Appendix E

Biological

APPENDIX E:
Biological Resources

The following reports are included as part of this appendix to support the alternatives discussion:

- Attachment 1: HELIX Consulting, Ontario International Airport Rehabilitation of Runway 8R-26L and Associated Improvements Biological Technical Report, April 2022
- Attachment 2: U.S. Fish and Wildlife Service Depredation Permit
- Attachment 3 (NEW as part of Final SEIR): OIAA in Cooperation with: U.S. Department of Agriculture Animal and Plant Health Inspection Service Wildlife Services, Ontario International Airport (ONT) Wildlife Hazard Management Plan, May 2016

Attachment 1

USFWS Depredation Permit

DEPREDATION AT AIRPORTS

Permit Number: MBPER0037939

Version Number: 0

Effective: 2022-03-25 **Expires:** 2023-02-28

Issuing Office:

Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

MB Sacramento Permit Office
2800 Cottage Way - Room W-2606
Sacramento, California 95825
permitsR8MB@fws.gov
Tel: 916-978-6183

Digitally signed by

Permits Biologist

Permittee:

Ontario International Airport Authority
1923 E. Avion St.
Ontario, CA 91761
U.S.A.

Authority: Statutes and Regulations: 16 U.S.C 703-712 50 CFR Part 13, 50 CFR 21.41

Location where authorized activity may be conducted:

Ontario International Airport operations area and property.

Reporting requirements:

ANNUAL REPORT DUE: 1/31 You must submit an annual report to your Regional Migratory Bird Permit Office each year, even if you had no activity. Form can be found at: https://fwsepermits.servicenowservices.com/fws Under "Explore Permits" select your permit type. Annual Report Form is under Permit Details.

Authorizations and Conditions:

Last Full Review: **2022** Next Full Review: **2027**

Annual ePermits Renewal Request: Request a permit renewal in ePermits each year. Submit a full application, including Section E, in the year that a full application review is due (once every five years), and upload your annual report. In the interim years, update your contact information (including Principal Officer) and upload your annual report in ePermits.

Migratory Bird Permit Office Contact: permitsR8MB@fws.gov or amy_walsh@fws.gov

DEPREDATION AT AIRPORTS

Permit Number: MBPER0037939

Version Number: 0

Effective: 2022-03-25 **Expires:** 2023-02-28

A. To resolve or prevent threats to human safety and/or aircraft safety at airports or airfields, you are authorized to take, temporarily possess, and transport the migratory birds specified below. You are required to continually apply non-lethal methods in conjunction with lethal control to minimize the lethal take of migratory birds. All take must be done as part of an integrated wildlife damage management program that implements nonlethal management techniques. You may not use this authority for situations in which migratory birds are merely causing a nuisance or nesting in an inconvenient location.

This authority excludes bald eagles, golden eagles, and threatened or endangered species (http://www.fws.gov/endangered). Harassment and/or removal of endangered/threatened species and/or bald eagles and golden eagles require additional permits from Migratory Bird Permit Office and/or Ecological Services Office.

(1) The following may be trapped and relocated or lethally taken: *For Birds of Conservation Concern and raptors – we recommend attempting trapping and relocation prior to implementing lethal control unless there is an immediate threat to human safety.* A list of BCC species can be found at: https://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php

For information on the presence of bird species at your airport, we recommend using IPAC: https://ecos.fws.gov/ipac/

Combined Authorized Take Total: 200 birds

BCC-Listed Species:

No More than 5: California Gull, Western Gull

*California Fully Protected Species - The U.S. Fish and Wildlife Service recommends coordination with the California Department of Fish and Wildlife prior to relocation and/or lethal removal.

(2) The following may be trapped and relocated:

Monitored Species:

5 of Each: Swainson's Hawk*
4 of Each: Ferruginous Hawk
2 of Each: Loggerhead Shrike

BCC-Listed Species:

No More than 5: Burrowing Owl**

**Please coordinate with our office prior to trapping and relocation.

(3) Nest Take (including egg destruction/addling). You are authorized to collect viable eggs and give them to a federally permitted migratory bird rehabilitator or place them in a foster nest before destroying an active nest. If egg collection is not feasible, you are authorized to destroy.

(4) Emergency Take. You are authorized in emergency situations only to take, trap, or relocate any migratory birds, nests, and eggs, including species that are not listed in Condition A (except bald eagles, golden eagles, endangered or threatened species) when the migratory birds, nests, or eggs are posing a direct threat to human safety. You are authorized to exceed the take authorized in 2 – 3 above in emergency

situations. You must notify your Migratory Bird Permit Office (contact information above Condition A) within 48 hours and include the following information:

(i) Emergency situation description, including date and time;
(ii) Species and number of bird(s) taken;
(iii) Method of take.

A response from the office is not required. You will be contacted if further coordination is appropriate.

(5) Do not report the following activities under your Airport Depredation permit. If activities are conducted under a Depredation Order, Conservation Order, or other regulatory authorization or permit you should conduct activities in accordance with those authorizations and reporting requirements. Canada goose nests should be taken and reported under the Resident Canada Goose registration system (https://epermits.fws.gov/eRCGR/).

B. **Methods**. You may use the following methods of take. The use of any of the below methods is at your discretion for each situation.

(1) Firearms. Shotguns must be no larger than 10-gauge and must be fired from the shoulder. You must use nontoxic shot listed in 50 CFR 20.21(j). Rifles or air rifles may be used when determined most appropriate to resolve the injurious situation. Nontoxic rounds and pellets must be used when humane and feasible. If lead shot is used, bird remains must be disposed of in a manner that prevents introducing lead in the environment. Paint ball guns may be used to haze birds but are not an authorized firearm for take. You may not use blinds, pits, or other means of concealment, decoys, duck calls, or other devices to lure or entice migratory birds into gun range. Firearm use must be in accordance with local laws and ordinances.

(2) Live Traps. All trapping must be under humane and healthful conditions (50 CFR 13.41).

Trapping Requirements: Only persons who have experience trapping birds, may trap birds under this permit. Others may assist in trapping but may not trap without supervision by an experienced trapper.

It is your responsibility to have a plan and adequate resources in place for trapping and relocating birds prior to trapping. Adequate resources include transport carriers and food appropriate for each species; rehabilitators and/or transporters qualified to care for, transport, and release birds; and appropriately sized enclosures for birds that remain in captivity for more than two days. *You are responsible for the costs of transport, care, conditioning, and release of birds trapped under this permit.*

Any bird killed or injured during trapping must be reported within 72 hours to the issuing office at permitsR8MB@fws.gov and reported on your Annual Report.

Trap Types & Provisions

Any appropriate and humane trap may be used. Traps should be placed in the shade, if possible. Enclosure-type traps must contain an adequate supply of food and water.

Pole traps (padded-jaw and Verbail-design) may be used to capture raptors when other reasonable and appropriate methods have been employed and fail to alleviate the problem. We recommend using Verbail or Verbail-style pole traps as a more humane alternative to padded jaw-design pole traps. Padded jaw-design pole traps should only be used as a last resort.

Pole traps used between sunrise and sunset must be checked at least every 2 hours. Pole traps used between sunset and sunrise must be checked at least once during the night, not including set-up and take-down. Checks may be in person, by camera, or by other remote-sensing technology such as trap transponders. During inclement weather (e.g., extreme precipitation or temperatures), pole traps must be continuously monitored or closed. The Service recommends the tether on pole traps be long enough for raptors to land on the ground and stand on their feet.

Pole Trap Reporting Requirements

1. Injury or death due to pole trapping must be reported your Migratory Bird Permit Office within 72 hours (contact information above Condition A)

2. Non-target capture in a pole trap must be reported your Migratory Bird Permit Office within 72 hours (contact information above Condition A)

3. Annual Report: report each raptor captured with a pole trap, including target and non-target species, trap type (padded-jaw or Verbail set), the date taken, if injured or killed during trapping, and the final disposition (released, transferred including permit number of recipient, euthanized) of the bird (see MBPM-4, 2005).

Trap Checks

Traps must be checked at least every 2 hours during the day and at least once at night (not including set up and take down). Under extenuating circumstances, you may extend the trap-check frequency to every 4 hours for Swedish Goshawk traps if the temperature is ≤70°F and the trap is in the sun (≤80°F is authorized if the trap is in the shade). Traps must be closed down during inclement weather (e.g. precipitation or extreme temperatures) unless they are monitored continuously. Trap motion-detection transmitters and scanning receivers may be used in lieu of checking traps in person.

On an experimental basis, you may set Swedish Goshawk traps at night and check them first thing in the morning, rather than once at night. You must send photos of all species caught in the Swedish Goshawk trap to Jennifer_C_Brown@fws.gov, except for Great Horned Owl, Barn Owl, and Red-tailed Hawk (an experiment was already successfully run for these species). The photos should clearly show the face, the primaries, and the tail feathers so that the condition of the bird may be assessed, and the humane treatment of the birds can be determined by the Migratory Bird Permit Office and our National Raptor Coordinator.

Birds must be released within 72 hours of capture. Birds should be weighed before going into captivity for any length of time. Pre-approval must be obtained from the U.S. Fish and Wildlife Service, Migratory Bird Program in order to hold healthy birds longer than 72 hours, and additional requirements will be provided. An example of adequate justification for holding healthy birds longer than the specified limit includes needing additional time to arrange relocation transport. Birds held longer than 72 hours must be reported on your Annual Report with length of time held and justification. All birds should be banded prior to release if possible. Birds captured must be relocated a distance sufficient to minimize potential for return to the capture site. Birds should be released at a time of day appropriate to that species and in an area of suitable, unoccupied habitat.

You may act as a subpermittee and house, transport, and release birds trapped by other facilities with permits for avian trapping and relocation. Likewise, other facilities with permits for avian trapping and relocation can act as subpermittees under your permit and house, transport, and release birds captured under your permit. Birds remain the responsibility of the permittee where they were captured until released.

Facilities that plan to hold healthy birds longer than two days must place birds in adequately sized enclosures for the species. Enclosure requirements for each species may be found in Tables 3, 4, and 5 included in the International Wildlife Rehabilitation Council's and National Wildlife Rehabilitators Association's 2000 Minimum Standards for Wildlife Rehabilitation, 3rd Edition (Minimum Standards). This document is available online at:

http://c.ymcdn.com/sites/www.nwrawildlife.org/resource/resmgr/Min_Standards/MinimumStandards3rdEdition.pdf. The "Restricted Activity," "Limited Activity" and "Unlimited Activity" columns in Table 5 of the Minimum Standards provides appropriate caging dimensions for raptor species held in short-term captivity. Table 3 of the Minimum Standards provides appropriate caging dimensions for Loggerhead Shrikes held in short-term captivity. No wire may be used on raptor or passerine cages. Only individuals of the same species may share an enclosure, except accipiters, which should be housed separately.

Transfer to Permitted Falconers or Educational Facilities

When release to the wild is not feasible, such as when a previously captured bird returns to the capture site within the same year it was released, a bird may be transferred as non-releasable to an individual or entity authorized to receive live birds, such as for educational use or to a licensed falconer. Approval from your Migratory Bird Permit Office is required PRIOR to transferring birds. Birds transferred to licensed falconers or educational facilities must be reported on your Annual Report. The Annual Report must list the final disposition of transferred birds as "given to falconer" with the State Falconry Permit number, or "given to permitted educational institution" with the name of the institution. Transferred birds count toward the lethal take authorized under Condition A, as they are removed from the wild population. Contact your Migratory Bird Permit Office prior to placement to request authorization (contact information above Condition A).

(3) Nest Take. Viable eggs may be oiled, addled, or destroyed. Eggs must by oiled using only 100% corn oil, a substance exempt from regulation by the Environmental Protection Agency. Eggs may be addled in any humane manner (see 6 below). Nests, including viable eggs, may be destroyed by any humane method, provided they are completely destroyed and eggs and/or nests are not retained after destruction.

Report take as number of active nests (not number of eggs). Do not report inactive nests taken (nests with no viable eggs or chicks present). No federal authorization is required for the take of inactive migratory bird nests.

(4) Registered animal drugs (excluding nicarbazin), pesticides, and repellents. Must be humane and used in accordance with label instructions. Additional state and/or tribal authorization may be required for use.

(5) Falconry Abatement. Migratory birds may be killed by abatement falconry birds. Birds killed by falconry abatement count toward the lethal take authorized under Condition A. Additional state and/or tribal authorization may be required.

(6) Any live birds trapped or otherwise in-hand must be in humane and healthful conditions (50 CFR 13.41). Birds euthanized must follow the American Veterinary Medical Association Guidelines on Euthanasia (https://www.avma.org/resources-tools/avma-policies/avma-guidelines-euthanasia-animals).

C. **Sick, injured, or orphaned migratory birds.** You may possess and immediately transport any birds found sick, injured, or orphaned to a federally permitted rehabilitator or licensed veterinarian for care. You do not need to report these birds (50 CFR 21.31(a)). An individual bird that is severely injured due to an airstrike or other incident may be euthanized immediately. Healthy birds may not be admitted to rehabilitation facilities as per regulation 50 CFR 21.31. However, rehabilitation facilities may act as a subpermittee to care for healthy birds provided possession remains under the depredation permit. The permittee is ultimately responsible for healthy birds possessed under this depredation permit, even while under the care of entities which have their own federal permits.

Injured birds should be placed either in a secure cardboard box with ventilation holes or in a pet carrier having newspaper/imitation turf/baby blanket (non-loop material) lining with the carrier covered by a cloth and must be transferred immediately to a federally permitted migratory bird rehabilitator or licensed veterinarian for care at the permittee's expense.

D. **Salvage**. You are authorized to salvage and temporarily possess migratory birds found dead. Salvaged birds must be disposed of as described in Condition E below within 6 months of salvage. Before you salvage any bird killed by suspected illegal activity, you must first contact the U.S. Fish and Wildlife Service Office of Law Enforcement (OLE) for authorization to salvage that bird. See FWS OLE contact information below.

Any dead bald eagle or golden eagle salvaged must be reported within 48 hours to your local U.S. Fish and Wildlife Service Office of Law Enforcement (contact information below) and to your migratory bird permit issuing office (contact information above Condition A). After clearance from OLE, contact the National Eagle Repository at (303) 287-2110 for shipment directions of these specimens.

E. **Disposition of dead migratory birds.** Migratory birds, nests, or eggs taken under this permit must be disposed of by one of the following:

(1) Donated to an individual or entity authorized by permit or regulation to receive donated birds (i.e. scientific, educational, or tribal use);
(2) Completely destroyed in accordance with local laws and ordinances;
(3) Retained for diagnostic or personnel training purposes;
(4) Retained and used as effigies; or
(4) If the species is a migratory game bird and suitable for consumption, donated to a public charity.

F. **Reporting.**

Immediate Notification. You must immediately notify your Migratory Bird Permit Office at the contact information above Condition A about:

(1) Emergency Take (Condition A(4))
(2) Salvage of eagles (Condition D)
(3) Report any bird killed or injured during trapping operation (Condition B(2))

Annual Report. You must submit an annual report (Form 3-202-9). You must report take by species (e.g. ring-billed gull, Canada goose) and method (e.g. kill, nest take, trap-release, trap-relocate, DRC-1339).

A summary of additional Annual Report requirements described above is included here for reference:

(1) Report any bird killed or injured during trapping operations (in addition to reporting within 72 hours).
(2) Report any bird held longer than 72 hours, including length of time held and justification.
(3) Report band numbers and auxiliary markers (if used) of trapped and relocated birds.
(4) Raptors transferred to licensed falconers or accredited AZA facilities with final disposition listed as "given to falconer" with the State Falconry Permit number, or "given to permitted educational institution" with the name of the institution.
(5) Provide the approximate distance between capture sites and release sites for each species. Also provide the number of each species that return to the site and a list of band numbers/auxiliary markers that were identified on returning individuals, if available. Provide the date, location, and band information on returning individuals, if known.
(6) Report any bird intentionally taken as a result of a severe injury caused by an airstrike or other incident.

G. **Subpermittees.** A subpermittee is an individual to whom you have provided written authorization to conduct some or all of the permitted activities in your absence. As the permittee, you are legally responsible for ensuring that your subpermittees are adequately trained and adhere to the terms of your permit. Subpermittees must be able to identify birds by species prior to take. The following subpermittees are authorized: **Designated employees of USDA/APHIS/Wildlife Services.**

In addition, any other person who is (1) employed by or under contract to you for the activities specified in this permit, or (2) otherwise designated a subpermittee by you in writing, may exercise the authority of this permit.

You and any subpermittees must carry a legible paper or electronic copy of this permit and display it upon request whenever you are exercising its authority. Subpermittees must be at least 18 years of age. You are responsible for maintaining current records of who you have designated as a subpermittee, including copies of any designation letters provided to individuals not named above.

H. You and any subpermittees must comply with the below Standard Conditions.

These standard conditions are a continuation of your permit conditions *and must remain with your permit*. These standard conditions are nationwide and may not be modified for individual permits.

1. All of the provisions and conditions of the governing regulations at 50 CFR part 13 and 50 CFR part 21.41 are conditions of your permit. Failure to comply with the conditions of your permit could be cause for suspension of the permit. If you have questions regarding these conditions, refer to the regulations or, if necessary, contact your migratory bird permit issuing office. For copies of the regulations and forms, or to obtain contact information for your issuing office, visit: http://www.fws.gov/migratorybirds/mbpermits.html.

2. General conditions set out in Subpart B of 50 CFR 13, and specific conditions contained in Federal regulations cited above, are hereby made a part of this permit. All activities authorized herein must be carried out in accord with and for the purposes described in the application submitted. Continued validity, or renewal of this permit is subject to complete and timely compliance with all applicable conditions, including the filing of all required information and reports.

3. The validity of this permit is also conditioned upon strict observance of all applicable foreign, state, local tribal, or other federal law.

4. Valid for use by permittee named above.

5. Explosive Pest Control Devices (EPCDs) are regulated by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF). If you plan to use EPCDs, you require a Federal explosives permit, unless you are exempt under 27 CFR 555.141. Information and contacts may be found at www.atf.gov/explosives/howto/become-an-fel.htm.

6. If you encounter a migratory bird with a Federal band issued by the U.S. Geological Survey Bird Banding Laboratory, Laurel, MD, report the band number to http://www.reportband.gov.

7. You are responsible for obtaining appropriate, prior, written landowner permission for activity (take or release) of any migratory birds, nests, or eggs on lands where you are not the landowner or custodian.

8. You must maintain records as required in 50 CFR 13.46 and 50 CFR 21.41. All records relating to the

permitted activities must be kept at the location indicated in writing by you to the migratory bird permit issuing office.

9. Acceptance of this permit authorizes the U.S. Fish and Wildlife Service to inspect any wildlife held, and to audit or copy any permits, books, or records required to be kept by the permit and governing regulations.

10. You may not conduct the activities authorized by this permit if doing so would violate the laws of the

applicable State, county, municipal or tribal government or any other applicable law.

For suspected illegal activity, immediately contact USFWS Law Enforcement 1-844-FWS-TIPS (397-8477)

Attachment 2

Biological Technical Report

April 2022

HELIX Environmental Planning

Ontario International Airport Rehabilitation of Runway 8R-26L and Associated Improvements

Biological Technical Report

April 2022 | 00343.00013.001

Prepared for:

HNTB Corporation
2900 South Quincy Street, Suite 600
Arlington, VA 22206

Prepared by:

HELIX Environmental Planning, Inc.
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Irvine, CA 92618

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ACRONYMS AND ABBREVIATIONS

AMSL	above mean sea level
BUOW	Burrowing Owl
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG	California Fish and Game
City	City of Ontario
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DSFLF	Delhi Sands Flower-loving Fly
EPA	Environmental Protection Agency
FESA	Federal Endangered Species Act
HELIX	HELIX Environmental Planning, Inc.
I	Interstate
MBTA	Migratory Bird Treaty Act
MCV	A Manual of California Vegetation
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
OHWM	Ordinary High Water Mark
OIAA	Ontario International Airport Authority
Project	Taxiway Improvements and South Electrical Vault Relocation
RPW	Relatively Permanent Water Body
RWQCB	Regional Water Quality Control Board
S	State
SFP	State Fully Protected
SAR HCP	Upper Santa Ana River Habitat Conservation Plan
SSC	Species of Special Concern

ACRONYMS AND ABBREVIATIONS (cont.)

TNW	Traditional Navigable Waters
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) completed this biological technical report for the Taxiway Improvements and South Electrical Vault Relocation Project (project), proposed by HNTB Corporation in the City of Ontario (City), San Bernadino County, California. HNTB Corporation is proposing rehabilitation and reconstruction of a runway, taxiway connector improvements, airfield improvements, construction of a batch plant, and the relocation of several project features on an approximately 424-acre study area. The study area is generally located south of Interstate (I-) 10 and west of I-15 in the City of Ontario.

The study area is in a highly developed landscape surrounded by residential and industrial uses. The topography within the study area is generally flat. Three drainage features were observed on the study area, which includes three concrete-lined channels (Cucamonga Creek Channel, Deer Creek Channel, and Western Cucamonga Creek Channel). The study area consists of ornamental, non-native vegetation/disturbed habitat, and urban/developed areas. The study area supports no native upland or riparian vegetation communities. HELIX conducted a general biological survey (including vegetation mapping and a general habitat assessment) and a jurisdictional assessment in January 2021.

A total of three vegetation communities were mapped on the study area. Native communities were not observed on-site, and no vegetation community is considered sensitive. No sensitive plant species were determined to have the potential to occur on the study area. One sensitive animal species was determined to have a low potential to occur on the study area: western mastiff bat [*Eumops perotis californicus*]). One species, burrowing owl (BUOW; *Athene cunicularia*), is presumed present, based on the species being observed on the study area in 2019 and 2020 (HELIX 2020). Burrowing owl are listed as state species of special concern. The study area supports a total of 2.54 acres of U.S. Army Corps of Engineers (USACE)/Regional Water Quality Control Board (RWQCB) non-wetland waters of the U.S. and California Department of Fish and Wildlife (CDFW) jurisdictional streambed. No impacts will occur to protected trees that meet the City's definition of a parkway tree. The study area is not considered a regional wildlife corridor.

Potential significant impacts were identified for burrowing owl, Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*), and nesting bird species. Permanent impacts are proposed to approximately 423.28 acres of developed and disturbed/non-native vegetation. The project would not impact any USACE, RWQCB, or CDFW jurisdictional wetlands, or non-wetland waters. The project would not remove any protected trees. The proposed project would not impact wildlife corridors or conflict with regional conservation plans.

Measures related to the following topics are proposed herein to fully mitigate the potential impacts of the project: burrowing owl, Delhi Sands flower-loving fly, and nesting birds. Successful implementation of these measures would mitigate potential impacts to below a level of significance.

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1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This report provides the City of Ontario (City), Ontario International Airport Authority (OIAA; California Environmental Quality Act [CEQA] lead agency), resource agencies, and the public with current biological data required to review the potential impacts of the proposed Taxiway Improvements and South Electrical Vault Relocation Project (project) located in the City of Ontario, San Bernardino County, California. The purpose of this report is to document the existing biological conditions on and in the immediate vicinity of the project and provide an analysis of potential impacts to sensitive biological resources with respect to local, state, and federal policy. This report provides the biological resource information necessary for project review under CEQA.

1.2 PROJECT LOCATION

The approximately 424-acre study area is in the City of Ontario, San Bernardino County, California. It is generally located south of Interstate (I-) 10 and west of I-15 (Figure 1, *Regional Location*). The study area is located within Section 25 of Township 1 South, Range 7 West of the Guasti, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 2, *USGS Topography*). Specifically, the study area is located to the northwest of the intersection of South Haven Avenue and Jurupa Street; to the southwest of the intersection of East Airport Drive and South Haven Avenue; to the southeast of the intersection of South Grove Avenue and East Airport Drive; and to the northeast of the intersection of South Grove Avenue and East Mission Boulevard (Figure 3, *Aerial Photograph*).

1.3 PROJECT DESCRIPTION

The proposed project focuses on the rehabilitation and reconstruction of Runway 8R-26L, taxiway connector improvements and other associated airfield improvements, the relocation of several objects outside of the Runway Safety Area and/or Runway Object Free Area, and the relocation of the south electrical vault. The proposed project will also include a batch plant south of the airport, south of East Avion Street (Figure 4, *Site Plan*).

2.0 METHODS

Project evaluation included a review of project plans; a literature review of biological resources occurring on the study area and the surrounding vicinity; a general biological survey, including vegetation mapping and a general habitat assessment; and a jurisdictional assessment. The methods used to evaluate the biological resources present on the study area are discussed in this section.

2.1 NOMENCLATURE

Nomenclature for this report follows Baldwin et al. (2012) for plants. Plant communities were classified in accordance with Holland (1986) and Oberbauer (2008), with additional vegetation community information taken from Manual of California Vegetation, Second Edition (MCV; Sawyer et al. 2009). Animal nomenclature follows Emmel and Emmel (1973) for butterflies, Center for North American Herpetology (Taggart 2016) for reptiles and amphibians, American Ornithological Society (2021) for

birds, and Baker et al. (2003) for mammals. Rare plant and sensitive animal statuses are from the Inventory of Rare and Endangered Plants of California (California Native Plant Society [CNPS] 2021b) and the California Natural Diversity Database (CNDDB; California Department of Fish and Wildlife [CDFW] 2021a). Rare plant species' habitats and flowering periods are from the Jepson Manual (Baldwin et al. 2012), the Inventory of Rare and Endangered Plants of California (CNPS 2021b), and the California Natural Diversity Database (CDFW 2021a). Soil classifications were obtained from the Web Soil Survey (Natural Resources Conservation Service [NRCS] 2021).

2.2 LITERATURE REVIEW

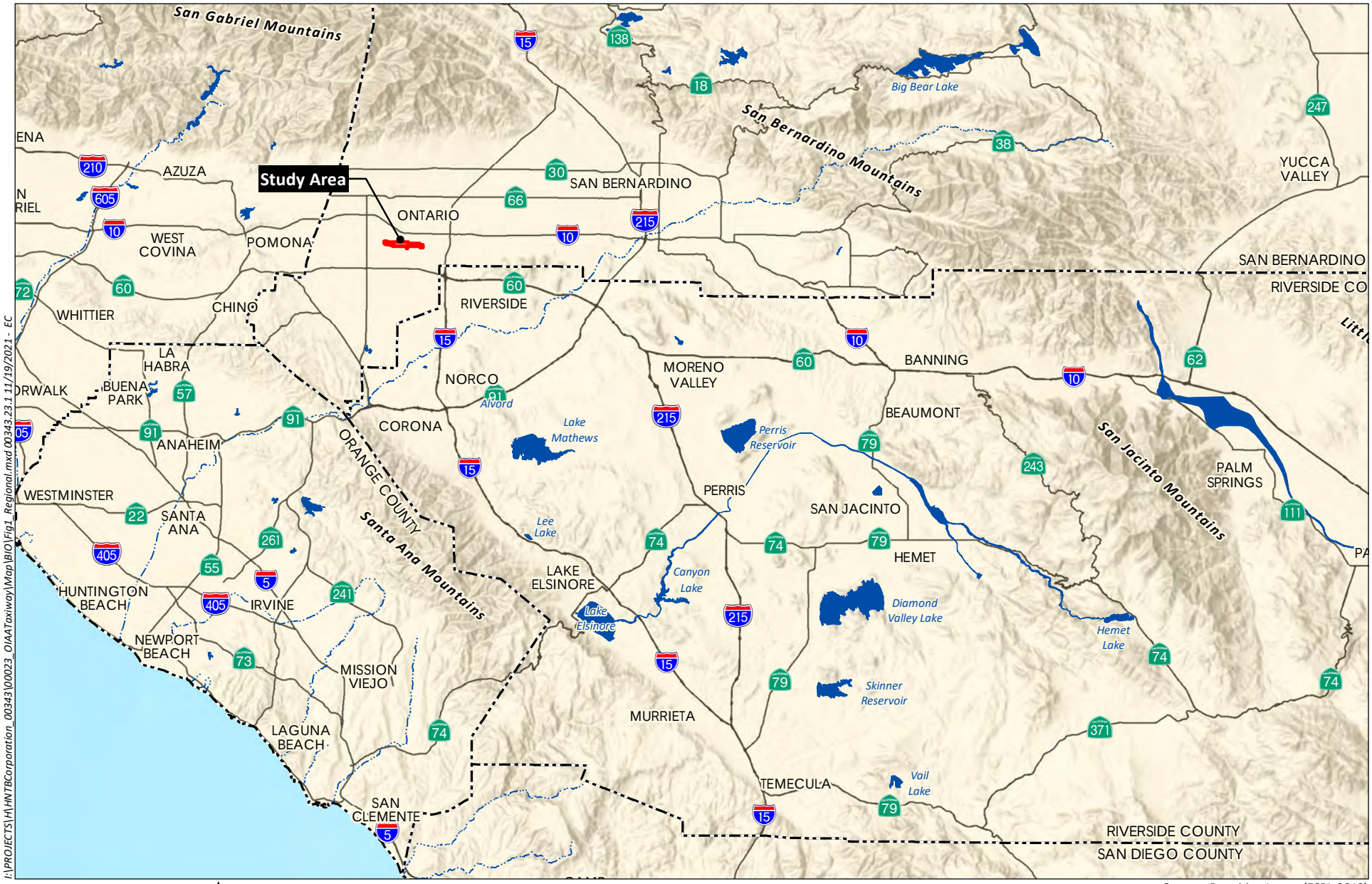
Prior to conducting the site visit, HELIX Environmental Planning, Inc. (HELIX) reviewed regional planning documents, Google Earth aerials (2021), Web Soil Survey (NRCS 2021), and sensitive species database records, including the Inventory of Rare and Endangered Plants of California (CNPS 2020b), CNDDB (CDFW 2021a), and critical habitat maps for endangered and threatened species (U.S. Fish and Wildlife Service [USFWS] 2021a). A one-quadrangle database search was conducted on CNDDB and CNPS, which consisted of the Guasti quadrangle.

2.3 FIELD SURVEYS

Field surveys were conducted to document the existing condition of the study area and surrounding lands. A general biological survey and habitat assessment were conducted on the study area to map existing vegetation communities and to determine habitat suitability for sensitive plant and animal species. A list of plant and animal species observed and/or detected during the field surveys are provided as Appendix A, *Plant Species Observed*, and Appendix B, *Animal Species Observed or Detected*. Noted animal species were identified by direct observation, vocalizations, or the observance of scat, tracks, or other signs. However, the list of animal species identified is not necessarily a comprehensive account of all species that use the study area as species that are nocturnal, secretive, or seasonally restricted may not have been observed. A habitat assessment for Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*; DSFLF) and a habitat assessment for burrowing owl (BUOW; *Athene cunicularia*) were conducted. A jurisdictional assessment was also conducted to determine the existing jurisdictional limits regulated by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW.

2.3.1 General Biological Survey

HELIX Biologist and Regulatory Specialist Ezekiel Cooley conducted a general biological survey of the study area on January 12, 2021. Vegetation communities were classified and mapped in accordance with Holland (1986) and Oberbauer (2008). Vegetation was mapped on a 125-foot (1 inch = 125 feet) aerial photograph of the site. Vegetation communities were mapped by HELIX to one-hundredth of an acre (0.01 acre). The entire site was surveyed on foot with the aid of binoculars. Representative photographs of the site were taken, with select photographs included in this report as Appendix C, *Representative Site Photographs*. Plant and animal species observed or otherwise detected were recorded in a field notebook. Animal identifications were made in the field by direct, visual observation or indirectly by detection of calls, burrows, tracks, or scat. Plant identifications were made in the field or in the lab through comparison with voucher specimens or photographs. The DSFL habitat assessment consisted of performing a pedestrian survey within all areas that supported Delhi Fine Sand soils and all adjacent soils to determine if the soils provide suitable habitat for DSFL. A BUOW habitat assessment was conducted by a qualified biologist to determine whether the project site supports suitable BUOW



Source: Base Map Layers (ESRI, 2013)

HELIX Environmental Planning

Regional Location

Figure 1

Study Area

0 2,000 Feet

Source: ONTARIO & GUASTI 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2

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Study Area

S. VINEYARD AVE
E. HOLT BLVD
E. AIRPORT DR
S. GROVE AVE
ONTARIO
ALERE
MISSION BLVD
S. TOWER DR
JURUPA ST
S. ARCHIBALD AVE

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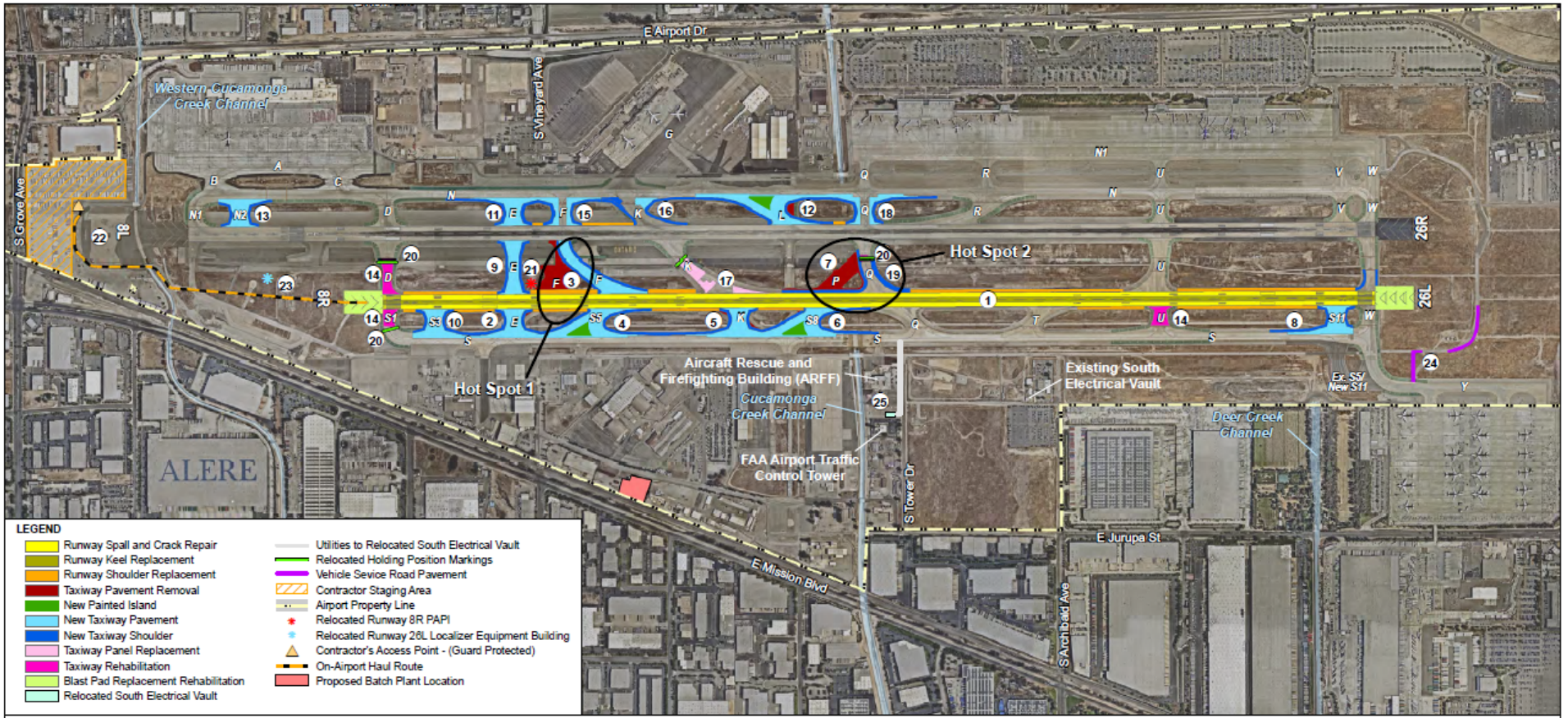
0 1,000 Feet

Source: Aerial (San Bernardino County, 2020)

HELIX Environmental Planning

Aerial Photography

Figure 3



PROPOSED PROJECT ELEMENTS

(1) REHABILITATE RUNWAY 8R-26L
(2) MODIFY EXISTING CONNECTOR TAXIWAY F AND REDESIGNATE AS TAXIWAY E
(3) REMOVE EXISTING TAXIWAY F BETWEEN RUNWAYS 8L-26R AND 8R-26L AND CONSTRUCT NEW EXIT TAXIWAY F
(4) CONSTRUCT EXIT TAXIWAY S5
(5) RECONSTRUCT EXISTING EXIT TAXIWAY K
(6) RECONSTRUCT EXISTING EXIT TAXIWAY P TO A HIGH-SPEED EXIT AND REDESIGNATE AS TAXIWAY S8
(7) REMOVE EXISTING TAXIWAY P BETWEEN RUNWAYS 8L-26R AND 8R-26L
(8) CONSTRUCT BYPASS TAXIWAY S11
(9) CONSTRUCT CROSSING TAXIWAY E BETWEEN RUNWAYS 8R-26L AND 8L-26R
(10) CONSTRUCT BYPASS TAXIWAY S3
(11) CONSTRUCT CROSSING TAXIWAY E BETWEEN RUNWAYS 8L-26R AND TAXIWAY N
(12) RECONSTRUCT EXISTING TAXIWAY L AS A HIGH-SPEED EXIT TAXIWAY
(13) CONSTRUCT BYPASS TAXIWAY N2
(14) RESURFACE TAXIWAY D, TAXIWAY S1 AND TAXIWAY U PAVEMENT
(15) CONSTRUCT FILLET MODIFICATIONS ON TAXIWAY F BETWEEN RUNWAY 8L-26R AND TAXIWAY N
(16) CONSTRUCT FILLET MODIFICATIONS ON TAXIWAY K BETWEEN RUNWAY 8L-26R AND TAXIWAY N
(17) REPLACE/REHABILITATE PANELS ON TAXIWAY K BETWEEN RUNWAYS
(18) CONSTRUCT FILLET MODIFICATIONS ON TAXIWAY Q BETWEEN RUNWAY 8L-26R AND TAXIWAY N
(19) CONSTRUCT FILLET MODIFICATIONS ON TAXIWAY Q BETWEEN RUNWAYS
(20) RELOCATE HOLDING POSITION MARKINGS*
(21) RELOCATE RUNWAY 8R PAPI
(22) RELOCATE PERIMETER FENCE AND REMOVE OBJECTS WITHIN ROFA
(23) RELOCATE RUNWAY 26L (8R END) LOCALIZER EQUIPMENT BUILDING
(24) MODIFY EXISTING VEHICLE SERVICE ROAD
(25) RELOCATE SOUTH ELECTRICAL VAULT

* DEPICTED IN MULTIPLE LOCATIONS

ONT ONTARIO INTERNATIONAL AIRPORT
REHABILITATION OF RUNWAY 8R-26L AND ASSOCIATED IMPROVEMENTS
SUPPLEMENTAL EIR

0 250 500 1,000 Feet

N

HNTB

Proposed Project

Sources: OIAA, Nearmap, HNTB Analysis

HELIX Environmental Planning

Site Plan

Figure 4

habitat, including disturbed, low-growing vegetation within grassland and shrublands (less than 30 percent canopy cover), gently rolling or level terrain, areas with abundant small mammal burrows, especially California ground squirrel (*Otospermophilus beecheyi*) burrows, fence posts, rocks, or other low perching locations, and artificial structures, such as earthen berms, debris piles, and cement culverts.

2.3.2 Jurisdictional Assessment

Prior to beginning fieldwork, aerial photographs (1 inch = 75 feet), topographic maps (1 inch = 75 feet), USGS quadrangle maps, and National Wetlands Inventory maps (USFWS 2021b), were reviewed to assist in determining the location of potential jurisdictional waters on the study area. Mr. Cooley conducted the jurisdictional assessment fieldwork on January 12, 2021 (HELIX 2021). The assessment was conducted to identify and jurisdictional waters potentially subject to USACE jurisdiction pursuant to Section 404 of the Clean Water Act (CWA), RWQCB jurisdiction pursuant to Section 401 of the CWA, and streambed habitats potentially subject to CDFW jurisdiction pursuant to Sections 1600 *et seq.* of the California Fish and Game (CFG) Code. Data collection was targeted in areas deemed to have the potential to support jurisdictional resources, such as the presence of an ordinary high water mark (OHWM), the presence of a bed/bank and streambed associated vegetation, and/or other surface indications of streambed hydrology. The findings of the jurisdictional assessment are included as Appendix D, *Jurisdictional Delineation Memo*.

2.3.2.1 U.S. Army Corps of Engineers

The USACE waters of the U.S. were determined using current USACE guidelines (Environmental Laboratory 1987, USACE 2008a). Areas were determined to be waters of the U.S. if there was evidence of regular surface flow (e.g., bed and bank). Jurisdictional limits for these areas were measured according to the presence of a discernible OHWM, which is defined in 33 Code of Federal Regulations Section 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." The USACE has issued further guidance on the OHWM (Riley 2005; USACE 2008b), which also was considered in this jurisdictional assessment.

The jurisdictional delineation was conducted in accordance with court decisions (i.e., Rapanos v. United States, Carabell v. United States, and Solid Waste Agency of Northern Cook County v. USACE), as outlined and applied by the USACE (USACE 2007; USACE 2015; Grumbles and Woodley 2007); and the USACE and U.S. Environmental Protection Agency (USACE and EPA; 2007). These publications explain that the EPA and USACE will assert jurisdiction over traditional navigable waters (TNW) and tributaries to TNWs that are a relatively permanent water body (RPW), which has year-round or continuous seasonal flow. For water bodies that are not RPWs, a significant nexus evaluation is used to determine if the non-RPW is jurisdictional. As an alternative to the significant nexus evaluation process, a preliminary jurisdictional delineation may be submitted to the USACE. The preliminary jurisdictional delineation treats all waters and wetlands on a site as if they are jurisdictional waters of the U.S. (USACE 2008a). A significant nexus evaluation or preliminary jurisdictional delineation are typically only required for projects that propose impacts to potentially jurisdictional features and, therefore, require a Section 404 permit from the USACE.

2.3.2.2 Regional Water Quality Control Board

The RWQCB asserts regulatory jurisdiction over activities affecting wetland and non-wetland waters of the State pursuant to Section 401 of the CWA and the State Porter-Cologne Water Quality Control Act. Potential RWQCB jurisdiction found within the study area follows the boundaries of potential USACE jurisdiction for waters of the U.S. There are no areas supporting isolated waters of the State subject to exclusive RWQCB jurisdiction pursuant to the State Porter-Cologne Water Quality Control Act.

2.3.2.3 California Department of Fish and Wildlife

The CDFW jurisdictional boundaries were determined based on the presence of riparian vegetation or regular surface flow, if present. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses with surface or subsurface flow that supports riparian vegetation" (Title 14, Section 1.72). This definition for CDFW jurisdictional habitat allows for a wide variety of habitat types to be jurisdictional, including some that do not include wetland species (e.g., oak woodland and alluvial fan sage scrub). Jurisdictional limits for CDFW streambeds were defined by the top of bank. Vegetated CDFW habitats were mapped at the limits of streambed-associated vegetation, if present.

3.0 RESULTS

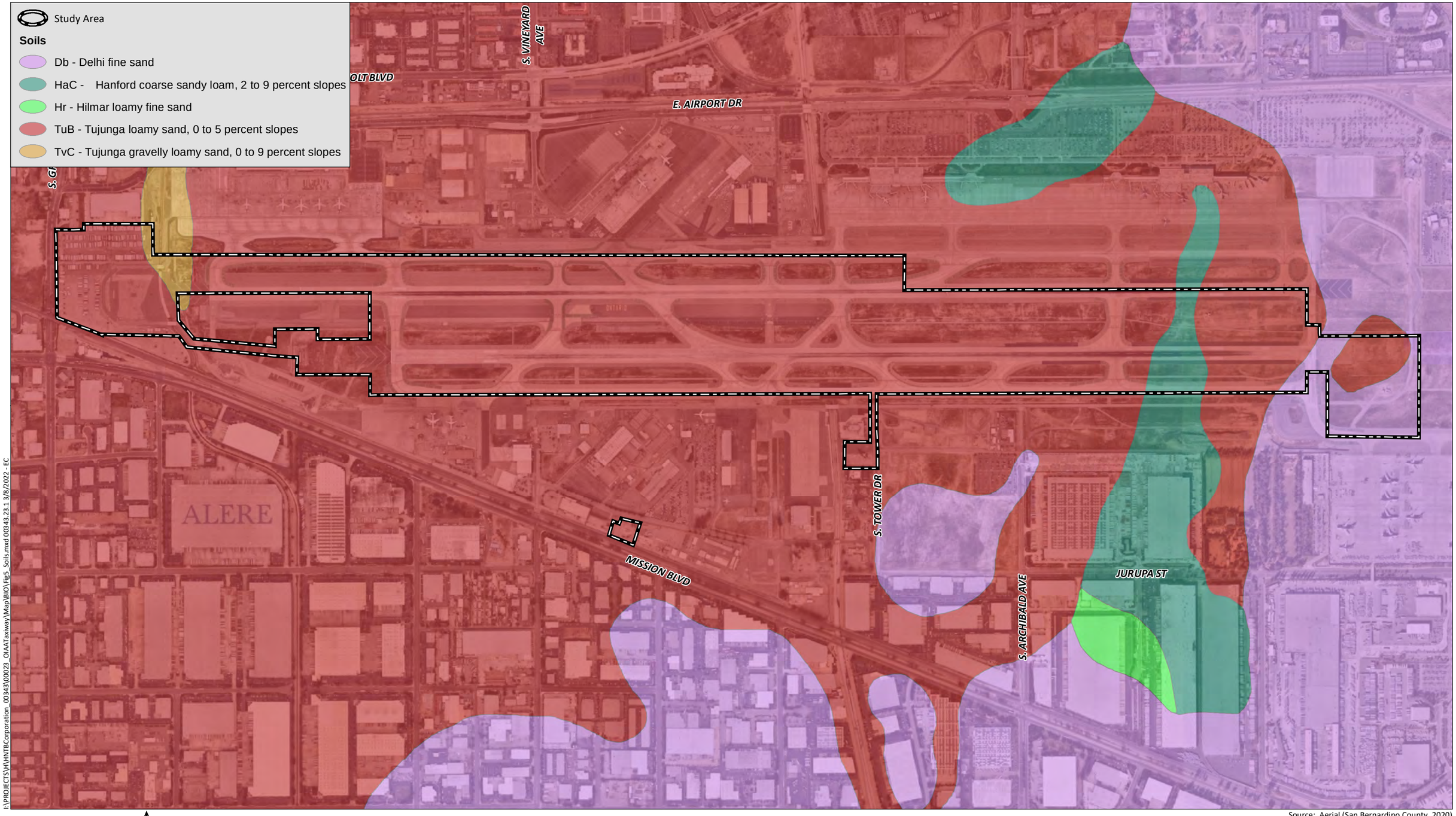
3.1 ENVIRONMENTAL SETTING

The study area is in the City of Ontario. Topographically, the site consists of a large, relatively flat, open area in a highly developed landscape. Three concrete channels run north to south, through the east, center, and western portions of the site. The drainage features observed within the study area (Deer Creek, Cucamonga Creek Channel, and West Cucamonga Creek Channel) coalesce into Cucamonga Creek, and eventually drain into the Santa Ana River to the south. Elevations on the study area range from 900 feet (247 meters) above mean sea level (AMSL) within the northeastern portion to 935 feet (284 meters) AMSL along the southwestern portion. The remainder of the study area consists of developed, disturbed, and ornamental habitat. Six soil types are mapped on the study area and shown on Figure 5, *Soils*, including Delhi fine sand (Db), Hanford coarse sandy loam (HaC, 2 to 9 percent slopes), Hilmar loamy fine sand (Hr), Tujunga loamy sand (TuB, 0 to 5 percent slopes), and Tujunga gravelly loamy sand (TvC, 0 to 9 percent slopes) (NRCS 2021).

Immediate land uses surrounding the study area primarily include industrial and commercial uses (Figure 3). The airport is located approximately 0.25 mile south of the I-10 freeway.

3.2 VEGETATION COMMUNITIES

The study area supports three vegetation communities, which are shown on Figure 6, *Vegetation and Sensitive Resources*, and listed in Table 1, *Vegetation Communities*. Plant communities are classified in accordance with Holland (1986) and Oberbauer (2008). Community names consistent with A Manual of California Vegetation, Second Edition (MCV; Sawyer et al. 2009) are also provided. Sensitive habitats pursuant to CDFW's Natural Communities List (CDFW 2021b) were not observed on-site.



Source: Aerial (San Bernardino County, 2020)

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HELIX Environmental Planning

Soils

Figure 5



Source: Aerial (San Bernardino County, 2020)

HELIX Environmental Planning

Vegetation and Sensitive Resources

Figure 6

Table 1
VEGETATION COMMUNITIES

Habitat Type (Holland/Oberbauer)	Habitat Type (MCV)[1]	Acres
Developed	N/A	290.33
Disturbed/Non-native Vegetation	N/A	132.95
Ornamental	N/A	0.63
	TOTAL	**423.91**

[1] Manual of California Vegetation

3.2.1 Developed

Developed land consists of areas where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained. Within the study area, developed land consists of runways, paved roads, buildings, and other impervious surfaces, and covers approximately 290.33 acres.

3.2.2 Disturbed

Disturbed habitat includes land cleared of vegetation (e.g., dirt roads) or actively maintained, or heavily disturbed areas that are mostly unvegetated but may support scattered non-native plant species, such as ornamentals or ruderal exotic species that take advantage of disturbance. Disturbed habitat is similar to the vegetation community non-native vegetation, except disturbed habitat generally supports little to no vegetative cover.

Disturbed habitat was observed throughout the study area and was dominated by ripgut brome (*Bromus diandrus*), Mediterranean grass (*Schismus barbata*), and foxtail brome (*Bromus madritensis*), as well as several non-native forbs, and totals approximately 132.95 acres. This area is frequently mowed by the airport.

3.2.3 Ornamental

The ornamental vegetation community is typically associated with land that has been heavily influenced by human activities, including areas adjacent to roads, manufactured slopes, and abandoned lots. This non-native community is dominated by ornamental and non-native species that take advantage of previously cleared or abandoned landscaping, or land with past or present animal usage that prevents it from providing viable habitat for native vegetation.

Ornamental vegetation was observed along the western portion of the study area adjacent to South Grove Avenue, and totals 0.63 acre. The area was dominated by jacaranda (*Jacaranda* sp.) and myoporum (*Myoporum* sp.).

3.3 PLANTS

HELIX identified a total of 12 plant species within the study area during surveys to date, of which 11 (92 percent) are non-native species (Appendix A).

3.4 ANIMALS

A total of 12 animal species were identified on the study area during biological surveys, including 11 bird species and one reptile species (Appendix B). Common mammal species expected to use the study area include species, such as California ground squirrel (*Otospermophilus beecheyi*).

3.5 SENSITIVE BIOLOGICAL RESOURCES

3.5.1 Rare Plant Species

Rare plant species are uncommon or limited in that they: (1) are only found in a particular region; (2) are a local representative of a species or association of species not otherwise found in the region; or (3) are in severe decline within their ranges or within the region. Rare plant species include those species listed by CNPS with a California Rare Plant Rank (CRPR) of 1, 2, or 3 or federally and state listed endangered and threatened species. Species with a CRPR of 4 may be considered rare if a population is locally uncommon, at the periphery of the species' range, sustained heavy losses, shows unusual morphology, or occurs on unusual substrates (CNPS 2021a).

Eight rare plant species were recorded within the Guasti database search conducted on CNDDB (CDFW 2021a) and CNPS (2021b). These species are included in Appendix E, *Rare Plant Species Potential to Occur.* None of the eight species have the potential to occur on the study area based on the lack of suitable habitat and high level of disturbance within the study area.

3.5.2 Sensitive Animal Species

Sensitive wildlife species are those listed or candidate-listed as federally threatened or endangered by USFWS; and/or state listed or candidate-listed as threatened or endangered or considered Species of Special Concern (SSC) by CDFW.

The study area is located outside of any USFWS-designated critical habitat. The critical habitat closest to the study area is for coastal California gnatcatcher (*Polioptila californica californica*) and occurs over five miles to the southeast of the study area. Sixteen sensitive animal species were recorded within the Gausti quadrangle database search conducted on CNDDB (CDFW 2021). These species are included in Appendix F, *Sensitive Animal Species Potential to Occur.* An evaluation of each sensitive animal species' potential to occur on the study area is also provided in Appendix F and discussed in further detail below.

Present

BUOW is listed as a state SSC. This species is associated with grasslands, open scrublands, agricultural fields, and other areas where there are small mammal burrows and prey available. BUOWs have been observed on and adjacent to the study area during non-breeding season focused surveys performed in 2019/2020 within the study area (HELIX 2020; Appendix G).

Study Area

BUOW Observations

- Active Burrow
- BUOW Sign
- Occupied Burrow
- Suitable Burrow
- 2019/2020 Non-Breeding Season BUOW Observations

S. VINEYARD AVE
HOLT BLVD
E. AIRPORT DR
S. GROVE AVE
ONTARIO
ALERE
MISSION BLVD
S. TOWER DR
JURUPA ST
S. ARCHIBALD AVE

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0 1,000 Feet

Source: Aerial (San Bernardino County, 2020)

HELIX Environmental Planning

2018-2020 Nearby BUOW Survey Results

Figure 7

Potential to Occur

Of the 16 sensitive animal species recorded within the vicinity of the study area, two species were considered to have the potential to occur. One species was determined to have a low potential to occur on the study area based on the presence of low-quality habitat and lack of recent observations within the immediate vicinity of the study area: western mastiff bat (*Eumops perotis californicus*), which is a state SSC.

One additional species, DSFLF, has a moderate potential to occur based on a habitat assessment performed in December 2021, combined with negative survey results for the species, conducted in 2019 and 2020 adjacent to the study area (Osborne 2020). Focused surveys for DSFLF are recommended based on the results of a habitat assessment conducted in 2021.

No Potential to Occur

Twelve species (southern California legless lizard [*Anniella stebbinsi*], California glossy snake [*Arizona elegans occidentalis*], coast horned lizard [*Phrynosoma blainvillii*], tricolored blackbird [*Agelaius tricolor*], California black rail [*Laterallus jamaicensis coturniculus*], coastal California gnatcatcher [*Polioptila californica*], northwestern San Diego pocket mouse [*Chaetodipus fallax fallax*], San Bernardino kangaroo rat [*Dipodomys merriami parvus*], Stephens' kangaroo rat [*Dipodomys stephensi*], western yellow bat [*Lasiurus xanthinus*], San Diego desert woodrat [*Neotoma lepida intermedia*], and Los Angeles pocket mouse [*Perognathus longimembris brevinasus*]) have no potential to occur on the study area due to lack of suitable habitat.

Crotch's bumble bee (*Bombus crotchii*), a state endangered candidate, is not expected to occur due to lack of suitable habitat and nectar sources, although transient individuals moving through the region may occasionally occur within the study area.

3.5.3 Sensitive Vegetation Communities/Habitats

Sensitive vegetation communities/habitats are considered either rare within the region, or sensitive by CDFW (2021b). Communities are given a Global and State (S) ranking on a scale of 1 to 5. Communities afforded a rank of 5 are most common, while communities with a rank of 1 are considered highly periled. CDFW considers sensitive communities as those with a rank between S1 and S3.

No sensitive plant communities were observed or mapped within the study area.

3.5.4 Jurisdictional Waters and Wetlands

Three drainages, Cucamonga Creek Channel, Deer Creek Channel, and Western Cucamonga Creek Channel were observed on the study area (Figure 8, *Jurisdictional Features*; Table 2, *Existing Jurisdictional Features*). A brief description of each drainage is provided below.

Table 2
EXISTING JURISDICTIONAL FEATURES

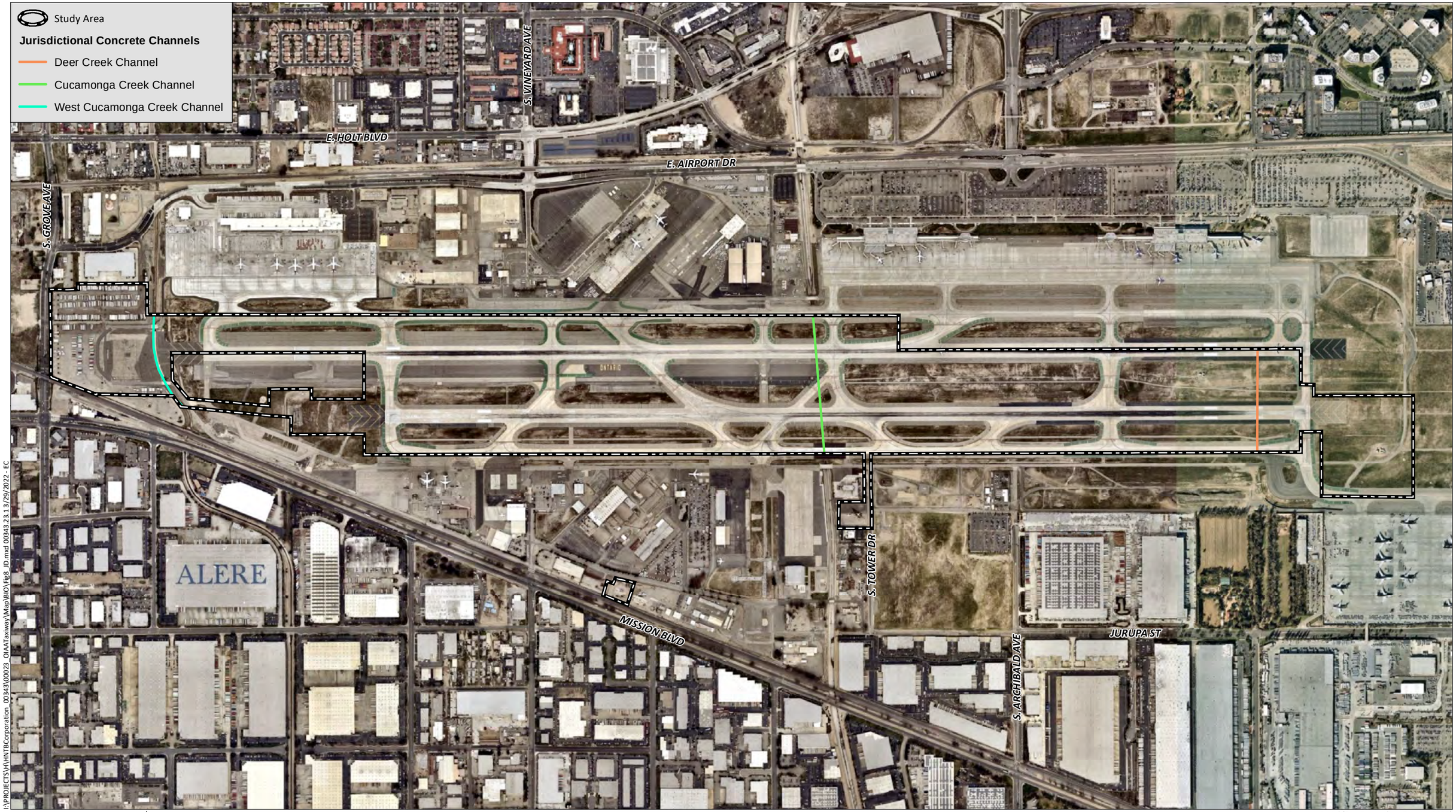
Feature	Linear Feet	Acres
Cucamonga Creek Channel	1,536	1.44
Deer Creek Channel	1,136	0.32
Western Cucamonga Creek Channel	1,114	0.78
TOTAL	**3,786**	**2.54**

3.5.4.1 Cucamonga Creek Channel

Cucamonga Creek Channel is a concrete rectangular channel that runs north to south through the center of the study area and is considered a USACE public works facility. Based on the USGS Guasti quadrangle map, the headwaters of Cucamonga Creek originate approximately seven miles to the north of the study area at the base of Cucamonga Peak in the San Gabriel Mountains, where it occurs as a natural soft-bottomed creek. Cucamonga Creek generally flows south through Cucamonga Canyon and becomes channelized once it exits the San Gabriel Mountains. Cucamonga Creek Channel flows enter the study area near the northern boundary, south of Airport Drive. The channel continues for approximately 0.4 mile through the center of the site, flowing underneath the airport taxiway and resurfacing to the south of the taxiway. The channel exits the study area near the southern boundary of the site, just north of Avion Street. After exiting the study area, Cucamonga Creek Channel flows south for 11 miles and becomes soft-bottomed, just prior to meeting the Santa Ana River at the Prado Flood Control Basin in Riverside County. The Santa Ana River ultimately drains into the Pacific Ocean approximately 35 miles to the southwest of the study area. Soils within Cucamonga Creek Channel on the study area are mapped as Tujunga loamy sand (0 to 5 percent slopes; NRCS 2021; Figure 5). However, native soils are no longer present in Cucamonga Creek Channel due to the concrete channelization of the creek.

3.5.4.2 Deer Creek Channel

Deer Creek Channel is a concrete, rectangular channel that runs north to south along the eastern study area boundary. Based on the USGS Guasti quadrangle map, the headwaters of Deer Creek originate approximately seven miles to the northeast of the study area at the base of Cucamonga Peak in the San Gabriel Mountains, where it occurs as a natural soft-bottomed creek. Deer Creek generally flows south through Deer Canyon and becomes channelized once it exits the San Gabriel Mountains. The channel likely collects sheet flow from impervious surfaces in the surrounding area and storm drains that empty into the channel. The majority of flows within Deer Creek Channel empty into Cucamonga Creek Channel near Turner Basin, approximately one mile north of the study area. Some water is diverted into the channel within the historic flow path of Deer Creek, which flows south from Turner Basin as a mostly natural streambed until it reaches Airport Drive. Deer Creek flows underneath the airport and enters and exits the study area as an underground channel. Deer Creek continues south as an underground channel and surfaces as a concrete trapezoidal channel just north of State Route 60, approximately 1.6 miles to the south of the study area. The channel continues southwest as Lower Deer Creek Channel for approximately 2.1 miles, ultimately draining into Cucamonga Creek Channel. Soils within Deer Creek Channel on the study area are mapped as Tujunga loamy sand (0 to 5 percent slopes; NRCS 2021; Figure 5). However, native soils are no longer present in Deer Creek Channel due to the concrete channelization of the creek.



Source: Aerial (San Bernardino County, 2020)

HELIX Environmental Planning

Jurisdictional Features

Figure 8

3.5.4.3 Western Cucamonga Creek Channel

Western Cucamonga Channel is a concrete, rectangular channel that runs north to south along the western study area boundary. Western Cucamonga Creek Channel originates from percolating basins located where Cucamonga Creek exits Cucamonga Canyon, approximately six miles to the northwest of the study area. The channel likely collects sheet flow from impervious surfaces in the surrounding area as well as water collected in the 8th Street storm drains. Western Cucamonga Creek Channel flows mostly underground until it reaches the 8th Street Basins. The channel continues south from the basins as an above-ground rectangular concrete channel. The channel passes through the Princeton Basin and continues five miles south until it reaches the northwestern boundary of the study area. The channel flows along the western boundary and exits near the southwest corner. After exiting the site, the channel continues south through the Ely Basins and connects with Cucamonga Creek Channel, approximately seven miles south of the study area. Soils within Western Cucamonga Creek Channel within the study area are primarily mapped as Tujunga loamy sand (0 to 5 percent slopes; NRCS 2021; Figure 5). However, native soils are no longer present in Western Cucamonga Creek Channel due to the concrete channelization of the creek.

3.5.5 Habitat and Wildlife Corridor Evaluation

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Corridors can be local or regional in scale; their functions may vary temporally and spatially based on conditions and species presence. Local wildlife corridors allow animals access to resources such as food, water, and shelter within the framework of their daily routine. Animals use these corridors, which are often hillsides or tributary drainages, to move between different habitats. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations.

Regionally, the study area is situated within a highly developed landscape. The study area is surrounded by residential housing and industrial uses, such as warehouses and roadways. There are no large swaths of native habitat adjacent to the Ontario International Airport. The site itself is dominated by developed and disturbed habitat, which provides very limited resources to locally common wildlife. The airport is entirely fenced for human health and safety. Despite offering a somewhat open area within a developed landscape, access to the site may be limited to birds, small mammals, or reptiles able to access the study area despite the fencing. Trees occur within the study area, which may provide habitat for nesting birds or a stopover during migration.

As previously described, corridors can be local or regional in scale. The study area is not considered a regional corridor since it does not directly connect two or more large blocks of habitat that would otherwise be fragmented or isolated from one another. Development of the project would not impede wildlife access to other undeveloped land in the region since the study area is located within an area of existing development. The nearest wildlife movement corridor to the study area identified by the South Coast Missing Linkages Project is the San Gabriel – San Bernardino Connection, located approximately seven miles to the north of the study area (South Coast Wildlands 2008).

The study area is not considered a regional wildlife movement corridor as the study area does not support habitat suitable for local wildlife movement. Bird species may fly over the surrounding development to nest and/or forage within the study area. As discussed above, the study area supports

marginal habitat and has very limited opportunities for local wildlife to forage. It does not function as a wildlife corridor since it does not directly connect to two or more blocks of large habitat.

4.0 REGIONAL AND REGULATORY CONTEXT

Biological resources located within the study area are subject to regulatory review by federal, state, and local agencies. Biological resources-related laws and regulations that apply to the project include the Federal Endangered Species Act (FESA), Migratory Bird Treaty Act (MBTA), CWA, California Endangered Species Act (CESA), and CFG Code.

4.1 FEDERAL REGULATIONS

4.1.1 Federal Endangered Species Act

Administered by the USFWS, the FESA provides the legal framework for the listing and protection of species and their habitats, identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a "take" under the FESA. Section 9(a) of the FESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

Sections 4(d), 7, and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. A biological assessment is required for any major construction activity if it may affect a listed species. In this case, take can be authorized via a letter of biological opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation is required when there is a nexus between federally listed species' use of the site and impacts to USACE jurisdictional areas. Section 10(a) allows the issuance of permits for "incidental" take of endangered or threatened species. The term "incidental" applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity.

4.1.2 Federal Clean Water Act

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the CWA. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting for projects filling waters of the U.S., including wetlands and vernal pools, is overseen by USACE under Section 404 of the CWA. Projects may be permitted on an individual basis or may be covered under one of several approved Nationwide Permits. Individual Permits are assessed individually based on the type of action, amount of fill, etc. Individual Permits typically require substantial time (often longer than six months) to review and approve, while Nationwide Permits are pre-approved if a project meets the appropriate conditions. A CWA Section 401 Water Quality Certification, which is administered by the State Water Resources Control Board, must be issued prior to any 404 Permit.

4.1.3 Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the federal MBTA, as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is used to place restrictions on the disturbance of active bird nests during the nesting season, which is generally defined as February 15 to August 31 for songbirds. In addition, the USFWS commonly places restrictions on the disturbances allowed near active raptor nests, which the nesting season is generally defined as January 15 to August 31.

4.1.4 Critical Habitat

As described by the FESA, critical habitat is the geographic area occupied by a threatened or endangered species essential to species conservation that may require special management considerations or protection. Critical habitat also may include specific areas not occupied by the species but determined to be essential for species conservation.

The study area is located outside of any USFWS-designated critical habitat. The nearest critical habitat is for the coastal California gnatcatcher and occurs over five miles to the southeast of the study area.

4.2 STATE REGULATIONS

4.2.1 California Environmental Quality Act

Primary environmental legislation in California is found in CEQA and its implementing guidelines (State CEQA Guidelines), which require that projects with potential adverse effects (i.e., impacts) on the environment undergo environmental review. Adverse environmental impacts are typically mitigated because of the environmental review process in accordance with existing laws and regulations.

4.2.2 California Endangered Species Act

The CESA is similar to the FESA in that it contains a process for the listing of species and regulating potential impacts to listed species. Section 2081 of the CESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes. For example, the golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*) are considered State Fully Protected (SFP) species. An SFP species may not be taken or possessed at any time, and no state licenses or permits may be issued for their take except for collecting the species necessary for scientific research and relocation of the bird species for the protection of livestock (Fish and Game Code Sections 3511, 4700, 5050, and 5515).

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates the collection, transport, and commerce of plants that are listed. The CESA followed the NPPA and covers both plants and animals that are determined to be endangered or threatened with extinction. Plants listed as rare under NPPA were designated threatened under the CESA.

Rare plant species are those listed or candidate-listed as federally threatened or endangered by the USFWS; State listed as threatened or endangered or considered rare by the CDFW; and/or are CNPS

CRPR List 1A, 1B, 2A, 2B, or 3 species, as recognized in the CNPS's Inventory of Rare and Endangered Vascular Plants of California.

4.2.3 California Fish and Game Code

4.2.3.1 Protection of Raptor Species

Raptors (birds of prey) and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW.

4.2.3.2 Streambed Alteration Agreement

The CFG Code (Section 1600 et seq.) requires an agreement with the CDFW for projects affecting riparian and wetland habitats through the issuance of a Streambed Alteration Agreement.

4.3 LOCAL REGULATIONS

4.3.1 Parkway Tree Protection

Title 10, Chapter 2 of the City of Ontario's Municipal Code protects parkway trees, which are defined as trees located on any public street right-of-way between the right-of-way boundary line and the curbline, and also the area enclosed within the curblines of a median divider. Although trees occur within the study area, none are proposed for removal as part of the project. If the project proposes impacts to City parkway trees, authorization from the City and replacement of removed trees may be required.

5.0 PROJECT EFFECTS

This section describes potential direct and indirect impacts associated with the proposed project. Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. Indirect impacts consist of secondary effects of a project, including noise, decreased water quality (e.g., through sedimentation, urban contaminants, or fuel release), fugitive dust, colonization of non-native plant species, animal behavioral changes, and night lighting. The magnitude of an indirect impact can be the same as a direct impact; however, the effect usually takes a longer time to become apparent.

The significance of impacts to biological resources present, or those with the potential to occur, was determined based upon the sensitivity of the resource and the extent of the anticipated impacts. For certain highly sensitive resources (e.g., a federally listed species), any impact would be significant. Conversely, other resources that are of low sensitivity (e.g., species with a large, locally stable population in the region but declining elsewhere) could sustain some impact with a less than significant effect.

5.1 SENSITIVE SPECIES

5.1.1 Rare Plant Species

No Impacts

No rare plant surveys were performed since no rare plant species have a potential to occur on the project site. Additionally, none have been previously documented within the study area based on CNDDB and CNPS database review. Due to the high-level of disturbance within the study area, habitat suitable to support rare plant species was not present and none were observed during a recent survey conducted by Ezekiel Cooley on January 12, 2021. Therefore, the project is not expected to impact any rare plant species.

5.1.2 Sensitive Animal Species

Less than Significant Impacts with Mitigation Incorporated

Of the 16 sensitive animal species recorded within the vicinity of the study area, 14 species were determined to have no potential to occur due to lack of suitable habitat, and/or these areas are located outside of the species' known geographical range (Appendix F). One species (BUOW) is considered present based on positive focused non-breeding season surveys. To prevent direct and indirect impacts to BUOW, Mitigation Measure BIO-1 will be implemented as part of the project. Of the remaining two species, one species has a low potential to occur, and one species has a moderate potential to occur. These species are discussed in greater detail below.

Low Potential Species

One species, western mastiff bat was determined to have a low potential to occur on the study area based on the presence of low-quality habitat, and lack of recent observations within the project vicinity. Western mastiff bat is a state SSC. The study area lacks suitable rock slabs and cliff faces for this species to roost, although open areas within the study area may potentially provide suitable foraging habitat. Since the study area supports limited habitat for this species, the project would not result in a significant impact to this species as suitable foraging habitat is located to the east and south of the study area.

Moderate Potential Species

One species, DSFLF, was determined to have a moderate potential to occur within the study area based on a habitat assessment conducted in December 2021 (Osborne, *personal communication*). To prevent direct and indirect impacts to DSFLF, Mitigation Measure BIO-3 will be implemented as part of the project.

5.2 SENSITIVE VEGETATION COMMUNITIES

5.2.1 California Department of Fish and Wildlife Sensitive Vegetation Communities/Habitats

No Impacts

The study area supports developed, disturbed, and ornamental habitat. None of these vegetation communities or habitats are considered sensitive by CDFW. Impacts to these communities are not considered sensitive and do not require mitigation. Therefore, no impacts to sensitive communities will occur as a result of the project (Figure 9, *Impacts to Vegetation*; Table 3, *Impacts to Vegetation Communities*).

Table 3
IMPACTS TO VEGETATION COMMUNITIES

Habitat Type	Existing (acres)	Permanent Impacts (acres)
Developed	290.33	290.33
Disturbed	132.95	132.95
Ornamental	0.63	0.00
Total	**423.91**	**423.28**

5.2.2 California Department of Fish and Wildlife Riparian Habitat and Streambed

No Impacts

Based on the results of the jurisdictional delineation, Cucamonga Creek Channel, Deer Creek Channel, and West Cucamonga Creek Channel are considered non-wetland waters under CDFW jurisdiction (Figure 8). These jurisdictional features are underground through the extent of the study area.

The project will not result in any impacts to the Cucamonga Creek Channel, Deer Creek Channel, or West Cucamonga Creek Channel. The project will require the removal and installation of storm drain inlets. The removal and installation of storm drain inlets will be performed in such a way that no incidental fall back to the storm drain system will occur. Since the storm drain inlet removal and installation activities will not result in direct or indirect impacts to downstream jurisdictional waters, the project would not impact CDFW jurisdictional waters. In the absence of impacts to jurisdictional waters, the project would not require regulatory permits from CDFW.

5.3 U.S. ARMY CORPS OF ENGINEERS/REGIONAL WATER QUALITY CONTROL BOARD JURISDICTION

No Impacts

Based on the results of the jurisdictional delineation, Cucamonga Creek Channel, Deer Creek Channel, and West Cucamonga Creek Channel are considered non-wetland waters under USACE/RWQCB jurisdiction (Figure 8). These jurisdictional features are underground through the extent of the study area.

The project will not result in any impacts to the Cucamonga Creek Channel, Deer Creek Channel, or West Cucamonga Creek Channel. The project will require the removal and installation of storm drain inlets. The removal and installation of storm drain inlets will be performed in such a way that no incidental fall back to the storm drain system will occur. Since the storm drain inlet removal and installation activities will not result in direct or indirect impacts to downstream jurisdictional waters, the project would not



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Source: Aerial (San Bernardino County, 2020)

HELIX Environmental Planning

Impacts to Vegetation

Figure 9

impact USACE or RWQCB jurisdictional waters. In the absence of impacts to jurisdictional waters, the project would not require regulatory permits from USACE or RWQCB.

5.4 WILDLIFE MOVEMENT AND MIGRATORY SPECIES

5.4.1 Wildlife Movement

No Impacts

The study area is not part of a regional corridor and does not serve as a nursery site. The study area is not identified as part of a local or regional corridor or linkage by the South Coast Missing Linkages (South Coast Wildlands 2008). The study area currently has no direct connectivity to two or more large blocks of habitat and is constrained by existing development. The study area does not support native vegetation and provides very limited habitat for local wildlife and migratory birds passing through the study area. Some reptiles and small mammals may occasionally access the study area. Birds may fly over existing development to access the study area for foraging and/or nesting. Therefore, the study area may provide very limited habitat for local wildlife but does not serve as a regional wildlife corridor. Although the implementation of the project may result in some temporary disturbance to local wildlife movement on-site, no regional movement corridors would be impacted.

5.4.2 Migratory Species

Less than Significant Impacts with Mitigation Incorporated

The study area has the potential to support songbird and raptor nests due to the presence of vegetation and trees in the study area. Project activities could disturb or destroy active migratory bird nests, including eggs and young. Disturbance to or destruction of migratory bird eggs, young, or adults is in violation of the MBTA and is considered a potentially significant impact. The nesting season is generally defined as February 15 through August 31 for songbirds and January 15 to August 31 for raptors. An avoidance and minimization measure is provided as BIO-2 in Section 6.0 below, which would ensure the project is in compliance with MBTA regulations.

5.5 LOCAL POLICIES AND ORDINANCES

No Impact

The project will not impact any local policies or ordinances; therefore, no mitigation is required.

5.6 ADOPTED PLANS

The project area is not located within any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The project area is located within the proposed Upper Santa Ana River Habitat Conservation Plan (SAR HCP), which was released for public review in May 2021; the review period ended in July 2021 and has not been approved as of the preparation of this report. Therefore, development within the project area is not in conflict with any adopted habitat conservation plans.

Should the Upper SAR HCP be approved, future development within the study area would be required to comply with the plan implemented at the time of their entitlement, pursuant to Countywide Plan Policy

NR-5.7. The project would comply with state and federal regulations regarding protected species of animals and vegetation through the development review, entitlement, and environmental clearance processes. Implementation of Policy NR-5.7 would include compliance with Habitat Conservation Plans and/or Natural Community Conservation Plan. Therefore, impacts would be less than significant.

No Impact

The study area is not located within any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, the implementation of the project would not conflict with any adopted habitat conservation plans.

6.0 MITIGATION MEASURES

The following provides recommended measures intended to minimize or avoid impacts to biological resources:

BIO-1 **Burrowing Owl**: Prior to the commencement of construction activities (i.e., demolition, earthwork, clearing, and grubbing), focused surveys shall be conducted by a qualified biologist during the breeding season, as defined by the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).

Take avoidance surveys for BUOW shall be conducted within the study area. The take avoidance surveys shall be conducted within 14 days and repeated 24 hours prior to construction activities (i.e., demolition, earthwork, clearing, and grubbing) to determine the presence of BUOW. If take avoidance surveys are negative and BUOW is confirmed absent, then ground-disturbing activities shall be allowed to commence, and no further mitigation would be required.

If BUOW is observed during focused surveys and/or take avoidance surveys within any portion of the study area, active burrows shall be avoided by the project in accordance with the CDFW's Staff Report (CDFG 2012). The CDFW shall be immediately informed of any BUOW observations. A BUOW Protection and Relocation Plan (plan) shall be prepared by a qualified biologist, which must be sent for approval by the CDFW prior to initiating ground disturbance. The plan shall detail avoidance measures that shall be implemented during construction and passive or active relocation methodology. Relocation shall only occur outside of the nesting season (September 1 through January 31).

BIO-2 **Nesting Birds:** To the extent possible, construction activities (i.e., earthwork, clearing, and grubbing) shall occur outside of the general bird nesting season for migratory birds, which is February 15 through August 31 for songbirds and January 15 to August 31 for raptors.

If construction activities (i.e., earthwork, clearing, and grubbing) must occur during the general bird nesting season for migratory birds and raptors (January 15 and August 31), a qualified biologist shall be retained to perform a pre-construction survey of potential nesting habitat to confirm the absence of active nests belonging to migratory birds and raptors afforded protection under the MBTA and CFG Code. The pre-construction survey

shall be performed no more than seven days prior to the commencement of construction activities. The qualified biologist shall document the results of the pre-construction survey. If construction is inactive for more than seven days during the breeding season, an additional survey shall be conducted.

If the qualified biologist determines that no active migratory bird or raptor nests occur, the activities shall be allowed to proceed without any further requirements. If the qualified biologist determines that an active migratory bird or raptor nest is present, no impacts within 300 feet (500 feet for raptors) of the active nest shall occur until the young have fledged the nest and the nest is confirmed to no longer be active, as determined by the qualified biologist. The biological monitor may modify the buffer or propose other recommendations in order to avoid indirect impacts to nesting birds.

BIO-3 **Delhi Sands Flower-loving Fly:** Focused surveys shall be conducted for DSFLF pursuant to current USFWS protocols by a qualified biologist with a DSFLF USFWS recovery permit. If the surveys are negative, no further assessments, focused surveys, or mitigation shall be required, and construction activities shall be allowed to proceed without any further requirements.

If focused surveys are positive, mitigation measures would be required and subject to review and approval by USFWS either through Section 7 of the ESA (if there is a federal action) or under Section 10(A)(1)(B) of the ESA (in the absence of a federal action). Measures may include, but are not necessarily limited to, the following:

- Avoidance of construction activities within DSFLF occupied habitat during the adult flight season, which occurs between July 1 and September 20.
- Installation of construction and post-construction fencing and signage around any avoided occupied habitat.
- Attendance of project personnel to a training program presented by a qualified biologist prior to construction activities.
- Monitoring by a qualified biologist during construction.
- Dust control adjacent to any avoided areas during construction.
- Mitigation for permanent loss of occupied DSFLF habitat.

7.0 CERTIFICATION/QUALIFICATION

The following individuals contributed to the fieldwork and/or preparation of this report:

Ezekiel Cooley	B.S., Natural Resources with an emphasis in Wildlife, Central Michigan University, 2004
Matthew Dimson	B.S., Environmental Science & Policy, California State University Long Beach, 2017
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Laura Moreton	M.S., Biodiversity Survey, University of Sussex, 2007 B.S., Biology, San Diego State University, 2006 A.S., Biology, Southwestern Community College, 2004
Lauren Singleton	M.S., Biology with an emphasis in Ecology and Entomology, California State University Long Beach, 2014 B.S., Biology with an emphasis in Ecology, Minor Chemistry, California State University Long Beach, 2010
Daniel Torres	B.S., Ecology and Natural Resources, Rutgers University, 2013

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Appendix A

Plant Species Observed

Appendix A
PLANT SPECIES OBSERVED

Family	Scientific Name	Common Name
ANGIOSPERMS - EUDICOTS		
Arecaceae	*Phoenix canariensis**	Canary island date palm
Bignoniaceae	*Jacaranda mimosifolia**	blue jacaranda
Brassicaceae	*Hirschfeldia incana**	short-pod mustard
Chenopodiaceae	*Salsola tragus**	tumbleweed
Geraniaceae	*Erodium cicutarium**	red stemmed filaree
Scrophulariaceae	*Myoporum* sp.*	myoporum
ANGIOSPERMS - MONOCOTS		
Poaceae	*Bromus diandrus**	common ripgut grass
	Bromus madritensis ssp. *rubens**	red brome
	*Schismus barbatus**	Mediterranean grass

* Non-native species

Appendix B

Animal Species Observed or Detected

Appendix B
ANIMAL SPECIES OBSERVED OR DETECTED

Order	Family	Scientific Name	Common Name
VERTEBRATES			
Reptiles			
Squamata	Phrynosomatidae	*Sceloporus occidentalis*	western fence lizard
Birds			
Accipitriformes	Accipitridae	*Buteo jamaicensis*	red-tailed hawk
	Cathartidae	*Cathartes aura*	turkey vulture
Charadriiformes	Charadriidae	*Charadrius vociferus*	killdeer
Columbiformes	Columbidae	*Columba livia*	rock pigeon
		Zenaida macroura	mourning dove
Passeriformes	Aegithalidae	*Psaltriparus minimus*	bushtit
	Corvidae	*Corvus brachyrhynchos*	American crow
	Passerellidae	*Melospiza melodia*	song sparrow
	Sturnidae	*Sturnus vulgaris**	European starling
	Tyrannidae	*Tyrannus verticalis*	western kingbird
Strigiformes	Strigidae	*Athene cunicularia*†	burrowing owl

* Non-native species

† Observed outside the study area

Appendix C

Representative Site Photographs



Photo 1: Typical non-native/disturbed habitat on the project site.



Photo 2: Typical developed habitat on the project site.

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Photo 3: One of several storm drains on the project site leading to a concrete lined channel running under the airport property.

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Appendix D

Jurisdictional Delineation Report

HELIX Environmental Planning, Inc.
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February 16, 2021 HNT-13.01

Kim Hughes
HNTB Corporation
2900 South Quincy St. Suite 600
Arlington, VA 22206

Subject: Jurisdictional Delineation Letter Report for the Proposed Taxiway Improvements and Relocation of Localizer Equipment Building at Ontario International Airport

Dear Ms. Hughes:

HELIX Environmental Planning, Inc. (HELIX) conducted a preliminary jurisdictional assessment to identify any jurisdictional resources within Proposed Taxiway Improvements and Relocation of Localizer Equipment Building (project) located at Ontario International Airport (ONT). A review of the jurisdictional resources within and adjacent to the project, is provided below.

This letter presents the results of a jurisdictional delineation conducted by HELIX Environmental Planning, Inc. (HELIX) for the proposed Taxiway Improvements and Relocation of Localizer Equipment Building (project) located at Ontario International Airport (ONT). The delineation was conducted to identify and map existing areas within the project area that are "waters of the U.S." under U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA); waters of the State under Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to Section 401 of the CWA; and streambed habitats under California Department of Fish and Wildlife (CDFW) jurisdiction pursuant to Section 1600 of the California Fish and Game Code. This report presents HELIX's best efforts to quantify jurisdiction within the project site using the current regulations, written policies, and guidance from USACE, RWQCB, and CDFW (collectively, the "regulatory agencies").

PROJECT LOCATION

The approximately 231-acre project site is in the City of Ontario, San Bernardino County, California. generally located south of the Interstate (I-) 10 and west of I-15 (Figure 1, *Regional Location*). The project site is located within Section 25 of Township 1 South, Range 7 West of the Guasti, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 2, *Vicinity Map*). Specifically, the project site is located to the northwest of the intersection of S Haven Avenue and Jurupa Street; to the southwest of the intersection of E Airport Drive and S Haven Avenue; to the southwest of the intersection of S Grove Avenue and E Airport Drive; and to the northeast of the intersection of S Grove Avenue and E Mission Boulevard (Figure 3, *Aerial Photograph*).

PROJECT DESCRIPTION

The proposed project consists of the construction, modification, and removal of taxiways and runways; relocation of taxiways; construction of taxiway bypass; relocation of perimeter fencing; relocation of localizer equipment building; and modification of an existing service road (Figure 4, *Site Plan*).

METHODS

Prior to beginning fieldwork, aerial photographs (1 inch = 150 feet), topographic maps (1 inch = 150 feet), USGS quadrangle maps, and National Wetland Inventory maps (U.S. Fish and Wildlife Service 2019) were reviewed. HELIX Regulatory Specialist Ezekiel Cooley conducted the jurisdictional delineation field work on January 12, 2021. Delineation methods used to determine each agency's jurisdictional limits are discussed below.

U.S. Army Corps of Engineers

The USACE waters of the U.S. are determined using current USACE guidelines (Environmental Laboratory 1987, U.S. Army Corps of Engineers [USACE] 2008a). Areas are determined to be waters of the U.S. if there is evidence of regular surface flow (e.g., bed and bank). Jurisdictional limits for these areas are measured according to the presence of a discernible OHWM, which is defined in 33 Code of Federal Regulations (CFR) Section 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." The USACE has issued further guidance on the OHWM (Riley 2005; USACE 2008b), which also was considered in this jurisdictional assessment.

The jurisdictional delineation was conducted in accordance with court decisions (i.e., Rapanos v. United States, Carabell v. United States, and Solid Waste Agency of Northern Cook County v. USACE), as outlined and applied by the USACE (USACE 2007; Grumbles and Woodley 2007); and USACE and U.S. Environmental Protection Agency (EPA; 2007). These publications explain that the EPA and USACE will assert jurisdiction over traditional navigable waters (TNW) and tributaries to TNWs that are a relatively permanent water body (RPW), which has year-round or continuous seasonal flow. For water bodies that are not RPWs, a significant nexus evaluation is used to determine if the non-RPW is jurisdictional. As an alternative to the significant nexus evaluation process, a preliminary jurisdictional delineation may be submitted to the USACE. The preliminary jurisdictional delineation treats all waters and wetlands on a site as if they are jurisdictional waters of the U.S. (USACE 2008a). A significant nexus evaluation or preliminary jurisdictional delineation are typically only required for projects that propose impacts to potentially jurisdictional features and, therefore, require a Section 404 permit from the USACE.

Regional Water Quality Control Board

The RWQCB asserts regulatory jurisdiction over activities affecting wetland and non-wetland waters of the State pursuant to Section 401 of the CWA and the State Porter-Cologne Water Quality Control Act. Potential RWQCB jurisdiction would follow the boundaries of USACE jurisdiction for waters of the U.S.

California Department of Fish and Wildlife

The CDFW jurisdictional boundaries are determined based on the presence of riparian vegetation or regular surface flow, if present. Streambeds within CDFW jurisdiction are delineated based on the definition of streambed as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses with surface or subsurface flow that supports riparian vegetation" (Title 14, Section 1.72). This definition for CDFW jurisdictional habitat allows for a wide variety of habitat types to be jurisdictional, including some that do not include wetland species (e.g., oak woodland and alluvial fan sage scrub). Jurisdictional limits for CDFW streambeds are defined by the top of bank. Vegetated CDFW habitats are mapped at the limits of streambed-associated vegetation, if present.

RESULTS

The project site supports three drainages that flow beneath the work area through covered concrete channels. The drainages include Deer Creek Channel in the eastern portion of the project site, Cucamonga Creek Channel in the center of the project site, and West Cucamonga Creek Channel in the western portion of the project site. Additionally, the project site includes multiple storm drain inlets that convey flows into the three concrete channels.

Based on the results of the jurisdictional delineation, Cucamonga Creek Channel, Deer Creek Channel, and Western Cucamonga Creek Channel are considered USACE/RWQCB non-wetland waters of the U.S. and CDFW jurisdiction (Figure 5, *Jurisdictional Features*). These jurisdictional features are underground through the extent of the project site.

Cucamonga Creek Channel

Cucamonga Creek Channel is a concrete rectangular channel that runs north to south through the center of the project site and is considered a USACE public works facility. Based on the USGS Guasti quadrangle map, the headwaters of Cucamonga Creek originate approximately seven miles to the north of the project site at the base of Cucamonga Peak in San Gabriel Mountains where it occurs as a natural soft-bottomed creek. Cucamonga Creek generally flows south through Cucamonga Canyon and becomes channelized once it exits the San Gabriel Mountains. Cucamonga Creek Channel flows enter the project site near the northern boundary to the south of Airport Drive. The channel continues for approximately 0.4 mile through the center of the site, flowing underneath the airport taxiway and resurfacing to the south of the taxiway. The channel exits the project site near the southern boundary, just north of the Avion Street. After exiting the project site, Cucamonga Creek Channel flows south for 11 miles to the south of the project site and becomes soft-bottomed just prior to meeting the Santa Ana River at the Prado Flood Control Basin in Riverside County. The Santa Ana River ultimately drains into the Pacific Ocean approximately 35 miles to the southwest of the project site. Soils within Cucamonga Creek Channel on the project site are mapped as Tujunga loamy sand (0 to 5 percent slopes; NRCS 2021; Figure 6, *Soils*). However, native soils are no longer present in Cucamonga Creek Channel due to the full concrete channelization of the creek.

Deer Creek Channel

Deer Creek Channel is a concrete rectangular channel that runs north to south along the eastern project site boundary. Based on the USGS Guasti quadrangle map, the headwaters of Deer Creek originate approximately seven miles to the northeast of the project site at the base of Cucamonga Peak in San Gabriel Mountains where it occurs as a natural soft-bottomed creek. Deer Creek generally flows south through Deer Canyon and becomes channelized once it exits the San Gabriel Mountains. The channel likely collects sheet flow from impervious surfaces in the surrounding area and storm drains that empty into the channel. The majority of flows within Deer Creek Channel empty into Cucamonga Creek Channel near Turner Basin, approximately one mile to the north of project site. Some water is diverted into the channel within the historic flow path of Deer Creek, which flows south from Turner Basin as a mostly natural streambed until it reaches Airport Drive. Deer Creek flows underneath the airport and enters and exits the project site as an underground channel. Deer Creek continues south as an underground channel and surfaces as a concrete trapezoidal channel just north of State Route 60, approximately 1.6 miles to the south of the project site. The channel continues southwest as Lower Deer Creek Channel for approximately 2.1 miles, ultimately draining into Cucamonga Creek Channel. Soils within Deer Creek Channel on the project site are mapped as Tujunga loamy sand (0 to 5 percent slopes; NRCS 2021; Figure 6). However, native soils are no longer present in Deer Creek Channel due to the concrete channelization of the creek.

Western Cucamonga Creek Channel

Western Cucamonga Channel is a concrete rectangular channel that runs north to south along the western project site boundary. Western Cucamonga Creek Channel originates from the percolating basins as Cucamonga Creek exits Cucamonga Canyon, approximately six miles to the northwest of the project site. The channel likely collects sheet flow from impervious surfaces in the surrounding area as well as water collected in the 8th Street storm drains. Western Cucamonga Creek Channel flows mostly underground until it reaches 8th Street Basins. The channel continues south from the basin as an above-ground rectangular concrete channel. The channel passes through the Princeton Basin, and continues five miles south until it reaches the northwestern boundary of the project site. . The channel flows along the western boundary and exits near the southwest corner. After exiting the site, the channel continues south through the Ely Basins and connecting with Cucamonga Creek Channel approximately seven miles south of the project site. Soils within Western Cucamonga Creek Channel within the project site are primarily mapped as Tujunga loamy sand (0 to 5 percent slopes; NRCS 2021; Figure 6). However, native soils are no longer present in Western Cucamonga Creek Channel due to the concrete channelization of the creek.

IMPACTS

The project will require removal and installation of storm drain inlets. The removal and installation of storm drain inlets will be performed in such a way that no incidental fall back to the storm drain system will occur. Since the storm drain inlet activities will not result in direct or indirect impacts to downstream jurisdictional waters, the project would not impact USACE, RWQCB, or CDFW jurisdictional waters. In the absence of impacts to jurisdictional waters, the project would not require regulatory permits from the regulatory agencies.

AVOIDANCE AND MINIMIZATION MEASURES

The project will result in the removal and replacement of several storm drain inlets, which will not require work within USACE, RWQCB, or CDFW jurisdictional waters. No discharge of fill will occur within USACE and/or RWQCB jurisdictional waters and no streambed alterations will occur within CDFW jurisdictional resources, as a result of the proposed project.

The following minimization measures shall be implemented during construction to avoid indirect impacts to downstream jurisdictional waters:

1. General Stormwater Construction Permit compliance.

2. Municipal Storm Drain Permit (MS4) compliance.

3. Source control and treatment control BMPs shall be implemented to minimize the potential contaminants that are generated during and after construction. Source control BMPs and Treatment control BMPs will follow the ONT Storm Water Pollution Prevention Plan (SWPPP) and standard construction BMPs.

4. Employees shall strictly limit their activities, vehicles, equipment, and construction material to the proposed project footprint, staging areas, and designated routes of travel.

CONCLUSION

Based on HELIX's assessment, the project will not result in direct or indirect impacts to jurisdictional resources regulated by the USACE, RWQCB, or CDFW, provided that the jurisdictional avoidance and minimization measures outlined above are adequately implemented during construction of the project. Given the absence of jurisdictional impacts, HELIX does not anticipate that regulatory permits will be required to implement the project.

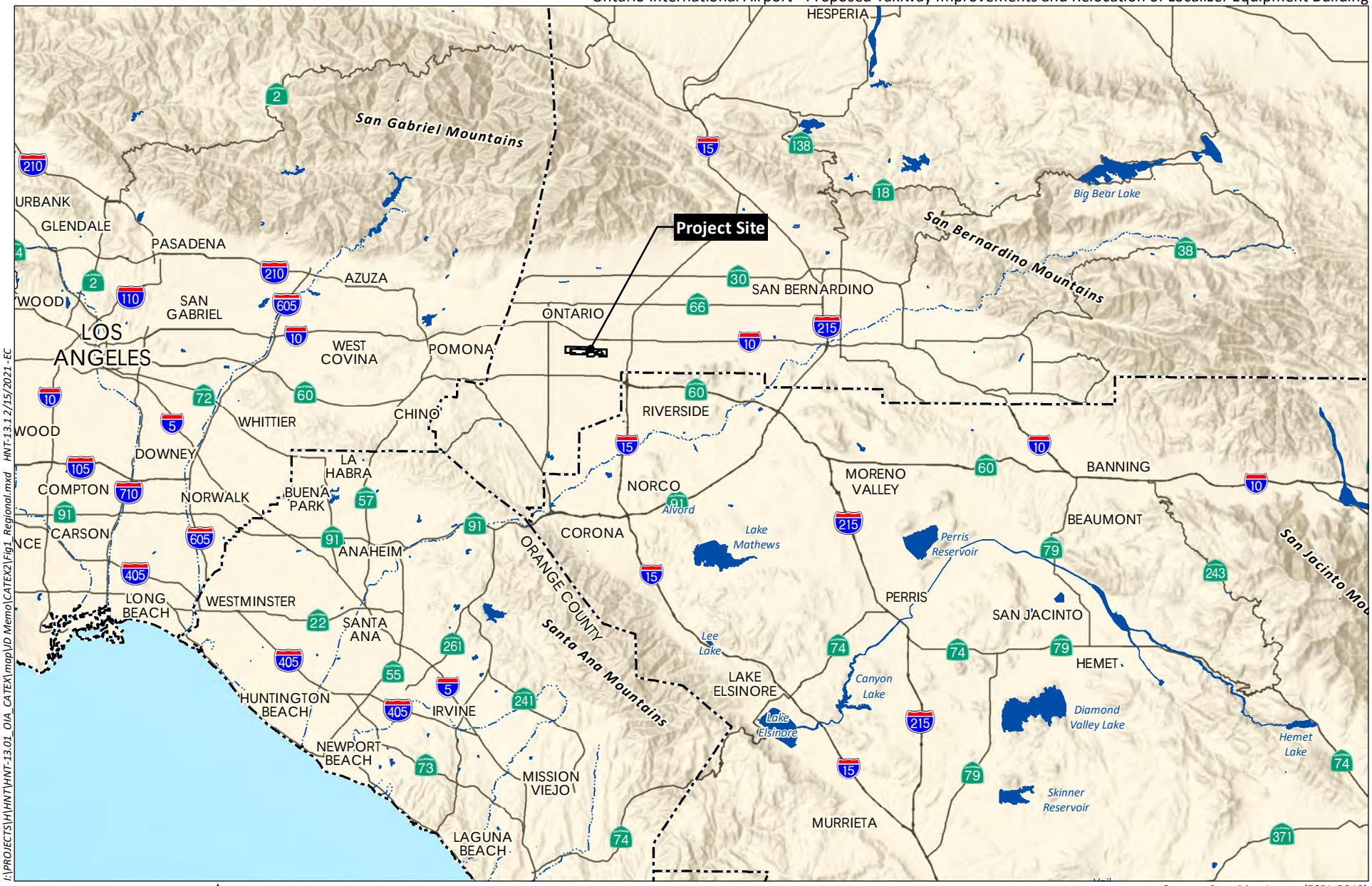
If you have any questions regarding the information presented in this letter report, please contact me at EzekielC@helixepi.com or (949) 234-8770.

Sincerely,

Ezekiel Cooley
Senior Biology Project Manager/Regulatory Specialist

Attachments:

Figure 1: Regional Location
Figure 2: Vicinity Map
Figure 3: Aerial Photograph
Figure 4: Site Plan
Figure 5: Jurisdictional Features
Figure 6: Soils



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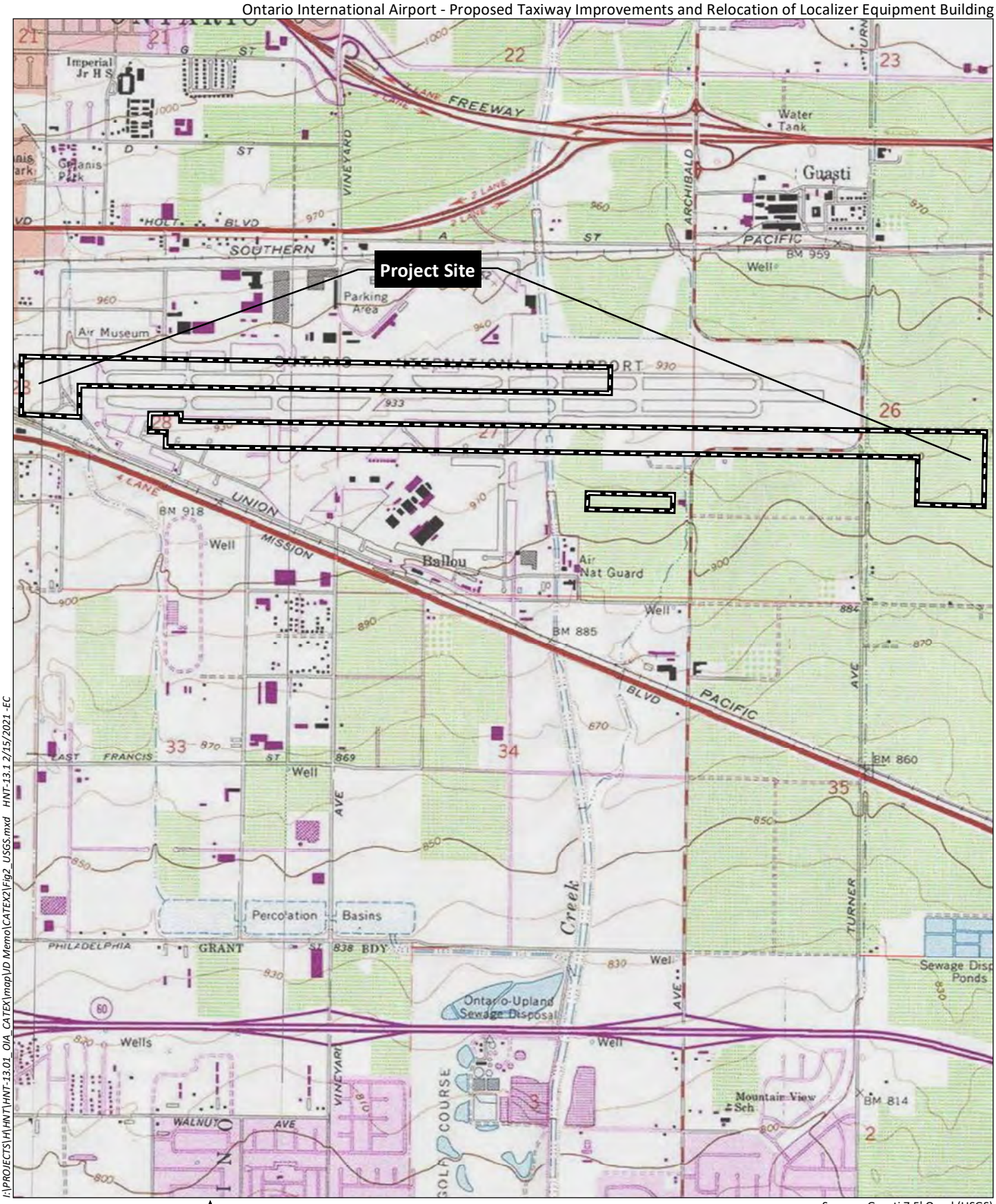
Source: Base Map Layers (ESRI, 2013)

HELIX Environmental Planning

Regional Location

Figure 1



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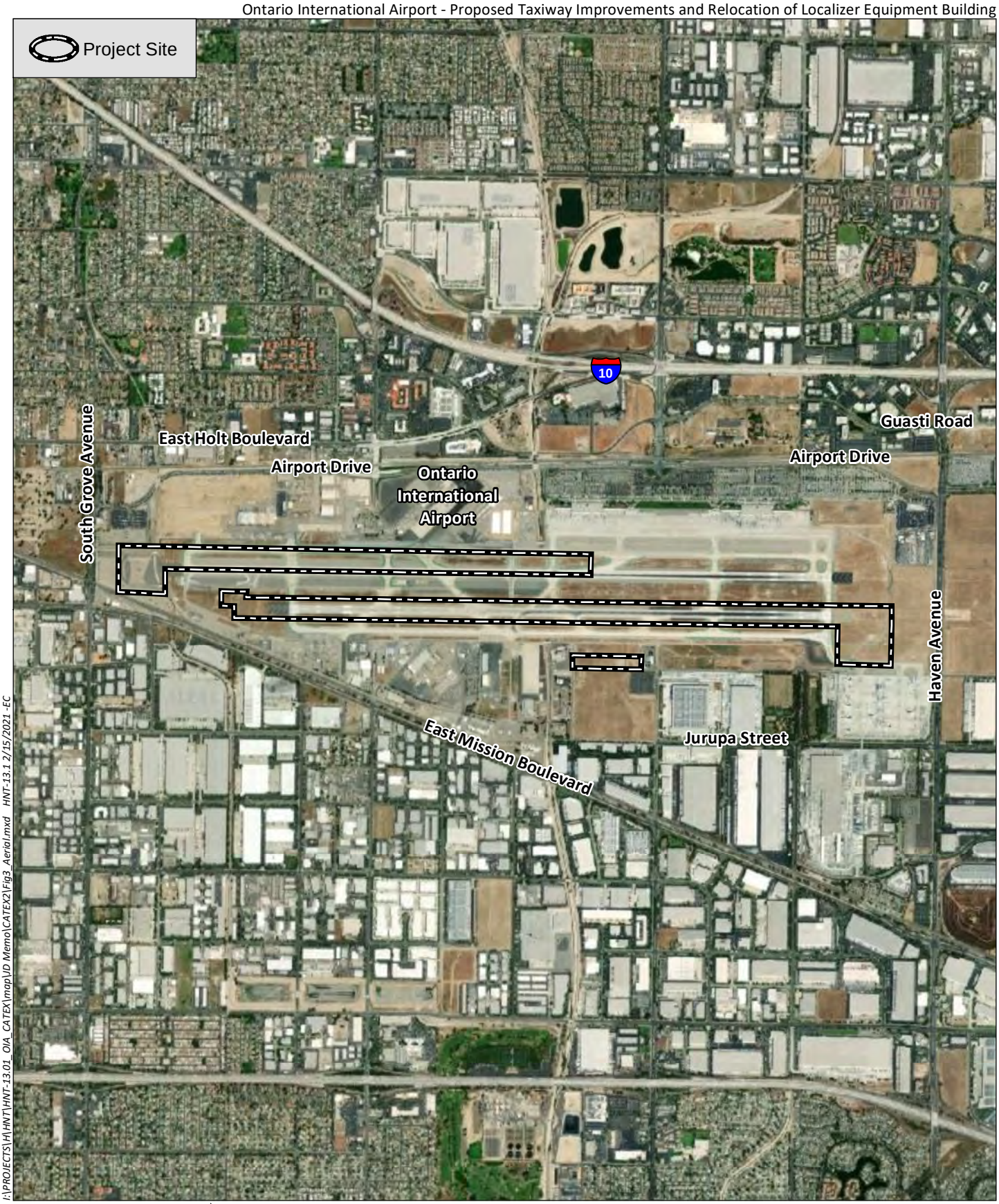
0 2,000 Feet

Source: Guasti 7.5' Quad (USGS)

HELIX Environmental Planning

Vicinity Map

Figure 2



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0 2,500 Feet

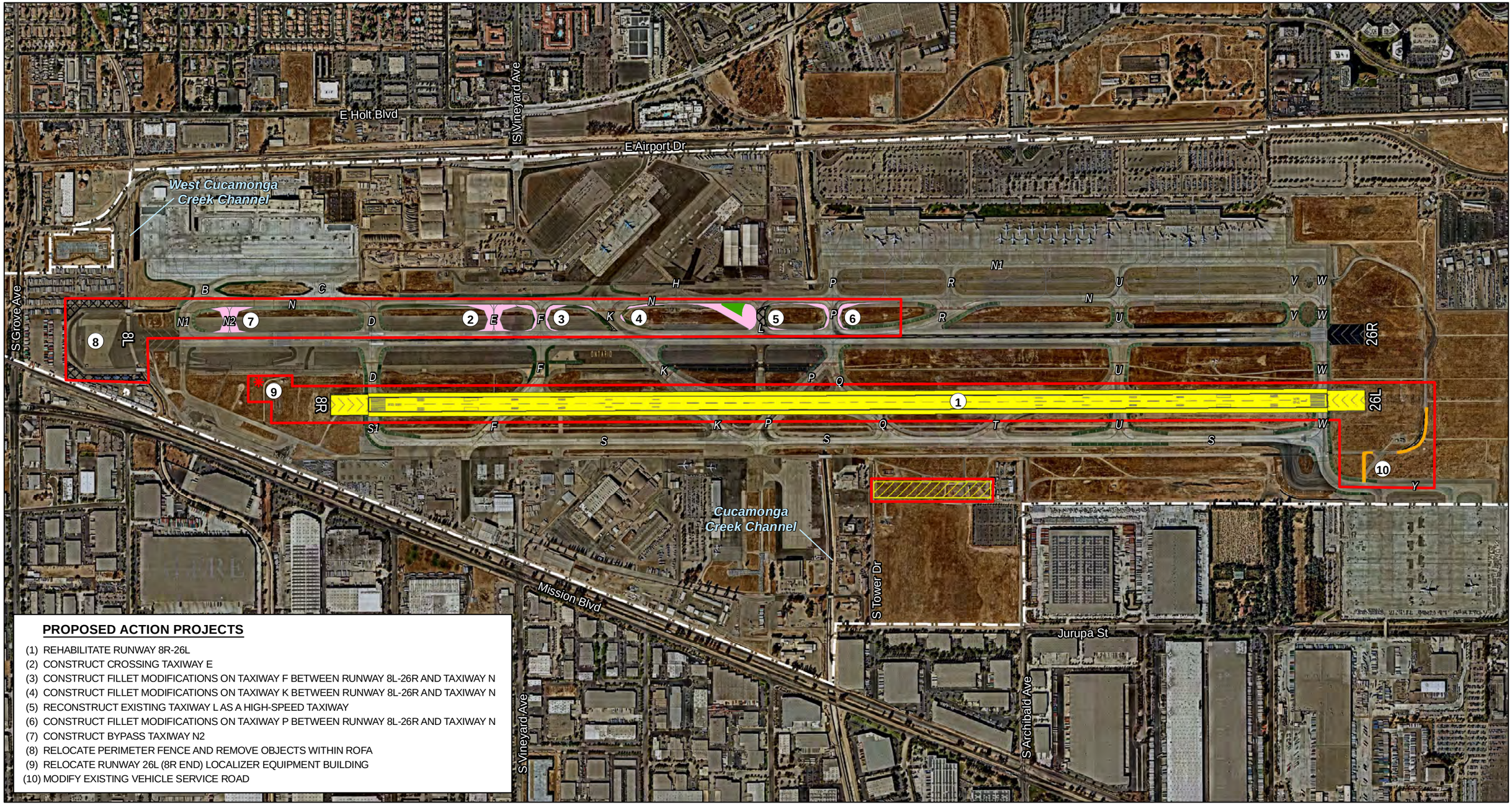
Source: Base Map Layers (Maxar, 2020)

HELIX Environmental Planning

Aerial Photograph

Figure 3

Categorical Exclusion for Runway 8R-26L Rehabilitation and Additional Airfield Improvements at Ontario International Airport



PROPOSED ACTION PROJECTS

(1) REHABILITATE RUNWAY 8R-26L
(2) CONSTRUCT CROSSING TAXIWAY E
(3) CONSTRUCT FILLET MODIFICATIONS ON TAXIWAY F BETWEEN RUNWAY 8L-26R AND TAXIWAY N
(4) CONSTRUCT FILLET MODIFICATIONS ON TAXIWAY K BETWEEN RUNWAY 8L-26R AND TAXIWAY N
(5) RECONSTRUCT EXISTING TAXIWAY L AS A HIGH-SPEED TAXIWAY
(6) CONSTRUCT FILLET MODIFICATIONS ON TAXIWAY P BETWEEN RUNWAY 8L-26R AND TAXIWAY N
(7) CONSTRUCT BYPASS TAXIWAY N2
(8) RELOCATE PERIMETER FENCE AND REMOVE OBJECTS WITHIN ROFA
(9) RELOCATE RUNWAY 26L (8R END) LOCALIZER EQUIPMENT BUILDING
(10) MODIFY EXISTING VEHICLE SERVICE ROAD

Legend

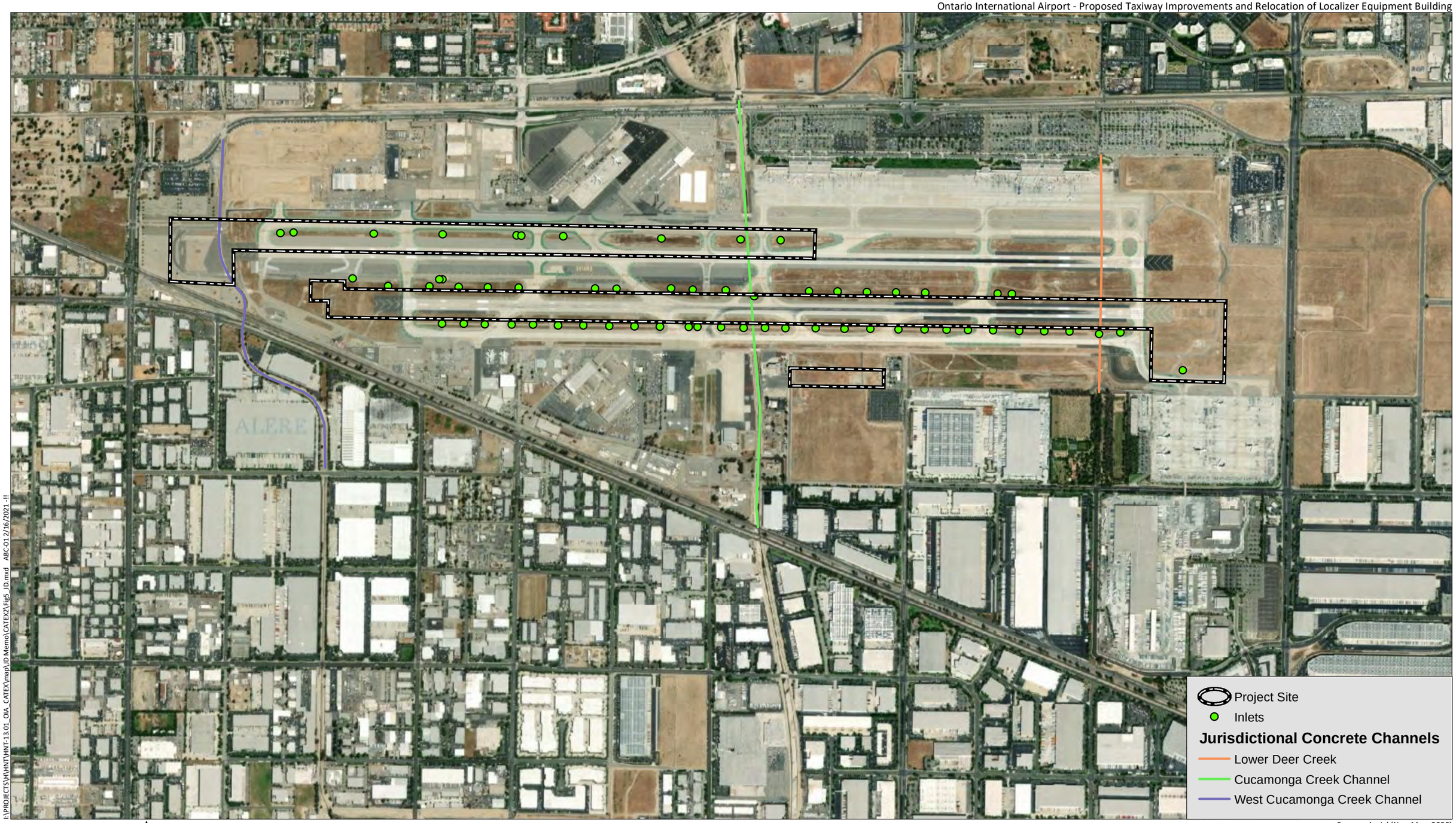
- Area of Potential Effects
- Runway 8R-26L Pavement Rehabilitation
- Proposed Taxiway Pavement
- Proposed Pavement Removal
- Proposed Painted Island
- Proposed Vehicle Service Road Pavement
- Contractor Staging Area
- Airport Property Line
- Relocated Runway 26L Localizer Equipment Building

Figure 2
Area of Potential Effects

N

0 250 500 1,000 Feet

Sources: OIAA, Nearmap, HNTB Analysis



Source: Aerial (NearMap, 2020)

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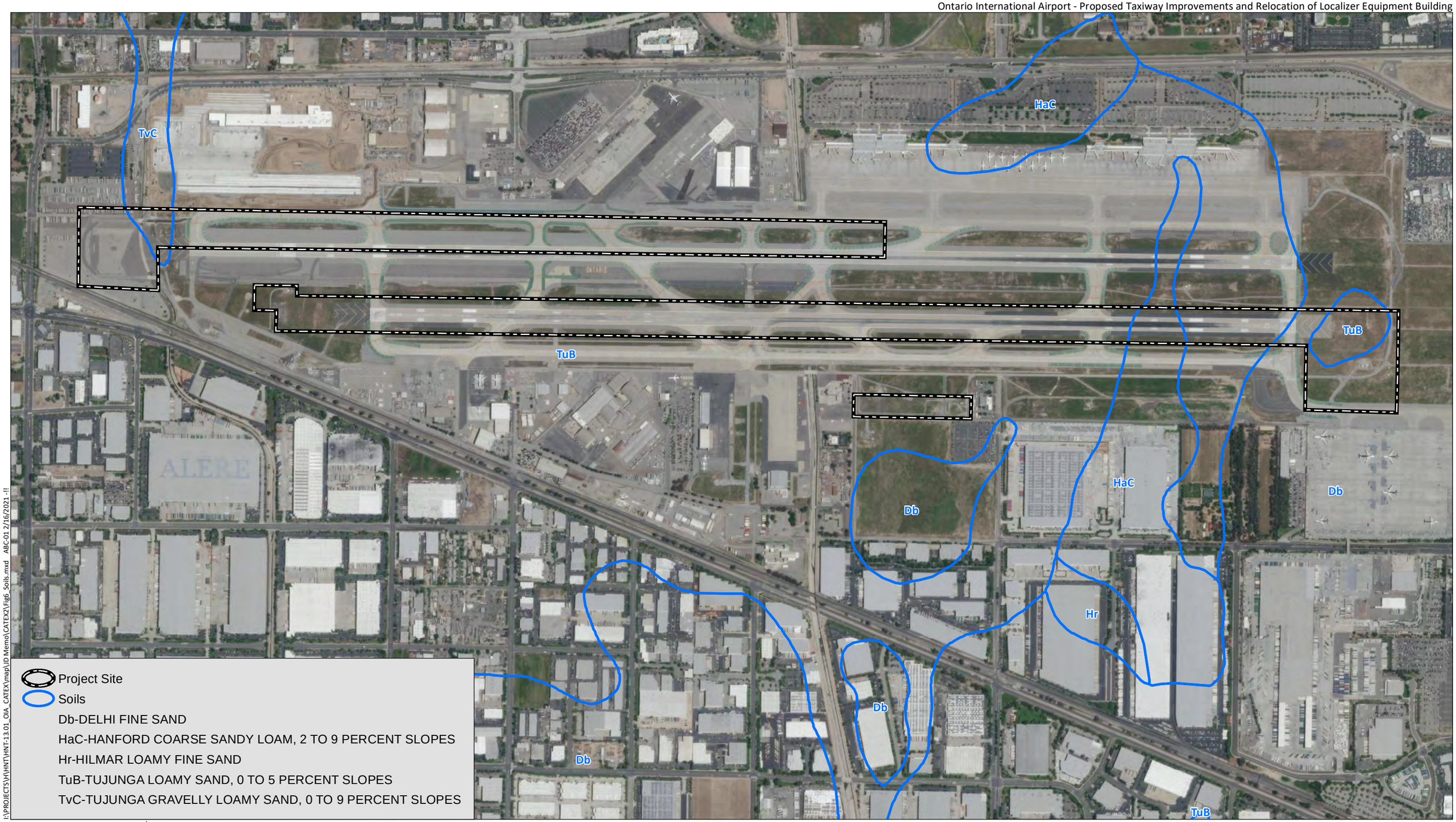
HELIX Environmental Planning

Jurisdictional Features

Figure 5



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Source: Aerial (NearMap, 2020)

HELIX Environmental Planning

Soils

Figure 6

Appendix E

Rare Plant Species Potential to Occur

Appendix E
RARE PLANT SPECIES POTENTIAL TO OCCUR[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Chorizanthe parryi var. *parryi*	Parry's spineflower	--/-- CRPR 1B.1	Annual herb. Occurs in sandy soil on flats and foothills in mixed grassland, coastal sage scrub, and chaparral communities. Elevation range 275-1220 m. Flowering period May-Jun.	**None.** The study area lacks suitable sandy soil and mixed grassland, coastal sage scrub, and chaparral communities. This species has been reported approximately five miles northeast of the study area.
Cladium californicum	California saw-grass	--/-- CRPR 2B.2	Perennial rhizomatous herb. Occurs in freshwater and alkaline wetlands, meadows, and seeps. Elevation range -10-2150 m. Flowering period Jun-Sep.	**None.** The study area lacks wetlands, meadows, and seeps. Although this species has been reported within five miles of the study area, the report is historic (greater than 50 years old).
Horkelia cuneata var. *puberula*	Mesa horkelia	--/-- CRPR 1B.1	Perennial herb. Occurs in sandy or gravelly areas within chaparral, coastal sage scrub, and coastal mesas. Elevation range 70-870. Flowering period Mar-Jul.	**None.** The study area lacks suitable chaparral, coastal sage scrub, and coastal mesas to support this species. Although this species has been reported within five miles of the study area, the report is historic (greater than 50 years old).
Muhlenbergia utilis	Aparejo grass	--/-- CRPR 2B.2	Perennial rhizomatous herb. Occurs in coastal scrub, chaparral, lower montane coniferous forest, meadows and seeps. Usually found near streams or seeps. Elevation range 100-2000 m. Flowering period Mar-Oct.	**None.** The study area lacks suitable habitat as well as any streams or seeps to support this species. Although this species has been reported within five miles of the study area, the report is historic (greater than 50 years old).

Appendix E
RARE PLANT SPECIES POTENTIAL TO OCCUR[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Navarretia prostrata	Prostrate vernal pool navarretia	--/-- CRPR 1B.2	Annual herb. Occurs in alkaline floodplain, meadows, seeps, and vernal pools within coastal scrub and valley and foothill grassland. Elevation range below 700 m. Flowering period Apr-Jul.	**None.** The study area lacks suitable alkaline floodplain, meadows, seeps, and vernal pools to support this species. Although this species has been reported within five miles of the study area, the report is historic (greater than 50 years old).
Phacelia stellaris	Brand's star phacelia	--/-- CRPR 1B.1	Annual herb. Grows in open areas in coastal scrub and coastal dune habitat. Elevation range 3-370 m. Flowering period Mar-Jun.	**None.** The study area does not support coastal scrub or coastal dune habitat. This species has been reported approximately four miles to the northeast of the study area.
Pseudognaphalium leucocephalum	White rabbit-tobacco	--/-- CRPR 2B.2	Biennial or short-lived perennial herb. Occurs in sandy and gravelly benches, dry stream and canyon bottoms within woodland, coastal scrub, and chaparral. Elevation range below 500 m. Flowering period Jul-Oct.	**None.** The study area lacks sandy and gravelly benches, dry stream and canyon bottoms that occur in suitable habitat support this species. Although this species has been reported within five miles of the study area, the report is historic (greater than 50 years old).

Appendix E
RARE PLANT SPECIES POTENTIAL TO OCCUR[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Symphyotrichum defoliatum	San Bernardino aster	--/-- CRPR 1B.2	Perennial herb. Occurs in vernally mesic soils within cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, grasslands, streams, springs, and disturbed ditches. Elevation range 0-2050 m. Flowering period Jul-Nov.	**None.** The study area lacks suitable vernally mesic soils to support this species. The nearest reported occurrence of this species is approximately five miles southeast of the study area in what is now a residential development.

Source: HELIX (2021)

[1] Sensitive species reported within the Prado Dam and Corona North quadrangles based on a database search conducted on CNDDB and CNPS.

[2] Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened.
CRPR = California Rare Plant Rank: 1A – presumed extinct; 1B – rare, threatened, or endangered in California and elsewhere; 2A – rare, threatened, or endangered in California and elsewhere; 2B – rare, threatened, or endangered in California but more common elsewhere. Extension codes: .1 – seriously endangered; .2 – moderately endangered; .3 – not very endangered.

[3] Potential to Occur is assessed as follows: **None**: Habitat suitable for species survival does not occur on the study area, the study area is not within geographic range of the species, and/or the study area is not within the elevation range of the species; **Low**: Suitable habitat is present on the study area but of low quality and/or small extent. The species has not been recorded recently on or near the study area. Although the species was not observed during surveys for the current project, the species cannot be excluded with certainty; **Moderate**: Suitable habitat is present on the study area and the species was recorded recently near the study area; however, the habitat is of moderate quality and/or small extent. Although the species was not observed during surveys for the current project, the species cannot be excluded with certainty; **High**: Suitable habitat of sufficient extent is present on the study area and the species has been recorded recently on or near the study area, but was not observed during surveys for the current project. However, focused/protocol surveys are not required or have not been completed; Presumed **Present**: The species was observed during focused surveys for the current project and is assumed to occupy the study area; **Presumed Absent**: Suitable habitat is present on the study area but focused surveys for the species were negative.

Appendix F

Sensitive Animal Species Potential to Occur

Appendix F
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Invertebrates				
Bombus crotchii	Crotch's bumble bee	--/SCE	Coastal California east to the Sierra-Cascade crest and south into Mexico and is associated with grassland and scrub habitats near the coast. Species' food genera include *Antirrhinum* spp., *Clarkia* spp., *Dendromecon* spp., *Eriogonum* spp., *Eschscholzia* spp., *Lupinus* spp., *Medicago* spp., *Phacelia* spp., and *Salvia* spp. Nests are underground and commonly consist of abandoned rodent nests.	**Not Expected.** Suitable habitat does not occur on the project site.
Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	FE/--	Found only within the Delhi Sands formation in San Bernardino and Riverside Counties. Requires wholly or partly consolidated dunes with sparse vegetation.	**Moderate.** Suitable habitat occurs on site, however focused surveys in habitat adjacent to the project site 2019 and 2020 were negative.
Reptiles				
Anniella stebbinsi	Southern California legless lizard	--/SSC	Occurs in moist warm loose soil with plant cover. May be found in coastal sand dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	**None.** Although this species has been reported within five miles of the study area, the study area lacks suitable loose soils or stream terraces to support this species. The closest reported occurrence is approximately one mile to the south of the study area but has since been developed.

Appendix F
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Arizona elegans occidentalis	California glossy snake	--/SSC	Most common in desert habitats, but also occurs in chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grassland. Associated with sandy open areas with sparse shrub cover but can also occur in rocky habitats.	**None.** The study area lacks suitable chaparral and pine-juniper to support this species. Although this species has been reported within five miles of the study area, the report is historic (greater than 50 years old).
Phrynosoma blainvillii	coast horned lizard	--/SSC	Coastal sage scrub and open areas in chaparral, oak woodlands, and coniferous forests with sufficient basking sites, adequate scrub cover, and areas of loose soil; require native ants, especially harvester ants (*Pogonomyrmex* spp.), and are generally excluded from areas invaded by Argentine ants (*Linepithema humile*).	**None.** The study area lacks chaparral and coniferous forests to support this species**.** The closest occurrence of this species was reported approximately five miles to the northeast of the study area in what is now a commercial development.
Birds				
Agelaius tricolor	tricolored blackbird	SCE/SSC	Breeds in dense stands of cattails (*Typha* sp.) or bulrushes (*Schoenoplectus* sp./*Scirpus* sp.) located within large freshwater marshes. Forages in adjacent open habitats, such as agricultural fields, pastures, or grasslands.	**None**. The study area lacks suitable freshwater marsh or bulrush and cattail stands required by this species. The closest occurrence of this species was approximately two miles to the southeast of the study area in a basin.
Athene cunicularia	burrowing owl	--/SSC	Typical habitat is grasslands, open scrublands, agricultural fields, and other areas where there are ground squirrel burrows or other areas in which to burrow.	**Presumed present.** This species is currently located on the study area. Focused surveys in 2019 and 2020 both yielded positive findings.

Appendix F
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Laterallus jamaicensis coturniculus	California black rail	ST/SFP	Occurs most commonly in tidal emergent wetlands dominated by pickleweed, or in brackish marshes supporting bulrushes in association with pickleweed. Usually found within the immediate vicinity of tidal sloughs.	**None**. Although this species has been reported within five miles of the study area, the report is historic. This species is presumed to be extirpated from southern California. Reported occurrences are historic (greater than 50 years old).
Polioptila californica	coastal California gnatcatcher	FT/SSC	Occurs in coastal sage scrub and very open chaparral.	**None.** The study area does not have coastal sage scrub or open chapparal to support this species. Although this species has been reported within five miles of the study area, that area has been developed for residential housing.
Mammals				
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	--/SSC	Herbaceous openings within coastal sage scrub, chaparral, grasslands, and desert scrub. Often associated with sandy, rocky, or gravelly substrates.	**None.** Although this species has been reported within five miles of the study area, the area lacks coastal sage scrub and associated substrates. This species is presumed to be extirpated from San Bernardino County.
Dipodomys merriami parvus	San Bernardino kangaroo rat	FE/SSC	Generally associated with alluvial fan sage scrub, but also occurs in sage scrub, chaparral, and grassland in proximity to alluvial fan sage scrub habitats.	**None.** Although this species has been reported within five miles of the study area, the study area lacks alluvial fan sage scrub and associated habitats. This species is presumed to be extirpated from San Bernardino County.

Appendix F
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Dipodomys stephensi	Stephens' kangaroo rat	FE/ST	Primarily occurs in sparsely vegetated areas within grassland habitats, but also found in open coastal scrub habitat. Feeds on filaree (*Erodium* sp.) and brome (*Bromus* sp.) seeds. Dig burrows in firm soil or use abandoned pocket gopher burrows.	**None.** Although the study area has *Erodium* species and *Bromus* species, the habitat consists more of a mixture of non-native vegetation than a grassland and soils on-site are unsuitable for the species. Additionally the nearest occurrence is 14 miles southeast of the project site.
Eumops perotis californicus	western mastiff bat	--/SSC	Roosts under exfoliating rock slabs on cliff faces and occasionally in large boulder crevices and building cracks. Forages in a variety of open areas, including washes, floodplains, chaparral, coastal sage scrub, woodlands, ponderosa pine forests, grassland, and agricultural areas.	**Low.** Although this species has been reported within five miles of the study area, and the study area lacks suitable rock slabs and cliff faces for this species to roost. The closest occurrence was reported north of the study area at Alta Loma High School.
Lasiurus xanthinus	western yellow bat	--/SSC	Roosts in trees and are commonly found in palms and cottonwoods. Typically forages over water and among trees within riparian, desert riparian, desert wash, and palm oasis habitats.	**None.** Although this species has been reported within five miles of the study area, the study area lacks suitable roosting habitat such as palms and cottonwoods, and lacks foraging habitat of open water and riparian, desert wash, or palm oasis habitat. The closest occurrence was reported north of the study area near Alta Loma.
Neotoma lepida intermedia	San Diego desert woodrat	--/SSC	Open chaparral, coastal sage scrub, pinyon-juniper, and Joshua tree habitats. This species builds large, stick nests in rock outcrops or around clumps of cactus or yucca.	**None.** This species has been reported over five miles away of the study area and the study area lacks suitable nesting habitat such as rock outcrops or cactus.

Appendix F
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR[1]

Species Name	Common Name	Status[2]	Habitat, Ecology, and Life History	Potential to Occur[3]
Perognathus longimembris brevinasus	Los Angeles pocket mouse	--/SSC	Sandy, gravelly, or stony soils within coastal scrub, alluvial sage scrub, and grassland habitats.	**None**. Although this species has been reported within five miles of the study area, the study area lacks suitable soils and suitable habitat such as alluvial sage scrub. The closest occurrence was northeast of the study area in relict alluvial fan sage scrub.

Source: HELIX (2021)

[1] Sensitive species reported within the Guasti quadrangle based on a database search conducted on CNDDB.

[2] Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; CE = Candidate Endangered; CT = Candidate Threated; FP = Fully Protected; SSC = State Species of Special Concern. [3] Potential to Occur is assessed as follows. **None**: Species is so limited to a particular habitat that it cannot disperse across unsuitable habitat (*e.g.* aquatic organisms), and habitat suitable for its survival does not occur on the study area; **Not Expected**: Species moves freely and might disperse through or across the study area, but suitable habitat for residence or breeding does not occur on the study area (includes species recorded during surveys but only as transients); **Low**: Suitable habitat is present on the study area but of low quality and/or small extent. The species has not been recorded recently on or near the study area. Although the species was not observed during surveys for the current project, the species cannot be excluded with certainty; **Moderate**: Suitable habitat is present on the study area and the species was recorded recently near the study area; however, the habitat is of moderate quality and/or small extent. Although the species was not observed during surveys for the current project, the species cannot be excluded with certainty; **High**: Suitable habitat of sufficient extent for residence or breeding is present on the study area and the species has been recorded recently on or near the study area, but was not observed during surveys for the current project. However, focused/protocol surveys are not required or have not been completed; **Presumed Present**: The species was observed during biological surveys for the current project and is assumed to occupy the study area; **Presumed Absent**: Suitable habitat is present on the study area but focused/protocol surveys for the species were negative.

Appendix G

2019/2020 Non-Breeding Burrowing Owl Survey Report

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February 11, 2020 OIA-01

Mr. Keith Owens
Ontario International Airport Authority
1923 E Avion Avenue
Ontario, CA 91761

Subject: 2019\2020 non-breeding Burrowing Owl Survey Report for Potential Development of Ontario International Airport's Parcel Study

Dear Mr. Owens:

This letter report presents the results of the 2019 non-breeding season burrowing owl (*Athene cunicularia*; BUOW) survey conducted by HELIX Environmental Planning, Inc. (HELIX) for the Ontario International Airport (study area) located in the City of Ontario, San Bernardino County, California. The survey was conducted in accordance with the California Department of Fish and Wildlife (CDFW; previously California Department of Fish and Game [CDFG]) Staff Report on BUOW Mitigation (CDFG 2012). This letter report describes the methods used to perform the survey and the survey results.

STUDY AREA LOCATION

The 322-acre study area is generally located south of the Interstate (I-) 10 and west of I-15 (Figure 1, *Regional Location*). The study area is located within Section 25 of Township 1 South, Range 7 West of the Guasti, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 2, *Vicinity Map*). Specifically, the study area is located to the northwest of the intersection of S Haven Avenue and Jurupa Street; to the northwest and southwest of the intersection of E Airport Drive and S Haven Avenue; and to the southwest and southeast of the intersection of S Grove Avenue and E Airport Drive (Figure 3, *Aerial Photograph*). The study area comprises approximately 320 acres of suitable burrowing owl habitat.

STUDY AREA DESCRIPTION

The study area is located directly on and surrounding the tarmac of the Ontario International Airport. The study area is dominated by non-native grass species, such as common ripgut grass (*Bromus diandrus*), puncture vine (*Tribulus terestris*), *red* brome (*Bromus madritensis* ssp. *rubens*), and slender oat (*Avena barbata*), which are maintained as required for weed abatement. The topography of the study area is mostly flat with elevations ranging from 902 feet above mean sea level (AMSL) near the southeast corner to 967 feet AMSL near the northeast corner. Immediate surrounding land uses include the commercial buildings to the north, east, south, and west.

METHODS

The focused BUOW survey was conducted according to the CDFW BUOW survey guidelines (CDFG 2012), which includes Part I Habitat Assessment and Focused Burrow Survey and Part II Focused BUOW Surveys. The CDFW BUOW survey guidelines are described in further detail below.

Part I: Habitat Assessment and Focused Burrow Survey

Prior to conducting the habitat assessment, HELIX consulted the California Natural Diversity Database (CNDDB) to determine the nearest BUOW occurrence(s). A habitat assessment was conducted by HELIX biologists Ezekiel Cooley and Lauren Singleton on November 1, 2018 to determine whether the study area supports suitable BUOW habitat. A focused burrow survey was conducted concurrently with the habitat assessment. All suitable burrows (i.e., greater than 11 centimeters [cm] in height and width and greater than 150 cm in depth) and burrow surrogates were recorded using a handheld Global Positioning System (GPS) unit (Figure 4, *Suitable Burrow and Transect Locations*). The habitat assessment and focused burrow survey were conducted prior to commencement of the BUOW focused surveys. The assessment was conducted on the study area and within a 150-meter (approximately 500-foot) buffer zone around the periphery of the study area (survey area). The survey area was slowly walked and assessed for suitable BUOW habitat, including:

- disturbed low-growing vegetation within grassland and shrublands (less than 30 percent canopy cover);
- gently rolling or level terrain;
- areas with abundant small mammal burrows, especially California ground squirrel (*Otospermophilus beecheyi*) burrows;
- fence posts, rocks, or other low perching locations; and
- man-made structures, such as earthen berms, debris piles, and cement culverts.

All potential burrows were checked for signs of recent owl occupation. Signs of occupation include:

- pellets/casting (regurgitate fur, bones, and/or insect parts);
- white wash (excrement); and/or
- feathers.

Part II: Locating Burrowing Owls

Since suitable habitat and burrows were observed within the survey area during the habitat assessment, non-breeding focused BUOW surveys were conducted to determine whether the survey area supports BUOW. The focused surveys consisted of four (4) non-breeding season surveys, spread evenly, throughout the nonbreeding season, that were performed by Mr. Cooley and Ms. Singleton and HELIX biologists Matthew Dimson, Amy Lee, and Daniel Torres between October 8, 2019 and January 14, 2020. (Table 1 *Survey Information*)

The biologists walked transects spaced no greater than 20 meters apart (approximately 65 feet) to allow for 100 percent visual coverage of all suitable habitat within the survey area (Figure 4). The biologists walked slowly and methodically, closely checking suitable habitat within the survey area for BUOW diagnostic sign (e.g., molted feathers, pellets/castings, or whitewash at or near a burrow entrance) and individual BUOW. If observed, BUOW sign and BUOW observations were recorded with a GPS unit. Inaccessible areas of the survey area were visually assessed using binoculars.

Table 1
Survey Information

	Biologist	Start/Stop Time	Start/Stop Weather Conditions	Survey Results
10/08/19	Ezekiel Cooley Lauren Singleton	0715-0900	62°F, wind 0-1 mph, 0% clouds 69°F, wind 1-2 mph, 0% clouds	• Active Burrow #1: One adult was observed next to a grated drain with a burrow located to the west of the drain.
10/11/19	Ezekiel Cooley Lauren Singleton	0710-0900	67°F, wind 4-5 mph, 0% clouds 71°F, wind 4-5 mph, 0% clouds	• Active Burrow #2: One adult was in a cement culvert.
10/15/19	Lauren Singleton Daniel Torres	0710-1000	56°F, wind 3-4 mph, 0% clouds 73°F, wind 1-2 mph, 0% clouds	• No BUOW detected.
11/05/19	Matthew Dimson Lauren Singleton	0715-0945	61°F, wind 0-1 mph, 0% clouds 73°F, wind 0-1 mph, 0% clouds	• No BUOW detected.
11/08/19	Matthew Dimson Lauren Singleton	0730-0915	61°F, wind 2-3 mph, 0% clouds 77°F, wind 2-3 mph, 0% clouds	• Active Burrow #2: One adult was in a cement culvert.
11/12/19	Amy Lee Lauren Singleton	0715-0945	55°F, wind 0-1 mph, 5% clouds 77°F, wind 0-1 mph, 0% clouds	• No BUOW detected.
12/03/19	Matthew Dimson Lauren Singleton	0800-1000	56°F, wind 0-1 mph, 100% clouds 63°F, wind 0-1 mph, 100% clouds	• No BUOW detected.
12/06/19	Matthew Dimson Lauren Singleton	0730-0930	50°F, wind 0-1 mph, 30% clouds 63°F, wind 2-3 mph, 50% clouds	• No BUOW detected.
12/10/19	Matthew Dimson Lauren Singleton	0710-0930	46°F, wind 1-2 mph, 20% clouds 55°F, wind 0-1 mph, 80% clouds	• No BUOW detected.
01/07/20	Ezekiel Cooley Matthew Dimson	0715-0900	46°F, wind 0-1 mph, 15% clouds 55°F, wind 0-1 mph, 20% clouds	• Active Burrow #3: One adult was observed below a grated drain with a burrow located on the south side of the drain.
1/10/20	Ezekiel Cooley Matthew Dimson	0710-0850	43°F, wind 2-3 mph, 100% clouds 50°F, wind 1-2 mph, 100% clouds	• No BUOW detected.
01/14/20	Ezekiel Cooley Matthew Dimson	0700-0900	43°F, wind 0-1 mph, 100% clouds 47°F, wind 0-1 mph, 100% clouds	• No BUOW detected.

RESULTS

Suitable BUOW habitat was observed within the survey area during the habitat assessment, including low-growing vegetation within the non-native grassland. Several burrows and burrow surrogates, such as vertical corrugated metal pipe storm drain risers, that could potentially be used by BUOWs were observed within the survey area (Figure 4). Suitable foraging habitat was observed within and adjacent to the survey area. There are CNDDB records of BUOWs within the survey area from 2007 and 2013 (CDFW 2019).

A total of three active burrows were detected within the survey area (Figure 4). One active burrow was located on the western end of the tarmac (Active Burrow [AB]-1) and two active burrows were located on the northeastern end of the tarmac (Active Burrow [AB]-2 and AB-3). A summary of observations is provided below.

AB-1 was on the study are in the middle of the tarmac between the two runways, approximately 2,100 feet to the northwest of South Vineyard Avenue and Avion Drive intersection. One adult BUOW was observed next to a grated drain with a burrow located to the west of the drain. This adult was only observed once on October 5, 2019 and was not present on subsequent surveys.

AB-2 was located on the eastern portion of the study area, approximately 2,200 feet to the southwest of South Haven Avenue and East Airport Drive. One adult BUOW was observed in a cement culvert on October 11 and November 8, 2019. The BUOW was not present on subsequent surveys.

AB-3 was located on the eastern portion of the study area, approximately 3,000 feet to the southwest of South Haven Avenue and East Airport Drive. One adult was observed below a grated drain with a burrow located on the south side of the drain. This adult was observed only once on January 7, 2020.

The locations of all suitable burrows, BUOW sign, and occupied burrows observed within and adjacent to the study area are shown on Figure 4.

CONCLUSION

A total of three active burrows were detected within the survey area. One adult BUOW was observed at each active burrow: AB-1, AB-2, and AB-3. AB-1 and AB-2 had no adult BUOW present during the final series of surveys.

These surveys are intended to document the non-breeding season activity on the survey area and may not be considered conclusive findings by CDFW even if BUOW are observed. A breeding season focused survey may be required to determine the full extent of use on the survey area.

In addition to breeding season protocol surveys, a take avoidance (pre-construction) survey would also be required and shall be conducted within 14 days prior to ground disturbance in accordance with CDFW Staff Report on BUOW Mitigation (2012). If ground-disturbing activities are delayed more than 14 days after the pre-construction survey has been completed, the study area must be resurveyed.

If you have any questions regarding the information presented in this letter report, please contact Ezekiel Cooley (EzekielC@helixepi.com) or Lauren Singleton (LaurenS@helixepi.com) at (949) 234-8770.

Sincerely,



Ezekiel Cooley
Biologist



Lauren Singleton
Biologist

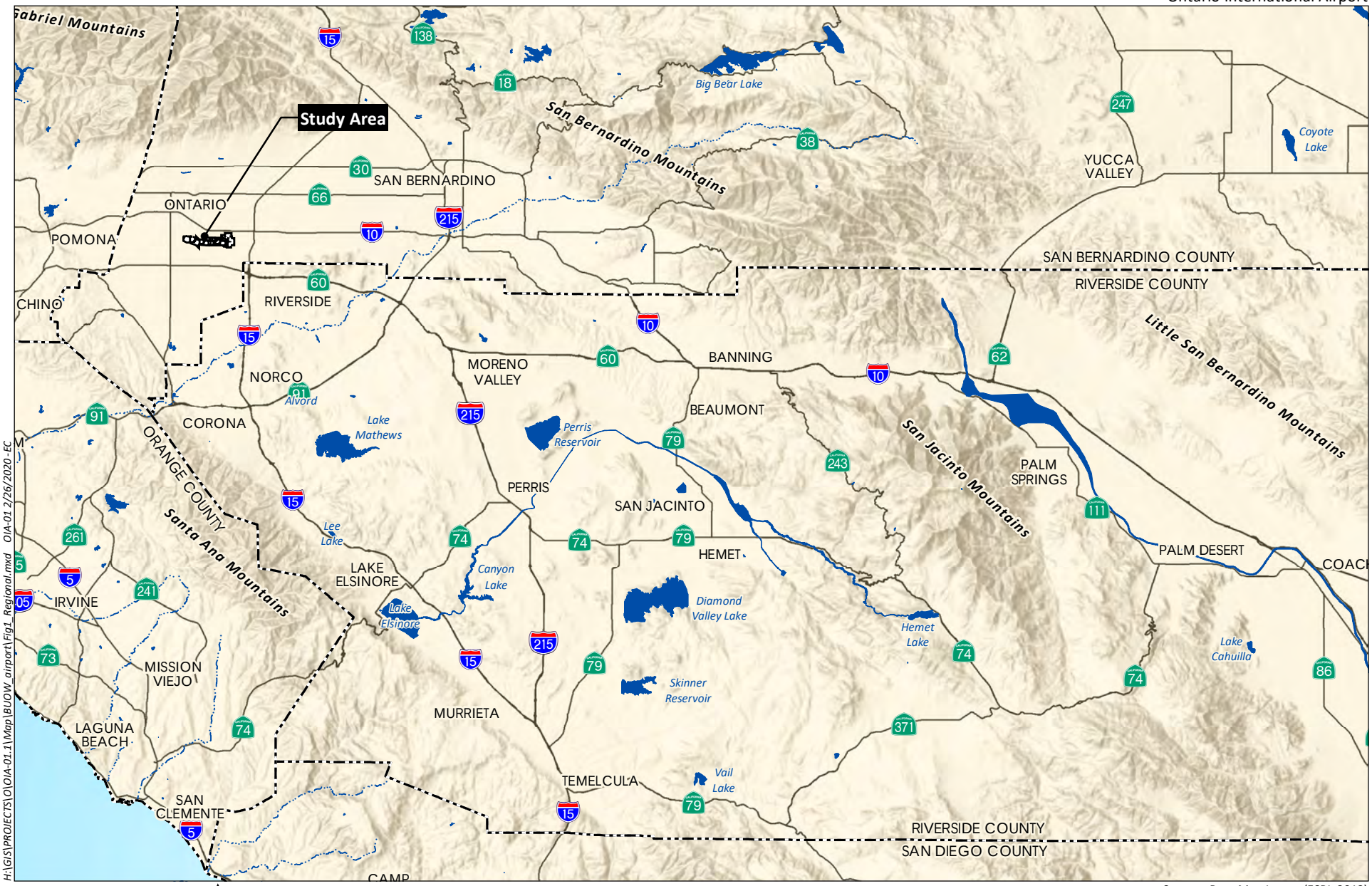
Attachments:

Figure 1: Regional Location
Figure 2: USGS Topography
Figure 3: Aerial Photograph
Figure 4: BUOW Observations and Burrow Locations

REFERENCES

California Department of Fish and Game. 2012. Staff report on burrowing owl mitigation. State of California Natural Resources Agency. March 7, 2012.

California Department of Fish and Wildlife (CDFW). 2019. California Natural Diversity Database and Rarefind. California Department of Fish and Wildlife: Sacramento, California. Retrieved from: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 31, 2019.



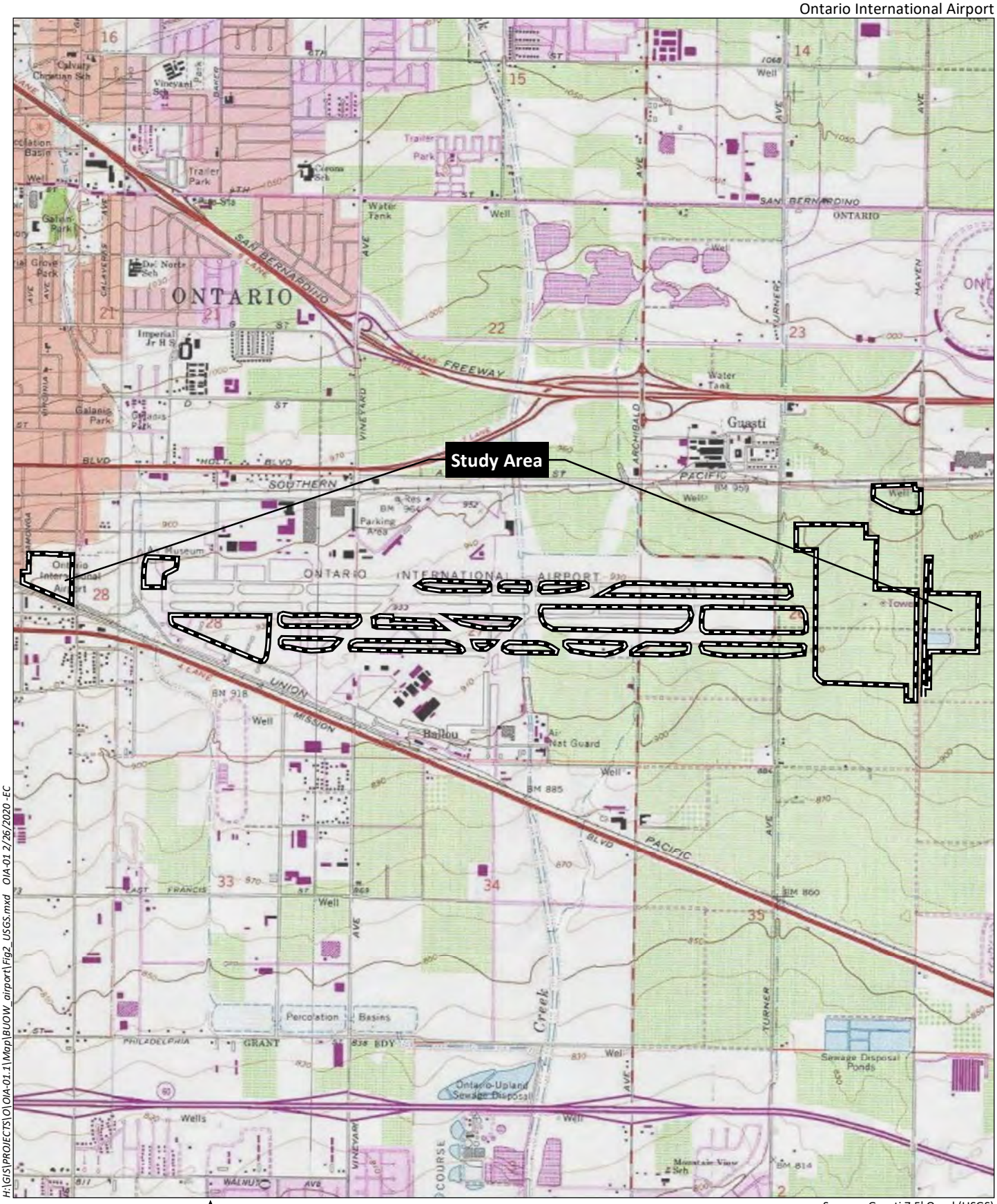
H:\GIS\PROJECTS\O\OIA-01.1\Map\BUOW_airport\Fig1_Regional.mxd OIA-01 2/26/2020 - EC

Source: Base Map Layers (ESRI, 2013)

HELIX Environmental Planning

Regional Location

Figure 1



H:\GIS\PROJECTS\O\OIA-01.1\Map\BUOW_airport\Fig2_USGS.mxd OIA-01 2/26/2020 -EC

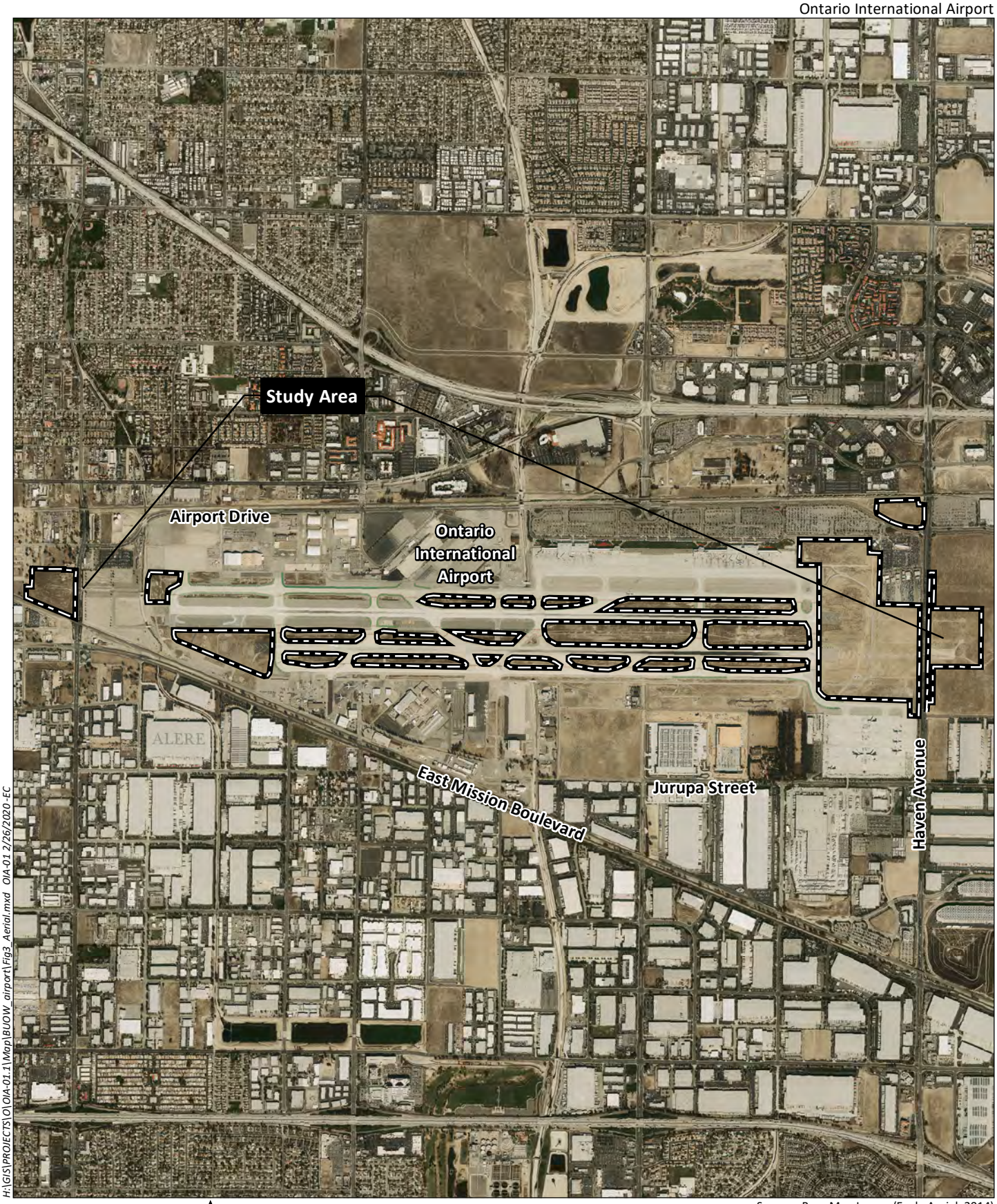
0 2,000 Feet

Source: Guasti 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2



H:\GIS\PROJECTS\O\OIA-01.1\Map\BUOW airport\Fig3 Aerial.mxd OIA-01 2/26/2020 EC

0 2,500 Feet

Source: Base Map Layers (Eagle Aerial, 2014)

HELIX Environmental Planning

Aerial Photograph

Figure 3

Ontario International Airport

500-foot Survey Buffer
Survey Areas
2019/2020 Non-Breeding Season BUOW Observations
Suitable Burrows
Transects

AB-1
AB-3
AB-2

Inset Map
0 200 Feet
AB-1
AB-3

Inset Map
0 200 Feet
AB-2

0 1,300 Feet

Source: Aerial (Eagle Aerial, 2014)

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2019/**2020** Non-Breeding Season BUOW Survey Areas

Figure 4

Attachment 3

ONT Wildlife Hazard Management Plan

ONTARIO INTERNATIONAL AIRPORT (ONT)
WILDLIFE HAZARD MANAGEMENT PLAN

Developed by:

ONTARIO INTERNATIONAL AIRPORT AUTHORITY
SAN BERNARDINO COUNTY, CALIFORNIA
1923 East Avion Street
Ontario, CA 91761

In Cooperation with:

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Wildlife Services
3419A Arden Way
Sacramento, CA 95825

May 2016

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EXECUTIVE SUMMARY

Pursuant to CFR Title 14 Part 139.337(f), Ontario International Airport (ONT) developed this Wildlife Hazard Management Plan (WHMP) in cooperation with the U.S. Department of Agriculture's Wildlife Services (USDA/WS) program to replace the earlier Wildlife Hazard Management Plan (2004), currently in place and approved by the FAA. This plan will be reviewed periodically by the Wildlife Hazard Working Group and will be updated if circumstances merit. All changes made to the WHMP will be sent to the FAA for approval.

The plan places emphasis on identification and abatement of wildlife hazards within the airfield environment. Additional wildlife attractants (e.g., lakes, ponds, landfills, etc.) within 5 miles of the airfield are also addressed, since they could potentially attract wildlife in a manner that could jeopardize the safety of air traffic operating into and out of ONT.

ONT will take appropriate measures to identify and mitigate wildlife hazards whenever they are detected or whenever airport management has been advised that hazardous conditions exist. The plan outlines steps for monitoring, documenting, and reporting potential wildlife hazards and strikes at ONT. Protocols for responding to hazardous wildlife situations are presented, including roles and responsibilities of airport personnel. Wildlife control procedures for birds and mammals are also discussed.

Habitat on and around the airfield will be managed in a manner that is non-conducive to hazardous wildlife, and the plan outlines priorities for habitat management, including target dates for completion.

Most wildlife is afforded some type of protection under state or federal regulations; therefore, special permits may be required for their control. The plan outlines laws and regulations governing the harassment or taking of various types of wildlife. ONT's permit status for each type of wildlife is presented in tabular format, and a copy of the federal migratory bird depredation permit is included as an appendix to the plan.

ONT will maintain an adequate supply of resources for dispersing and controlling wildlife, including one or more of the following: frightening devices (e.g., pyrotechnics, vehicles, pellet rifles), and wildlife restraint equipment (e.g., traps, catch poles.) ONT Airport Operations personnel shall be trained to properly identify wildlife and apply wildlife deterrent equipment in a safe and efficient manner, as outlined in this plan.

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Western-Pacific Region Airports Division
APPROVED
May 21 2020
JMC
Inspector

SIGNATORIES

The following Wildlife Hazard Management Plan for ONT has been reviewed and accepted by the FAA. It will be become effective with the following signatures:

Mark A. Thorpe
Airport CEO

Date 3/31/20

Wildlife Services

31-March-2020
Date

PREFACE

This Wildlife Hazard Management Plan was written to fulfill the requirements of CFR Title 14 Part 139.337(f) (1) for ONT. This plan is intended specifically for the Airport's use to monitor and reduce wildlife hazards.

DISTRIBUTION OF WILDLIFE HAZARD MANAGEMENT PLAN

NAME / POSITION / PHONE	AGENCY / ADDRESS
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Stephanie Sosa Wildlife Coordinator Airside Operations Manager Phone: 909-544-5347	Ontario International Airport 1923 East Avion Street Operations Office Ontario, CA 91761
FAA Airport Certification / Safety Inspector Phone: 424-398-6949	FAA Airports Division, Safety / Standards Branch, AWP-620 777 S. Aviation Blvd., Suite #150 El Segundo, CA 92045
Keith Frable Manager Phone: 951-276-6701	FAA / Flight Standards District Office 6961Flight Road Riverside, CA 92504
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Elizabeth Herrmann FAA Certified Wildlife Biologist USDA – APHIS – California Wildlife Services Phone: 909-519-0974	United States Department of Agriculture Animal Plant & Health Inspection Service CA Wildlife Services, State Office 3419-A Arden Way Sacramento, CA 95825

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Region
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Dec 16 2020
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Inspector

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Western-Pacific Region Airports Division
APPROVED
May 21 2020
JMC
Inspector

TABLE OF REVISIONS

This Wildlife Hazard Management Plan is incorporated into ONT's Airport Certification Manual. The bottom of each page contains a date in the footer, which is the date that the particular page was printed. The latest dated page will be the most current for the policy. The master document is contained in the offices of the Manager of Airside Operations. A copy is also available in the offices of the Airport CEO. Revisions to this plan will be recorded on the revision page below.

DATE	PAGE	REVISION
03/10/2015	Whole WHMP	Replaced 2004 version of ONT WHMP
07/15/2016	Whole WHMP	Replaced March, 2015 version of WHMP to reflect change from Los Angeles World Airports (LAWA) to Ontario International Airport Authority (OIAA).
01/20/2017	Signature Page 2	Signed by Elizabeth Herrmann, new representative from USDA for ONT.
01/20/2017	Distribution Page 3	Contact Information for Elizabeth Herrmann, new representative from USDA for ONT
03/31/2020	Signature Page 2	Signatories updated
03/31/2020	Distribution Page 3	Names and contact information updated
03/31/2020	Page 8	Designated title change from Airport Manager to Manager of Airside Operations
03/31/2020	Page 11	Designated title changes from Airport Manager to Manager of Airside Operations and Airfield Landscape Maintenance Supervisor to Airfield Maintenance Manager
03/31/2020	Page 12	Designated title changes from Airport Operations, Facilities Repair and Maintenance to Airfield Maintenance Manager
03/31/2020	Page 13	Update to Swainson's Hawk
03/31/2020	Page 16	Designated title change from Airport Manager to Manager of Airside Operations
03/31/2020	Page 26	Update to 4.9.2 Eagle Permits inclusion of bald eagle
03/31/2020	Page 28	Update to paragraph one – inclusion of bald eagle
03/31/2020	Page 31	Update to 5.3 supplies in Operations office
03/31/2020	Page 33	Designated title change from Airport Operations Superintendents to Airside Operations Specialists
03/31/2020	Page 34	Update to 6.5 and 6.6
03/31/2020	Page 35	Designated title change from Airport Operations Superintendents to Airside Operations Specialists
03/31/2020	Page 41-42	Update to addresses and phone contacts

11/06/20	Page 3	Name Change to Maintenance Manager
11/06/20	Page 5	Additional Revision page
11/06/20	Page 6	Intentionally Blank – replaced by List of Acronyms

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LIST OF ACRONYMS

ADO	Airports District Office
AGL	Above Ground Level
ATCT	Air Traffic Control Tower
ATIS	Automated Terminal Information Service
CFR	Code of Federal Regulations
FAA	Federal Aviation Administration
MBTA	Migratory Bird Treaty Act
NOTAM	Notice to Airmen
ONT	Ontario International Airport
SIDA	Security Identification Display Area
USFWS	United States Fish and Wildlife Service
WHMP	Wildlife Hazard Management Plan
WHWG	Wildlife Hazard Working Group
WS	Wildlife Services

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1 INTRODUCTION

1.1 OVERVIEW

Wildlife Hazard Management Plans (WHMPs) address the responsibilities, policies, and procedures necessary to reduce wildlife hazards at airports. Recognizing the potential hazards wildlife pose to aircraft and human lives, the Federal Aviation Administration (FAA) requires airports that incur bird-aircraft strikes to implement a WHMP according to Code of Federal Regulations (CFR) Title 14 Part 139.337(f). A complete copy of Part 139.337 is attached as Appendix A. The WHMP must include seven required components according to CFR Title 14 Part 139.337(f). Each of these components is sequentially represented as a separate chapter in this document. These required categories are as follows:

(f) The plan must include at least the following:

(1) A list of the individuals having authority and responsibility for implementing each aspect of the plan.

(2) A list prioritizing the following actions identified in the wildlife hazard assessment and target dates for their initiation and completion:

(i) Wildlife population management

(ii) Habitat modification; and

(iii) Land use changes.

(3) Requirements for and, where applicable, copies of local, State, and Federal wildlife control permits.

(4) Identification of resources that the certificate holder will provide to implement the plan.

(5) Procedures to be followed during air carrier operations that at a minimum includes—

(i) Designation of personnel responsible for implementing the procedures;

(ii) Provisions to conduct physical inspections of the aircraft movement areas and other areas critical to successfully manage known wildlife hazards before air carrier operations begin;

(iii) Wildlife hazard control measures; and

(iv) Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower.

(6) Procedures to review and evaluate the wildlife hazard management plan every 12 consecutive months or following an event described in paragraphs (b)(1), (b)(2), and (b)(3) of this section, including:

(i) The plan's effectiveness in dealing with known wildlife hazards on and in the airport's vicinity and

(ii) Aspects of the wildlife hazards described in the wildlife hazard assessment that should be reevaluated.

(7) A training program conducted by a qualified wildlife damage management biologist to provide airport personnel with the knowledge and skills needed to successfully carry out the wildlife hazard management plan required by paragraph (d) of this section.

In addition to the requirements stated above, CFR Title 14 Part 139.337(g) outlines procedures and personnel responsibilities for notification regarding new or immediate hazards, and describes

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the rapid response procedures for addressing new or immediate wildlife hazards. Section (g) is extremely important because it allows the WHMP to be promptly modified and updated to address new situations or changing circumstances. To augment compliance with CFR Title 14 Part 139.337(f), the FAA issued a Cert Alert (No. 97-09 [see Appendix B]) to provide guidance to airports in developing their plans. This Cert Alert contains a sample outline that was followed in the development of this plan.

1.2 PROBLEM SPECIES

The species generally considered to present the greatest threats to aviation at Ontario International Airport (ONT) are birds of relatively large size, or having flocking tendencies, such as waterfowl, gulls, pigeons, starlings, and raptors. Mammals such as coyotes, foxes, squirrels, and feral cats and dogs, which are attractants to other species, may also present an extreme hazard. Juvenile animals and migratory species may also pose higher risks for aviation because of their general unfamiliarity with the airport environment.

1.3 PURPOSE AND SCOPE

Enhancing safe air carrier operations is a primary objective of the Manager of Airside Operations. Accomplishing this objective entails careful monitoring of all aspects of arriving and departing aircraft in the vicinity of ONT, including potential wildlife hazards on and around the airport. As part of its safety efforts, ONT maintains a WHMP according to CFR Title 14 Part 139.337(f) to address potential wildlife hazards at ONT and surrounding areas, with a particular emphasis on hazards within approximately 2 miles of the airfield (see Appendix G).

It is important to note that Part 139.337(g) underscores the need for a flexible plan that can be quickly adapted to changing circumstances. In some rare cases, however, immediate actions may be necessary that are not addressed in this plan to ensure the safety of airport users. This plan provides ONT with the discretion and capability to respond to these situations, while providing guidance for compliance with applicable federal, state, and municipal laws or regulations. The latitude afforded ONT management when administering this plan is discussed in 14 CFR Part 139.113, which states that:

> ***"In emergency conditions requiring immediate action for the protection of life or property, the certificate holder may deviate from any requirement of Subpart D of this part, or the Airport Certification Manual, to the extent required to meet that emergency. Each certificate holder who deviates from a requirement under this paragraph must, within 14 days after the emergency, notify the Regional Airports Division Manager of the nature, extent, and duration of the deviation. When requested by the Regional Airports Division Manager, the certificate holder must provide this notification in writing."***
>
> And, covered on the Federal permit (Appendix X) which also includes an emergency clause:
>
> ***"In case of bona fide emergencies, you are authorized to kill any migratory bird* within runway and safety areas, using shotguns not larger than 10 gauge. You may take additional numbers of the species identified above (in permit), and other species listed in 50 CFR 10.13 under this Condition. However, if you kill birds under this Condition, you must submit a written report to the Federal issuing office within seven (7) days. Information required includes the date taken, and the species and numbers of each. *Exception: You may not take federally endangered or threatened species listed in 50 CFR 17.11."***

This plan will be valid until ONT management or FAA determines that the plan should be updated due to changed conditions or new needs for action. The plan will be reviewed at least annually to ensure it still pertains to current, existing conditions, but it may also be reviewed more often if situations arise or hazards exist that merit evaluation.

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2 AUTHORITY

139.337(f) (1) The persons who have authority and responsibility for implementing each aspect of the plan.

Ontario International's Manager of Airside Operations has the authority and responsibility of designating a Wildlife Coordinator to implement the WHMP. Each department and associated agencies have responsibilities outlined in the WHMP and must incorporate them into their programs. Clear communication among airport personnel is essential for the WHMP to succeed. Personnel working at the airport will communicate resource needs, recommendations, and progress to the designated Wildlife Coordinator. The Manager of Airside Operations will ensure that the WHMP is approved by the FAA and that the WHMP and amendments comply with Federal, state and local laws and regulations.

2.1 WILDLIFE HAZARD WORKING GROUP (WHWG)

The Wildlife Hazard Working Group is responsible for reviewing the WHMP, as it relates to each member's respective departmental duties on at least an annual basis. In addition, the group will monitor activities, status, and make recommendations to the Wildlife Coordinator, who will in-turn review and grant approval if satisfied with the progress of the WHMP. The working group will meet once a year, with intermittent meetings when necessary.

The Wildlife Hazard Working Group will be represented by:

- Manager of Airside Operations
- Wildlife Coordinator (Airside Operations)
- Environmental and Land Use Planning Division
- Airfield Maintenance Manager
- FAA Airport Certification Safety Inspector
- Wildlife Biologist (USDA/WS)
- ONT Air Traffic Control Tower (ATCT)

2.2 PERSONS RESPONSIBLE FOR IMPLEMENTING THE PLAN

2.2.1 MANAGER OF AIRSIDE OPERATIONS:

- Supervise, coordinate, and monitor wildlife control activities as outlined in the WHMP.
- Update the WHMP as necessary.
- Disseminate information and assignments through the Wildlife Hazard Working Group.
- Pre-approve and coordinate landscape changes beforehand with the Wildlife Coordinator and/or Biologist to ensure wildlife attractants are prevented.
- Provide public relations support for wildlife control activities as necessary.

2.2.2 WILDLIFE COORDINATOR - Establish Wildlife Hazard Working Group for ONT

- Alleviate all attractants deemed an imminent hazard and, if necessary, coordinate a runway closure to remedy wildlife hazards.
- Coordinate the issuance of Notices to Airmen (NOTAM). In addition, have the Air Traffic Control Tower (ATCT) advise pilots on ATIS.
- Insure only properly trained and badged wildlife control personnel operate on the AOA in accordance with FAA regulations (e.g., SIDA). Such training includes radio communications, driving on the AOA, and safe use of firearms and pyrotechnics.
- Provide public relations support for wildlife control activities as necessary.
- Monitor facilities and tenant concerns for wildlife problems.

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- Keep a log of all wildlife strikes and control actions and forward reports to FAA as necessary.
- Make wildlife strike report forms (FAA form 5200-7 [Appendix E]) readily available to operations and pilots and encourage submission of the forms to the appropriate governmental agencies and wildlife control personnel.
- Ensure wildlife attractants are reduced through habitat modifications. Work with airport maintenance to alter wildlife habitat as needed.
- Review all plans involving changes in land use or new airport structures/facilities to avoid inadvertently attracting wildlife to the area and consult with a wildlife biologist if necessary.
- Conduct frequent physical inspections of areas critical to wildlife hazard management.
- Obtain depredation permits to control migratory birds, and if necessary, mammals, from Federal or state wildlife agencies.

2.2.3 AIRSIDE MAINTENANCE MANAGER

- Log all known wildlife strikes on form FAA 5200-7 (Appendix E) and forward the forms to the Wildlife Coordinator and/or Biologist.
- Warn the air traffic control tower and pilots of known wildlife hazards.
- Ensure wildlife-attracting refuse does not accumulate in fields and ditches on the airport.
- Inspect critical areas for wildlife activity and strikes and maintain a record of the action, even if no wildlife was present.
- Harass wildlife from critical areas when appropriate as outlined in Chapter 6.
- Record all wildlife activity or animals dispersed or shot on the "Daily Wildlife Activity Report" (Appendix F), and report to the Wildlife Coordinator.
- Maintain ditches, channels and fields to ensure that water flows, thereby avoiding pooling and accumulation of refuse on the airport.
- Assist with or contract out habitat modifications addressed in the Wildlife Hazard Assessment (WHA), such as vegetation maintenance along ditches, brush removal, and tree pruning.
- Install and maintain netting or wire grids over ponds, ditches, and other water areas as determined necessary by the Wildlife Coordinator.
- Maintain the perimeter fence line to exclude large mammals such as feral dogs and coyotes.
- Pick up all trash and debris on the airfield. Maintain trash and recycle collection areas.
- Minimize pooling formed by rain on paved and unpaved areas; grade or drain if necessary.
- Assist with wildlife control activities involving field rodents, rabbits, and bird abatement, and other programs.
- Inform Wildlife Coordinator of rodents and other wildlife found in and around buildings.
- Rodent/bird-proof buildings, dumpsters, and other refuse containers to the extent feasible.

2.2.4 ENVIRONMENTAL AND LAND USE PLANNING DIVISION

- Review designs of new structures/facilities with a Wildlife Biologist during the planning stages for input on designs that are unattractive to wildlife.
- Involve a Wildlife Biologist with land use planning and mitigation efforts.

2.2.5 FEDERAL AVIATION ADMINISTRATION (FAA)

- Assist ONT in reviewing proposed land use changes, construction plans, and mitigation projects for potential wildlife hazards to aircraft.
- Review changes or edits to the WHMP.

2.2.6 WILDLIFE BIOLOGIST (USDA/WS)

- Assist ONT personnel in monitoring the airport environment for wildlife hazards, taking corrective action, if necessary, and record and submit all findings to the Wildlife Coordinator.
- Inform and advise the Airport Wildlife Coordinator of wildlife management activities, habitat modification needs and imminent wildlife hazards
- Train airport personnel in the safe handling and proper use of wildlife dispersal methods, firearms, and equipment.
- Coordinate wildlife control activities with state and Federal wildlife agencies and municipal law enforcement.
- Assist ONT in reviewing proposed land use changes, construction plans, and mitigation projects for potential wildlife hazards to aircraft.
- Provide operational assistance to ONT to control birds and mammals deemed hazardous by ONT and WS.

2.2.7 ONT AIR TRAFFIC CONTROL TOWER (ATCT)

- Assist USDA/WS and ONT operations personnel by notifying the wildlife biologist and airfield operations of wildlife hazards on the airfield, wildlife strikes reported to the ATCT by aircrews.

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3 HABITAT MANAGEMENT

139.337(f) (2) A list prioritizing the following actions identified in the wildlife hazard assessment and target dates for their initiation and completion:

(i) Wildlife population management

(ii) Habitat modification; and

(iii) Land use changes.

3.1 1139.337(f) (2) (i) Wildlife Population Management

Habitat management provides the most effective long term remedial measure for reducing wildlife hazards on, or near, airports. Habitat management includes the physical removal, exclusion, or manipulation of areas that are attractive to wildlife. The ultimate goal is to make the environment fairly uniform and unattractive to the species that are considered the greatest hazard to aviation. Habitat modifications will be monitored carefully to ensure that they reduce wildlife hazards and do not create new attractions for different wildlife. Table 1 lists a series of both habitat and non-habitat based action items/priorities, with target dates for completion.

Table 1. Management priorities for projects to reduce wildlife hazards at Ontario International Airport are listed, along with the target dates for completion and date that each project was completed. Note that some of the projects may have already been implemented or completed, but because they require a continued effort (e.g., brush removal from drainage ditches), they are listed as "ongoing".

ONT WILDLIFE MANAGEMENT PROJECTS	TARGET DATE	DATE COMPLETED
Cover Deer Creek on AOA		Ongoing
Replace perimeter security fence		Ongoing
Post signs at ONT - "Don't feed animals or birds / Hazard to Aircraft"		Ongoing
No mowing near runways or along flight path to avoid attracting Swainson's Hawk (CA Threatened Species) – ***Swainson's Hawk is no longer and issue and has not been observed at ONT since 2015***	Only in April (Annually)	Ongoing
Mow landscape as short as possible when Swallow species are present	Annually	Ongoing
Remove nests from landside area of terminals (T1, T2, T4)	Before Spring (Annually)	Ongoing
Trap and remove native and invasive bird and mammal species that pose a direct threat to aircraft		Ongoing
Use firearms to remove species that pose a direct threat to aircraft and human health and safety		Ongoing
Remove raptor perching structures (Identified in WHA)	Ongoing	

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3.2 2139.337(f) (2) (ii) (iii) Habitat Modifications and Land Use Changes- ATTRACTANTS

3.2.1 General Zone and Critical Zone

The *General Zone* for ONT is defined as the area within a five-mile radius of the runway ends and centerline. Wildlife attractants in this area could potentially impact the safety of air traffic operating into and out of ONT, particularly those attractants that lie within the approach and departure patterns. The objective of this plan is to actively reduce attractive wildlife habitat on property under the control of ONT, while working cooperatively with adjacent property owners to discourage land-use practices that might increase wildlife hazards.

The area within a 10,000-foot radius of the runway ends and centerline is delineated as the *Critical Zone* (see aerial in Appendix G). Control efforts will be primarily concentrated within this area because within 10,000 feet of the runway centerline is the area where arriving and departing aircraft are typically operating at or below 500 feet AGL (above ground level), an altitude that also corresponds with the most bird activity. Approximately 75% of all civil bird-aircraft strikes occur within 10,000 feet of the airfield, from which they depart or arrive.

3.2.2 Edge Removal

Edges are the places where different habitats meet and are often most attractive to wildlife because the animal's biological needs can be met in a relatively small area.

3.2.3 Airport Building Projects

The Wildlife Coordinator and/or Biologist should participate in the initial and early phases of all airport building projects to avoid any inadvertent increase in wildlife hazards resulting from architectural or landscape changes. The participation will be especially important during any major construction projects, when ONT airfield environment will be extremely dynamic. Thus, additional effort will be required to ensure that new projects and construction activities are designed in a manner that minimizes wildlife attractants. The FAA's Airports District Office (ADO) reviews proposed construction activities for potential wildlife attractions and may also solicit input from USDA/WS.

3.2.4 Non-airport Land-use Projects

Whenever possible, the Manager of Airside Operations or Wildlife Coordinator will actively participate in land- use decisions and landscape changes to avoid inadvertent creation of wildlife hazards to aircraft. The FAA's Airports District Office (refer to directory in Chapter 9) will provide technical guidance to ONT in addressing land-use compatibility issues. If ONT or the FAA requests assistance from USDA/WS (as per a Memorandum of Understanding between FAA and Wildlife Services [Appendix H]), then USDA/WS will provide technical and/or operational assistance in addressing issues or concerns associated with the proposed project or land-use change. Proposed projects that will likely increase bird numbers within flight zones will adamantly be discouraged or mitigated to a safe level. Incompatible land uses may include developments such as water reservoirs, parks with artificial ponds, wetlands, waste handling facilities, and wildlife refuges/sanctuaries. These types of land-use changes will be monitored for compatibility by working with the local planning authorities.

3.3 WATER MANAGEMENT

3.3.1 Overview

ONT has several small drainage ditches and concrete channels on the airfield that can attract a moderate number of birds and mammals throughout the year, especially during winter when migratory waterfowl pass through the area. Temporary open water areas will be monitored by ONT Wildlife coordinator and USDA/WS. Water sources outside of ONT property, but within the critical area of ONT, will be monitored, and ONT will work with local agencies and landowners to help deter hazardous wildlife.

3.4 VEGETATION MANAGEMENT

3.4.1 Overview

ONT contains diverse vegetation types, some of which are highly attractive to wildlife. The most effective approach to reducing this attraction in the critical zone is to remove all unnecessary trees, shrubs, weeds and plants, and establish non-seeding or small-seeded grass, especially within 200 feet of the runway. ONT's Wildlife coordinator should review all plantings on ONT property and exclude those species that produce edible fruits, nuts or berries, if these plants create an attraction to hazardous wildlife. ONT will work with USDA/WS to develop a list of acceptable plant species. When completed, this list will be given to contractors for reference.

3.4.2 Grass Management

Other than paved areas, grass will be the primary cover inside the perimeter security fence. FAA Certalert No. 98-05 advises that "airport operators should ensure that grass species and other varieties of plants attractive to hazardous wildlife are not used on the airport". In addition, grasses that produce large seeds and are known to be attractive to wildlife will be avoided when planting new areas.

3.4.3 Grass Type

The type of grass used within the perimeter fence and between the runways should produce small or no seeds, but still be able to generate new growth or re-seed itself to provide a thick, monotypic stand and prevent erosion. The selected ground cover should withstand drought, flooding, and other normal climatic conditions, and be somewhat unpalatable to grazers such as geese and other waterfowl. The grasses should also harbor relatively few insects and rodents that may attract American kestrels, burrowing owls, European starlings, swallow species, and other hazardous wildlife. Several varieties of tall fescue (*Festuca arundinacea*), if allowed to grow to a height of 8-14 inches, have been found to be unattractive to Canada geese because of a fungus harbored by the plant, and the fescue will generally preclude other more attractive grass species from invading the airfield. Whenever possible, grass mixtures indigenous to the local area will be used at ONT when replanting as part of a construction or mitigation project, provided it can be demonstrated the seed mixture poses no significant wildlife attraction. ONT will work with the California Department of Environmental Management to ensure selected grasses meet erosion control standards and objectives.

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3.4.3.1 Grass Height

Adaptive management is the best practice for maintaining proper grass height. Grass height maintained at 8-14 inches will deter burrowing owls from nesting and raptors from hunting on the AOA. However, taller grass height will produce more biomass that can provide habitat for insects and attract insect feeding birds. Taller grass will create cover for small birds, ground squirrels and even coyotes. ONT's wildlife coordinator and USDA/WS biologist will advise landscape maintenance on the best height to maintain depending on what wildlife species that may pose the largest threat to aircraft.

3.4.4 Ornamental Landscaping

Landscaping at the airport can affect tourism, business, and the overall impression of the ONT vicinity to visitors, therefore, landscaping needs to be aesthetically pleasing. It must, however, not compromise the airport's more important responsibility of air safety. Trees and bushes offer hunting perches, roosting and loafing sites, nesting cover, and food for birds and other wildlife will be removed when practicable. Ornamental trees and bushes used to enhance airport aesthetics will be kept to a minimum, and varieties that are unattractive to wildlife will be selected. Species, which produce edible fruits, nuts, or berries, will not be used on ONT property if they might attract hazardous wildlife. ONT is working with USDA/WS to develop a list of acceptable plant species that may be available for use on the airport. ONT will monitor ornamental trees to prevent communal roosting by starlings and crows, and the trees will be thinned, topped, or removed if necessary.

3.5 STRUCTURE MANAGEMENT

3.5.1 Overview

Structures provide cover and hunting perches for wildlife. If wildlife is considered when a building is being designed, costly control measures can be avoided. Buildings should not provide nesting, perching, or roosting sites for birds and should inhibit access by mammals such as rodents and cats.

3.5.2 Airfield Structures

Airfield structures such as runway lights, ramp and taxiway signs, ILS towers, and light poles are used as hunting and loafing perches for birds such as raptors and gulls. Lights attract insects at night, and in turn, bats, owls, and nighthawks. Structures found to routinely attract birds in a hazardous manner may be fitted with wire coils or porcupine wire (e.g., Nixalite). Small FAA buildings on the AOA should have all access points blocked to avoid burrowing owls, skunks, squirrels, and rabbits from living underneath.

3.5.3 Abandoned Structures

Structures not pertinent to air operations and no longer in use should be removed, including abandoned houses, sheds, machinery, and light poles. Such structures are attractive to small mammals, raptors, owls, small birds, foxes, and coyotes. Structures used for aircraft rescue and firefighting (ARFF) training are considered to be pertinent to air operations and are generally compatible with safe air operations.

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3.6 FOOD/PREY-BASE MANAGEMENT

3.6.1 Overview

Natural vegetation, small mammals, birds and invertebrates are highly attractive to an assortment of predators and should be controlled where feasible. Handouts, trash, and scattered debris also provide food for wildlife. The modification or management of a wide variety of habitats such as wildlife-attracting vegetation and removal of abandoned structures will reduce populations of potentially hazardous wildlife by limiting shelter, food, and prey availability.

3.6.2 Rodents

Ground squirrels, mice, voles, Norway rats, and rabbits at ONT appear to be the primary attractants of raptors and coyotes, but will occasionally attract other predators. Historically, rodent populations at ONT have been relatively low, but ONT will continue to monitor populations and will conduct a control program if rodent abundance increases to a level where wildlife is attracted.

3.6.3 Insects and Other Invertebrates

Insects and other invertebrates (e.g., earthworms, grasshoppers, etc.) may attract many species of wildlife at ONT, particularly crows and gulls. Insect populations will be monitored periodically by ONT to determine if they are present in sufficient numbers to attract wildlife. If control is deemed necessary, the California State University (Pomona) Cooperative Extension agent (see Chapter 9) can help select the best pesticide or control method. Habitat management will keep much of the prey population in check, but the airport will continue to monitor these populations for outbreaks.

3.6.4 Trash, Debris, and Handouts

Trash and debris are often responsible for attracting feral cats, gulls, crows, starlings and pigeons. ONT maintenance will continue to conduct trash and FOD (foreign object debris/damage) collection sweeps on the airfield, especially after high winds. The public or airport employees should not be allowed to feed birds or mammals at or around the airport. When people are observed feeding birds, ONT will discuss with them the problems caused by feeding wildlife. Signs are posted at ONT to educate the general public. Additionally, contractors, food venders, catering companies and others who feed wildlife shall be issued warnings and fired for persistent violations.

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4 LAWS AND REGULATIONS

139.337(f) (3) Requirements for and, where applicable, copies of local, state, and Federal wildlife control permits.

4.1 OVERVIEW

Federal, state and local governments administer laws and regulations that manage wildlife and their habitat. A number of laws affect wildlife control at airports. Ontario International Airport and wildlife control personnel must understand and comply with these regulations. In general, taking most types of wildlife is regulated through a permit process, overseen by Federal or state agencies. Permits are necessary for a successful control program and will be obtained on a regular basis, or as required, by the wildlife coordinator.

4.2 CALIFORNIA WILDLIFE REGULATIONS

Several California State government agencies have regulations that affect wildlife control at airports. Pertinent regulations can be found in the California Administrative Code and the Revised Code of California. County and municipality regulations can also affect ONT's wildlife management efforts. State wildlife laws involving resident birds, mammals, reptiles, and amphibians, as well as state threatened and endangered species generally are administered by California Department of Fish and Wildlife. The State of California, 'wildlife mitigation at airports law,' (CA Department of Fish and Game Code, section 3470-3472.2, formally SB-481) allows airports, certificated under 14 CFR Part 139, to remove problematic wildlife in the interest of human and aircraft safety. Fish and Game Code, section 3470-3472.2, also requires that a USFWS depredation permit be on file, and that the airport maintain a WHMP.

4.3 FEDERAL REGULATIONS

Several Federal regulations, including the Migratory Bird Treaty Act, the Lacey Act, the Endangered Species Act, Eagle Protection Act, the National Environmental Policy Act, and the Federal Insecticide, Fungicide, and Rodenticide Act regulate various aspects of ONT's wildlife management activities. Additional regulations that may affect wildlife control activities at ONT are found in the Code of Federal Regulations (CFR), and several Federal agencies may be responsible for their implementation. Federal wildlife laws are typically administered by the U.S. Fish and Wildlife Service (USFWS) and involve primarily migratory birds and threatened and endangered species.

4.4 WILDLIFE CATEGORIES

Federal (CFR Title 50), and California State (RCW Chapter 77, and WAC Chapter 232-12) laws define the categories of wildlife and regulations related to their management. For the purposes of this document, feral and free ranging dogs, cats and other domestic animals are considered "wildlife" because of the hazards the may pose to aircraft, but they are mostly regulated under other municipal laws such as county animal control. Wildlife categories (Table 2) include migratory and resident, game and non-game, and threatened and endangered species. Wildlife control personnel should know the category for the species that they intend to control, so that they can determine the relevant laws and necessary permits.

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Table 2. Wildlife Categories in California, and permits necessary for lethal control as required by Federal and state wildlife agencies. The table also shows whether ONT has current Federal or state permits for each category. It should be noted that California State Statutes (trapping or killing of wildlife causing damage - emergency situations) provide for the trapping or killing of wildlife (with exception of threatened, endangered, and federally protected species) by property owners without state permits, if the wildlife are damaging property or posing a threat to human life.

Category	Species	State Permit Required *	State Permit Obtained	Federal Permit Required	Federal Permit Obtained
Resident Game Birds	Quail, ring-necked pheasant, grouse, partridge, and turkey	Yes	No	No	N/A
Invasive (non-native) Birds	Starlings, house sparrows, pigeons, monk parakeets	No	N/A	No	N/A
Migratory Game Birds	Ducks, geese, coots, gallinules, snipe, and mourning doves	No	N/A	Yes	Yes
Migratory Nongame Birds	All species except game birds, resident nongame birds, and domestic and exotic birds (including gulls, vultures, herons, egrets)	No	N/A	Yes	Yes
Depredation Order Birds **	Crows, magpies, blackbirds, and cowbirds	No	N/A	No	N/A
Domestic Birds	Domestic poultry, domestic ducks and geese	No	N/A	No	N/A
Game Mammals	Mule deer, white and black-tailed deer, elk, woodchucks	Yes	No	No	N/A
Furbearers	Mink, river otter, fox, beaver, badger, muskrat	Yes	No	No	N/A
Nongame Mammals	All species of mammals, including coyotes, except game, furbearers, domestic mammals, and fully protected wildlife listed in Table 3	No	N/A	No	N/A
Feral Domestic Mammals	Dogs, cats, livestock	No - Call local animal control	N/A	No	N/A
Reptiles And Amphibians	All reptiles and amphibians except those listed as threatened or endangered in Table 3	Yes	No	No	N/A
Fully Protected Wildlife	Threatened and Endangered species listed in Table3	Yes	No	Yes	No

* Control actions requiring a state permit should be coordinated through the Regional Biologist with the California Department of Fish and Wildlife. (ONT has no game birds)
** May be taken without permits (50 CFR §21.43).

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4.5 GENERAL REGULATIONS FOR WILDLIFE CONTROL

Several regulations and permits apply to wildlife management activities at airports in California. Many of these regulations relate to safety, methods, and special considerations or restrictions which are usually specified on the depredation permits.

4.6 BIRDS

4.6.1 Resident Game Birds

Resident game birds (grouse, turkey, quail, etc.) are non-migratory. Although they are not managed by the MBTA (and no Federal permit is required for take) they are protected by state law and a state depredation permit is required prior to take.

4.6.2 Resident Non-game Birds

Starlings, pigeons, monk parakeets, and house sparrows are resident non-game birds that are classified as non-migratory and no permit is required to take them.

4.6.3 Migratory Game Birds

Migratory game birds (Ducks, geese, coots, snipe, and mourning doves) are regulated under Federal law by the USFWS. These regulations allow harassment of migratory birds when the birds are damaging property, but a permit is required for lethal take. Migratory bird permits are not valid for eagles, and threatened and endangered species, which require separate permits for lethal take and harassment. Although states can impose more restrictive regulation than Federal law on migratory birds, California currently does not require additional permits for migratory birds that are already regulated under Federal law.

4.6.3.1 Migratory Bird Depredation Permit for ONT (CFR 50, Part 13)

A depredation permit to take federally protected migratory birds can be obtained by completing a Federal Fish and Wildlife License/Permit Application and submitting it to the U.S. Fish and Wildlife Service (USFWS). The USFWS requires that a Migratory Bird Damage Project Report completed by USDA/WS accompany the permit application. ONT has a current Federal permit (Appendix D) to take all migratory birds except eagles and threatened or endangered species. California Department of Fish and Wildlife allows the take of these species under the Federal permit without obtaining an additional state permit. Migratory birds that occur in San Bernardino County include all birds except house sparrows, starlings, feral pigeons (rock doves), Eurasian collared doves, pheasant, quail, and domestic ducks, geese and other exotic birds. The Airport CEO will be responsible for the required annual renewal of the depredation permit, and will submit a report to the USFWS detailing the species and number of animals taken under the permit. Details for the permit uses are given below. Federally listed threatened and endangered migratory birds include bald eagles, marbled murrelets, and northern spotted owls (see Table 3 of this chapter). Peregrine falcons were removed from the federal list in 1999, but are still listed as state endangered.

4.6.3.2 Reporting Control Actions to USFWS

ONT designated personnel will submit a report of the animals taken to the USFWS to fulfill the requirements of this section and the Federal permit. The report could be generated from a computerized database containing all control actions on ONT.

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4.6.4 CFR 50 Part 21.41 CONTROL OF DEPREDATING BIRDS - Depredation permits

(a) ***Permit requirement.*** Except that provided in CFR 50, 21.42 through 21.46, a depredation permit is required before any person may take, possess, or transport migratory birds for depredation control purposes. No permit is required merely to scare or herd depredating migratory birds other than federally endangered or threatened species or bald and golden eagles.

(b) ***Application procedures.*** Applications for depredation permits shall be submitted to the appropriate Special Agent in Charge (see 13.11 (b) of this Subchapter). Each such application must contain the general information and certification by 13.12 (a) of this Subchapter plus the following additional information:

(1) A description of the area depredations are occurring;
(2) The nature of the crops or other interests being injured;
(3) The extent of such injury; and
(4) The particular species of migratory birds committing the injury.

(c) ***Additional permit conditions.*** In addition to the general conditions set forth in Part 13 of this Subchapter B, depredation permits shall be subject to the following conditions:

(1) Permittees may not kill migratory birds unless specifically authorized on the permit.
(2) Unless otherwise specifically authorized, when permittees are authorized to kill migratory birds they may do so only with a shotgun not larger than No. 10 gauge fired from the shoulder, and only on or over the threatened area or area described on the permit.
(3) Permittees may not use blinds, pits, or other means of concealment, decoys, duck calls, or other devices to lure or entice birds within gun range.
(4) All migratory birds killed shall be retrieved by the permittee and turned over to a Bureau representative or his designee for disposition to charitable or worthy institutions for use as food, or otherwise disposed of as provided by law.
(5) Only persons named on the permit are authorized to act as agents of the permittee under authority of the permit.

(d) ***Tenure of permits.*** The tenure of depredation permits shall be limited to the dates which appear on its face, unless extended by the USFWS in writing.

4.6.5 Migratory Non-game Birds

Migratory non-game birds are all species except game birds, resident non-game birds, and domestic and exotic birds (including gulls, vultures, herons, egrets etc.) are regulated under Federal law by the USFWS. These regulations allow harassment of migratory birds when the birds are damaging property, but a permit is required for lethal take. Migratory bird permits are not valid for eagles, and threatened and endangered species, which require separate permits for lethal take and harassment. Although states can impose more restrictive regulation than Federal law on migratory birds, California currently does not require additional permits for non-protected migratory birds that are already regulated under Federal law.

4.6.6 Depredation Order Birds

Depredation order birds are (Crows, magpies, blackbirds, and cowbirds) who are protected under the MBTA but may be taken when they are concentrated in such numbers and manner as to constitute a health hazard or other nuisance. Under the Depredation Order (50 CFR § 21.43), no federal permit is required to remove crows. The state of California recognizes the federal regulations and does not require a state permit under these conditions.

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4.6.7 CFR 50 Part 21.43 Depredation order for blackbirds, cowbirds, grackles, crows and magpies

A Federal permit shall not be required to control yellow-headed (CA species of special concern), red-winged, and Brewer's blackbirds, cowbirds, crows, and magpies when concentrated in such numbers and manner as to constitute a health hazard or other nuisance, ***provided***:

(a) That none of the birds killed pursuant to this section, nor their plumage, shall be sold or offered for sale, but may be possessed, transported, and otherwise disposed of or utilized.

(b) That any person exercising any of the privileges granted by this section shall permit at all reasonable times including during actual operations, any Federal or State game or deputy game agent, warden, protector, or other game law enforcement officer free and unrestricted access over the premises on which such operations have been or are being conducted; and shall furnish promptly to such officer whatever information he may require, concerning said operations.

(c) That nothing in this section shall be construed to authorize the killing of such birds contrary to any State laws or regulations; and that none of the privileges granted under this section shall be exercised unless the person possesses whatever permits as may be required for such activities by the State concerned.

4.6.8 Domestic Birds

Currently State and Federal laws do not regulate these species (Domestic ducks, geese, and domestic poultry) and no permit is required to take them. Domestic waterfowl may become a problem if they are abandoned on airport property. Taking these species should only be done by wildlife personnel trained to distinguish the differences between domestic and wild waterfowl with similar appearances. If other species of feral poultry or exotic birds are observed at ONT, the Wildlife Coordinator should be contacted for assistance with control methods.

4.7 MAMMALS

4.7.1 Game Mammals

Game mammals are defined primarily as those species that are hunted for sport, recreation, or meat. ONT has a small population of rabbits and ground squirrels that will be monitored and control measures instituted if their populations become too large. Threatened or endangered animals are not covered under this provision, and birds protected under the Migratory Bird Treaty Act require a Federal depredation permit (see section 4.6.3 of this plan).

4.7.2 Furbearers

It is unlikely that fur-bearers pose a hazard at ONT. However, if these animals pose a hazard that warrants direct control, a permit is required from the California Department of Fish and Wildlife, outside of pest species such as striped skunks and raccoons.

4.7.3 Non-game Mammals

Several species of non-game mammals are present at ONT and may need to be controlled. Of these, coyotes and red foxes present the greatest threat to aviation. Permits are not required to take these species when they threaten human health and safety.

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4.8 REPTILES & AMPHIBIANS

Non-protected reptiles and amphibians can be taken with a permit or appropriate fishing license. At their current abundance, these species do not present a major attractant to more hazardous wildlife.

4.9 PROTECTED WILDLIFE

4.9.1 Federal and State Threatened and Endangered Species

The Federal Endangered Species Act (Sec. 2 [16 U.S.C. 1531]) and California Endangered Species Act both protect animal and plant species potentially threatened with extinction. These acts classify species as endangered or threatened. An "Endangered Species" is defined as "any species, or subspecies, which is in danger of extinction throughout all or a significant portion of its range." A "Threatened Species" is defined as "any species, or subspecies, which is in danger of becoming an endangered species within the foreseeable future throughout or over a significant portion of its range." Once listed, a threatened or endangered species cannot be taken or harassed without a special permit.

In California, several additional species are given special protection by being listed as state threatened or endangered species. If a significant hazard exists with a listed species that jeopardizes air safety, either the USFWS or the California Department of Fish and Wildlife, depending on the protective status of the species involved, should be contacted for assistance. In many cases only personnel from these or other agencies may obtain a permit to take individuals of a specially protected species. Table 3 lists the protected species for San Bernardino County. San Bernardino County extends from Los Angeles and Orange counties to the State of Nevada. The majority of the protected species live in mountain or desert communities far away from ONT.

4.9.2 Eagle Permits

Eagles are protected under the Eagle Protection Act and require their own permit, and are therefore, not included under the Migratory Bird Permit. California has designated bald eagles as fully protected in San Bernardino County. An individual bald eagle has been observed at ONT in December 0f 2019 through January of 2020. ONT WHA and ONT strike record indicate there are golden eagles near ONT in the fall months. The USFWS has issued an eagle harassment permit directly to USDA/WS biologist to harass golden eagles at ONT in the past. It's very unlikely the USFWS would issue a lethal take permit for eagles in Southern California.

4.9.3 Habitat Conservation

USFWS and California Fish and Wildlife are responsible for species conservation and recovery plans. These plans require the identification of critical habitat when it is associated with the decline of a species. Habitat alterations and developments may be prohibited in areas where critical habitat has been designated or where such changes could result in the inadvertent taking of an endangered species. Consultation with USFWS or California Fish and Wildlife biologists will help determine on a case-by-case basis whether critical habitat is affected by airport projects, and if so, the necessary mitigation.

4.9.4 Wetlands Mitigation

Wetland modifications may require permits from various agencies, including the USFWS, U.S. Army Corps of Engineers (USCOE), State Department of Environmental Conservation and or Riverside County. Pre-development mitigation may be required for issuance of a permit. The FAA has outlined a series of procedures, refer to the publication on wetland mitigation banking in

the FAA's wildlife section homepage ***http://www.faa.gov/arp/hazard.htm*** for mitigating wetland impacts resulting from project development. See 40 CFR 1505.3.

4.9.5 Endangered Species List

The USFWS and California Department of Fish and Wildlife maintain updated lists of endangered and threatened species. California Department of Fish and Wildlife current listing of state and federally endangered, threatened, and sensitive species can be accessed on the Internet. Wildlife control personnel at ONT should familiarize themselves with these listed species and their potential occurrence at the airport (Table 3). Some of these species, particularly golden eagles, may present hazards to air traffic at ONT, and permits are required to harass them. In most cases, permits will not be granted to lethally remove members of a threatened and endangered species. ONT wildlife control personnel should learn to identify these species and understand the regulatory permitting processes required for their effective management. Habitat critical to listed species is regulated by the USFWS or California Department of Fish and Wildlife and these regulations should be reviewed to determine their potential effect on ONT's habitat modification plans to reduce wildlife hazards.

Recent listings of endangered species may affect the design of current and future construction projects at ONT. A wildlife biologist contracted by the construction company has the responsibility to ensure that protected species are not adversely affected and should work closely with Federal, state, and local agencies. The airport biologist should determine if the enhancement projects inadvertently results in increased wildlife hazards to aircraft. Habitat improvement and/or mitigation projects will be carefully reviewed by USDA/WS and the FAA, to ensure the project does not result in hazardous wildlife attractions. ONT should keep an updated listing of Threatened and Endangered species in the WHMP and should review this list prior to implementing wildlife mitigation projects.

4.9.6 Avoiding Impacts to Threatened and Endangered Species

The WHMP examines resolutions to detect and alleviate wildlife hazards that threaten human health and safety or aircraft operations operating out of ONT. Birds are generally considered the most hazardous form of wildlife at ONT, particularly waterfowl, starlings, raptors, gulls, pigeons, and crows. Coyotes, red foxes, and domestic dogs occasionally gain access to the airfield where they pose a strike hazard to aircraft, but this is a relatively infrequent occurrence.

The proposed actions outlined in the WHMP would involve application of the most appropriate, effective, and biologically sound wildlife control methods available. This approach is known as Integrated Wildlife Damage Management, and includes both habitat management and direct control.

Habitat management provides the best long-term approach for reducing wildlife attractants on an airfield. Habitat management measures are discussed in Chapter 3 of the WHMP, and include elimination of standing water, planting alternative ground covers on the airfield, removal of fruit and berry producing vegetation, thinning roost trees, structural exclusion (e.g., netting), and incorporating wildlife considerations in the early planning stages of new construction projects. Direct control efforts generally provide a more immediate response to hazardous situations, but the desired effects are often not as long lasting. Wildlife control and dispersal procedures employed at ONT are discussed in Chapter 6 of the WHMP, and include, pyrotechnic hazing, Mylar flash tape, recorded distress calls, vehicular harassment, nest removal, selective trapping, and shooting with air rifles or shotguns.

Control methods at ONT would not have an effect on listed endangered or th[illegible] species because capture and removal methods that are used at ONT are selective and would allow for

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positive identification of target animals. The golden and bald eagles are the only federally protected species with no lethal take allowed, that has been observed on or near the airport, but its presence is rare. The eagles would not be affected because airport personnel are routinely trained in bird species identification, with a special emphasis placed on threatened, endangered, and sensitive species.

Hazing and lethal control methods such as shooting and live-trapping are selectively directed at target individuals, thus avoiding impact to eagles. The eagles' size is too large to fit in any trap used at ONT. No toxicants are currently used to control wildlife at ONT, thus eliminating the probability of non-target exposure. Habitat alteration such as tree thinning or removal would not affect eagle's nests because no eagles are known to nest within the airfield property.

Collisions between birds and aircraft nearly always result in the death of the bird, in addition to threatening human safety. Consequently, potential nesting habitat on and around the airfield will be eliminated to the extent possible, thus preventing eagles from being drawn to the area where they may be struck.

Table 3. Endangered, Threatened and Sensitive Species near ONT

There are many species of animals in California that are listed as Threatened, Endangered, or Sensitive by the Federal and/or state Government. Below is a list of species (plants excluded), their status as of March 10th 2015, and potential occurrence at ONT. This list is dynamic with new species being added or removed periodically, therefore, it will be reviewed and updated at least once per year to ensure compliance with Federal and state wildlife regulations.

E – Endangered **S** – Sensitive
T - Threatened **SC** - Species of Concern

SCIENTIFIC NAME	COMMON NAME	STATE STATUS	FEDERAL STATUS	OBSERVED at ONT
MAMMALS				
Nyctinomops macrotis	Big free-tailed bat	sc		
Perognathus longimembris	Los Angeles pocket mouse	sc		
Chaetodipus fallax fallax	Northwestern San Diego pocket	sc		
Antrozous pallidus	Pallid bat	sc	s	
Neotoma lepida intermedia	San Diego desert woodrat	sc		
Eumops perotis californicus	Western mastiff bat	sc	s	
Lasiurus xanthinus	Western yellow bat	sc		
BIRDS				
Buteo swainsoni	Swainson's hawk	T	s	Yes
Agelaius tricolor	Tricolored blackbird	E	s	
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	E	T	
Athene cunicularia	Burrowing owl	sc	s	Yes
Polioptila californica californica	Coastal California gnatcatcher	sc	T	
Pelecanus erythrorhynchos	American white pelican		s	Yes
Lanius ludovicianus	Loggerhead shrike	sc	s	Yes
Circus cyaneus	Northern harrier	sc	s	Yes
Xanthocephalus xanthocephalus	Yellow-headed Blackbird	sc		Yes
Passerculus sandwichensis	Bryant's savannah sparrow	sc		
Accipiter cooperii	Cooper's hawk		s	Yes
Accipiter striatus	Sharp-shinned hawk		s	Yes
Aquila chrysaetous	Golden eagle		s	Yes
Buteo regalis	Ferruginous hawk		s	Yes
Elanus leucurus	White-tailed kite		s	Yes
Pandion haliaetus	Osprey		s	Yes
Falco columbarius	Merlin		s	Yes
Falco mexicanus	Prairie falcon		s	Yes
Falco peregrinous anatum	American Peregrine Falcon		s	Yes
Reptiles				
Phrynosoma blainvillii	Coast horned lizard	sc	s	
Anniella pulchra pulchra	Silvery legless lizard	sc		
Thamnophis hammondii	Two-striped garter snake	sc	s	
Insects				
Diplectrona californica	California diplectronan caddisfly			
Rhaphiomidas terminatus	Delhi Sands flower-loving fly		E	

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4.10 PESTICIDE APPLICATOR LICENSE

Authorization to use restricted-use pesticides for the removal of hazardous wildlife and should be limited to Certified Pesticide Operators or persons under their direct supervision. To obtain the necessary license to apply restricted-use pesticides, a person must pass an exam administered by the California State Department of Agriculture (see directory in Chapter 9). All ONT personnel that use restricted-use chemicals must first obtain a pesticide applicator's license or be under the direct supervision of an applicator. Use of all pesticides should strictly adhere to the pesticide label and should follow U.S. EPA, Ecology, and County guidelines.

4.11 FAA REGULATIONS, ADVISORY CIRCULARS, AND CERTALERTS

The FAA is the federal agency responsible for developing and enforcing air transportation safety regulations. Many of these regulations are codified in the Code of Federal Regulations (CFRs). The FAA also publishes a series of guidelines for airport operators to follow called Advisory Circulars (ACs). Advisory Circulars in the 150 series deal with airport safety issues, including wildlife hazards. In addition to CFR's s and ACs, the FAA periodically issues Certalerts for internal distribution and to provide recommendations on specific issues for inspectors and airport personnel. All of the above-mentioned regulations, Advisory Circulars, and Certalerts are frequently changed or updated, and their current status should be verified on a regular basis. This may be accomplished by contacting the FAA directly (see directory in Chapter 9) or by visiting their website at ***www.faa.gov/arp/hazard.htm*** or ***www.faa.gov/faadocs.htm*** or ***http://www.faa.gov/faadocs.htm*** for the most current revision.

The manual entitled "Wildlife Hazard Management at Airports, 2nd edition" (2005) was developed cooperatively by the FAA and USDA Wildlife Services. It contains important information on airport wildlife hazard management, and it will be obtained and consulted regarding control actions and other issues.

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5 RESOURCES

139.337(f) (4) Identification of resources that the certificate holder will provide to implement the plan.

5.1 OVERVIEW

Habitat Management and wildlife control supplies can be purchased from several companies. An adequate supply of equipment will be kept on hand at ONT for use by trained personnel.

5.2 AIRPORT SUPPLIES normal items stocked at the airport include:

- ***15 mm pyrotechnic pistol launchers (Bird bombs/bangers, screamers, and whistlers)***
- ***Cleaning kits for all pyrotechnic pistol launchers***
- ***Field guide for local bird identification***
- ***Mylar tape***
- ***Snare/catch pole***
- ***Cage trap for dogs (e.g., Tomahawk 110B)***
- ***Cage trap for cats/opossums/raccoons (e.g., Tomahawk 108)***
- ***Rat/mouse traps snap traps***
- ***Binoculars***
- ***Latex gloves***
- ***Garbage bags***
- ***Gallon-size re-sealable sandwich bags***
- ***"Prevention and Control of Wildlife Damage" reference manual***

5.3 AIRSIDE OPERATIONS SPECIALISTS' OFFICE

The Airside Operations office should be stocked with the supplies listed below to facilitate an immediate response to wildlife hazards. Operations personnel will be responsible for responding to emergency calls from the ONT air traffic control tower to disperse animals from the runways. They should maintain radio communications with the tower if there is a situation within the AOA, and the patrols must operate within the air movement areas according to FAA guidelines. At a minimum, supplies to be maintained in their office should include at least:

- ***15 mm pyrotechnic pistol launchers***
- ***An adequate supply of 15 mm pyrotechnics (bangers, whistlers, etc.)***
- ***Bird identification field guide***
- ***Binoculars***
- **Latex gloves**
- **Garbage bags**
- **Gallon-size re-sealable sandwich bags**
- **Several daily wildlife control log sheets**

5.4 USDA-WILDLIFE SERVICES ASSISTANCE

Some supplies such as starling traps, vertebrate pesticides and chemical capturing agents may be available through Wildlife Services for conducting specific control operations. The use of some control methods, such as alpha chloralose for waterfowl and DRC-1339 for Starlings, is restricted to certified Wildlife Services personnel only. ONT currently has a Cooperative Service Agreement with Wildlife Services to assist ONT personnel in deterring or removing starlings and pigeons from

the airfield, but WS may also provide assistance in dispersing other hazardous wildlife from the airfield and adjacent areas if hazards are identified.

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6 WILDLIFE CONTROL PROCEDURES

139.337(f) (5) Procedures to be followed during air carrier operations that at a minimum includes-

(i) Designation of personnel responsible for implementing the procedures;

(ii) Provisions to conduct physical inspections of the aircraft movement areas and other areas critical to successfully manage known wildlife hazards before air carrier operations begin;

The Airside Operations Specialists' should frequently conduct physical inspections of movement areas and other areas critical to wildlife hazard management as part of the daily protocol.

The Airside Operations Specialists' should document all unusual wildlife and record the data on a Daily Wildlife Activity Report (Appendix F). In cases where no animals are seen, a record indicating that an inspection was conducted and that no animals were observed should be made. A copy of the Daily Wildlife Activity Report for each day should be submitted to the ONT biologist. The ONT biologist should also conduct physical inspections of critical areas and report wildlife activity on the Daily Wildlife Activity Report. During periods of exceptionally heavy wildlife activity (e.g., migratory periods, outbreaks of insects etc.), the Airside Operations Specialists' should work with the airport biologist to issue a Notice to Airmen (NOTAM).

6.1 139.337(f)(5)(iii) Wildlife hazard control measures

Wildlife that is identified as hazardous during and after the completion of the recommended habitat modifications should be controlled using accepted direct control techniques. Wildlife hazards at airports are extremely variable and complex; therefore, it is essential to adopt a flexible, innovative, and adaptive approach to managing such hazards. Wildlife identification guides and handbooks will be available for use by wildlife control personnel at ONT. The manual titled "Prevention and Control of Wildlife Damage" (2-volume set) details species specific damage assessment and includes an in-depth discussion of methods of dispersal for each species. Airport personnel should be trained to identify hazardous wildlife at ONT (refer to Chapter 8) and should select dispersal methods that are appropriate to the type of animal causing the hazard.

6.2 WILDLIFE RUNWAY INSPECTIONS

Routine runway sweeps should be conducted at least once per day, and the presence of any dead animals found from strikes or suspected strikes should be recorded on Form 5200-7 (Appendix E), as well as POS Form 98-667 (Wildlife Incident Report [Appendix F]). Other wildlife-related activities (e.g., notable hazards, animals killed or dispersed, unusual wildlife behavior, etc.) should be documented on the Daily Wildlife Activity Report. All dead birds or mammals found on runways and taxiways will be considered the result of a strike unless the death was obviously due to some other cause. Any bird or mammal remains that are found should be bagged, labeled (e.g., time and date found, location on runway, person who found remains, etc.), and placed in a freezer for later inspection and identification. Wildlife strikes may be submitted electronically to the FAA at http://wildlife.faa.gov/ . A printout of the strike report must also be immediately submitted to the Wildlife Coordinator so that the situation can be assessed.

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6.3 GENERAL WILDLIFE CONTROL

Each wildlife hazard that develops will be analyzed by wildlife control personnel to determine a practical solution. The initial response for most species will be to haze them with frightening devices, followed by population control methods when necessary. A primary key to successful wildlife control is persistence and innovation. Techniques should be applied based on safety, effectiveness, practicality and environmental social considerations. Most control techniques retain their effectiveness when used judiciously and in conjunction with other methods. Some methods such as pesticides or leg-hold traps are only effective and legal for certain species and situations. Therefore, the methods chosen will depend largely on the situation and the species involved. Finally, personnel involved in direct control should be aware of the potential diseases that wildlife can carry and should take appropriate precautions.

6.4 BIRD CONTROL

Several species of birds are present at ONT and represent the most significant potential for causing damaging strikes. Juvenile birds may also constitute an unusual wildlife hazard because of their general unfamiliarity with the airport environment at ONT. The "Prevention and Control of Wildlife Damage" manual discusses a number of methods that may be used to haze birds from the airport. As previously stated, an integration of multiple methods should be employed for maximum effectiveness. If properly applied, the techniques discussed in this reference manual should reduce most hazards involving species of concern at ONT.

6.5 MAMMAL CONTROL

Potential hazards from the majority of mammal species at ONT have been reduced through habitat modifications and the construction of fencing and other exclusionary devices. With the exception of transient coyotes (less than 5 per year), large mammals have already been excluded from using the airfield by the perimeter/wildlife resistance fence. However, smaller mammals still exist on the airfield in low to moderate densities and can provide an attraction to larger predators and raptors. The ONT airport biologist will monitor and reduce these small mammal populations. ONT airport biologist will trap and remove large carnivorous mammals at and around the airport.

6.6 USDA-WILDLIFE SERVICES ASSISTANCE

Wildlife Services provides a FAA Certified Airport Wildlife Biologist that currently assists ONT with wildlife control activities. WS personnel can also assist with other wildlife control activities including those involving coyote, deer, bear, raccoon, and beaver. Many of the control techniques for mammals differ from bird hazard control techniques and require specialized experience and permits. Wildlife Services can be contacted at 909-519-0974 for problems involving mammal or other unique wildlife hazards.

6.7 COUNTY ANIMAL CONTROL

County Animal Control is also available to help with free-ranging dogs and cats. If the animal poses an immediate threat to aviation, ONT operations personnel and airport biologist should attempt to catch, disperse, or lethally remove it. County Animal Control will only pick up secured domestic animals.

6.8 139.337 (f) (iv) Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower.

ONT operations and airport biologist should be equipped with radios and have proper training to contact the air traffic control tower. If an immediate hazard exists that might compromise the

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safety of air traffic at ONT, the Airside Operations Specialist should coordinate with the air traffic control tower, and if necessary, delay arriving or departing air traffic until the hazard is eliminated. In extreme cases, the runway may need to be closed temporarily at the discretion of the Airside Manager, ONT Air Traffic Control Tower, and/or Airside Operations Specialist. Although the air traffic control tower cannot be expected to monitor all wildlife hazards on the airfield and still direct air traffic, tower personnel should notify the Airside Operations Specialist immediately if pilots report hazards or any such hazards are observed from the tower.

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7 EVALUATION

139.337(f)(6) Procedures to review and evaluate the wildlife hazard management plan every 12 consecutive months or following an event described in paragraphs (b)(1), (b)(2), and (b)(3) of this section, including:

(i) The plan's effectiveness in dealing with known wildlife hazards on and in the airport's vicinity and

(ii) Aspects of the wildlife hazards described in the wildlife hazard assessment that should be reevaluated.

7.1 OVERVIEW

The WHMP will be evaluated at least annually. The Wildlife Hazard Group will determine the effectiveness of the WHMP at reducing wildlife strikes at ONT and monitor the status of hazard reduction projects, including their completion dates.

7.2 MEETINGS

The Wildlife Hazard Working Group will meet at least once per year, but the group may convene more regularly if situations warrant, as determined by the Wildlife Coordinator.

7.3 WILDLIFE STRIKE DATABASE

The Wildlife Coordinator will maintain a database of wildlife strikes and populations on the airfield and surrounding areas. Information from this database will be used to identify trends and to monitor any increases in wildlife hazards on the airfield. If unacceptable increases in wildlife populations are observed, the cause should be determined and the WHMP modified to address the problem. The ONT Biologist shall enter all records into a computerized database.

7.4 AIRPORT EXPANSION

Airport expansion plans will be reviewed by the ONT Biologist to ensure that new developments will not inadvertently result in increased wildlife hazards to aircraft operations. If appropriate, they will coordinate designs with the FAA and Wildlife Services.

7.5 FAA INVOLVEMENT

FAA Regional Certification Inspectors and personnel from the Local/ Regional Airports District Office (ADO) should be invited to make comments on the WHMP and to attend annual meetings on plan modifications.

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8 TRAINING

139.337(f)(7) A training program conducted by a qualified wildlife damage management biologist to provide airport personnel with the knowledge and skills needed to successfully carry out the wildlife hazard management plan required by paragraph (d) of this section.

8.1 OVERVIEW

Training is essential for personnel involved in the WHMP. The Wildlife Coordinator should ensure that all personnel that might be working in a wildlife deterrence capacity are trained in the proper selection and application of control methods as well as wildlife species identification.

8.2 STANDARD TRAINING

Wildlife control personnel should receive training in mitigating wildlife hazards at airports, including an overview of laws associated with wildlife control, techniques used for prey-base reductions, effective use of pyrotechnics (including hands-on training), and wildlife identification and dispersal techniques. Airport communications and driving training should also be provided to all employees involved in wildlife control operations that may require them to operate on the Aircraft Movement Area.

8.3 USDA-WILDLIFE SERVICES TRAINING

Wildlife Services can provide training courses for all ONT airfield operations personnel. The purpose of the courses is to familiarize personnel involved with airport operations in basic wildlife identification and dispersal techniques. The course also involves hands-on training using pyrotechnics, air-gun rifles, and other deterrent equipment, with an emphasis on safety and effectiveness. All personnel who have responsibility in dispersing wildlife at ONT should take these trainings. The trainings would be customized to fit the needs of individual recipients and situations.

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9 AGENCY DIRECTORY

REGULATORY AND ENFORCEMENT

FEDERALGOVERNMENT

U.S. Fish and Wildlife Service (Wildlife Permitting) Region 8

Migratory Bird Permits
2800 Cottage Way, Room W-2606
Sacramento, CA 95825
916-414-6464

U.S. Fish and Wildlife Service (T&E Species)

Division of Endangered Species
2800 Cottage Way, Room W-2606
Sacramento, CA 95825
916-4146464

U.S. Fish and Wildlife Service (Law Enforcement)

2800 Cottage Way, Room W-2606
Sacramento, CA 95825
916-414-6660

STATE GOVERNMENT

State Department of Fish and Wildlife

(T&E Species)

Nongame Wildlife Program
1812 9th Street
Sacramento, CA. 95811
(916) 445-0411

California Department of Pesticide Regulation

1001 I Street
Sacramento, CA 95812
(916) 445-4038

State Department of Fish and Wildlife (Law enforcement and Permitting)

330 Golden Shore, Suite 50
Long Beach, CA 90802
(562) 590-5132

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Gail Campos
Environmental Protection Specialist
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(424) 405-7269

Federal Aviation Administration (FAA)
John Weller
FAA Airport Safety and Compliance
FAA-AA5-317
800 Independence Ave., SW
Washington, DC 20591
(202) 267-3778

MUNICIPAL AGENCIES

City of Ontario
303 E. "B" Street
Ontario, CA 91764
909-395-2011

San Bernardino County Animal Care and Control

351 N. Mountain View Avenue 1st Floor
San Bernardino, CA
800-472-5609/909-388-4600

Ontario Police Departme nt
2500 S. Archibald Ave
Ontario, CA
909-395-2001

San Bernardino County Sheriff's Department

10510 Civic Center Dr.
Rancho Cucamonga, CA
909-477-2800

TECHNICAL ASSISTANCE

U.S. Department of Agriculture, Wildlife Services

USDA APHIS Wildlife Services
3419A Arden Way
Sacramento, Ca 95825
Tel: 916-979-2675

INTERNET SITES OF INTEREST

Federal Aviation Administration (FAA)
www.faa.gov.

http://wildlife.pr.erau.edu/strikeform/birdstrikeform.html

U.S. Department of Agriculture-Wildlife Services

www.aphis.usda.gov/ws/

California Department of Fish and Game

www.dfg.ca.gov/dfghome.html

Transport Canada - Wildlife Control Techniques

www.tc.gc.ca/aviation/aerodrme/birdstke/manual/index.htm

http://www.tc.gc.ca/aviation/aerodrme/birdstke/manual/index.htm

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Appendix A: Code of Federal Regulations Title 14: Part 139.337 – Wildlife Hazard Management

Title 14: Aeronautics and Space

CHAPTER I: FEDERAL AVIATION ADMINISTRATION, DEPARTMENT OF TRANSPORTATION (CONTINUED)

SUBCHAPTER G: AIR CARRIERS AND OPERATORS FOR COMPENSATION OR HIRE: CERTIFICATION AND OPERATIONS

PART 139: CERTIFICATION OF AIRPORTS
Subpart D: Operations
139.337 - Wildlife hazard management.
(a) In accordance with its Airport Certification Manual and the requirements of this section, each certificate holder must take immediate action to alleviate wildlife hazards whenever they are detected.
(b) In a manner authorized by the Administrator, each certificate holder must ensure that a wildlife hazard assessment is conducted when any of the following events occurs on or near the airport:
(1) An air carrier aircraft experiences multiple wildlife strikes;
(2) An air carrier aircraft experiences substantial damage from striking wildlife. As used in this paragraph, substantial damage means damage or structural failure incurred by an aircraft that adversely affects the structural strength, performance, or flight characteristics of the aircraft and that would normally require major repair or replacement of the affected component;
(3) An air carrier aircraft experiences an engine ingestion of wildlife; or
(4) Wildlife of a size, or in numbers, capable of causing an event described in paragraphs (b)(1), (b)(2), or (b)(3) of this section is observed to have access to any airport flight pattern or aircraft movement area.
(c) The wildlife hazard assessment required in paragraph (b) of this section must be conducted by a wildlife damage management biologist who has professional training and/or experience in wildlife hazard management at airports or an individual working under direct supervision of such an individual. The wildlife hazard assessment must contain at least the following:
(1) An analysis of the events or circumstances that prompted the assessment.
(2) Identification of the wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences.
(3) Identification and location of features on and near the airport that attract wildlife.
(4) A description of wildlife hazards to air carrier operations.
(5) Recommended actions for reducing identified wildlife hazards to air carrier operations.
(d) The wildlife hazard assessment required under paragraph (b) of this section must be submitted to the Administrator for approval and determination of the need for a wildlife hazard management plan. In reaching this determination, the Administrator will consider?
(1) The wildlife hazard assessment;
(2) Actions recommended in the wildlife hazard assessment to reduce wildlife hazards;
(3) The aeronautical activity at the airport, including the frequency and size of air carrier aircraft;
(4) The views of the certificate holder;
(5) The views of the airport users; and
(6) Any other known factors relating to the wildlife hazard of which the Administrator is aware.
(e) When the Administrator determines that a wildlife hazard management plan is needed, the certificate holder must formulate and implement a plan using the wildlife hazard assessment as a basis. The plan must?
(1) Provide measures to alleviate or eliminate wildlife hazards to air carrier operations;
(2) Be submitted to, and approved by, the Administrator prior to implementation; and
(3) As authorized by the Administrator, become a part of the Airport Certification Manual.
(f) The plan must include at least the following:
(1) A list of the individuals having authority and responsibility for implementing each aspect of the plan.
(2) A list prioritizing the following actions identified in the wildlife hazard assessment and target dates for their initiation and completion:
(i) Wildlife population management;

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(ii) Habitat modification; and
(iii) Land use changes.
(3) Requirements for and, where applicable, copies of local, State, and Federal wildlife control permits.
(4) Identification of resources that the certificate holder will provide to implement the plan.
(5) Procedures to be followed during air carrier operations that at a minimum includes?
(i) Designation of personnel responsible for implementing the procedures;
(ii) Provisions to conduct physical inspections of the aircraft movement areas and other areas critical to successfully manage known wildlife hazards before air carrier operations begin;
(iii) Wildlife hazard control measures; and
(iv) Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower.
(6) Procedures to review and evaluate the wildlife hazard management plan every 12 consecutive months or following an event described in paragraphs (b)(1), (b)(2), and (b)(3) of this section, including:
(i) The plan's effectiveness in dealing with known wildlife hazards on and in the airport's vicinity and
(ii) Aspects of the wildlife hazards described in the wildlife hazard assessment that should be reevaluated.
(7) A training program conducted by a qualified wildlife damage management biologist to provide airport personnel with the knowledge and skills needed to successfully carry out the wildlife hazard management plan required by paragraph (d) of this section.
(g) FAA Advisory Circulars contain methods and procedures for wildlife hazard management at airports that are acceptable to the Administrator

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Appendix B: Cert Alert 04-09 Relationship between FAA and Wildlife Services

C E R T A L E R T

ADVISORY * CAUTIONARY * NON-DIRECTIVE

FOR INFORMATION, CONTACT ED CLEARY, AAS-317 (202) 267-3389

DATE:	**August 30, 2004**	**No. 04-09**
TO:	**Airport Certification Program Inspectors**	
TOPIC:	**Relationship Between FAA and WS**	

CANCELLATION

Certalert 97-02, Relationship between FAA and WS, Dated April 25, 1997, is cancelled.

PURPOSE

This Certalert clarifies the roles of, and relationship between the Federal Aviation Administration (FAA) and the United States Department of Agriculture/Animal and Plant Health Inspection Service/Wildlife Services (WS) with regards to wildlife hazards on or near airports.

FEDERAL AVIATION ADMINISTRATION

The FAA issues airport operating certificates for airports serving certain air carrier aircraft under Title 14, Code of Federal Regulations, Part 139. Section 139.337 requires certificated airports having a wildlife hazard problem to develop and implement a Wildlife Hazard Management Plan to manage and control wildlife, which present a risk to public safety, caused by aircraft collisions with wildlife. The FAA relies heavily on the assistance of WS to review and contribute to such plans.

ANIMAL DAMAGE CONTROL

The Animal Damage Control Act of March 2, 1931, (7 USC 426-426c, as amended), charges the Secretary of Agriculture with management of wildlife injurious to agricultural interests, other wildlife, or human health and safety. Further, the Secretary is authorized to cooperate with States, individuals, public and private agencies, organizations, and institutions in the control of nuisance mammals and birds, including wildlife hazards to aviation. Because of the experience, training, and background of its personnel, WS is recognized throughout the world as an expert in dealing with wildlife damage management issues. WS has an active presence in all U.S. states and territories.

MEMORANDUM OF UNDERSTANDING

A Memorandum of Understanding (MOU) between the FAA and WS (No. 12-4-71-0003-MOU) establishes a cooperative relationship between these agencies for resolving wildlife hazards to aviation.

AGENCY FUNDING

Both agencies are funded by congressional appropriations. The majority of funding for the FAA comes from the Aviation Trust Fund with the remainder coming from the general funds of the U.S. Treasury. Any revenues generated by the FAA are returned to the U.S. Treasury. WS receives a limited amount of funds from the general fund of the U.S. Treasury that allows it to perform some services for the public good. However, WS's funding is also based upon its ability to enter into contracts to pr[illegible] receive reimbursement for the cost of the services. Legislation allows WS to collect thi[illegible] money and return it to the program rather than the general funds of the U.S. Treasury. Consequen[illegible]ly, WS may enter

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into a cooperative service agreement with an airport operator for reimbursement of services to perform a wildlife hazard assessment on an airport.

WILDLIFE HAZARD MANAGEMENT

14 CFR 139.337(b) requires the certificate holder conduct a wildlife hazard assessment, acceptable to the FAA Administrator, when any of the following events occur on or near the airport:

(b) (1) An air carrier aircraft experiences multiple wildlife strikes:

(b) (2) An air carrier aircraft experiences substantial damage from striking wildlife. As used in this paragraph, substantial damage means damage or structural failure incurred by an aircraft that adversely affects the structural strength, performance, or flight characteristics of the aircraft and that would normally require major repair or replacement of the affected component;

(b) (3) An air carrier aircraft experiences an engine ingestion of wildlife; or

(b) (4) Wildlife of a size, or in numbers, capable of causing an event described in paragraph (b)(1), (2), or (3) of this section is observed to have access to any airport flight pattern or aircraft movement area.

The wildlife hazard assessment shall contain at least the following (14CFR 139.337(c)):

(c) (l) An analysis of the events or circumstances that prompted the assessment.

(c) (2) Identification of the wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences.

(c) (3) Identification and location of features on and near the airport that attract wildlife.

(c) (4) A description of wildlife hazards to air carrier operations.

(c) (5) Recommended actions for reducing identified wildlife hazards to air carrier operations.

The certificate holder may look to WS or to private consultants to conduct the required wildlife hazard assessment. The FAA uses the wildlife hazard assessment in determining if a wildlife hazard management plan is needed for the airport. Therefore, persons having the education, training, and experience necessary to adequately assess any wildlife hazards should conduct the assessment.

Depending on the availability of resources, WS may conduct a preliminary hazard assessments at no charge to the certificate holder. The certificate holder should determine in advance if WS will charge to conduct the preliminary hazard assessment. More detailed assessments may require the certificate holder to enter into a cooperative service agreement with WS.

OSB

Benedict D. Castellano

Manager, Airport Safety and Operations

August 30, 2004

Date

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Appendix C: A C 150/5200-32B Reporting Wildlife Strikes

Subject: Reporting Wildlife Aircraft Strikes	**Date:** 5/31/2013 **Initiated by: AAS-300**	**AC No:** 150/5200-32B

1. Purpose.

This Advisory Circular (AC) explains the importance of reporting collisions between aircraft and wildlife, more commonly referred to as wildlife strikes. It also explains recent improvements in the Federal Aviation Administration's (FAA's) Bird/Other Wildlife Strike Reporting system, how to report a wildlife strike, what happens to the wildlife strike report data, how to access the FAA National Wildlife Strike Database (NWSD), and the FAA's Feather Identification program.

2. Applicability.

The FAA provides the standards and practices in this AC as guidance for all public-use airports, aviation industry personnel (e.g., Air Traffic Control, pilots and airline personnel, and engine manufacturers), and others who possess strike information. The FAA strongly recommends that the above aviation representatives and others possessing strike information participate in reporting.

3. Cancellation.

This AC cancels AC 150/5200-32A, Reporting Wildlife Aircraft Strikes, dated December 22, 2004.

4. Background.

The FAA has long recognized the threat to aviation safety posed by wildlife strikes. Each year in the United States, wildlife strikes to U.S. civil aircraft cause about $718 million in damage to aircraft and about 567,000 hours of civil aircraft down time. For the period 1990 to 2011, over 115,000 wildlife strikes were reported to the FAA. About 97 percent of all wildlife strikes reported to the FAA involved birds, about 2 percent involved terrestrial mammals, and less than 1 percent involved flying mammals (bats) and reptiles. Waterfowl (ducks and geese), gulls, and raptors (mainly hawks and vultures) are the bird species that cause the most damage to civil aircraft in the United States, while European starlings are responsible for the greatest loss of human life. Vultures and waterfowl cause the most losses to U.S. military aircraft.

Studies have shown that strike reporting has steadily increased over the past two decades; however, strike reporting is not consistent across all stakeholders (pilots, air carriers, airport operators, air traffic control personnel, etc.) in the National Airspace System. Although larger 14 CFR Part 139 airports and those with well-established wildlife programs have improved strike reporting, there is a wide disparity in overall reporting rates between Part 139 airports and general aviation (GA) airports in the National Plan of Integrated Airport Systems (NPIAS). Less than 6 percent of total strike reports come from NPIAS GA airports, whose reporting rates average less than 1/20th the rates at Part 139 airports. Most Part 139 airports (97 percent) have reported at least one strike into the database through 2011, while only 43 percent of NPIAS GA airports have documented a strike into the database.

While overall reporting rates are much higher for strikes at Part 139 airports than at N[illegible] there is also a major disparity in reporting rates among Part 139 airports. Larger Part 139 airports,

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especially those with well-established wildlife hazard management programs, have reporting rates about four times higher on average compared to other Part 139 airports. The pattern of disparity in strike reporting among Part 139 airports is also found in reporting rates for commercial air carriers. However, the FAA believes the current voluntary reporting rate is adequate to track national trends in wildlife strikes, to determine the hazard level of wildlife species that are being struck, and to provide a scientific foundation for FAA policies and guidance about the mitigation of risk from wildlife strikes.

Ultimately, improvements can be made in the quantity and quality of strike reporting. In addition to the above-mentioned gaps in reporting to the NWSD, there is an overall bias toward the reporting of damaging strikes compared to non-damaging strikes, especially for NPIAS GA airports and certain Part 139 airports. The quality of data within a strike report can also be improved by providing as much information as possible, including species struck and cost of strike.

The FAA has initiated several programs to address this important safety issue, including the collection, analysis, and dissemination of wildlife strike data. The effectiveness of a Wildlife Hazard Management Plan (WHMP) to reduce wildlife hazards both on and near an airport and the reevaluation of all facets of damaging/non-damaging strikes from year to year requires accurate and consistent reporting. Therefore, every WHMP should include a commitment to document and report to the NWSD all wildlife strikes that occur within the separation distances described in sections 1-2 and 1-3 of Advisory Circular 150/5200-33, Hazardous Attractants On or Near Airports (current version), to better identify, understand, and reduce threats to safe aviation.

5. Types of Animals to Report if Involved in a Strike with Aircraft.

a. All birds.

b. All bats.

c. All terrestrial mammals larger than 1 kg (2.2 lbs.) (e.g., report rabbits, muskrats, armadillos, foxes, coyotes, domestic dogs, deer, feral livestock, etc., but not rats, mice, voles, chipmunks, shrews, etc.). If in doubt, report the incident with a note in the comment section, and the Database Manager will determine whether to include the report into the NWSD based on body mass.

d. Reptiles larger than 1 kg (2.2 lbs.).

6. When to Report a Wildlife Aircraft Strike.

A wildlife strike has occurred when:

a. A strike between wildlife and aircraft has been witnessed.

b. Evidence or damage from a strike has been identified on an aircraft.

c. Bird or other wildlife remains, whether in whole or in part, are found:

(1) Within 250 feet of a runway centerline or within 1,000 feet of a runway end unless another reason for the animal's death is identified or suspected.

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(2) On a taxiway or anywhere else on or off the airport that you have reason to believe was the result of a strike with an aircraft. Examples might be:

(i) A bird found in pieces from a prop strike on a taxiway.

(ii) A carcass retrieved within 1 mile of an airport on the final approach or departure path after someone reported the bird falling out of the sky and a report of a probable wildlife strike.

d. The presence of birds or other wildlife on or off the airport had a significant negative effect on a flight (i.e., aborted takeoff, aborted landing, high-speed emergency stop, or the aircraft left pavement area to avoid collision with wildlife).

7. How to Report a Bird/Wildlife Strike.

The FAA strongly encourages pilots, airport operations, aircraft maintenance personnel, Air Traffic Control personnel, engine manufacturers, or anyone else who has knowledge of a strike to report it to the NWSD. The FAA makes available an online reporting system at the Airport Wildlife Hazard Mitigation web site (http://www.faa.gov/go/wildlife) or via mobile devices at http://www.faa.gov/mobile. Anyone reporting a strike can also print the FAA's Bird/Other Wildlife Strike Report Form (Form 5200-7) at the end of this AC or download it from the web site to report strikes. Paper copies of Form 5200-7 may also be obtained from the appropriate Airports District Offices (ADO), Flight Standards District Offices (FSDO), and Flight Service Stations (FSS) or from the Airman's Information Manual (AIM). Paper forms are pre-addressed to the FAA. No postage is needed if the form is mailed in the United States. It is important to include as much information as possible on the strike report.

Note: These forms are to be used to report strikes that do not have bird remains associated with them (instructions with addresses for sending remains to the Smithsonian Institute Feather Identification Lab are discussed in Paragraph 11, Instructions for Collecting and Submitting Bird/Wildlife Remains for Identification, of this AC). Please do not send bird remains to the FAA.

8. FAA National Wildlife Strike Database Management and Data Analysis.

The FAA NWSD Manager edits all strike reports to ensure consistent, error-free data before entering a single, consolidated report into the database. This information is supplemented with non-duplicated strike reports from other sources. About every six weeks, the FAA posts an updated version of the database on the web site. Annually, the FAA sends a current version of the database to the International Civil Aviation Organization (ICAO) for incorporation into ICAO's Bird Strike Information System (IBIS) Database. Also, the FAA prepares and makes available a report summarizing wildlife strike results from 1990 through the most current year online at http://www.faa.gov/airports/airport_safety/wildlife/.

Analyses of data from the FAA NWSD have proved invaluable in determining the nature and severity of the aviation wildlife strike hazard. The database provides a scientific basis for identifying risk factors, justifying and implementing corrective actions at airports, and judging the effectiveness of those corrective actions. Table 1 below depicts the ranking of 50 bird and mammal species or groups by their relative hazard to aircraft in airport environments. The data for the analysis are from the NWSD. The database is invaluable to engine manufacturers, aeronautical engineers, and wildlife biologists as they develop new technologies for the aviation industry. Each wildlife strike report contributes to the

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accuracy and effectiveness of the database. Moreover, each report contributes to the common goal of increasing aviation safety and reducing the cost of wildlife strikes.

9. Access to the FAA National Wildlife Strike Database.

On April 24, 2009, the FAA made the NWSD available to the public. The FAA began systematically analyzing wildlife strike data in the 1990s for use by the FAA's Office of Airports, academia, and researchers as a means of improving airport safety and reducing wildlife hazards. The NWSD web site (http://www.faa.gov/go/wildlife) was retooled to make it more user-friendly and to allow more advanced data mining. The site has search fields that enable users to find data on specific airports, airlines, aircraft, and engine types, as well as damage incurred, date of strike, species struck, and state without having to download the entire database.

10. Bird/ Wildlife Identification.

Accurate species identification is critical for wildlife-aircraft strike reduction programs. The identification of the exact species of bird struck (e.g., ring-billed gull, Canada goose, mallard, mourning dove, or red-tailed hawk as opposed to gull, goose, duck, dove, or hawk) is particularly important. This species information is critical for airports and biologists developing and implementing wildlife hazard management programs at airports because a problem that cannot be measured or defined cannot be solved. Wildlife biologists must know what species of wildlife they are dealing with in order to identify local attractants and to make proper management decisions within the framework of the Migratory Bird Treaty Act and state and local regulations. The FAA, the U.S. Air Force, the U.S. Navy, and the U.S. Department of Agriculture – Wildlife Services work closely with the Feather Identification Lab at the Smithsonian Institution, Museum of Natural History, to improve the understanding and prevention of bird-aircraft strike hazards. Bird strike remains that cannot be identified by airport personnel or by a local biologist can be sent (with FAA Form 5200-7) to the Smithsonian Museum for identification. Remains may also be submitted to the Smithsonian for verification of the field identification and for long-term storage of the evidence.

Bird strike identification using feathers, DNA, or other body parts or materials from birds involved in bird-aircraft strikes will be provided free-of-charge to all U.S. airport operators, all U.S. aircraft owners/operators (regardless of where the strike happened), and to any foreign air carrier if the strike occurred at a U.S. airport.

11. Instructions for Collecting and Submitting Bird/Wildlife Remains for Identification.

Please observe the following guidelines for collecting and submitting feathers or other bird/wildlife remains for species identification. These guidelines help maintain species identification accuracy, reduce turn-around time, and ensure a comprehensive FAA National Wildlife Aircraft Strike Database. Many airports have found it beneficial to construct strike reporting kits for use by airport personnel and aircraft operators. Having pre-made kits available improves strike reporting and encourages the sampling of strike remains. A kit suitable for collecting remains from most strikes would include the following materials stored in a 1-quart, re-sealable plastic bag: (1) collection instructions, (2) a pre-packaged alcohol hand-wipe for softening/removing tissue/blood ("snarge"1) off of the aircraft, (3) a Whatman FTA® collection card for preserving blood/tissue for DNA identification, and (4) a pair of disposable gloves.

1 Snarge is the term used for the residue and feathers left on an aircraft after an anima (typically a bird) collides with it.

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a. Collect and submit remains from known/suspected bird strikes or strike remains that involved an unknown animal from each impact location as soon as possible and send to the Feather Lab (Smithsonian). If remains are known to be other than those of birds, please contact the Smithsonian before mailing them at (202) 633-0801. Collect remains using the criteria listed in item c below. If you cannot send the remains as soon as possible, refrigerate or freeze them in a sealed plastic bag until you can mail them.

b. Provide complete information about the incident.

(1) Fill out FAA Form 5200-7 – Bird/ Other Wildlife Strike Report.

(i) Print a copy of Form 5200-7 at the end of this AC or download a copy at http://www.faa.gov/go/wildlife.

(ii) File a report online and print a copy to send with the remains.

(2) Mail the report with feather material (see address below).

(3) Provide your contact information if you wish to be informed of the species identification.

c. Collect as much material as possible in a clean plastic/ Ziplock® bag. (Please, do not send whole birds.)

(1) Pluck/pick a variety of many feathers representing color or patterns from the wings, tail, and body.

(2) Do not cut off feathers. This removes the downy region needed to aid in identification.

(3) Include any feathers with distinct colors or patterns.

(4) Include any downy "fluff".

(5) Include beaks, feet, and talons if possible.

(6) Where only a small amount of snarge material is available, such as scrapings from an engine or smears on wings or windshields, send all of it.

(i) Dry material – Scrape or wipe off into a clean re-sealable bag or wipe the area with pre-packaged alcohol wipe or spray with alcohol to loosen material then wipe with clean cloth/gauze. Include the alcohol wipe or piece of cloth in the bag. (Do not use water, bleach, or other cleansers – they destroy or degrade DNA.)

(ii) Fresh material – Wipe the area with alcohol wipe and/or clean cloth/gauze or apply fresh tissue/blood to an optional Whatman FTA® DNA collecting card.

(1) Do not use any sticky substance such as tape or post-it notes to attach feathers.

(2) Collect remains from each impact location and place them in separate, labeled bags. Indicate the location on aircraft from which each sample came (i.e., windshield, radome, etc.) on the bag.

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Please send whole feathers (tip and base) whenever possible as diagnostic characteristics are often found in the downy barbules at the feather base. Wings, as well as breast and tail feathers, should be sent whenever possible. Beaks, feet, bones, and talons are also useful diagnostic materials. Even blood smears can provide material for DNA analysis. Do not send entire bird carcasses through the mail. However, photographs of the carcasses can be very useful supplemental documentation.

If you send fresh blood/ tissue samples frequently for DNA identification, you may want to consider getting Whatman FTA® DNA cards. The material is sampled with a sterile applicator and placed onto the surface of the card that "fixes" the DNA in the sample. For more information about ordering these items, contact the Feather Lab. Otherwise, if you only occasionally send blood/ tissue samples, consider using a paper towel soaked with alcohol or an alcohol wipe to collect this type of material. Ethanol is the preferred type of alcohol.
Additional information on sending bird remains to the Smithsonian is available at http://www.faa.gov/go/wildlife.
d. Mail the Bird/Other Wildlife Strike Report and collected material to the Smithsonian's Feather Identification Lab. The lab will forward the report to the National Wildlife Strike Database Manager.

For Material Sent via Express Mail Service:

Feather Identification Lab
Smithsonian Institution
NHB, E600, MRC 116
10th & Constitution Ave NW
Washington DC 20560-0116

(This can be identified as "safety investigation material".)

For Material Sent via US Postal Service:

Feather Identification Lab
Smithsonian Institution
PO Box 37012
NHB, E600, MRC 116
Washington DC 20013-7012

(Not recommended for priority cases.)

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