbox"/> Conditions Assessment (Label separately as Attachment 4 – Master Conditions on Covered Activities Checklist)	
7. <input checked="" type="checkbox"/> Biological Resources Effects (Provide tables quantifying acres of natural communities, land cover types, constituent habitat, and linear feet of Stream System impacted by the project.)	
8. <input checked="" type="checkbox"/> Avoidance Areas (Include a description of how the avoidance area meets the criteria for permanent effects avoidance.)	
9. <input checked="" type="checkbox"/> Reference Photographs of Areas Temporarily Affected (only check if temporary effects are proposed)	

BOX D: STREAM SYSTEM AND SALMONID STREAMS

1. Is a Stream System present?	<input type="checkbox"/> Yes. Include Attachment 5 (spatial data included with Attachment 2) and go to #2. <input checked="" type="checkbox"/> No. Skip to #4.
--------------------------------	--

2. Name of the impacted stream(s) and watershed(s) (if available).	Stream:
	Watershed:
	Stream:
	Watershed:

3. Stream impacts: There are two small ditches that are delineated as riverine aquatic resources

Stream Type	Impacts (measured in the thousandths of acres and linear feet)		
	Permanent (acres)	Temporary (acres)	Linear feet
Perennial Stream			
Intermittent Stream			
Ephemeral Stream			
Drainage Ditch	0.017 acre		
Canal			

Depict all riverine/riparian habitat present on the project site, differentiate the land-cover types and label as **Attachment 5**.

4. Does the site include any upland drainage swales? Upland drainage swales are drainage areas on a project that have a watershed less than 40 acres in area and do not have any characteristics of an aquatic resource (e.g., presence of a streambed/bank, wetlands, hydrophytic plants or hydric soils).

Yes. Depict the upland drainage swales on **Attachment 5**.

No.

5. Does the stream contain salmonid habitat? (See *PCCP Appendix D: Species Accounts for the Central Valley Steelhead [Map 9] and Central Valley Fall/Late Fall-run Chinook Salmon [Map 10] for lists of salmonid streams.*)

Yes. Label and quantify the stream reaches that are salmonid habitat and include any relevant tributaries or off-channel habitat that would support salmonids. Label within **Attachment 5**. Describe in-stream project effects and the linear distance of those effects measured in feet.

No.

BOX E: AQUATIC RESOURCES CHECKLIST

1. Aquatic Resources Delineation Report with Aquatic Features Mapping (**Attachment 6**; Spatial data included with **Attachment 2**)
2. Map of Aquatic Resources Impacts (Plan and Cross Sections where Project overlaps with Aquatic Resources) (**Attachment 7**)
3. Proposed Aquatic Resources Impact Table including a description of Avoidance and Minimization Measures applied (nearest .001 acre) (**Attachment 8**)
4. USACE Verification of Aquatic Resources Delineation (**Attachment 9**) AJD Request submitted 8/3/21
5. Water Quality Certification – Notice of Intent or Waste Discharge Requirement application (**Attachment 10**) The Central Valley Regional Water Quality Control Board 401 Certification application will be requested

BOX F: PROPOSED ASSESSMENT OF LAND IN LIEU OF FEES

- | | |
|--|--|
| 1. Does the project include land that will be offered for dedication in lieu of the payment of Land Conversion Fees or as a contribution to the Reserve System, according to the conditions in Section 8.4.13, <i>Land Dedication In Lieu of Land Conversion Fee</i> . | <input type="checkbox"/> Yes. Go to #2
<input checked="" type="checkbox"/> No. Skip #2. |
| 2. <input type="checkbox"/> The PCA will conduct an initial assessment to determine if the proposed land dedication satisfies the Plan's reserve acquisition criteria. Provide this assessment and label as Attachment 11 . Note: Additional information may be required before the PCA can determine acceptability. Land in lieu transactions will require PCA and Wildlife Agency review and approval. | |

ATTACHMENT CHECKLIST

Indicate which attachments are provided below. **Note:** Attachments requested below must meet the requirements described in the HCP/NCCP, Chapter 6.2.4, *HCP/NCCP Participation Package*. If these requirements are not met, your application may be delayed until the application is deemed complete.

All Projects

- Attachment 1. Project Description
- Attachment 2. Site Plan and Spatial Data

Projects with Impacts

- Attachment 3. Biological Resources Assessment
- Attachment 4. Master Conditions on Covered Activities Checklist
- Attachment 5. Stream System and Salmonid Habitat Map
- Attachment 6. Aquatic Resources Delineation Report
- Attachment 7. Map of Aquatic Resources Impacts
- Attachment 8. Aquatic Resources Impacts with Avoidance and Minimization Measures



COMMUNITY DEVELOPMENT RESOURCE AGENCY



<input checked="" type="checkbox"/> Attachment 9. USACE Verification of Aquatic Resources Delineation
<input type="checkbox"/> Attachment 10. Notice of Intent or Waste Discharge Requirement application
<input type="checkbox"/> Attachment 11. Description of Actions in Lieu of Fees (if applicable)
<input type="checkbox"/> Attachment 12. CDFW Lake and Streambed Alteration Agreement (if applicable)
<input checked="" type="checkbox"/> Attachment 13. Cultural Resources Inventory Report (if applying for CARP authorization)

SIGNATURES			
Property owner contact information	Name		
	Phone		Email
Property owner signature		Date	
Agent/consultant name and contact information	Name		
	Phone		Email
Agent/consultant signature		Date	

FORM SUBMITTAL INSTRUCTIONS

Submit this form to the local planning office (see contact information below) along with your application materials for environmental review (i.e., the Environmental Questionnaire).

For ministerial projects please submit this form prior to, or concurrent with, your application for a Land Conversion Authorization such as a grading permit, improvement plans, and/or building permit or land use entitlement that will lead to a ground disturbing activity. Applicants for ministerial projects are encouraged to file their request for a PCCP Authorization **prior to** their application for Land Conversion Authorization to avoid substantive project delays.

The Placer Conservation Authority or the Local Jurisdiction may request more information to clarify or complete the application package.

Note: If multiple development permits are required for your project, both an approved application for PCCP coverage and payment of fees are required before the first development permit will be granted.

LOCAL PLANNING/BUILDING OFFICE CONTACT INFORMATION

Placer County Planning Services Division
 3091 County Center Drive Auburn, CA 95603
 Phone: (530) 745-3000



COMMUNITY DEVELOPMENT RESOURCE AGENCY



FOR STAFF USE ONLY		
Project Planner		
Phone Number		
Email		
PCCP Application	<input type="checkbox"/> Complete <input type="checkbox"/> Not Complete	Date

**ATTACHMENT 1:
PCCP/CARP AUTHORIZATION APPLICATION FORM
LINCOLN REGIONAL AIRPORT**

Based upon pavement testing, engineer reports and recommendations contained in the *Lincoln Regional Airport Pavement Evaluation Study [and] Pavement Management Plan, January 2008, Updated October 2015* (Reinard W. Brandley Consulting Airport Engineer) and the *Lincoln Regional Airport, Karl Harder Field, Lincoln, Placer County, Airport Layout Plan Update, Narrative, 2020*, the City has determined that it would be necessary to reconstruct Runway 15-33.

Runway 15-33, the Airport's only runway, was originally constructed in 1973 to a length of 3,700-feet. In 1983 the runway was extended 2,301-feet to the north and the existing 3,700-feet was overlaid with 3 inches of bituminous surface course. The pavement section for the southerly 3,700-feet of this runway consists of 5 inches of bituminous surface course over 7-inches of aggregate base course. The pavement section for the northerly 2,301-feet of runway consists of 3-inches of bituminous surface course over 10 inches of aggregate base course. To date, the runway surface has lasted almost 40 years, twice as long as its anticipated useful life.

Thermal stresses and seasonal weathering have resulted in significant runway pavement cracking and pavement surface deterioration. Despite ongoing runway maintenance programs, pavement cracks continue to appear. Pavement testing indicated that pavement strengths varied along the 6,001-foot length of the runway; the result of the tests indicated that the existing aggregate base course under the existing asphalt surface is in good condition, but the cracked asphalt surface requires replacement.

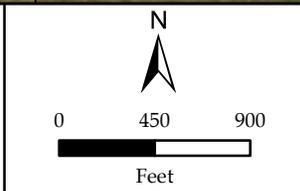
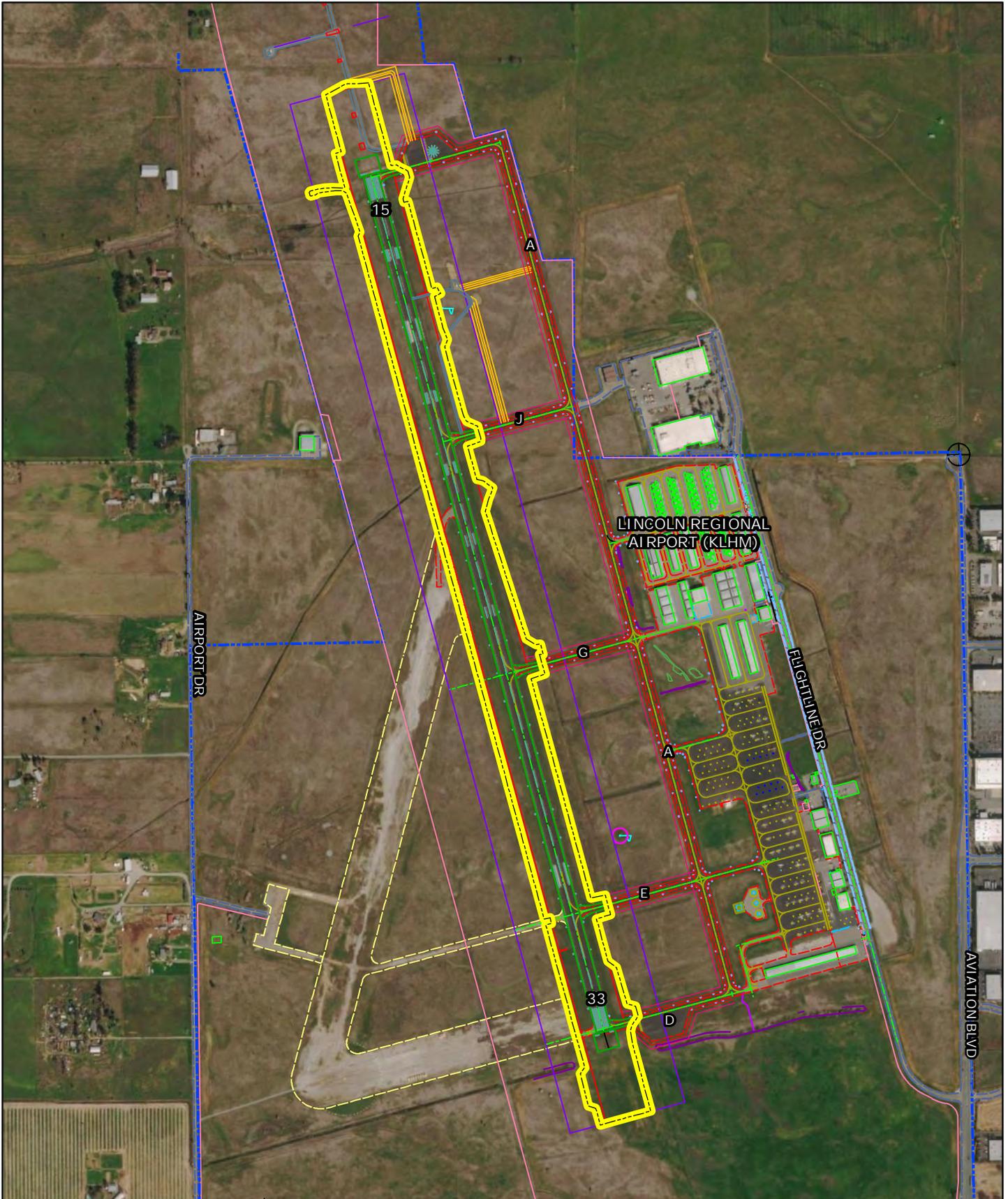
In order to reduce and protect against ongoing runway deterioration and to provide safe and economically sustainable asphaltic surface, the runway and runway safety area (RSA) would be reconstructed. The existing runway surface elevation would be raised by a maximum of eight-inches. Raising the runway surface and then maintaining a 2% grade sloping away from the runway shoulder meets FAA design standards and would result in extending the toe of the RSA 12 to 15-feet beyond its existing position.

The extension of the RSA toe would require filling aquatic resources which have formed at the toe of the existing RSA in shallow ditches acting as toe drains. Two existing service roads which encroach into the runway object free area (ROFA) would be relocated, all objects within the ROFA which are not fixed by function, would be removed. The removal of these objects includes headwall structures around two conveyance ditches that are considered aquatic resources. A small topographic feature which penetrates Part 77 Airspace near the end of Runway 15-33 would also be removed.

The proposed project would include:

- Notice to Air Mission (NOTAM) that Runway 15-33 would be closed during the 45 to 60-day construction period.

- Demolish Runway 15-33.
- Reconstruct Runway 15-33 which would increase the runway surface elevation by a maximum of 8-inches. Reconstruction would include removal of the existing asphalt; re-compaction of the existing base course; add six inches of new aggregate base course, and add four inches of a new asphalt surface course. The runway material would be temporarily stockpiled in designated location; this material could be used as fill for the raised runway shoulders which would provide a stable surface to prevent erosion and vegetation growth. The runway would be remarked.
- Regrade RSA to meet FAA design standards; a 2% slope extending about 165 feet from the runway centerline on each side of the runway.
- Reseeding the annual grasslands consistent with FAA standards (i.e., avoiding seed mixes that are known attractants to birds and other wildlife).
- Remove objects from ROFA to meet FAA design standards.
- Raise the Runway 15-33 lights to match the new raised runway. New runway lights, transformers, and cable would be installed on the existing light cans with new light can extensions.
- Install new runway exit guidance signs.
- Match new runway grade to connecting cross taxiways. Existing cross taxiways would be reconstructed out to the existing hold bars.
- Excavate and eliminate a topographic feature which penetrates Part 77 airspace.



Project Limits of Disturbance

Attachment 2
PROPOSED PROJECT
Lincoln Airport
City of Lincoln, Placer County, CA

Lincoln Regional Airport
Runway 15-33 Reconstruction
Environmental Assessment

APPENDIX F

**PROTOCOL SAMPLING
LARGE BRANCHIOPODS
VERNAL POOL FAIRY SHRIMP**

Memo

To: Jim Wallace/Wallace Environmental Consulting

From: Sarah VonderOhe/Senior Biologist *SMV*

Date: 24 February 2022

Subject: Lincoln Regional Airport Runway Reconstruction – Likelihood of Federally Listed Vernal Pool Large Branchiopod Presence

Jim:

Our sampling efforts for federally listed vernal pool large branchiopods started on 4 November 2021 and we have surveyed every two weeks since that time until all the aquatic resources being sampled were dry on 17 February 2022.

The only vernal pool large branchiopod species located on site was California fairy shrimp (*Linderiella occidentalis*), which is neither federally nor state listed, but it occurs in similar habitat and during a similar time of year as regionally occurring federally listed vernal pool large branchiopods such as vernal pool fairy shrimp (*Branchinecta lynchi*). We found *L. occidentalis* at the project site on 6 January 2022, 20 January 2022 and 3 February 2022.

During this same timeframe we have located federally listed vernal pool large branchiopods on sites in Placer County, Tehama County, Merced County, Sacramento County, and Shasta County.

It is possible that a cold, rainy March in Placer County could result in the re-inundation of the aquatic resources we have been sampling; however, in my professional opinion, the results are unlikely to differ from the results to date. The greater than six-week period when we found *L. occidentalis* on the site demonstrates an extended period of appropriate temperature and hydrology for hatching. Additionally, we documented positive survey results for federally listed vernal pool large branchiopods in five counties throughout northern California, including the county where the Lincoln Regional Airport Runway Reconstruction project is located.

Please feel free to contact me at svonderohe@madroneco.com or (916) 822-3225 if you need an additional information.

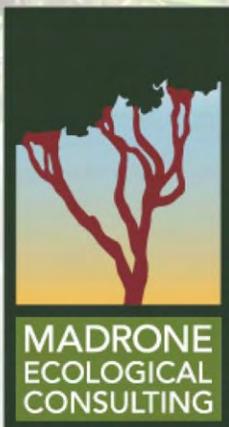


2021-2022 Wet-Season Branchiopod Survey 90-Day Report

Lincoln Regional Airport Runway Reconstruction

(2022-TA-0250)

City of Lincoln, Placer County, California
2 June 2022



Prepared for:

Wallace Environmental Consulting
PO Box 266
Courtland, CA 95615

Recommended Citation:

Madrone Ecological Consulting, Inc. (Madrone). 2022. *2021-2022 Wet-Season Branchiopod Survey 90-Day Report, Lincoln Regional Airport Runway Reconstruction (2022-TA-0250)*. Prepared Wallace Environmental Consulting. Published on 2 June 2022.

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Branchiopod Survey
90-Day Report
Lincoln Regional Airport Runway Reconstruction**

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4.0 General Site Conditions and Habitats 3

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Figure 1. Site and Vicinity

Figure 2. Sampling Locations

Attachments

Attachment A. Wet-Season Data Sheets

Attachment B. PCCP Vernal Pool Monitoring Form

Attachment C. Representative Photographs

1.0 OBJECTIVE

The purpose of this report is to summarize the results of the Placer County Conservation Program (PCCP) required surveys for listed large vernal pool branchiopods conducted by Madrone Ecological Consulting (Madrone) within the Lincoln Regional Airport Runway Reconstruction Project (Study Area) during the 2021-2022 wet-season. Target species included the federally endangered vernal pool tadpole shrimp (*Lepidurus packardii*), as well as the federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*). Wet-season surveys were conducted under the authority of U.S. Fish and Wildlife Service (USFWS) Recovery Permit for Bonnie Peterson (TE-205600-1) of Section 10(a)(1)(A) of the ESA, 16 U.S. Code 1531 et seq. and generally in accordance with the 13 November 2017 *Survey Guidelines for the Listed Large Branchiopods* (Guidelines) (USFWS 2017), as modified by Special Condition 10 of the *Western Placer County Habitat Conservation Plan and Natural Community Conservation Plan* (PCCP 2020). Authorization to conduct wet-season surveys was issued by the USFWS in an e-mail to Dustin Brown on 1 November 2021 (USFWS reference number 2022-TA-0250).

2.0 LOCATION

The Study Area is within the Lincoln Regional Airport between Airport Road and Flightline Drive in the City of Lincoln, Placer County, California within Sections 6 and 7, Township 21 North, Range 6 East (MDB&M) of the "Lincoln, California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2018) (**Figure 1**). The approximately 61-acre Study Area is comprised of the paved runway and areas approximately 180-feet from each side of the runway centerline, and 640-feet from the end of the runway.

3.0 METHODS AND MATERIALS

All potential large vernal pool branchiopod habitat was sampled within the Study Area. Potential habitat for federally listed large branchiopods is defined as any seasonally inundated depression that, on average, ponds water at a sufficient depth and duration for a listed large branchiopod to complete its lifecycle. Habitats that swiftly flow water (e.g., creeks, streams, and ephemeral drainages) or habitats that are semi-to-permanently inundated and support perennial populations of predators (e.g., bullfrogs, fish, and crayfish) generally do not provide suitable habitat for listed large branchiopods (USFWS 2017). **Figure 2** is an exhibit of potential branchiopod habitat within the Study Area. Twenty-one vernal pools were sampled.

The PCCP requires that during implementation of the initial survey phase, 37 existing wetted acres of vernal pools in the greater PCCP area be sampled to establish branchiopod occupancy rates for a future reserve system. This requirement modify the typical Guidelines as outlined below:

- All vernal pools at a site be surveyed, rather than allowing for the survey to be terminated when presence on a project site is confirmed. If presence is confirmed for vernal pool fairy shrimp and vernal pool tadpole shrimp in an individual vernal pool, surveys may be stopped for that vernal pool.

- All vernal pools on the project site must be surveyed. Surveys cannot be suspended prior to completion, as allowed by the Guidelines, if one or more of the six listed large branchiopods, identified in the Guidelines is determined to be present.
- The Guidelines define a complete survey as consisting of one wet-season and one dry-season survey conducted and completed in accordance with the Guidelines within a 3-year period. For the purposes of the PCCP, only one wet-season survey is required; dry-season surveys are not required.
- Data that will be collected at each vernal pool surveyed during the wet season survey will include the presence or absence of vernal pool fairy shrimp and vernal pool tadpole shrimp, species identity and the estimated abundance (10s, 100s, 1,000s) of immature and mature vernal pool fairy shrimp and vernal pool tadpole shrimp present and estimated maximum surface area of the vernal pool. Other information on the USFWS data sheet are not required to be collected (i.e., air and water temperature, average and estimated maximum depth of the vernal pool, presence of non-target crustaceans, insects, and platyhelminths, and habitat condition).
- Information will be recorded on the PCA-provided data sheet, which will be the USFWS data sheet (included as Appendix A to the Guidelines), modified to include the above information.
- Voucher specimens will not be collected during wet season surveys unless the identity of the mature shrimp is uncertain and cannot be identified in the field. The Guidelines allow for a limited number of voucher specimens to be collected for each vernal pool. For the purpose of the PCCP, the modified survey protocol further limits the collection of voucher specimens to instances where identity is uncertain.

Field surveys were conducted by Ms. Peterson every 14 days between 4 November 2021 and 17 February 2022 in accordance with the Guidelines (USFWS 2017). Field surveys occurred on 4 November, 18 November, 2 November and 12 November 2021, and 6 January, 20 January, 3 February and 17 February 2022. All features representing appropriate federally-listed large vernal pool branchiopod habitat were dry by the final sampling date of 17 February 2022.

Sampling methods for inundated features were implemented as follows. All potential large vernal pool branchiopod habitat was sampled with a 3-foot long dip net equipped with a 8-inch D-ring and 650-micron mesh. Sampling involved making a series of pulls by extending the net out and pulling it back in a sweeping motion. The net was examined for the presence of large vernal pool branchiopods and then cleaned of debris between pulls. The number of pulls made in each feature was commensurate to feature size and ponding depth. In addition, all potential habitat was visually inspected for the presence of large vernal pool branchiopods throughout the sampling sessions. Though not required by the PCCP, air temperature, water temperature, and approximate maximum depth of ponding was measured and recorded during the sampling sessions. **Attachment A** contains the wet-season data sheets with the above-described field data. **Attachment B** includes the PCCP Monitoring Reporting Form and **Attachment C** includes photos of the sampled pools.

4.0 GENERAL SITE CONDITIONS AND HABITATS

The Study Area is comprised of a paved runway with non-native annual grassland on either side. Areas adjacent to the runway are managed for aviation safety and mowed throughout the year. Dominant vegetation includes wild oat (*Avena fatua*), Italian ryegrass (*Festuca perennis*), soft chess (*Bromus hordeaceus*), Bermudagrass (*Cynodon dactylon*), medusahead (*Elymus caput-medusae*), broad-leaf filaree (*Erodium botrys*), dove's foot geranium (*Geranium molle*), long-beaked hawkbit (*Leontodon saxatilis*), wild radish (*Raphanus sativus*), sheep sorrel (*Rumex acetosella*), and rose clover (*Trifolium hirtum*).

The study area is within Upper Coon-Upper Auburn HUC8 (18020161) and is split between the two HUC12 watershed units, Ping Slough-Coon Creek (180201610204) to the north and Markham Ravine (180201610301) to the south. The Study Area is relatively flat at an approximate elevation of 115 feet above mean sea level. The runway surface in the middle of the Study Area has a slight crown and water drains to the east and west to toe drains at the base of the crown and drains generally to the north. A number of vernal pools are located in these toe drains (Figure 2). During the delineation, these toe drains did not appear to be graded to drain and wetlands were delineated as vernal pools. However, during rain events in 2021-2022 flow within these toe drains was observed during high runoff events.

The Study Area was delineated by Salix Consulting, Inc in 2007 and 2021 (Salix 2021). A total of 0.938 acres of aquatic, including 0.923 acres of vernal pools and 0.015 acre of ditch were delineated on-site. The 21 vernal pools constitute potential vernal pool fairy shrimp habitat. Dominant plant species in these features included stalked popcorn-flower (*Plagiobothrys stipitatus*), coyote thistle (*Eryngium vaseyi*), vernal pool buttercup (*Ranunculus bonariensis*), Italian ryegrass (*Festuca perennis*), long-beaked hawkbit (*Leontodon saxatilis*), Mediterranean barley (*Hordeum marinum*), broad-leaf filaree (*Erodium botrys*), hyssop loosestrife (*Lythrum hyssopifolia*). While many of these vernal pools are linear and are in a toe drain or along a drainage swale, they are not considered wetland swales here because they are situated in localized depressions within the low-lying areas where runoff and precipitation collect and support a substantial vernal pool species component.

5.0 FINDINGS

No federally-listed large vernal pool branchiopod were observed during the 2021-2022 wet-season sampling. California fairy shrimp (*Linderiella occidentalis*) was observed in VP-1 during multiple sampling visits. Invertebrates and other organisms observed include species that are common to depression seasonal wetlands including Ostracoda, Copepoda, Cladocera, micro-turbellaria, Hydrophilidae, Cilicidae, Corixidae, Dytiscidae, and Notonectidae as documented in Attachment A.

6.0 REFERENCES

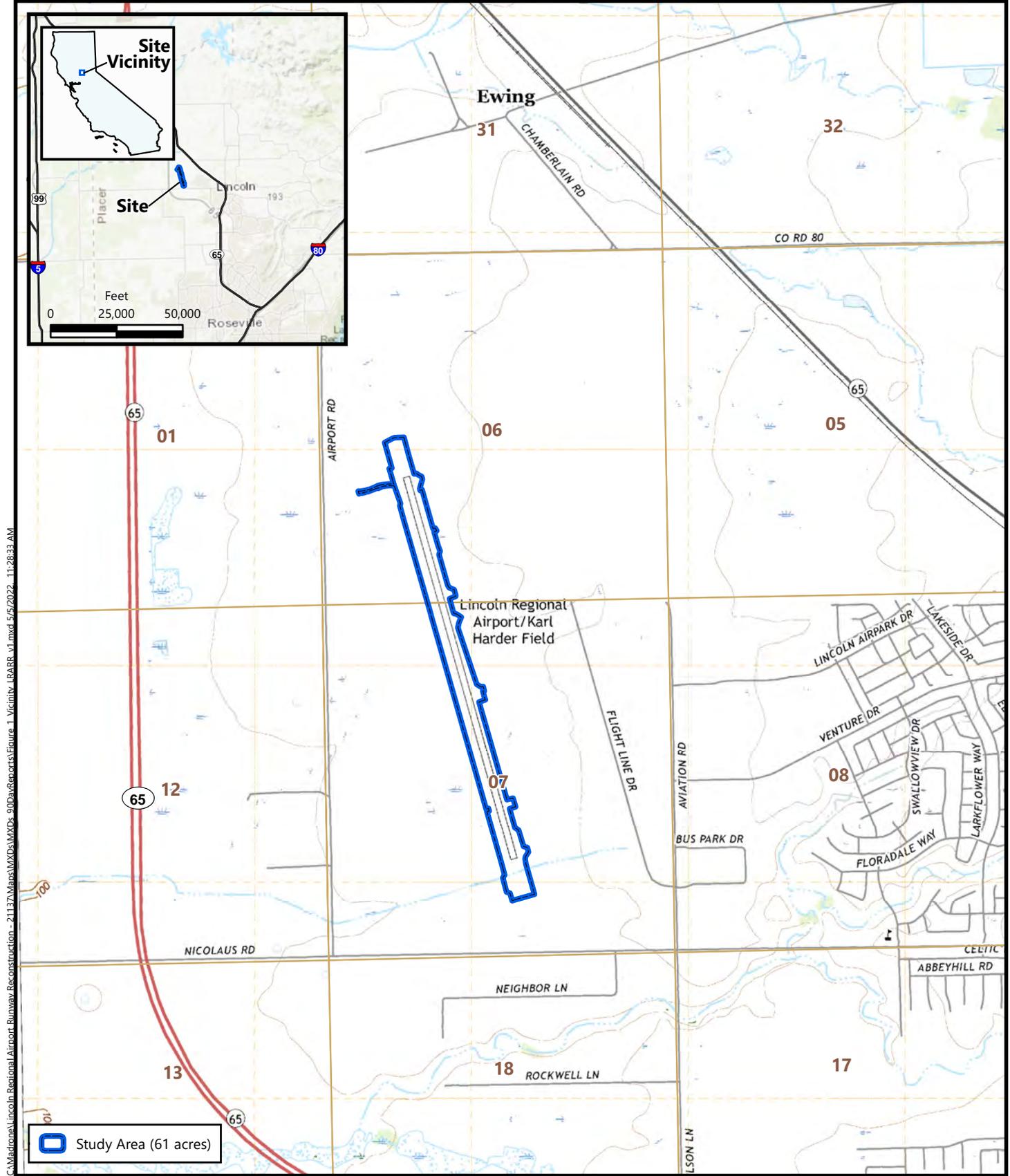
Eng, L.L., D. Belk, and C.H. Erikson. 1990. *California Anostraca: Distribution, Habitat and Status*. Journal of Crustacean Biology 10(2): 247-277.

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- Patton, S.E. 1984. *The Life History Patterns and the Distribution of Two Anostraca, Linderiella occidentalis and Branchinecta sp.* MS Thesis, California University, Chico. 50 pp.
- Placer County Conservation Program. 2020, *Western Placer County Habitat Conservation Plan/Natural Community Conservation Plan*, Dated February 2021
- Salix Consulting, Inc. 2021. *Aquatic Resources Delineation of the 60-Acre Lincoln Regional Airport Runway Reconstruction Study Area, City of Lincoln, Placer County*, Prepared for Wallace Environmental Consulting July 2021.
- U.S. Geological Survey (USGS). 2015. "*Lincoln, California*" 7.5-Minute Series Topographic Quadrangle Map. U. S. Geological Survey. Denver, Colorado.
- U.S. Department of the Interior, Fish and Wildlife Service. 2017. *Survey Guidelines for the Listed Large Branchiopods*. Sacramento, California. Revised November 13, 2017.

Figures

Figure 1. Site and Vicinity

Figure 2. Sampling Locations



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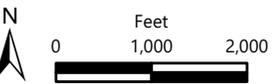
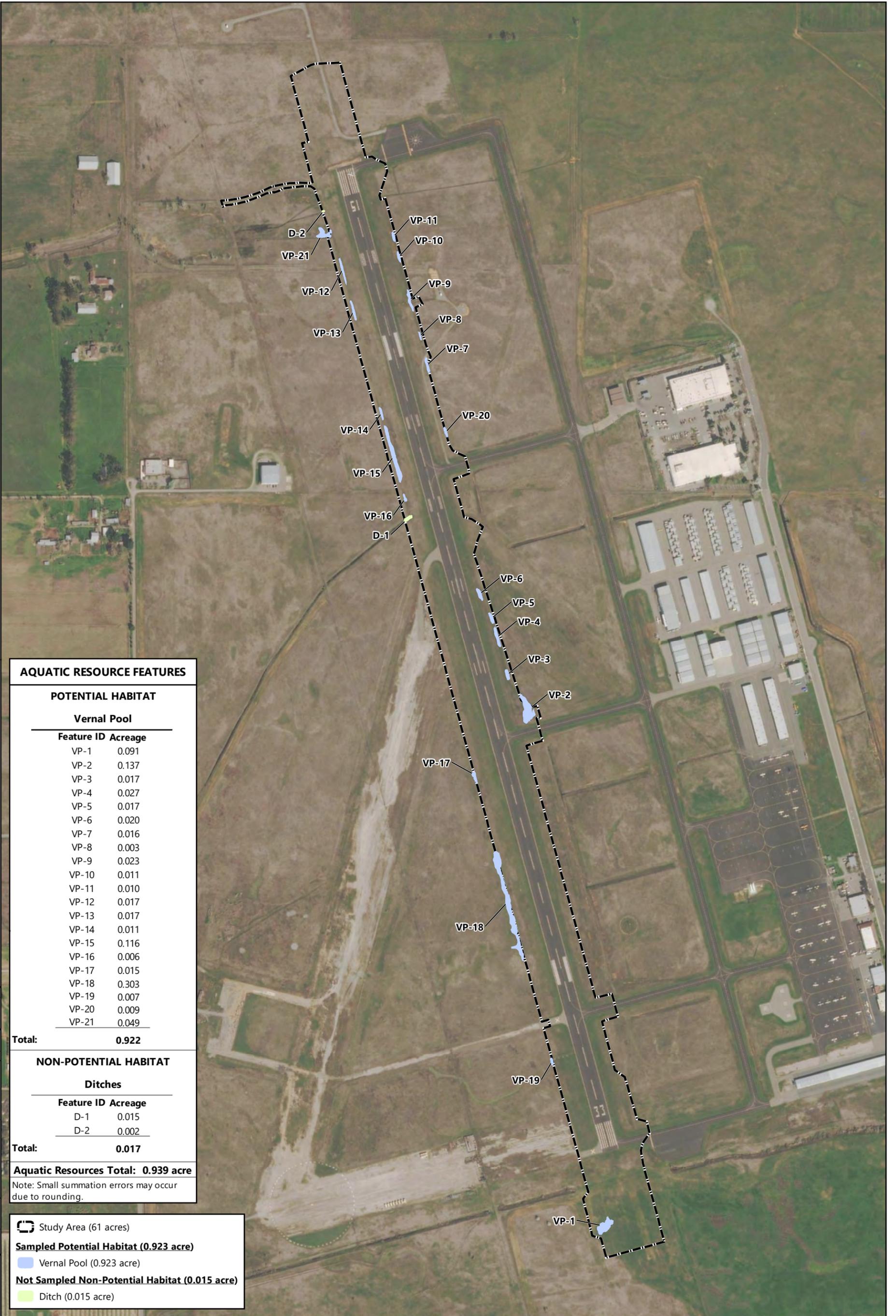


Figure 1
Site and Vicinity

Source: United States Geologic Survey, 2018
 "Lincoln, California" 7.5-Minute Topographic Quadrangle
 Sections 6-7, Township 21 North, Range 6 East
 UTM: Easting 642942 E / 4307989N

Lincoln Regional Airport Runway Reconstruction
 Lincoln, Placer County, California





AQUATIC RESOURCE FEATURES

POTENTIAL HABITAT

Vernal Pool

Feature ID Acreage

VP-1	0.091
VP-2	0.137
VP-3	0.017
VP-4	0.027
VP-5	0.017
VP-6	0.020
VP-7	0.016
VP-8	0.003
VP-9	0.023
VP-10	0.011
VP-11	0.010
VP-12	0.017
VP-13	0.017
VP-14	0.011
VP-15	0.116
VP-16	0.006
VP-17	0.015
VP-18	0.303
VP-19	0.007
VP-20	0.009
VP-21	0.049

Total: 0.922

NON-POTENTIAL HABITAT

Ditches

Feature ID Acreage

D-1	0.015
D-2	0.002

Total: 0.017

Aquatic Resources Total: 0.939 acre

Note: Small summation errors may occur due to rounding.

Study Area (61 acres)

Sampled Potential Habitat (0.923 acre)

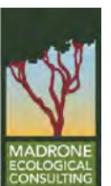
Vernal Pool (0.923 acre)

Not Sampled Non-Potential Habitat (0.015 acre)

Ditch (0.015 acre)



Figure 2
Sampling Locations



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Attachments

Attachment A. Wet-Season Data Sheets

Attachment B. PCCP Monitoring Reporting Form

Attachment C. Representative Photographs

Attachment A

Wet-Season Data Sheets

Attachment B

PCCP Monitoring Reporting Form

OBJECTID	Surveyor	Unique_ID	Lat	Long	Surface_Area	Branchinecta Lynchii Presence	Branchinecta Lynchii Abundance	Lepidurus Packardii Presence	Immature UnknownSpecies Presence	GlobalID	parentGlobalID	Date_c	Property_Name_c	Wellhead_ID_c	Notes_c	Percent_Immundation	Lepidurus Packardii Abundance	branchinecta Conservatio Abundance	Immature Unknown Species Abundance	Branchinecta Conservatio Presence
VP-1	Bonnie Peterson	VP-1	4308026.912	-121.3104061	0.091	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-1	0	0	0	0	0	0
VP-2	Bonnie Peterson	VP-2	4308060.668	642971.5768	0.137	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-2	0	20	0	0	0	0
VP-3	Bonnie Peterson	VP-3	4308103.804	642493.754	0.017	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-3	0	0	0	0	0	0
VP-4	Bonnie Peterson	VP-4	4308137.328	642851.4892	0.027	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-4	10	0	0	0	0	0
VP-5	Bonnie Peterson	VP-5	4308656.548	642838.0137	0.017	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-5	0	0	0	0	0	0
VP-6	Bonnie Peterson	VP-6	4308630.235	642819.1722	0.02	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-6	0	0	0	0	0	0
VP-7	Bonnie Peterson	VP-7	4308707.618	642798.5012	0.016	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-7	90	0	0	0	0	0
VP-8	Bonnie Peterson	VP-8	4308743.369	642788.7534	0.003	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-8	20	0	0	0	0	0
VP-9	Bonnie Peterson	VP-9	4308683.754	642697.8624	0.023	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-9	75	0	0	0	0	0
VP-10	Bonnie Peterson	VP-10	4308609.668	642718.5459	0.011	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-10	80	0	0	0	0	0
VP-11	Bonnie Peterson	VP-11	4308426.602	642770.3619	0.01	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-11	0	0	0	0	0	0
VP-12	Bonnie Peterson	VP-12	4308349.861	642793.4272	0.017	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-12	1	0	0	0	0	0
VP-13	Bonnie Peterson	VP-13	4308274.216	642814.2469	0.017	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-13	0	0	0	0	0	0
VP-14	Bonnie Peterson	VP-14	4307776.261	642944.2902	0.011	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-14	50	0	0	0	0	0
VP-15	Bonnie Peterson	VP-15	4307552.186	643005.866	0.116	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-15	50	0	0	0	0	0
VP-16	Bonnie Peterson	VP-16	4307266.354	643088.3481	0.006	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-16	0	0	0	0	0	0
VP-17	Bonnie Peterson	VP-17	4308394.117	642885.9878	0.015	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-17	0	0	0	0	0	0
VP-18	Bonnie Peterson	VP-18	4308747.577	642663.3214	0.303	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-18	1	0	0	0	0	0
VP-19	Bonnie Peterson	VP-19	38.8964904	-121.3119607	0.007	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-19	0	0	0	0	0	0
VP-20	Bonnie Peterson	VP-20	38.8964904	-121.3104061	0.009	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-20	20	0	0	0	0	0
VP-21	Bonnie Peterson	VP-21	38.8946334	-121.3117253	0.049	0	0	0	0	0	0	11/4/2021	Lincoln Airport	VP-21	35	0	0	0	0	0
VP-1	Bonnie Peterson	VP-1	4308026.912	642981.9573	0.091	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-1	0	0	0	0	0	0
VP-2	Bonnie Peterson	VP-2	4308060.668	642971.5768	0.137	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-2	0	0	0	0	0	0
VP-3	Bonnie Peterson	VP-3	4308103.804	642493.754	0.017	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-3	0	0	0	0	0	0
VP-4	Bonnie Peterson	VP-4	4308137.328	642851.4892	0.027	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-4	0	0	0	0	0	0
VP-5	Bonnie Peterson	VP-5	4308656.548	642838.0137	0.017	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-5	0	0	0	0	0	0
VP-6	Bonnie Peterson	VP-6	4308630.235	642819.1722	0.02	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-6	0	0	0	0	0	0
VP-7	Bonnie Peterson	VP-7	4308707.618	642798.5012	0.016	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-7	80	0	0	0	0	0
VP-8	Bonnie Peterson	VP-8	4308743.369	642788.7534	0.003	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-8	0	0	0	0	0	0
VP-9	Bonnie Peterson	VP-9	4308683.754	642697.8624	0.023	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-9	10	0	0	0	0	0
VP-10	Bonnie Peterson	VP-10	4308609.668	642718.5459	0.011	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-10	40	0	0	0	0	0
VP-11	Bonnie Peterson	VP-11	4308426.602	642770.3619	0.01	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-11	90	0	0	0	0	0
VP-12	Bonnie Peterson	VP-12	4308349.861	642793.4272	0.017	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-12	0	0	0	0	0	0
VP-13	Bonnie Peterson	VP-13	4308274.216	642814.2469	0.017	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-13	0	0	0	0	0	0
VP-14	Bonnie Peterson	VP-14	4307776.261	642944.2902	0.011	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-14	0	0	0	0	0	0
VP-15	Bonnie Peterson	VP-15	4307552.186	643005.866	0.116	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-15	0	0	0	0	0	0
VP-16	Bonnie Peterson	VP-16	4307266.354	643088.3481	0.006	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-16	0	0	0	0	0	0
VP-17	Bonnie Peterson	VP-17	4308394.117	642885.9878	0.015	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-17	0	0	0	0	0	0
VP-18	Bonnie Peterson	VP-18	4308747.577	642663.3214	0.303	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-18	0	0	0	0	0	0
VP-19	Bonnie Peterson	VP-19	38.8964904	-121.3119607	0.007	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-19	0	0	0	0	0	0
VP-20	Bonnie Peterson	VP-20	38.8964904	-121.3104061	0.009	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-20	0	0	0	0	0	0
VP-21	Bonnie Peterson	VP-21	38.8946334	-121.3117253	0.049	0	0	0	0	0	0	11/18/2021	Lincoln Airport	VP-21	0	0	0	0	0	0
VP-1	Bonnie Peterson	VP-1	4308026.912	642981.9573	0.091	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-1	0	0	0	0	0	0
VP-2	Bonnie Peterson	VP-2	4308060.668	642971.5768	0.137	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-2	0	0	0	0	0	0
VP-3	Bonnie Peterson	VP-3	4308103.804	642493.754	0.017	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-3	0	0	0	0	0	0
VP-4	Bonnie Peterson	VP-4	4308137.328	642851.4892	0.027	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-4	0	0	0	0	0	0
VP-5	Bonnie Peterson	VP-5	4308656.548	642838.0137	0.017	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-5	0	0	0	0	0	0
VP-6	Bonnie Peterson	VP-6	4308630.235	642819.1722	0.02	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-6	0	0	0	0	0	0
VP-7	Bonnie Peterson	VP-7	4308707.618	642798.5012	0.016	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-7	0	0	0	0	0	0
VP-8	Bonnie Peterson	VP-8	4308743.369	642788.7534	0.003	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-8	0	0	0	0	0	0
VP-9	Bonnie Peterson	VP-9	4308683.754	642697.8624	0.023	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-9	0	0	0	0	0	0
VP-10	Bonnie Peterson	VP-10	4308609.668	642718.5459	0.011	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-10	0	0	0	0	0	0
VP-11	Bonnie Peterson	VP-11	4308426.602	642770.3619	0.01	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-11	0	0	0	0	0	0
VP-12	Bonnie Peterson	VP-12	4308349.861	642793.4272	0.017	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-12	0	0	0	0	0	0
VP-13	Bonnie Peterson	VP-13	4308274.216	642814.2469	0.017	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-13	0	0	0	0	0	0
VP-14	Bonnie Peterson	VP-14	4307776.261	642944.2902	0.011	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-14	0	0	0	0	0	0
VP-15	Bonnie Peterson	VP-15	4307552.186	643005.866	0.116	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-15	0	0	0	0	0	0
VP-16	Bonnie Peterson	VP-16	4307266.354	643088.3481	0.006	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-16	0	0	0	0	0	0
VP-17	Bonnie Peterson	VP-17	4308394.117	642885.9878	0.015	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-17	0	0	0	0	0	0
VP-18	Bonnie Peterson	VP-18	4308747.577	642663.3214	0.303	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-18	0	0	0	0	0	0
VP-19	Bonnie Peterson	VP-19	38.8964904	-121.3119607	0.007	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-19	0	0	0	0	0	0
VP-20	Bonnie Peterson	VP-20	38.8964904	-121.3104061	0.009	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-20	0	0	0	0	0	0
VP-21	Bonnie Peterson	VP-21	38.8946334	-121.3117253	0.049	0	0	0	0	0	0	12/2/2022	Lincoln Airport	VP-21	0	0	0	0	0	0
VP-1	Bonnie Peterson	VP-1	4308026.912	642981.9573	0.091	0	0	0	0	0	0	1/6/2022	Lincoln Airport	VP-1	100	0	0	0	0	0
VP-2	Bonnie Peterson	VP-2	4308060.668	642971.5768	0.137	0	0	0	0	0	0	1/6/2022	Lincoln Airport	VP-2	100	0	0	0	0	0
VP-3	Bonnie Peterson	VP-3	4308103.804	642493.754	0.017	0	0	0	0	0	0	1/6/2022	Lincoln Airport	VP-3	100	0	0	0	0	0
VP-4	Bonnie Peterson	VP-4	4308137.328	642851.4892	0.027	0	0	0	0	0	0	1/6/2022	Lincoln Airport	VP-4	100	0	0	0	0	0
VP-5	Bonnie Peterson	VP-5	4308656.548	642838.0137	0.017	0	0	0	0	0	0	1/6/2022	Lincoln Airport	VP-5	100	0	0	0	0	0
VP-6	Bonnie Peterson	VP-6	4308630.235	642819.1722	0.02	0	0	0	0	0	0	1/6/2022	Lincoln Airport	VP-6	100	0	0	0	0	0
VP-7	Bonnie Peterson	VP-7	4308707.618	642798.5012																

VP-18	Bonnie Peterson	VP-18	4308747.577	642663.3214	0.303	0	0	0	0	1/20/2022	Lincoln Airport	VP-18	1	0	0	0	0
VP-19	Bonnie Peterson	VP-19	38.89664904	-121.3119607	0.007	0	0	0	0	1/20/2022	Lincoln Airport	VP-19	0	0	0	0	0
VP-20	Bonnie Peterson	VP-20	38.89640241	-121.3104061	0.009	0	0	0	0	1/20/2022	Lincoln Airport	VP-20	0	0	0	0	0
VP-21	Bonnie Peterson	VP-21	38.89463534	-121.3117253	0.049	0	0	0	0	1/20/2022	Lincoln Airport	VP-21	75	0	0	0	0
VP-1	Bonnie Peterson	VP-1	4308026.912	642981.9573	0.091	0	0	0	0	2/1/2022	Lincoln Airport	VP-1	10	0	0	0	0
VP-2	Bonnie Peterson	VP-2	4308069.668	642971.5768	0.137	0	0	0	0	2/1/2022	Lincoln Airport	VP-2	0	0	0	0	0
VP-3	Bonnie Peterson	VP-3	4308103.804	642949.754	0.017	0	0	0	0	2/1/2022	Lincoln Airport	VP-3	0	0	0	0	0
VP-4	Bonnie Peterson	VP-4	4308113.738	642891.4892	0.027	0	0	0	0	2/1/2022	Lincoln Airport	VP-4	0	0	0	0	0
VP-5	Bonnie Peterson	VP-5	4308066.648	642939.0137	0.017	0	0	0	0	2/1/2022	Lincoln Airport	VP-5	0	0	0	0	0
VP-6	Bonnie Peterson	VP-6	4308030.235	642819.1722	0.02	0	0	0	0	2/1/2022	Lincoln Airport	VP-6	0	0	0	0	0
VP-7	Bonnie Peterson	VP-7	4308707.618	642798.5012	0.016	0	0	0	0	2/1/2022	Lincoln Airport	VP-7	0	0	0	0	0
VP-8	Bonnie Peterson	VP-8	4308743.569	642789.7534	0.003	0	0	0	0	2/1/2022	Lincoln Airport	VP-8	0	0	0	0	0
VP-9	Bonnie Peterson	VP-9	4308683.754	642697.8624	0.023	0	0	0	0	2/1/2022	Lincoln Airport	VP-9	0	0	0	0	0
VP-10	Bonnie Peterson	VP-10	4308069.668	642718.5459	0.011	0	0	0	0	2/1/2022	Lincoln Airport	VP-10	0	0	0	0	0
VP-11	Bonnie Peterson	VP-11	4308426.602	642770.3619	0.01	0	0	0	0	2/1/2022	Lincoln Airport	VP-11	25	0	0	0	0
VP-12	Bonnie Peterson	VP-12	4308349.861	642793.4272	0.017	0	0	0	0	2/1/2022	Lincoln Airport	VP-12	0	0	0	0	0
VP-13	Bonnie Peterson	VP-13	4308274.216	642814.2469	0.017	0	0	0	0	2/1/2022	Lincoln Airport	VP-13	0	0	0	0	0
VP-14	Bonnie Peterson	VP-14	4307776.261	642944.2902	0.011	0	0	0	0	2/1/2022	Lincoln Airport	VP-14	0	0	0	0	0
VP-15	Bonnie Peterson	VP-15	4307552.186	643005.866	0.116	0	0	0	0	2/1/2022	Lincoln Airport	VP-15	1	0	0	0	0
VP-16	Bonnie Peterson	VP-16	4307266.354	643088.3481	0.006	0	0	0	0	2/1/2022	Lincoln Airport	VP-16	0	0	0	0	0
VP-17	Bonnie Peterson	VP-17	4308284.117	642885.9878	0.015	0	0	0	0	2/1/2022	Lincoln Airport	VP-17	0	0	0	0	0
VP-18	Bonnie Peterson	VP-18	4308747.577	642663.3214	0.303	0	0	0	0	2/1/2022	Lincoln Airport	VP-18	1	0	0	0	0
VP-19	Bonnie Peterson	VP-19	38.89664904	-121.3119607	0.007	0	0	0	0	2/1/2022	Lincoln Airport	VP-19	0	0	0	0	0
VP-20	Bonnie Peterson	VP-20	38.89640241	-121.3104061	0.009	0	0	0	0	2/1/2022	Lincoln Airport	VP-20	0	0	0	0	0
VP-21	Bonnie Peterson	VP-21	38.89463534	-121.3117253	0.049	0	0	0	0	2/1/2022	Lincoln Airport	VP-21	0	0	0	0	0
VP-1	Bonnie Peterson	VP-1	4308026.912	642981.9573	0.091	0	0	0	0	2/1/2022	Lincoln Airport	VP-1	0	0	0	0	0
VP-2	Bonnie Peterson	VP-2	4308069.668	642971.5768	0.137	0	0	0	0	2/1/2022	Lincoln Airport	VP-2	0	0	0	0	0
VP-3	Bonnie Peterson	VP-3	4308103.804	642949.754	0.017	0	0	0	0	2/1/2022	Lincoln Airport	VP-3	0	0	0	0	0
VP-4	Bonnie Peterson	VP-4	4308113.738	642891.4892	0.027	0	0	0	0	2/1/2022	Lincoln Airport	VP-4	0	0	0	0	0
VP-5	Bonnie Peterson	VP-5	4308066.648	642939.0137	0.017	0	0	0	0	2/1/2022	Lincoln Airport	VP-5	0	0	0	0	0
VP-6	Bonnie Peterson	VP-6	4308030.235	642819.1722	0.02	0	0	0	0	2/1/2022	Lincoln Airport	VP-6	0	0	0	0	0
VP-7	Bonnie Peterson	VP-7	4308707.618	642798.5012	0.016	0	0	0	0	2/1/2022	Lincoln Airport	VP-7	0	0	0	0	0
VP-8	Bonnie Peterson	VP-8	4308743.569	642789.7534	0.003	0	0	0	0	2/1/2022	Lincoln Airport	VP-8	0	0	0	0	0
VP-9	Bonnie Peterson	VP-9	4308683.754	642697.8624	0.023	0	0	0	0	2/1/2022	Lincoln Airport	VP-9	0	0	0	0	0
VP-10	Bonnie Peterson	VP-10	4308069.668	642718.5459	0.011	0	0	0	0	2/1/2022	Lincoln Airport	VP-10	0	0	0	0	0
VP-11	Bonnie Peterson	VP-11	4308426.602	642770.3619	0.01	0	0	0	0	2/1/2022	Lincoln Airport	VP-11	0	0	0	0	0
VP-12	Bonnie Peterson	VP-12	4308349.861	642793.4272	0.017	0	0	0	0	2/1/2022	Lincoln Airport	VP-12	0	0	0	0	0
VP-13	Bonnie Peterson	VP-13	4308274.216	642814.2469	0.017	0	0	0	0	2/1/2022	Lincoln Airport	VP-13	0	0	0	0	0
VP-14	Bonnie Peterson	VP-14	4307776.261	642944.2902	0.011	0	0	0	0	2/1/2022	Lincoln Airport	VP-14	0	0	0	0	0
VP-15	Bonnie Peterson	VP-15	4307552.186	643005.866	0.116	0	0	0	0	2/1/2022	Lincoln Airport	VP-15	0	0	0	0	0
VP-16	Bonnie Peterson	VP-16	4307266.354	643088.3481	0.006	0	0	0	0	2/1/2022	Lincoln Airport	VP-16	0	0	0	0	0
VP-17	Bonnie Peterson	VP-17	4308284.117	642885.9878	0.015	0	0	0	0	2/1/2022	Lincoln Airport	VP-17	0	0	0	0	0
VP-18	Bonnie Peterson	VP-18	4308747.577	642663.3214	0.303	0	0	0	0	2/1/2022	Lincoln Airport	VP-18	0	0	0	0	0
VP-19	Bonnie Peterson	VP-19	38.89664904	-121.3119607	0.007	0	0	0	0	2/1/2022	Lincoln Airport	VP-19	0	0	0	0	0
VP-20	Bonnie Peterson	VP-20	38.89640241	-121.3104061	0.009	0	0	0	0	2/1/2022	Lincoln Airport	VP-20	0	0	0	0	0
VP-21	Bonnie Peterson	VP-21	38.89463534	-121.3117253	0.049	0	0	0	0	2/1/2022	Lincoln Airport	VP-21	0	0	0	0	0

Attachment C

Representative Photographs

Date & Time: Thu, Nov 04, 2021, 09:31:45 PDT
Position: +038.900128° / -121.348649° (±28.8ft)
Altitude: 120ft (±19.9ft)
Datum: WGS-84
Azimuth/Bearing: 210° S30W 3733mils True (±16°)
Elevation Angle: -08.5°
Horizon Angle: +01.1°
Zoom: 0.5X
Lincoln Regional Airport, VP-1



Photograph of VP-1 – facing south on 4 November 2021

Date & Time: Thu, Nov 04, 2021, 09:38:59 PDT
Position: +038.902556° / -121.349808° (±15.6ft)
Altitude: 117ft (±11.0ft)
Datum: WGS-84
Azimuth/Bearing: 327° N33W 5813mils True (±15°)
Elevation Angle: -16.9°
Horizon Angle: -00.4°
Zoom: 0.5X
Lincoln Regional Airport, VP-19



Photograph of VP-19 – facing north on 4 November 2021

Date & Time: Thu, Nov 04, 2021, 09:47:01 PDT
Position: +038.905505° / -121.350764° (±108.2ft)
Altitude: 120ft (±21.6ft)
Datum: WGS-84
Azimuth/Bearing: 189° S09W 3360mils True (±12°)
Elevation Angle: -09.4°
Horizon Angle: +00.4°
Zoom: 0.5X
Lincoln Regional Airport, VP-18



Photograph of VP-18 – facing south on 4 November 2021

Date & Time: Thu, Nov 04, 2021, 09:51:44 PDT
Position: +038.907246° / -121.351431° (±16.1ft)
Altitude: 119ft (±10.3ft)
Datum: WGS-84
Azimuth/Bearing: 340° N20W 6044mils True (±12°)
Elevation Angle: -15.7°
Horizon Angle: -01.4°
Zoom: 0.5X
Lincoln Regional Airport, VP-17



Photograph of VP-17 – facing north on 4 November 2021



Photograph of VP-16 – facing north on 4 November 2021



Photograph of VP-15 – facing north on 4 November 2021



Photograph of VP-14 – facing north on 4 November 2021



Photograph of VP-13 – facing south on 4 November 2021



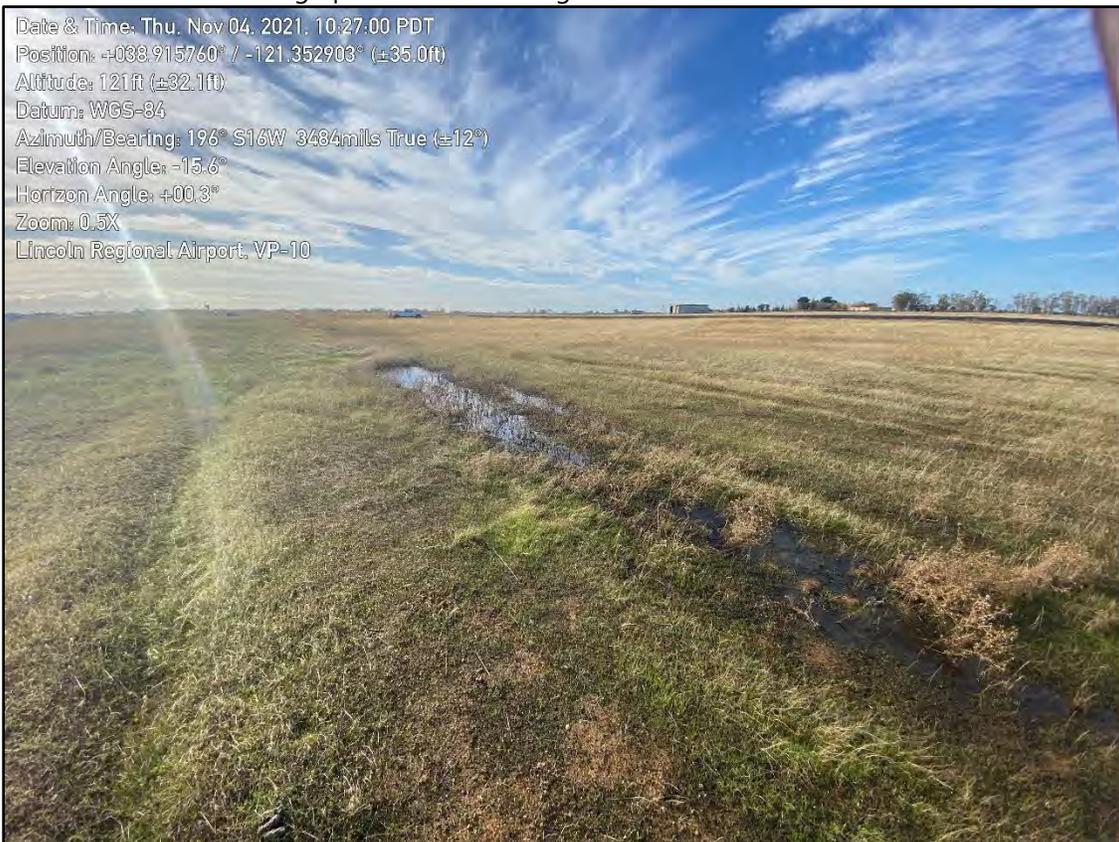
Photograph of VP-12 – facing north on 4 November 2021



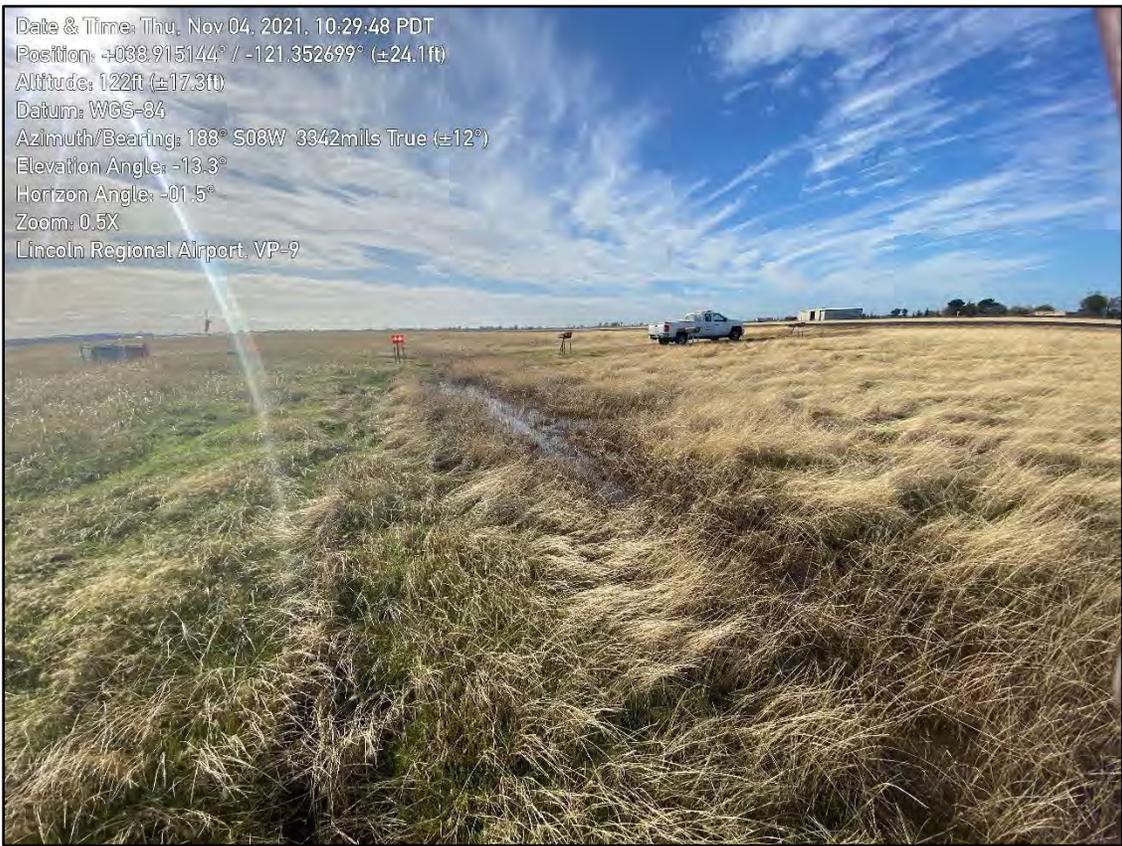
Photograph of VP-21 – facing north on 4 November 2021



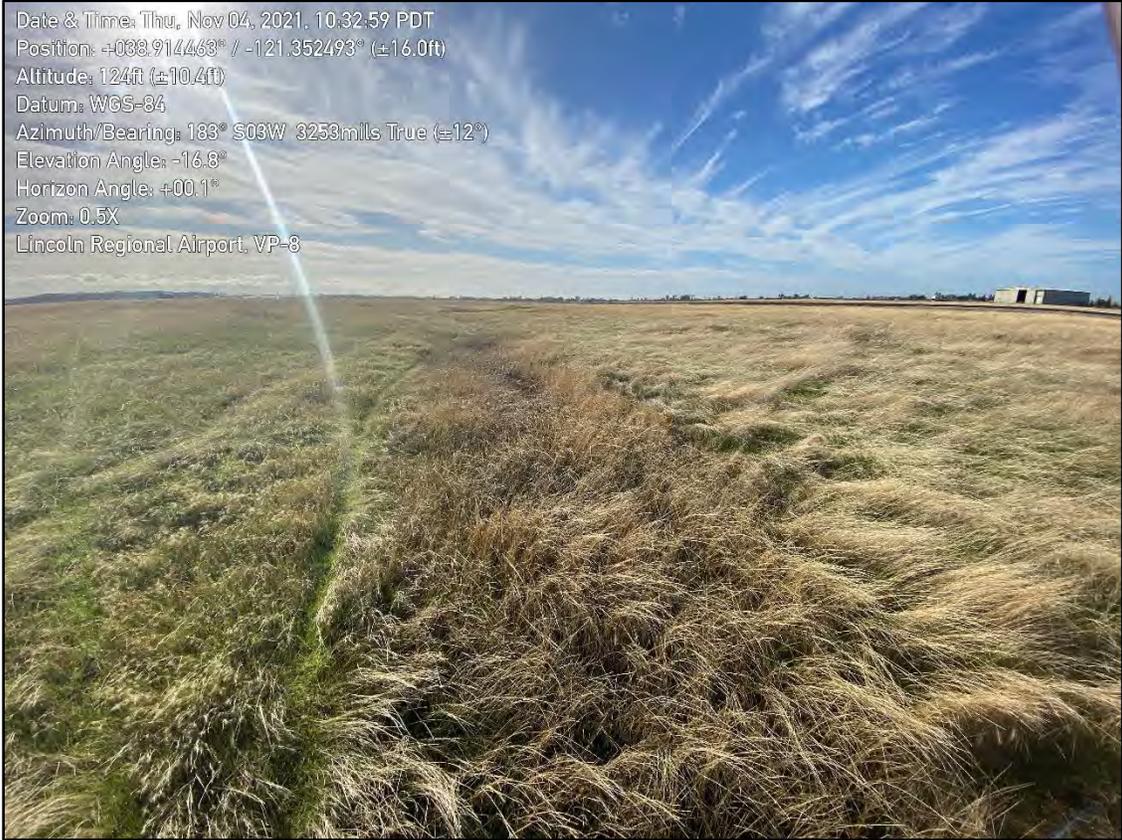
Photograph of VP-11 – facing south on 4 November 2021



Photograph of VP-10 – facing south on 4 November 2021



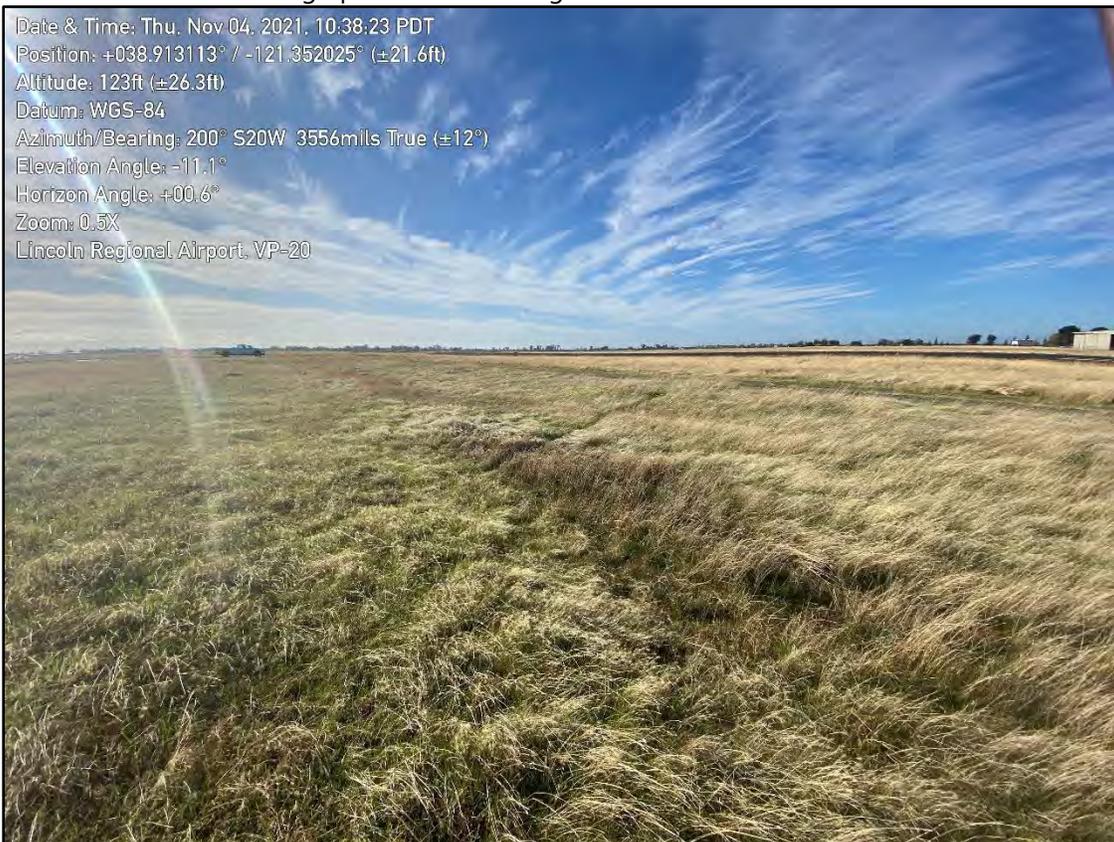
Photograph of VP-9 – facing south on 4 November 2021



Photograph of VP-8 – facing south on 4 November 2021



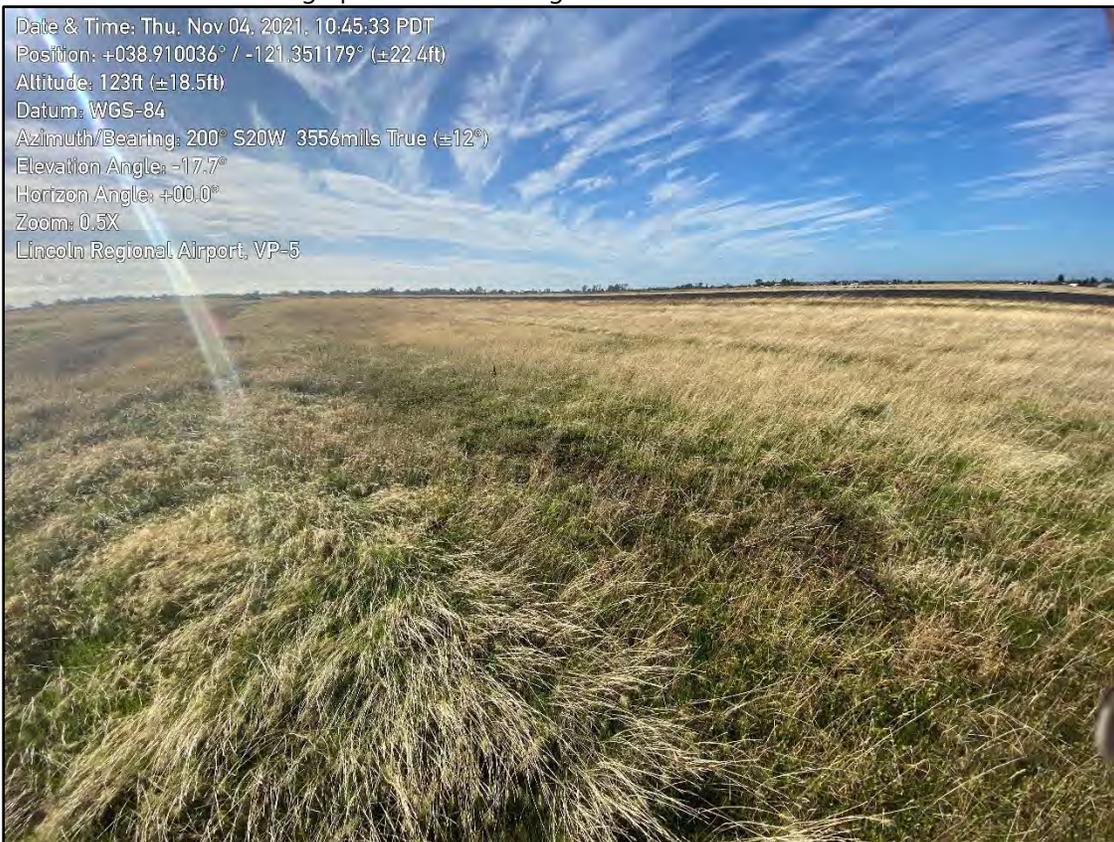
Photograph of VP-7 – facing south on 4 November 2021



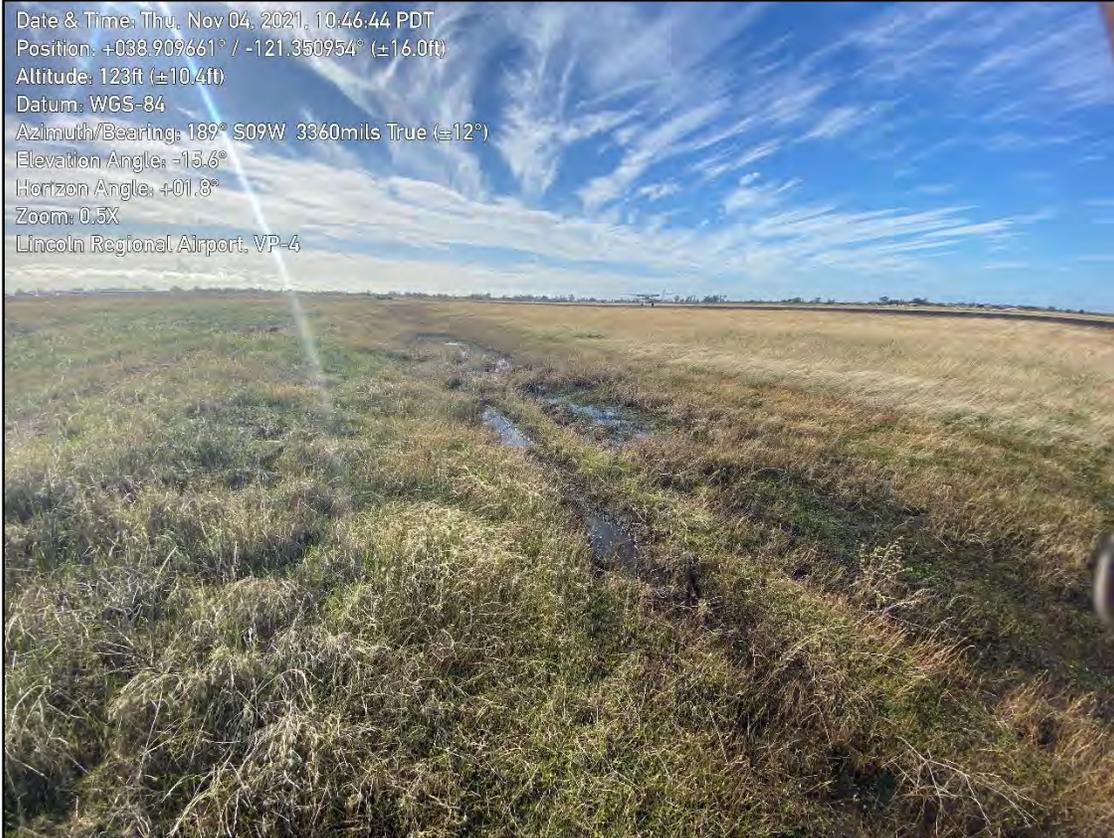
Photograph of VP-20 – facing south on 4 November 2021



Photograph of VP-6 – facing south on 4 November 2021



Photograph of VP-5 – facing south on 4 November 2021



Photograph of VP-4 – facing south on 4 November 2021



Photograph of VP-3 – facing south on 4 November 2021

Date & Time: Thu, Nov 04, 2021, 10:52:12 PDT
Position: +038.908178° / -121.350261° (±23.0ft)
Altitude: 122ft (±17.5ft)
Datum: WGS-84
Azimuth/Bearing: 348° N12W 6187mils True (±12°)
Elevation Angle: -06.4°
Horizon Angle: +00.2°
Zoom: 0.5X
Lincoln Regional Airport, VP-2



Photograph of VP-2 – facing north on 4 November 2021