Appendix E.

Biological Assessment

This page intentionally left blank

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

New York Airports District Office
1 Aviation Plaza, Suite 111
Jamaica, NY 11434
Telephone: 718-995-5770
Fax: 718-995-5790

July 16, 2018

Ms. Robyn A. Niver
US Fish & Wildlife Service
New York Field Office
3817 Luker Road
Cortland, New York 13045

Re: Saratoga County Airport (5B2)
Master Plan Phase I Projects
US Fish & Wildlife Service – Section 7 Consultation

Dear Ms. Niver,

The Federal Aviation Administration (FAA) is hereby initiating consultation with the US Fish and Wildlife Service (Service) in accordance with Section 7 of the Endangered Species Act of 1973 for the Master Plan Phase I Projects at Saratoga County Airport. The projects have the potential to impact the habitat of an endangered species, the Karner Blue Butterfly (KBB). FAA has determined that the Master Plan Phase I Projects are *Likely to Adversely Affect* the KBB. The following discussion of the project is provided as the required information in accordance with Section 402.14.
The Sponsor recognizes the need to protect the habitat for the KBB and conservation measures will be employed to mitigate disturbances during the project construction. All habitat impacts will be mitigated through the creation of off-airport habitat. A Biological Assessment has been prepared to address impacts to the KBB. In addition, an Environmental Assessment has been prepared in accordance with FAA guidelines and in conformance with the National Environmental Policy Act (NEPA) of 1969 to address the Master Plan Phase I Projects. The EA and BA is being funded by an FAA grant and the Proposed Action will be funded by FAA grants, Saratoga County, and NYSDOT.

The Proposed Action consists of the following elements, which are necessary to meet the overall purpose of improving safety and increasing operational efficiency and flexibility, and meeting current demands at the Airport:

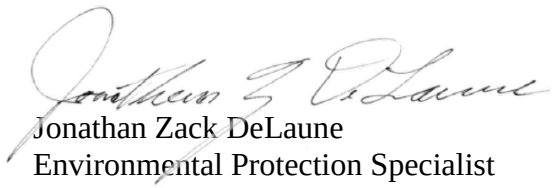
- Partial-Parallel Taxiway A Construction,
- Taxiway C Improvements,
- Glider Operations Improvements,
- Wildlife Hazard Management Plan (WHMP) Implementation – Mowing Plan Revisions,
- WHMP Implementation – Perimeter Fence Improvements; and
- Land and/or Easement Acquisition Land Use Control and Vegetation Obstruction Removal.

Construction equipment staging areas will be located outside of KBB Known Habitat Area, within the existing Sponsor stockpile area and/or on a gravel/grass area located near the T-hangars. All equipment or vehicles used on site would be cleaned of all visible soil or plant matter before entering the site to prevent the spread of invasive plant species Work limits will be clearly demarcated to prevent activity from occurring outside of the project work limits. When feasible, work will be conducted from asphalt and gravel surfaces. The Sponsor will coordinate activities in advance of the start of construction with a representative of NYSDEC to identify specific activities and sequence of the work, so as to minimize disturbances and avoid the most environmentally sensitive habitat areas whenever possible.

The most recent Service Biological Opinion (BO) was issued to the FAA on July 22, 2011, for activities associated with the proposed rehabilitation of the taxiway lighting system, installation of Precision Approach Path Indicator lights for Runways 5, 23, and 32 end, and reconstruction of the based aircraft apron. The Sponsor will be responsible for the Terms and Conditions associated with the 2011 BO and any new BO the Service issues as a result of this letter.

If you need any further information, please don't hesitate to contact me. Thank you for your prompt attention to this matter.

Sincerely,



Jonathan Zack DeLaune
Environmental Protection Specialist
New York Airports District Office

BIOLOGICAL ASSESSMENT

MASTER PLAN PHASE I PROJECTS
SARATOGA COUNTY AIRPORT
TOWN OF MILTON, SARATOGA COUNTY, NEW YORK

Prepared For:

Saratoga County Department of Public Works
3654 Galway Road
Ballston Spa, New York 12020

Prepared By:

McFarland-Johnson, Inc.
60 Railroad Place, Suite 402
Saratoga Springs, NY 12866

JULY 2018

This page intentionally left blank.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

This page intentionally left blank

1.0 OVERVIEW

The County of Saratoga is proposing the Saratoga County Airport Master Plan Phase I Projects at the Saratoga County Airport (5B2) in the town of Milton, Saratoga County, New York (see **Figure 1** and **Figure 2**). The purpose of this Biological Assessment (BA) is to address the effect of the Airport improvement projects on species and/or their designated critical habitat listed under the Endangered Species Act (ESA).

Saratoga County Airport is a general aviation Airport located approximately 5 miles west of the City of Saratoga Springs. The Airport is owned by the County of Saratoga and maintained by the Saratoga County Department of Public Works. The Airport is a public use facility, and is part of the New York State Airport System. The Proposed Action includes projects identified in the Master Plan Update (MPU) and the Wildlife Hazard Management Plan (WHMP).

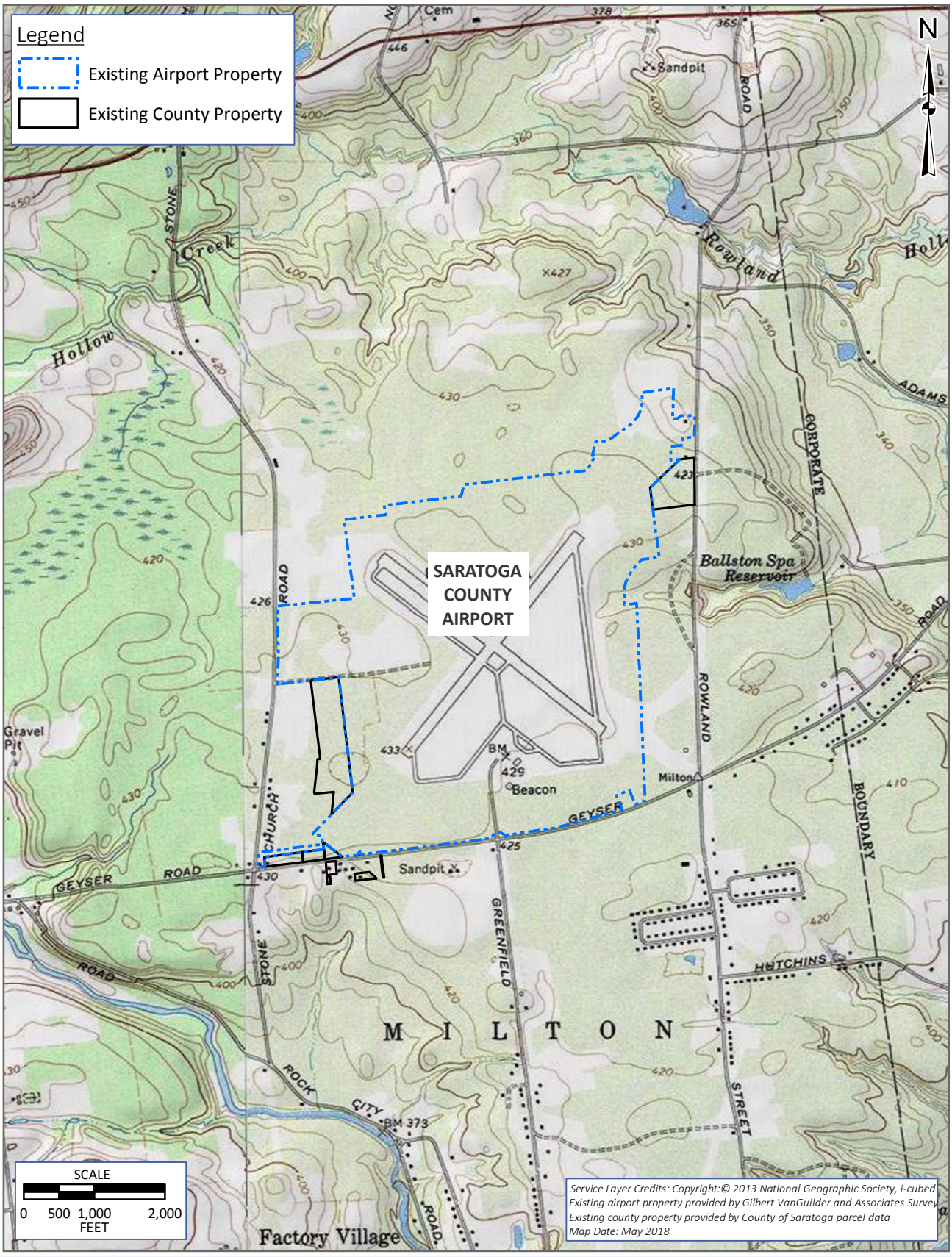
The Proposed Action has the potential to affect the following ESA-listed species that occur in the project area: Karner blue butterfly (KBB) (*Lycaedes melissa samuelis*).

Species not addressed further in the BA include the federally threatened northern long-eared bat (*Myotis septentrionalis*). The Proposed Action is within the geographic range of the northern long-eared bat (NLEB). Suitable forest habitat occurs on Airport property and the off-site habitat mitigation parcels. Up to 196 acres of tree removal is planned as part of the proposed action, including the off-airport habitat mitigation. The project areas are not within 0.25 mile of a hibernation site or within 150 feet of a known occupied maternity roost tree. Conservation measures, such as tree removal occurring outside of the active season (April 1 – September 30), will be taken to minimize potential impacts. Therefore, the Proposed Action complies with the final 4(d) rule. For the above reasons, no further evaluation of the northern long-eared bat is included in this BA.

1.1 Federal Nexus

The Federal Aviation Administration (FAA) is the lead federal agency for the initial evaluation of anticipated impacts of the Saratoga County proposed Airport Master Plan Phase I Projects as part of an Environmental Assessment (EA). The EA is being prepared by McFarland-Johnson, Inc. (MJ) on behalf of the County of Saratoga in accordance with FAA guidelines and in conformance with the National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality (CEQ) regulations stated in 40 CFR Parts 1500-1508, the FAA 1050.1F Desk Reference dated July 2015; and FAA Order 1050.1F, *Policies and Procedures for Considering Environmental Impacts* and 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. The EA and BA is being funded by an FAA grant. The Proposed Action, will be funded by FAA grants, Saratoga County, and NYSDOT. It is anticipated that the glider run-up/staging turf area would be privately funded.

Figure 1: Location Map



Document Path: K:\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\GIS\Figures\Biological Assessment\1 Saratoga Location Map.mxd

Figure 2: Aerial Map

Document Path: K:\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\GIS\Figures\Biological Assessment\2 Saratoga Aerial Map.mxd

This BA, prepared on behalf of the FAA, addresses the Proposed Action in compliance with Section 7(c)(1) of the ESA. Section 7(a)(2) of the ESA requires that, through consultation with the U.S. Fish and Wildlife Service (USFWS), and/or the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS), federal actions do not jeopardize the continued existence of any threatened, endangered, or result in the destruction or adverse modification of critical habitat.

1.2 CONSULTATION HISTORY/BACKGROUND

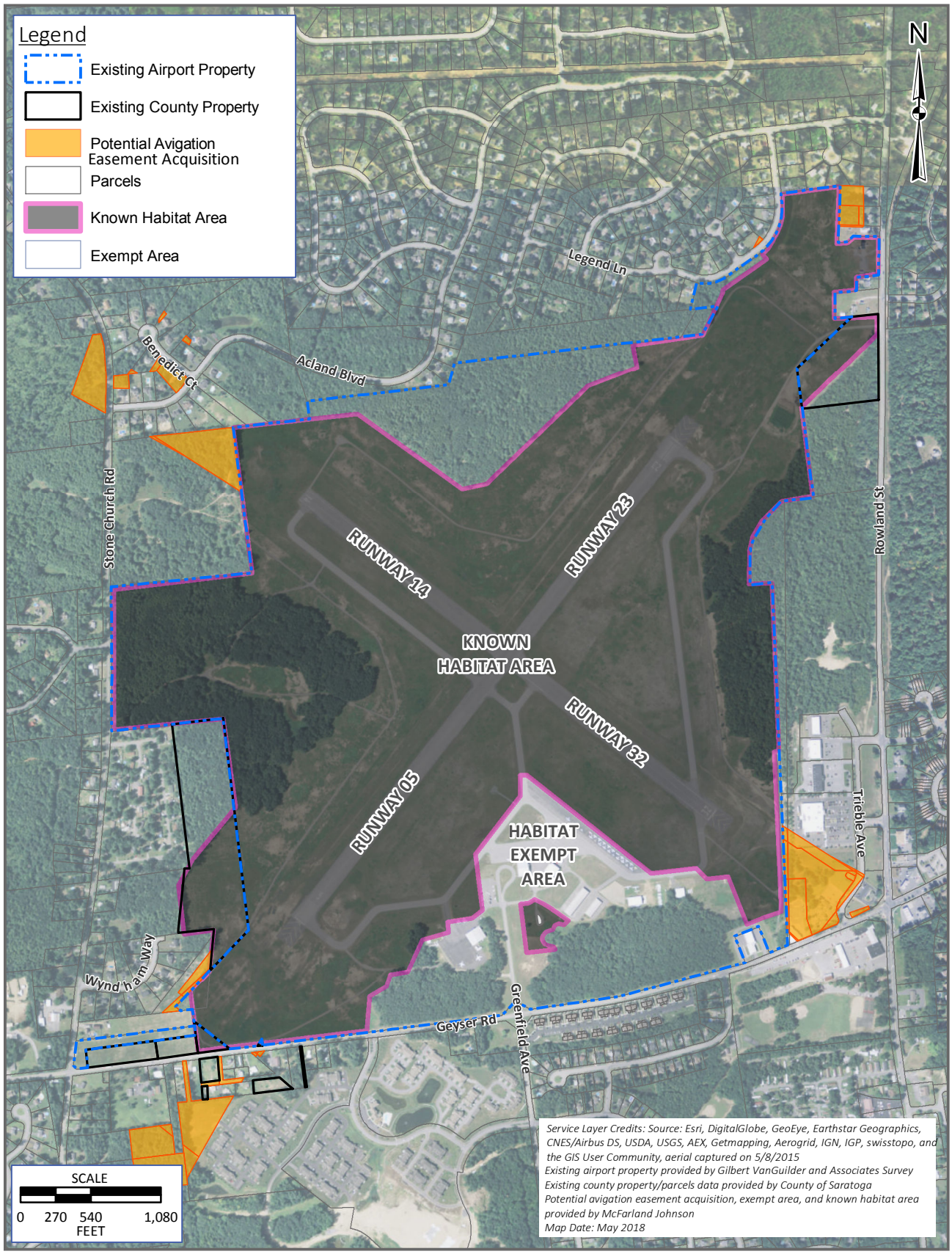
Both the USFWS and the New York State Department of Conservation (NYSDEC) have been closely involved with past projects at the Airport due to the known presence of the KBB. More detailed information on the KBB is provided in Section 4.0, Species and Critical Habitat Considered.

Consultation between the County, NYSDEC and USFWS regarding the presence of KBB habitat at the Airport has been ongoing since at least 1998. The USFWS issued a Biological Opinion (BO) in 2002 to address activities at the Airport affecting the KBB and their habitat. The 2002 BO was subsequently amended in 2008 and 2009 to include projects proposed at the Airport. The BO was last amended in 2011 to address the rehabilitation of the taxiway lighting system, installation of Precision Approach Path Indicator (PAPI) lights, and reconstruction of the based aircraft apron (see **Appendix A**). The BO determined that:

> "…the FAA's approval of the proposed taxiway lighting rehabilitation, installation of PAPI lights, and reconstruction of the based aircraft apron, is not likely to jeopardize the continued existence of the Karner blue butterfly."

The Airport has been operating under the conditions of a non-executed, but generally complied with, Draft Management Agreement (DMA) with the NYSDEC (see **Appendix A**). The DMA restricts mowing and other operational activities at the Airport to protect habitat for the state and federally-listed endangered KBB. The DMA also includes protection for the state-listed threatened frosted elfin butterfly *(Callophrys irus)* and state species of special concern, mottled duskywing (*Erynnis martialis*). The DMA separates the Airport property into two areas; "Known Habitat Area" and "Exempt Area" (see **Figure 3**). According to the DMA, the Exempt Area is located around the Airport landside facilities and the Known Habitat Area is located outside of the Exempt Area and is primarily bound by the existing Airport fence. The Known Habitat Area is subject to the management restrictions outlined in the DMA, while the Exempt Area is not. More frequent mowing and certain other necessary activities are allowed to take place within the Exempt Areas. The most significant land use restrictions imposed on the Known Habitat Area include no motor vehicle traffic off of paved or gravel surfaces and a seasonal mowing restriction from March 31 to October 15. In addition, only the areas within the Known Habitat Area immediately surrounding the taxiway lighting, signs, rotating beacon, and automated weather observation station (AWOS-III) are allowed to be maintained on a regular basis. Any Airport development project located within the Known Habitat Area requires consultation with the NYSDEC and USFWS.

Figure 3: Habitat Management Plan



Document Path: K:\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\GIS\Figures\Biological Assessment\3 Saratoga Habitat Management Plan Map_BA.mxd

In addition to the DMA, a Draft Operations Agreement for Glider Activity at the Airport (DOA) between the NYSDEC, Saratoga County, and Saratoga Soaring Association was designed to minimize the adverse effects of glider operations on protected species and their habitat (see **Appendix A**). The agreement specifies restrictions on off-pavement takeoff, landing and staging/run-up areas to avoid and minimize deleterious impacts. Specifically, the agreement states the paved runways are primary landing zones with the exception of air traffic conflicts.

As part of the Master Plan Phase I Projects EA, the DMA and DOA are being combined into a single document and renamed the Saratoga County Airport Habitat Management and Protection Plan (HMPP).

As part of the Master Plan Phase I Projects EA, early coordination and pre-consultation with the USFWS and NYSDEC for the Proposed Action was conducted during a series of site visits, meetings, email exchanges, and telephone conversations. Throughout the EA process, MJ has coordinated with the County, USWFS and NYSDEC and other stakeholders to develop the EA and this BA. The following list provides a summary of agency correspondence for the Proposed Action.

November 30, 2015 – USFWS, NYSDEC, FAA: MJ emailed the agencies a Memorandum which provided a summary of the November 23, 2015 agency kick-off meeting.

December 30, 2015 – USFWS, NYSDEC: Email correspondence between MJ and the agencies regarding the removal of projects from the EA Proposed Action because they are landside projects located within the Exempt Area as outlined in the DMA.

February 17, 2016 – USFWS, NYSDEC: The FAA approved Final WHMP was emailed to the USFWS and NYSDEC.

March 2, 2016 – USFWS, NYSDEC, FAA: Email correspondence between MJ and the agencies regarding the WHMP recommendations.

May 31, 2016 – USFWS, NYSDEC, FAA: MJ emailed a Memorandum for the Master Plan Phase I EA Habitat Impacts to the agencies for their review and discussion purposes at the June 2, 2016 meeting. MJ also emailed an agenda for the June 2, 2016 meeting.

June 2, 2016 – USFWS, NYSDEC, FAA: An agency coordination meeting was held at the Saratoga County DPW offices to further discuss the Proposed Action, EA, protected species and habitat impacts, habitat mitigation and Section 7 process and scheduling. The meeting was followed by a site visit to the Airport to discuss the proposed EA projects and Section 7 process requirements. Prior to the June 2, 2016 meeting, a Habitat Impacts Memorandum dated May 31, 2016 and associated figures were provided for review and discussion purposes.

July 13, 2016, USFWS, NYSDEC, FAA: MJ emailed the agencies an updated Habitat Impacts Memorandum based on discussions held during the June 2, 2016 meeting and a Memorandum which provided a summary of the June 2, 2016 meeting.

August 29, 2016: Email exchanges between NYSDEC and MJ regarding butterfly population at the Airport.

October 11, 2016: Email exchanges between USFWS, NYSDEC, and MJ regarding content and scheduling of the BA.

March 22, 2017: Received written comments from USFWS on their review of the draft BA.

April 18, 2017: Conference call and webinar with USFWS, NYSDEC, County, FAA, and MJ to discuss impacts of proposed action and mitigation options, BA agency comments, and next steps.

October 12, 2017: Site visit of off-airport mitigation sites performed with Kathy O'Brien and Greg Strait of NYSDEC to discuss potential habitat mitigation and constraints.

January 16, 2018: Conference call with USFWS, NYSDEC, FAA, County, and MJ to discuss proposed off-airport habitat mitigation and timeline for agency review of BA and EA.

Supporting meeting summaries, consultation letters, and communications are appended to this BA (see **Appendix B**). Based on consultation with the agencies; the County and MJ were able to refine avoidance, minimization, conservation and mitigation strategies for the species that may potentially be affected by the Proposed Action.

2.0 PROJECT DESCRIPTION

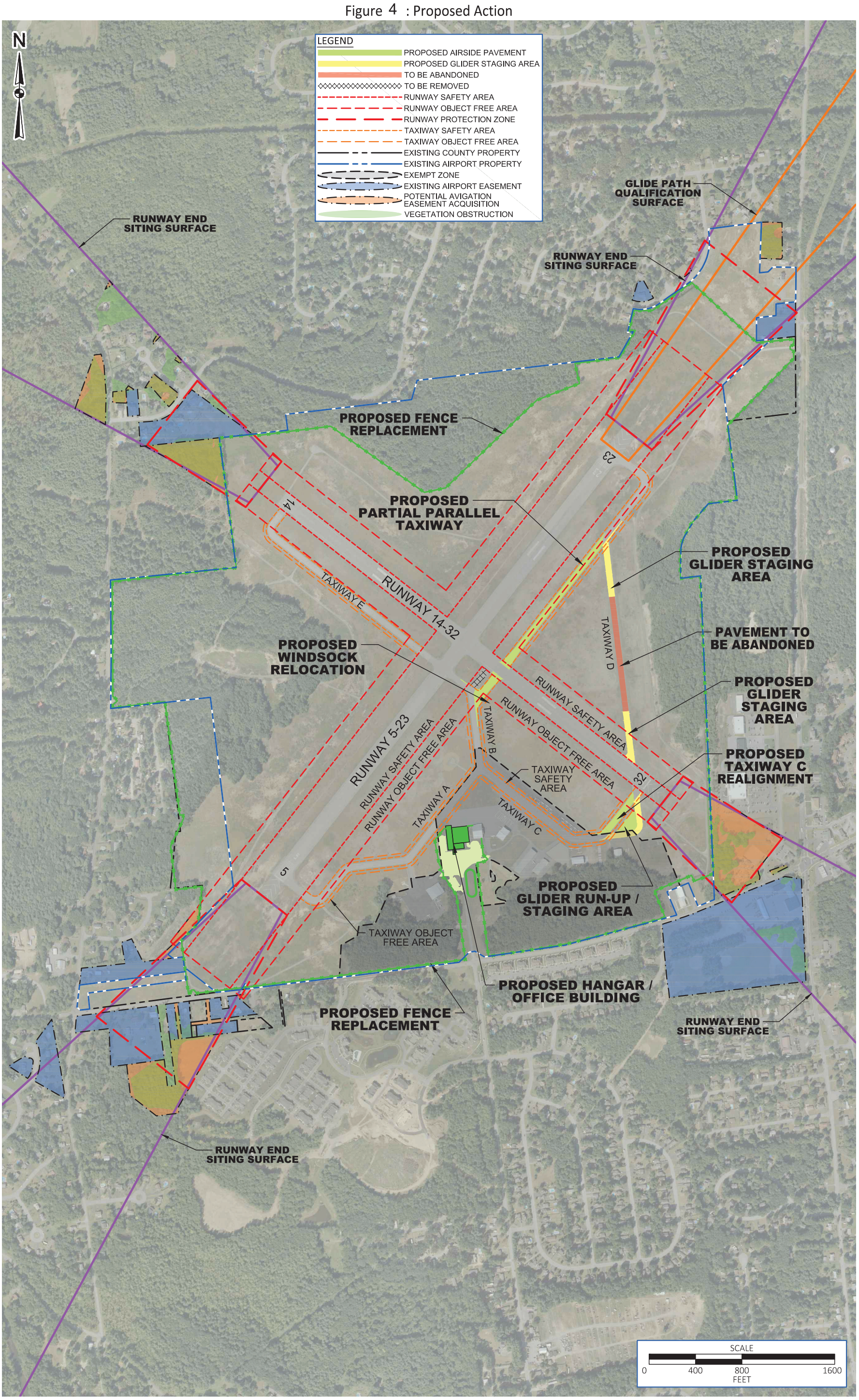
The Proposed Action includes Airport improvements recommended in the MPU and the WHMP to assist the Airport in meeting current FAA design and safety standards. Projects identified in the MPU and the WHMP that are being addressed as part of the Master Plan Phase I Projects EA and consequently this BA include the following:

- Partial-Parallel Taxiway A Construction,
- Taxiway C Improvements,
- Glider Operations Improvements,
- Wildlife Hazard Management Plan (WHMP) Implementation – Mowing Plan Revisions,
- WHMP Implementation – Perimeter Fence Improvements; and
- Land and/or Easement Acquisition Land Use Control and Vegetation Obstruction Removal.

The Proposed Action is illustrated on **Figure 4**. Overall, proposed impacts as a result of the Proposed Action are illustrated on **Figure 5**.

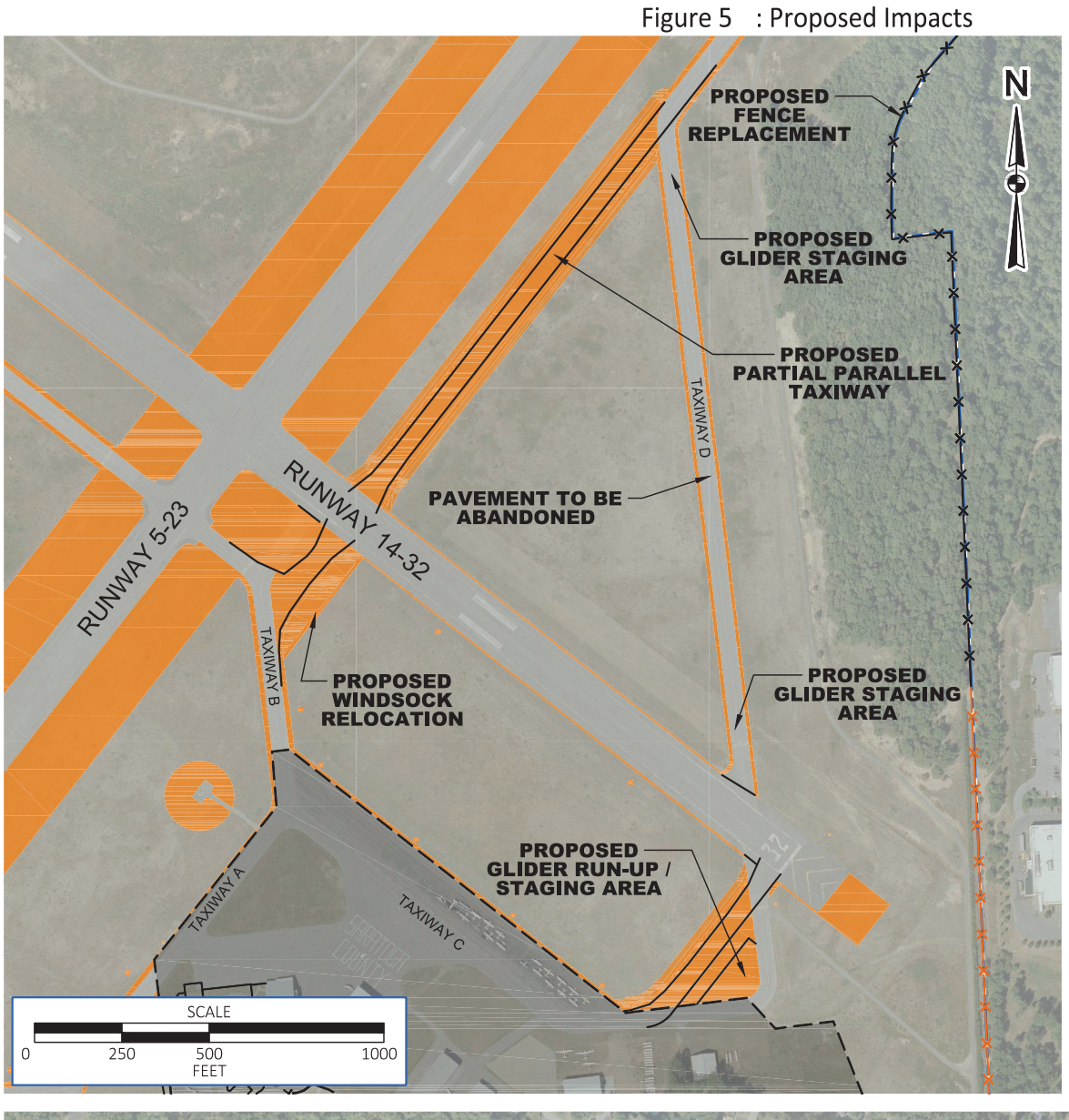
This page intentionally left blank.

Figure 4 : Proposed Action



This page intentionally left blank.

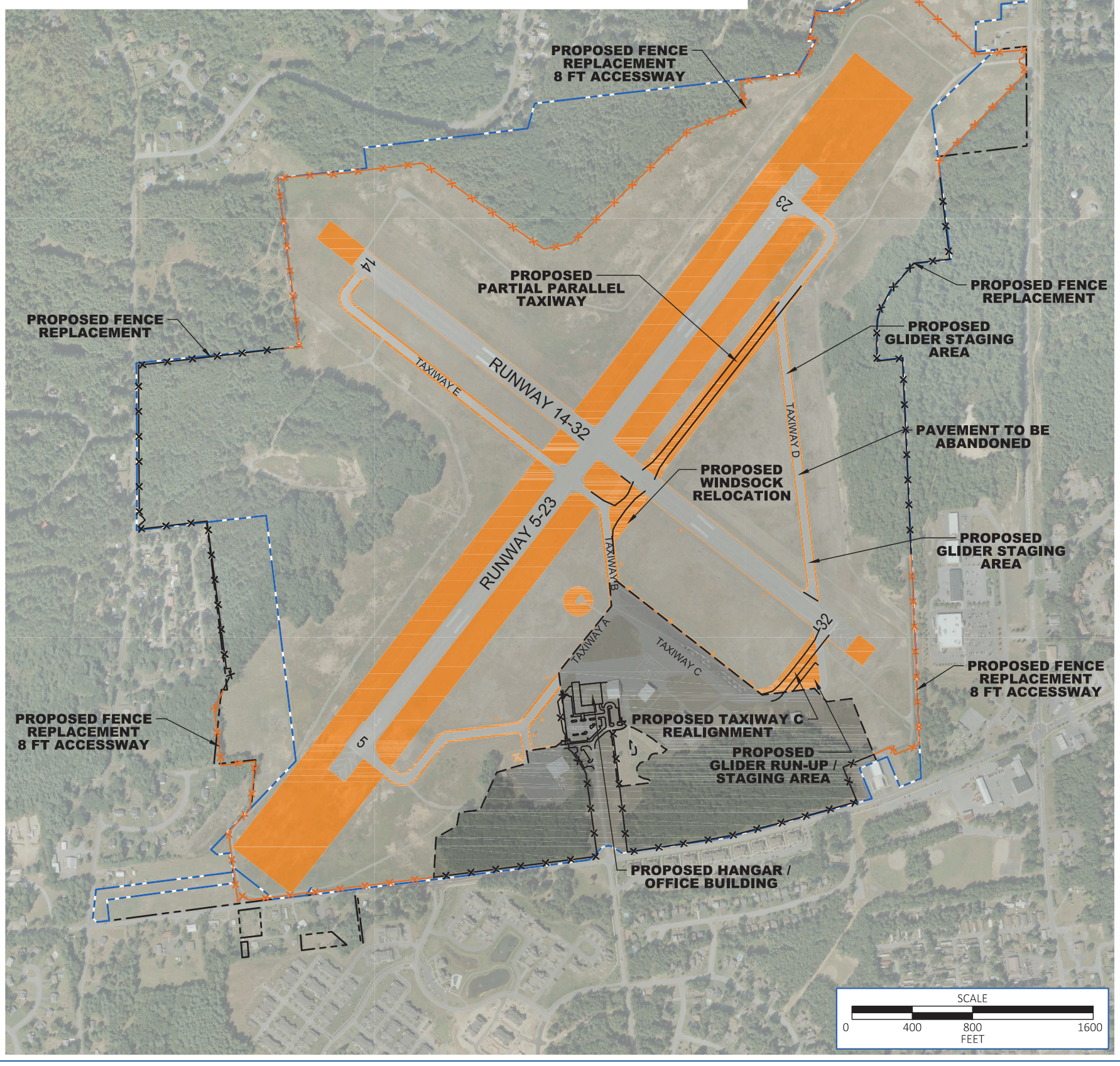
Figure 5 : Proposed Impacts



LEGEND

- PERMANENT IMPACTS
- PERMANENT FENCE IMPACTS
- EXISTING COUNTY PROPERTY
- EXISTING AIRPORT PROPERTY
- EXEMPT AREA

ITEM	WIDTH
RUNWAY	140' (TYP)
RUNWAY 5-23 RSA	500'
RUNWAY 14-32 RSA	150'
TAXIWAY	50' (TYP)
TAXIWAY SAFETY AREA	79'



This page intentionally left blank.

The Land and/or Easement Acquisition Land Use Control and Vegetation Obstruction Removal will occur outside of the KBB Known Habitat Area, including all construction activity. Therefore, impacts to the KBB and their habitat would not occur and are not discussed further in this BA.

Alternatives for the proposed projects were evaluated during the EA process (e.g., full-parallel taxiway, runway object free area mowing) (see Chapter 3 of the EA). Evaluation factors considered included the following: operational efficiency and flexibility, community impacts, environmental impacts, and FAA design standards. The Proposed Action was based upon the evaluation of alternatives, consultation with the FAA, NYSDEC, USFWS, Saratoga County, and other stakeholders. Proposed conceptual mitigation for sensitive species habitat impacts will be discussed separately in Section 7.1. Detailed descriptions of the major elements of the Proposed Action are provided in the following sections.

Proposed projects would be phased and are mostly dependent on funding and the proposed habitat mitigation. Therefore, as discussed with the NYSDEC and USFWS, species/habitat impacts for each project are evaluated independent of one another. Cumulative impacts, assuming all of the proposed projects are completed, are provided in **Table 12** in Section 6.0.

2.1 Partial-Parallel Taxiway A Construction

The proposed partial-parallel taxiway would involve the construction of a 1,650-foot asphalt taxiway, 50 feet wide, on the southeasterly side of Runway 5-23. The partial-parallel taxiway would begin at Taxiway B, cross Runway 32 and continue to Taxiway D, which connects to the Runway 23 end. Stormwater management water quality treatment practice, such as an Infiltration trench, would be provided to accommodate stormwater runoff from the additional asphalt resulting from the taxiway projects. The stormwater management practices would be constructed along the length, and on both sides, of the new asphalt.

The stub taxiway connecting Taxiway B to Runway 32 would be removed and Taxiway D would be abandoned in place. The abandonment of Taxiway D would include marking of the taxiway ends to provide staging areas for gliders, avoiding the need to stage on turf areas. The proposed partial-parallel taxiway offers a bypass option if gliders are on Taxiway C or D and cannot be moved. Aircraft can bypass Taxiway C and D altogether to get to Runway 23, which is the runway end with the most aircraft traffic. The proposed partial-parallel taxiway is shown on **Figure 6.**

Taxiway edge light, installed.

Medium Intensity Taxiway Edge Lighting (MITL) would be installed and relocated where necessary along the proposed and existing taxiway to provide guidance to pilots taxiing at the Airport during poor weather conditions or at night. This consists of installing new conduit, light bases, lights, and counterpoise (ground wire which provides lightning protection to the airfield lighting system). Per FAA design Advisory Circulars, as with the existing lights, the taxiway edge lights would be located 10 feet off of the existing edge of pavement

and a maximum of 200 feet apart along the length of the taxiway based on taxiway geometry. The conduit that feeds power to the lights runs in-line with the edge lights (also 10 feet off the edge of pavement) and parallel to the edge of pavement. The counterpoise ground wire is located parallel to and 5 feet off of the existing edge of pavement.

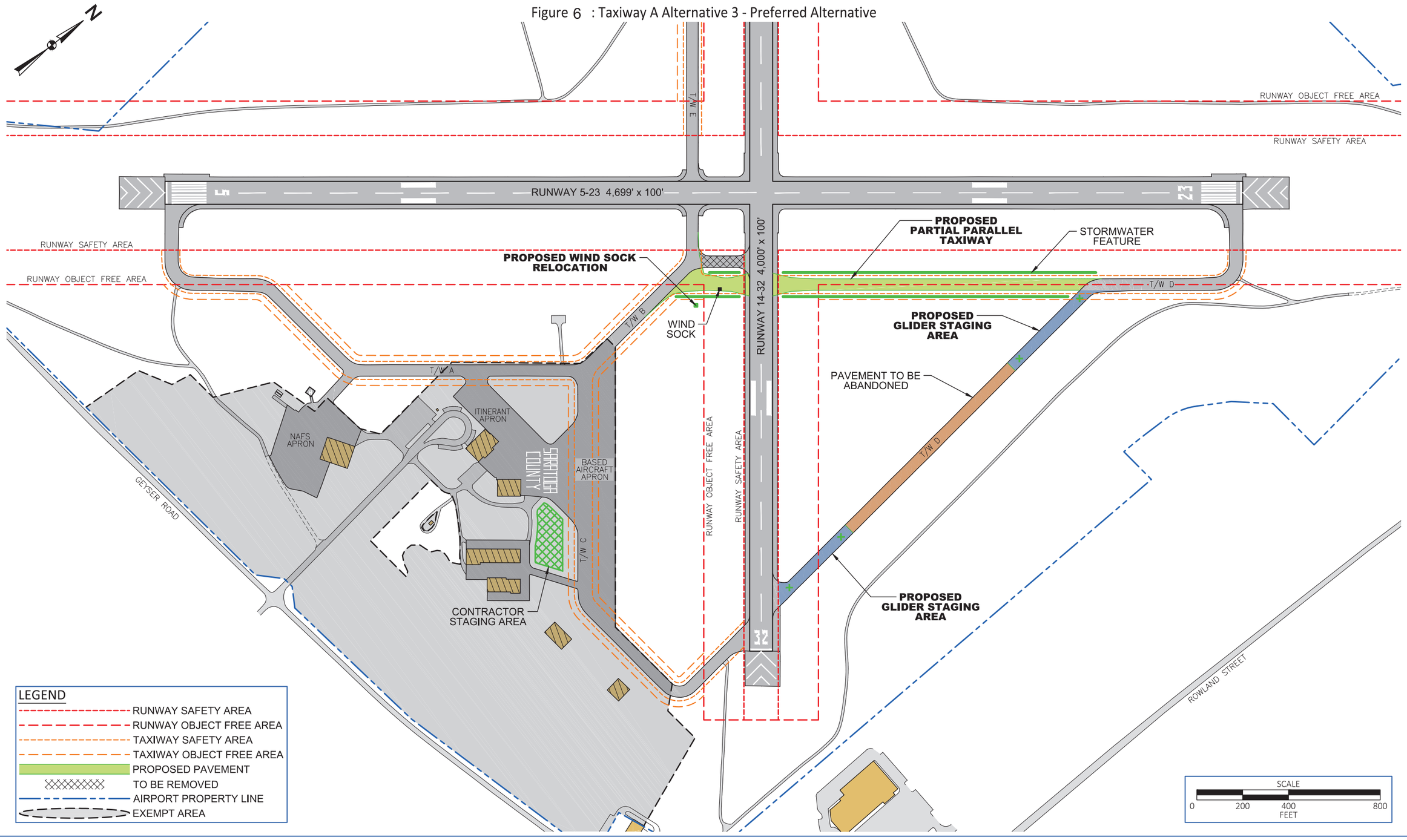
Airport sign, installed.

Taxiway signage would be installed in conjunction with the construction and removal of related taxiways at the Airport. The proposed signage consists of removing existing signs and installing new airfield guidance signs along the taxiway to accommodate FAA standards for signage for the classification of aircraft that are using the Airport (FAA AC 150/5340-18F). Per FAA design Advisory Circulars, the airfield guidance signs would be located 32 feet off of the existing edge of pavement at lateral locations based on taxiway geometry. The proposed sign foundations are approximately 24 inches wide and vary in length from approximately 6 feet to 12 feet depending on the sign display necessary. All signs that are associated with "taxiway guidance" would be powered off of the nearest taxiway light base, with conduit installed from the light base to the sign. In areas where the signs are associated with "runway guidance", the signs would be powered off of the nearest runway light base, with conduit installed from the light base to the sign. Trenching for taxiway lighting and signage would be completed using the narrowest width possible, approximately 12-inches, with the use of trencher equipment or similar construction equipment.

The existing Airport wind sock would need to be relocated due to the proposed location of the partial-parallel taxiway. The wind sock would be relocated to the east of the proposed taxiway. Similar in nature to signage and lighting installation, trenching would be completed using the narrowest width possible, approximately 12-inches, the use of trencher equipment or similar construction equipment

The abandonment of Taxiway D between the Runway 32 end and the proposed taxiway would involve the removal of existing taxiway lighting and signage fixtures only. To avoid potential impacts to KBB habitat, the lighting and signage conduit, light bases and signage foundations would be left in place and caps would be placed over openings. The northern and southern portions of Taxiway D would be used as glider staging areas. The remainder of the taxiway would be abandoned and minimal maintenance would be performed along the edges of the asphalt, such as taxiway safety area mowing and removal of woody plants, for safety purposes. Removal of the aboveground lighting and signage would be performed by equipment on the taxiway and therefore impacts from construction equipment would not occur.

Figure 6 : Taxiway A Alternative 3 - Preferred Alternative



K:\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\Drawings\AutoCAD\Biological Assessment\ALT-TWY A.dwg

This page intentionally left blank.

The partial-parallel taxiway would result in the construction of an approximate 92,000 square foot (2.11 acres) asphalt taxiway. The permanent KBB habitat impacts for the project are summarized below in **Table 1.** As stated previously, the impacts below do not include proposed impacts from other projects discussed in this BA or impacts for which incidental take has been previously provided (USFWS 2002, 2008, 2009, and 2011 BOs). Cumulative impacts are addressed in Section 8.0.

Table 1. Partial-Parallel Taxiway Project Permanent Impacts

Project Element Description	New Asphalt (Acres)	Stormwater Features (Acres)	Appurtenant Features[1] (Acres)	Construction Impacts[2] (Acres)	Total Impact Area (Acres)
Proposed Partial-Parallel Taxiway	2.11	0.71	0.79	1.07	4.68

[1] *Appurtenant features include wind sock, lighting, and signage.*
[2] *Construction impacts include construction equipment activity.*
Source: Impacts quantified by McFarland Johnson.

The total impact area is all inclusive and therefore includes the proposed asphalt for the partial-parallel taxiway, stormwater features, associated lighting, signage, lighting and signage conduit along the proposed taxiway, wind sock relocation, minor grading, and construction equipment activity. The construction area would be demarcated by silt fence and/or construction fencing during the construction phase.

In accordance with FAA guidance, the stormwater infiltration trenches would need to be constructed outside of the safety areas. Stormwater trenches and grading would be approximately 10 feet wide, inclusive of a 5-foot-wide stormwater trench, which would consist of clean pea gravel and stone. A 15-foot offset from the edge of the stormwater practices was used to conservatively estimate the area necessary for construction equipment activity and minor grading. This work area would be sufficient for the contractor to complete all construction. It is unlikely that all of the construction areas would be disturbed and impacts associated with operation of each piece of construction equipment would vary based on the type of equipment and the construction operation being performed. Work limits will be clearly demarcated to prevent activity from occurring outside of the project work limits. When feasible, work will be conducted from asphalt and gravel surfaces. It should be noted that the construction impact offset for the Airfield Lighting Improvement Project in 2013 was typically 15 feet from the existing pavement.

All equipment or vehicles used on site would be cleaned of all visible soil or plant matter before entering the site to prevent the spread of invasive plant species. Construction staging areas would be located outside of KBB habitat areas near the based aircraft apron, as shown on **Figure 6**. Turf areas within the construction limits would be re-established using seed mix previously approved by the FAA, NYSDEC, and USFWS for the Airfield Lighting Improvement Project in 2013 (see **Table 2**).

Table 2. Turf Area Seed Mix

Seed Latin Name	Seed Common Name	Rate of Application (lb/acre)
Schizachyrium scoparium	Little bluestem	0.5

[1] Seed mix shall exclusively consist of only Little Bluestem seed. No other additives or species will be allowed in the mix.

Typical construction equipment for the partial-parallel taxiway project would include:

Track Excavator
Skid Steer
Paver
Dump trucks
Backhoe
Hydroseeder
Bulldozer
Roller
End-dump trucks
Trenching Machine
Water truck

All construction work shall be conducted after mid-August, when the second KBB brood has completed their mating and egg laying cycle and before April, when the first brood larvae hatch. Further detail regarding project timing and duration is discussed in Section 2.6.

2.2 Taxiway C Improvements

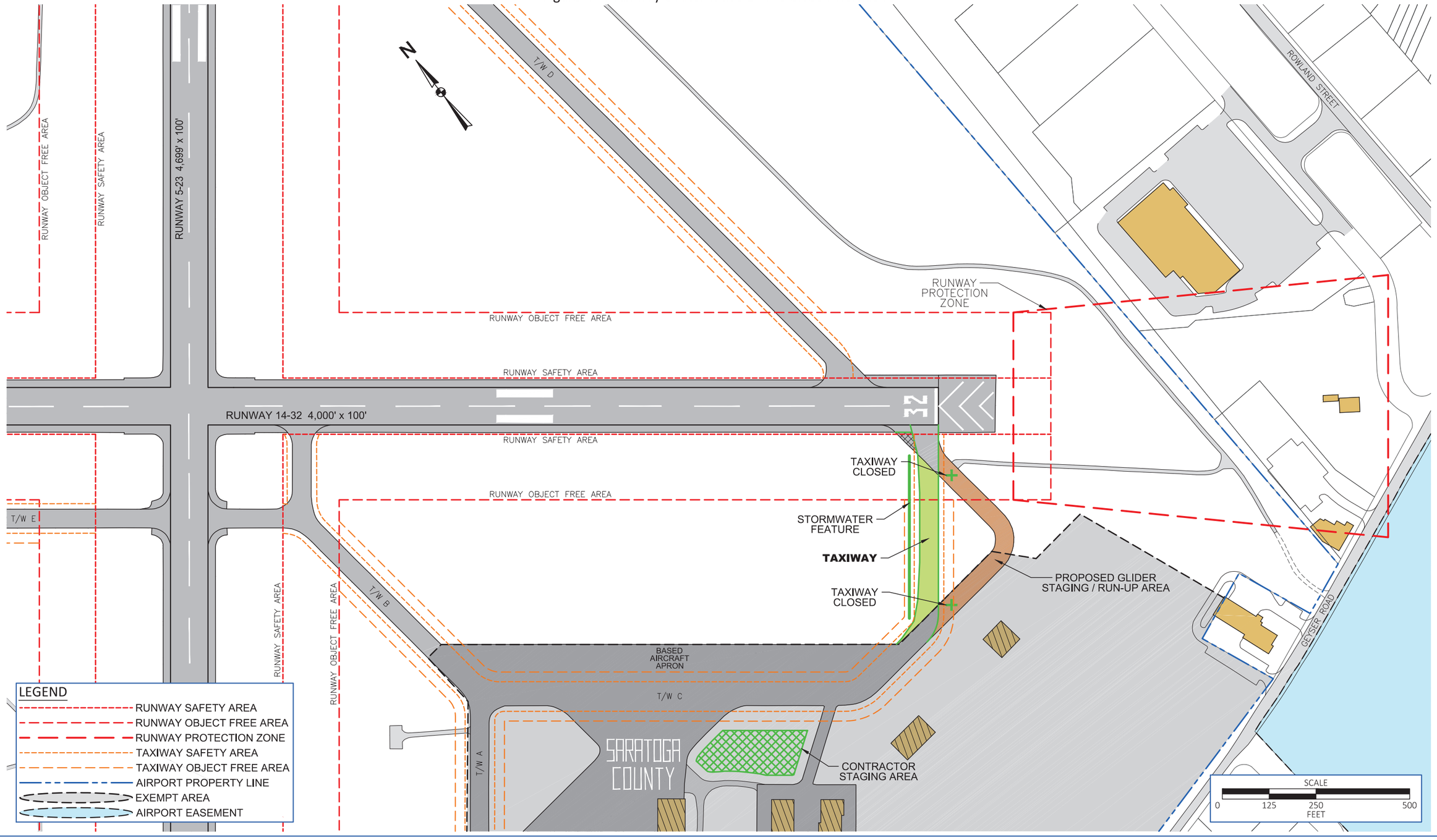
The Taxiway C improvements project involves straightening Taxiway C to provide a right-angle intersection with Runway 32. The proposed project would connect the taxiway from the edge of the apron to the Runway 32 threshold. The taxiway would be 50 feet wide and approximately 185 feet shorter than the existing taxiway. Existing MITLs would be relocated and new MITLs would be installed and relocated where necessary along the proposed and existing taxiway to provide guidance to pilots taxiing at the Airport during poor weather conditions or at night. Existing taxiway signage would be relocated.

The existing taxiway section between the apron and the Runway 32 threshold would be abandoned and utilized for glider operations, which would allow aircraft to bypass gliders to get to Runway 32. The abandonment of the taxiway would involve the removal of existing taxiway lighting and signage fixtures only. To further avoid potential impacts to KBB habitat, the associated conduit, light bases and signage foundations would be left in place and caps would be placed over openings. Removal of the lighting and signage fixtures would be performed by equipment situated on the taxiway and therefore impacts from construction equipment would not occur.

The proposed Taxiway C improvements project is shown on **Figure 7.**

The taxiway improvements would result in the construction of an approximate 0.50-acre asphalt taxiway. The permanent impacts for the project are summarized below in **Table 3**. As stated previously, the impacts below do not include proposed impacts from other projects discussed in

Figure 7 : Taxiway C Alternative 2 - Preferred Alternative



K:\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\Drawings\AutoCAD\Biological Assessment\ALT-TWY C.dwg

This page intentionally left blank.

this BA or impacts for which incidental take has been previously provided (USFWS 2002, 2008, 2009, and 2011 BOs). Cumulative impacts are addressed in Section 8.0.

Table 3. Taxiway C Improvements Permanent Impacts

Project Element Description	New Asphalt (Acres)	Stormwater Features (Acres)	Appurtenant Features[1] (Acres)	Construction Impacts2 (Acres)	Total Impact Area (Acres)
Proposed Taxiway	0.50	0.12	< 0.001	0.19	0.81

[1] *Appurtenant features include lighting and signage.*
[2] *Construction impacts include construction equipment activity.*
Source: Impacts quantified by McFarland Johnson.

The total habitat impact area is all inclusive and therefore includes the proposed asphalt for the taxiway, lighting, signage, lighting and signage conduit along the taxiway, stormwater features, and construction equipment activity. The construction area for the Taxiway C improvements would be delineated with construction fencing or similar. Impacts to all KBB present within the construction area, 0.81 acres, are anticipated.

Similar to the partial-parallel taxiway, construction of stormwater infiltration trenches would take place outside of the safety areas. The stormwater trench and associated grading would be approximately 10 feet wide. A 15-foot offset from the edge of the stormwater practices was used to conservatively estimate the area necessary for construction equipment activity and minor grading. This work area would be sufficient for the contractor to complete all construction. It is unlikely that all of the construction areas would be disturbed and impacts associated with operation of each piece of construction equipment would vary based on the type of equipment and the construction operation being performed. Work limits will be clearly demarcated to prevent activity from occurring outside of the project work limits. When feasible, work shall be conducted from asphalt and gravel surfaces. It should be noted that the construction impact offset for the Airfield Lighting Improvement Project in 2013 was typically 15 feet from the existing pavement.

All equipment or vehicles used on site would be cleaned of all visible soil or plant matter before entering the site to prevent the spread of invasive plant species. Construction staging areas would be located near the based aircraft apron and outside of KBB habitat areas, as shown on **Figure 7**. Turf areas within the construction limits would be re-established using little bluestem seed (see **Table 2**).

Typical construction equipment for the taxiway project will include:

Track Excavator
Skid Steer
Paver
Dump trucks
Backhoe
Hydroseeder
Bulldozer
Roller
End-dump trucks
Trenching Machine
Water truck

All construction work shall be conducted after mid-August, when the second KBB brood has been completed their mating and egg laying cycle and before April, when the first brood larvae hatch Further detail regarding project timing and duration is discussed in Section 2.6.

2.3 Glider Operations Improvements

The glider operations improvements consist of the construction of an approximate 0.38-acre turf run-up/glider staging area at the current bend in Taxiway C to provide a means for powered aircraft to by-pass gliders. The edge of the proposed turf glider area would be marked with retroreflective markers. The staging/run-up area would drastically minimize and/or eliminate the need for glider run-up and staging on active airfield areas. The proposed project is shown on **Figure 8.**

Due to the existing object free area requirements, the proposed turf area could not be constructed until after the Taxiway C is realigned. Therefore, lighting and signage removal and/or installation is not included as part of this project and is included in the Taxiway C realignment project discussed above. As stated above, retroreflective markers would serve to designate the turf glider run-up area and would prevent gliders from crossing over to the taxiway and interfering with powered aircraft operations. The markers would be installed on the edge of the run-up area, between the proposed Taxiway C and the glider run-up area. The turf area would be mowed regularly to maintain the appropriate turf conditions, such as a smooth surface cover with a minimum of top growth, for operating glider aircraft.

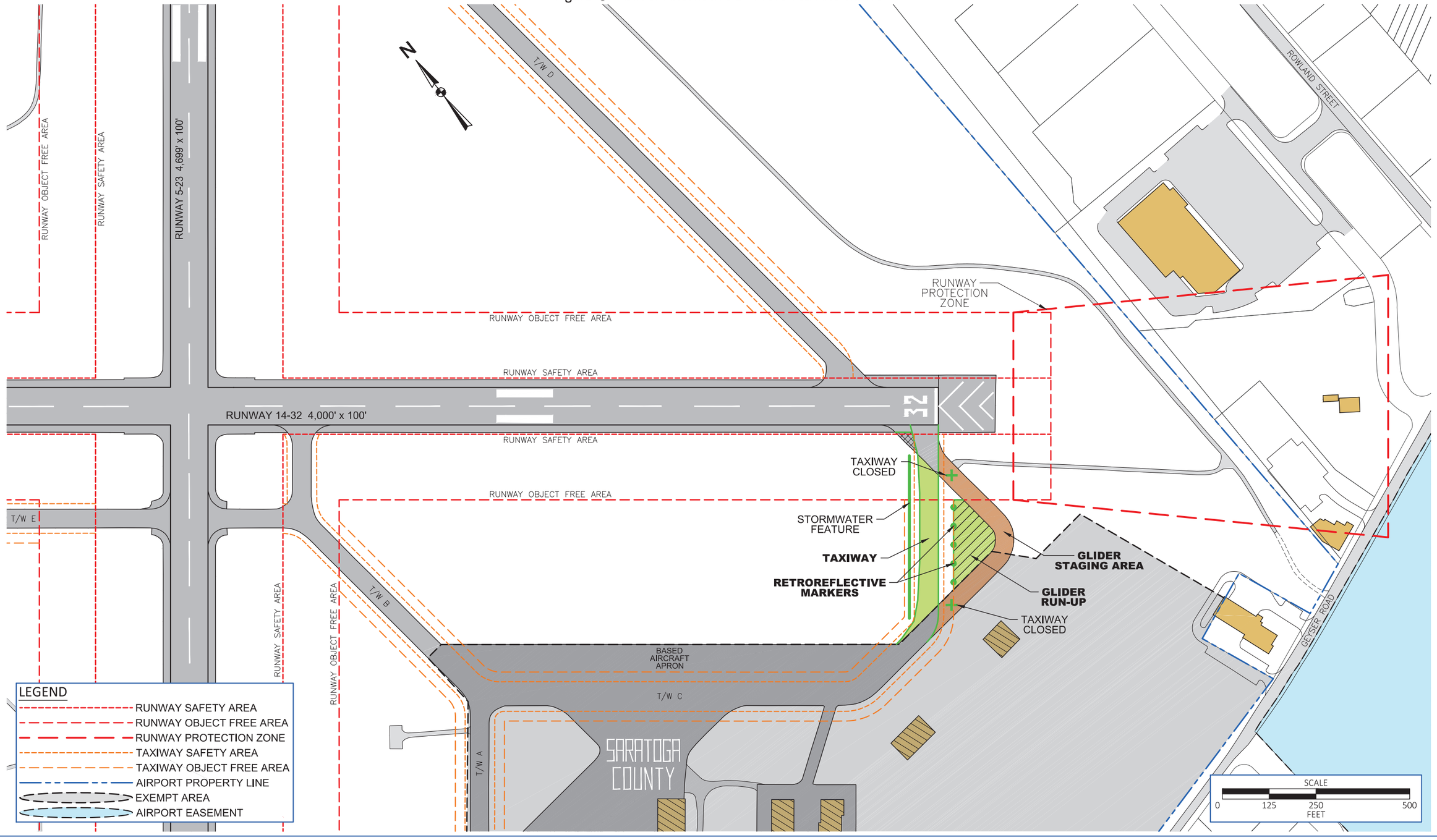
The construction area includes the proposed turf area and construction equipment activity. Due to the existing sandy soils, minimal grading is anticipated to provide good drainage. Construction equipment would operate from the abandoned Taxiway C. Work limits will be clearly demarcated to prevent activity from occurring outside of the project work limits. The total construction area for the glider operations improvements would be 0.38 acres, which includes all areas within construction fencing or similar.

All equipment or vehicles used on site would be cleaned of all visible soil or plant matter before entering the site to prevent the spread of invasive plant species. Construction staging areas would be located outside of KBB habitat areas as shown on **Figure 8**. Turf areas within the construction limits would be re-established using seed mix previously approved by the FAA, NYSDEC, and USFWS for the Airfield Lighting Improvement Project in 2013 (see **Table 2** in Section 2.1).

Typical construction equipment for the glider run-up staging project would include:

Bulldozer
Skid Steer
End-dump trucks

Figure 8 : Glider Alternative 2 - Preferred Alternative



K:\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\Drawings\AutoCAD\Biological Assessment\ALT-TWY C.dwg

This page intentionally left blank.

All construction work shall be conducted after mid-August, when the second KBB brood has been completed their mating and egg laying cycle and before April, when the first brood larvae hatch. Further detail regarding project timing and duration is discussed in Section 2.6.

2.4 Wildlife Hazard Management Recommendations

Wildlife hazard management recommendations are based on the Wildlife Hazard Assessment (WHA) and WHMP completed for the Airport in 2015 and 2016, respectively. MJ conducted a yearlong WHA at the Airport from November 2013 to October 2014 in accordance with 14 Code of Federal Regulations (CFR) 139.337(b) and (c), and based on the Transportation Research Board Airport Cooperative Research Program Report 32: *Guidebook for Addressing Aircraft/ Wildlife Hazards at General Aviation Airports*. The WHA was recommended by the FAA in response to ongoing concerns regarding airfield management restrictions due to the presence of state and federally listed threatened and endangered species at the Airport. Additionally, the USFWS suggested a WHA in order to quantify the actual wildlife hazard present at the Airport. The WHA inventoried the ecological setting at and in the vicinity of the Airport, wildlife utilizing the Airport, and the wildlife strike history at the Airport. The results of the 2013-2014 WHA were summarized in a report and submitted to the FAA, USFWS and NYSDEC for review. The WHA found that only 39% of wildlife strikes are actually reported. However, anecdotal information based on correspondence with Airport fixed based operator (FBO) personnel indicates that there have been many more strikes at Saratoga County Airport than have been reported to the FAA. A total of 70 different bird species and 2,563 individual species were recorded during the 2013-2014 WHA. Wild turkeys, crows, coyote, foxes and white-tailed deer were considered the greatest hazard to aviation operations at the Airport. Based on recommendations of the WHA, MJ prepared a WHMP to address wildlife hazard management at the Airport. The WHMP was reviewed and accepted by the FAA and the County. The WHMP is a living document and will be evaluated annually to determine if any changes to the document are warranted. The WHMP would be reviewed and revised after this BA has been accepted and a BO has been issued. The USFWS and NYSDEC have been given the opportunity to review the WHMP and agency comments are being considered and/or incorporated into the EA and subsequently this BA. The following recommendations from the WHMP are included in the Proposed Action.

- *Mowing Plan Revisions*
- *Perimeter Fence Improvements*

2.4.1 Mowing Plan Revisions

The FAA approved WHMP recommends mowing the runway safety areas (RSA) and taxiway safety areas (TSA) to reduce wildlife hazards.

Currently, in accordance with the DMA, the County cannot begin its annual mowing operations until after October 15 to allow the endangered and threatened butterflies present at the Airport to fully carry out their life functions and allow essential habitat plants, including wild blue lupine (*Lupinus perennis*), to complete life cycles. As discussed above, regular unrestricted mowing within the Known Habitat Area surrounding the taxiway lighting, signage, rotating beacon, and AWOS-III is currently allowed and amounts to approximately 4.83 acres.

The RSAs and TSAs are areas surrounding the runways and taxiways that are designated to improve the safety of aircraft operations. According to FAA design standards (AC 150/5220-23), the RSA must be:

> ***(1)*** *cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations;* ***(2)*** *drained by grading or storm sewers to prevent water accumulation;* ***(3)*** *capable, under dry conditions, of supporting snow removal equipment, Aircraft Rescue and Fire Fighting (ARFF) equipment, and the occasional passage of aircraft without causing damage to the aircraft; and* ***(4)*** *free of objects, except for objects that need to be located in the RSA because of their function. Objects higher than 3 inches (76 mm) above grade must be constructed, to the extent practical, on frangibly mounted structures of the lowest practical height with the frangible point no higher than 3 inches (76 mm) above grade. Other objects, such as manholes, should be constructed at grade and capable of supporting the loads noted above. In no case should their height exceed 3 inches (76 mm) above grade. The standards remain in effect regardless of the presence of natural or man-made objects or surface conditions that preclude meeting full RSA standards.*

The dimensions of the RSA and TSA are based on the size and speed of aircraft operating at the Airport as represented by the Runway Design Code (RDC). AC 150/5300-13A, *Airport Design* requires each runway to have its own RDC at multiple runway Airports. The RDC for Runway 14-32 is B-II, while the RDC for Runway 5-23 is C-II. Runway 14-32 is a crosswind runway and has different operating and usage characteristics than the primary runway, Runway 5-23 and therefore the design aircraft is different. The runway and taxiway dimensions and safety area dimensions are shown in **Table 4** below.

Table 4. Runway and Taxiway Dimensions

	Runway 5-23 (Primary)	Runway 14-32 (Crosswind)	Taxiways
Length	4,699’	4,000’	N/A
Width	100’ (2-20’ paved shoulders)	100’ (2-20’ paved shoulders)	50’
Safety Area Width	500’	150’	79’
Safety Area Length Beyond RW End	1,000’	150’ (RW32) & 300’ (RW14)	N/A
Safety Area Length Prior to Threshold	600’	300’	N/A

Source: Master Plan Update, McFarland Johnson 2015.

Based on the WHMP recommendations and FAA recommendation of a grass height of 6-12 inches in turfed airport operations areas (AOA), unrestricted mowing of the runway and taxiway safety areas is proposed. The WHMP states the FAA recommended grass height of 6-12 inches was exceeded by an average of 25 inches for approximately 5 months of the year due to the fact that the Airport operates in accordance with the DMA to protect the threatened and endangered species. The maximum grass height measured during the 5 months was 44 inches near the Runway

5 end. Based on a review of Airport user questionnaires, the major species of concern were white-tail deer, turkey, red-tailed hawk, and fox and furthermore, turkeys and white-tail deer had a negative effect on flight as the result of near misses.

Maintaining the RSAs and TSAs would allow pilots a greater ability to observe potential hazardous wildlife adjacent to the runways and taxiways and avoid potential wildlife strikes. The proposed safety area mowing plan is shown on **Figure 9.**

Based on the taxiway and runway dimensions, approximately 14 feet on each side of the taxiways would be mowed, varying slightly in the fillet areas. Safety area mowing for Runway 14-32 would include a 10-foot wide area on both sides of the runway, 300 feet from the Runway 14 end and approximately 150 feet off of the Runway 32 end. Mowing of safety areas on Runway 5-23 would consist of 180-foot wide area on both sides of the runway and 800 feet from the edge of pavement on the runway ends. Mowing would continue to take place around all taxiway and runway lighting and signage for safety purposes. Overall, mowing of the safety areas would cover approximately 67.47 acres, which includes incidental take areas previously approved in past BOs.

RSA and TSA boundaries will be marked with yellow or orange retroreflective markers to avoid mowing outside of the safety areas and potentially impacting butterfly species and/or their habitat. The markers will be at least 36 inches in height and will be Electrical Testing Laboratories (ETL) tested and certified to the FAA's L-853 standard to meet the specifications of the FAA Advisory Circular 150/5345-39D.

The proposed mowing plan would be implemented over the course of two years depending on habitat mitigation implementation, monitoring and success. Project timing and duration is discussed in Section 2.6.

The permanent impacts for the project are summarized below in **Table 5.**

Table 5. Mowing Plan Revisions Impacts

Project Element Description	Total Impact Area (Acres)
Proposed TSA Mowing	8.97[1]
Proposed RW 5-23 RSA Mowing	57.0[2]
Proposed RW 14-32 RSA Mowing	1.5
Total	67.47[3]

[1] Acreage includes miscellaneous mowing areas (i.e. AWOS, runway lighting).
[2] Acreage includes mowing in the vicinity of the old TW B stub, as shown on Figure 10.
[3] Total acreage includes incidental take areas previously approved in past BOs.
Source: Impact quantifications by McFarland Johnson.

2.4.2 Perimeter Fence Improvements

The existing Airport perimeter fence is inadequate and allows easy access for wildlife. The majority of the current Airport fencing is 6 feet high, with the exception of a 4-foot section near the Airport access road roundabout. In addition, the existing perimeter fencing is incomplete, including large gaps near the Airport entrance access road and numerous gaps and dugouts were found along the perimeter fence during the 2013-2014 WHA. In accordance with the FAA National Part 139 CertAlert No. 16-03 "Recommended Wildlife Exclusion Fencing" dated August 3, 2016, new/improved wildlife fencing should be a priority to prevent wildlife strikes at airports.

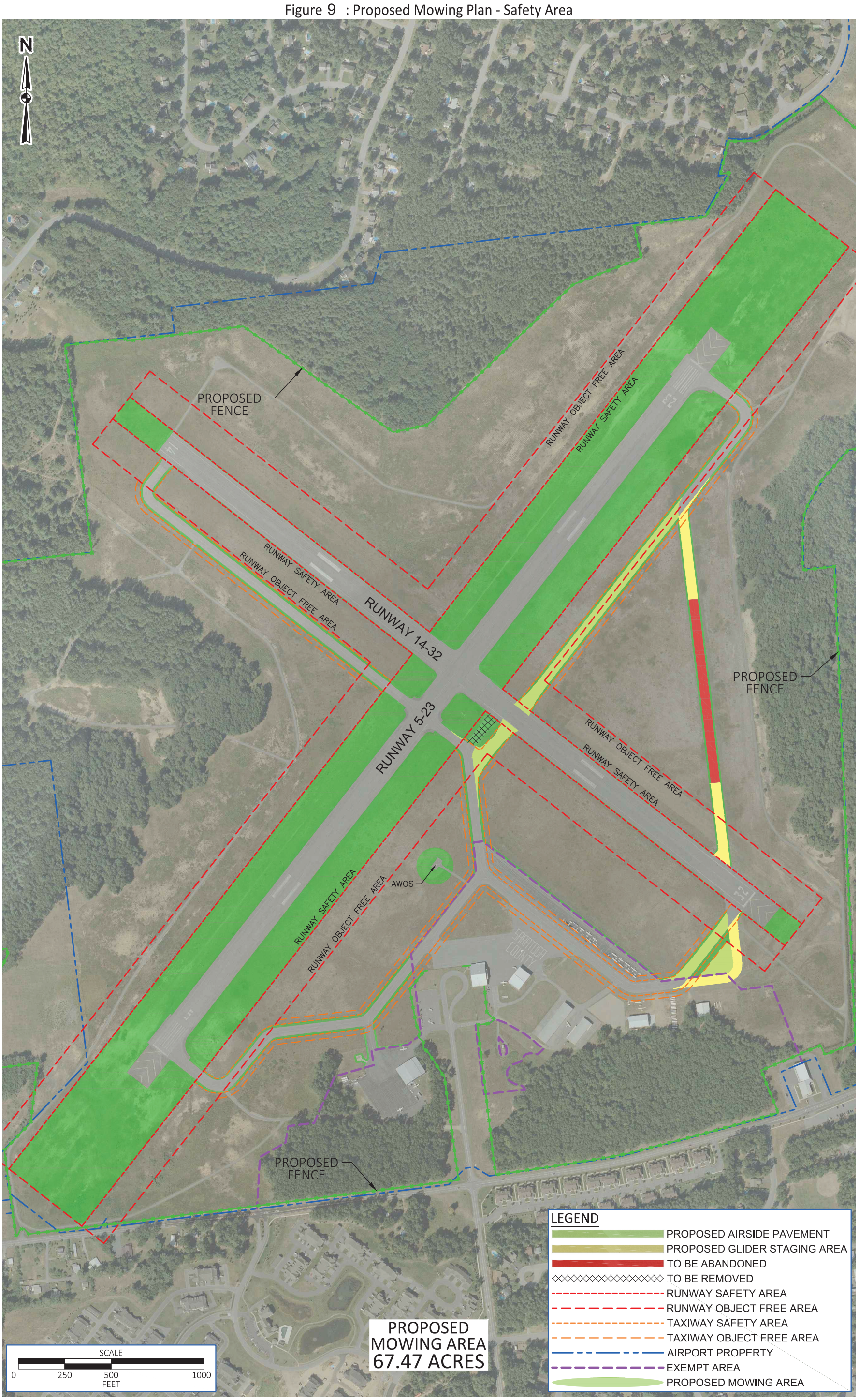
The Proposed Action would include the installation of a 10-foot high chain link fence with barbed wire outrigger, buried 18 to 24 inches below grade, around the entire AOA due to prevalence of white-tailed deer, coyotes and foxes within the AOA. All gates and access ways would be secured at all times and be modified as needed to eliminate gaps. Ground surface gaps would be minimized through asphalt berms, addition of fence skirting, or through physical adjustments. For gates over non-paved surfaces, ¼ inch steel plate would be buried vertically to a depth of 18 to 24 inches below grade, the length of the opening, to minimize burrowing. In addition, an 8-foot wide grass corridor would be maintained, including mowing and removal of woody vegetation, along the interior side of the perimeter fence to allow for unrestricted motor vehicle access for fence integrity inspections and repairs.

The perimeter fence improvements would involve the replacement and a small addition of a total of approximately 25,800 linear feet of fence, including five access gates on Airport and County owned property. A majority of the fence replacement would occur within grass/turf areas and the remainder would be located in forested areas on the eastern and western portions of the Airport property, and along Geyser Road.

The proposed 8-foot wide grass maintenance corridor would be mowed regularly for daily fence inspection access. Regular mowing and vehicular activities within the fence maintenance corridor adjacent to Known Habitat Area turf only are considered permanent habitat impacts. The proposed fence replacement and maintenance corridor adjacent to forested areas (inside the fence) were not considered impacts to the Known Habitat Area. Approximately 1.2 acres of trees would be removed for the construction of the fence and clearing of the 8-foot maintenance corridor. Therefore, based on the above, approximately 2.44 acres of KBB habitat would be permanently impacted along 13,300 linear feet of turf areas only, including areas with existing evergreen screening.

Additional fence replacement impacts within the Known Habitat Area, due to construction equipment, are approximately 1.2 acres. Construction impacts along the open turf areas within the Known Habitat Area would take place within an additional 4-foot-wide area to accommodate construction equipment and typical construction activity. It is assumed that a 12-foot wide area (8' maintenance corridor with additional 4') would be sufficient to accommodate construction equipment. Therefore, a total of approximately 3.64 acres of Known Habitat Area would be impacted. Impacts areas would be reseeded with the construction seed mix specified in **Table 2**, Section 2.1. When feasible, construction equipment would operate from adjacent existing gravel or paved surfaces, such as the existing asphalt perimeter access road. Work limits will be clearly

Figure 9 : Proposed Mowing Plan - Safety Area



This page intentionally left blank.

demarcated to prevent activity from occurring outside of the project work limits. Staging for construction would take place outside of habitat areas near the landside airport facilities as shown on **Figure 6**. Habitat impact areas are shown on Figure 5-1.

Table 6. Fence Replacement Permanent Impacts

Project Element Description	Maintenance Corridor	Construction Impacts[1] (Acres)	Total Impact Area (Acres)
Perimeter Fence Replacement	2.44	1.2	3.64

[1] *Construction impacts include construction equipment activity.*
Source: Impacts quantified by McFarland Johnson.

Typical construction equipment for the perimeter fence replacement would include:

Stump Grinder
Skid Steer W/auger
Track Excavator
Track Dozer
Tree Chipper
Concrete Mixer (transit truck)
Pickup trucks
Hydroseeder

All construction work shall be conducted after mid-August, when the second KBB brood has been completed their mating and egg laying cycle and before April, when the first brood larvae hatch. Further detail regarding project timing and duration is discussed in Section 2.5.

2.4.3 Draft Management Agreement Revision

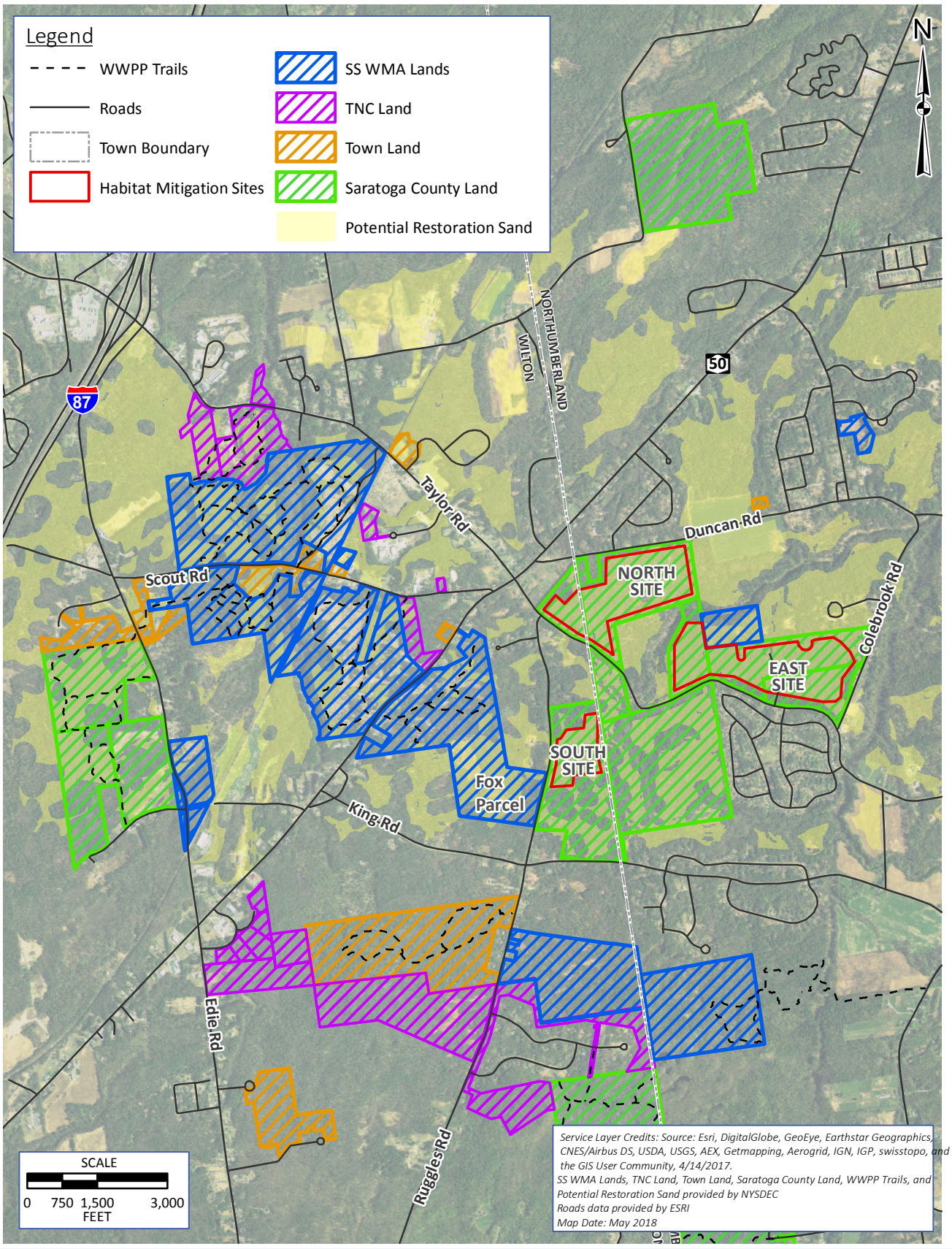
As part of this BA, the existing DMA and DOA has been combined and renamed the Habitat Management and Protection Plan for Saratoga County Airport (HMPP). The existing DMA and DOA are provided in **Appendix A** and the HMPP is in **Appendix D**. The HMPP outlines the management of the Known Habitat Area at the airport. The HMPP will be a living document and will be reviewed periodically. The HMPP will be updated if changing circumstances merit. Updates to the HMPP would be coordinated with the USFWS. More that minor adjustments to the HMPP would be reflected in an amendment to the permit or the BO as warranted by the USFWS.

2.5 Off-Airport Habitat Mitigation

Habitat mitigation is proposed for the approximate 77 acres of impacts to the Known Habitat Area and KBB. The proposed mitigation is expected to offset the negative effects of the Proposed Action and provide more suitable habitat for the protected species. The proposed mitigation is part of the Proposed Action and would be funded and implemented by federal grants.

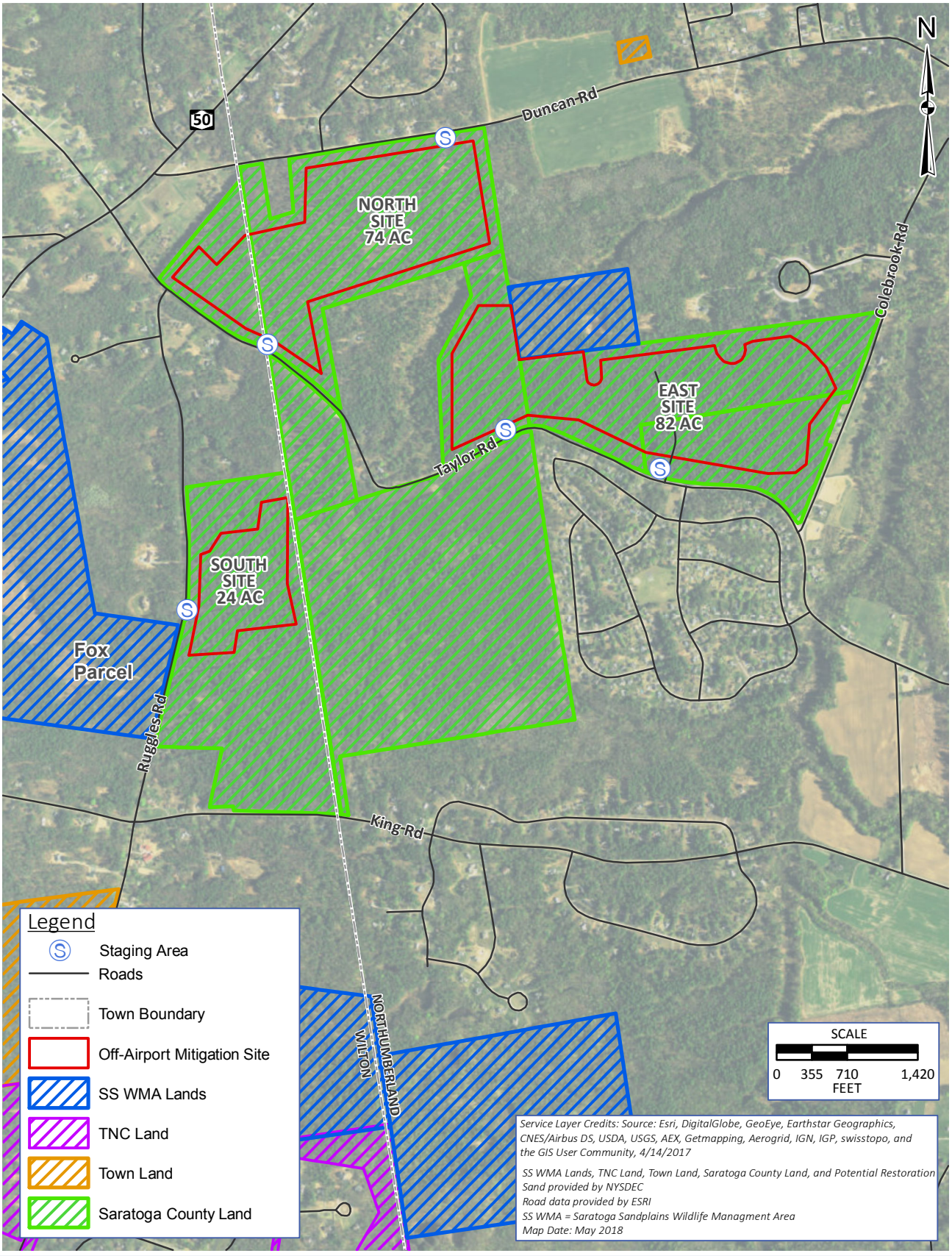
Proposed off-airport habitat mitigation would consist of approximately 180 acres of habitat creation on County-owned property in the towns of Wilton and Northumberland approximately 11 miles (as the crow flies) northeast of the Airport. The proposed mitigation sites are located on County owned land, which totals approximately 351 acres and is classified as County Forest. The proposed habitat mitigation sites and the surrounding area are illustrated on **Figure 10** and **Figure 11**. The proposed mitigation parcels have been used previously for forestry management

Figure 10: Off-Airport Habitat Mitigation - Vicinity Map



Document Path: K:\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\GIS\Figures\Biological Assessment\11 HabitatMitigationVicinity.mxd

Figure 11: Off-Airport Habitat Mitigation Sites



Document Path: K:\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\GIS\Figures\Biological Assessment\12 HabitatMitigation_rev.mxd

purposes. The County utilize the parcels for silvicultural practices which involves partial/selective cutting of trees to allow trees to naturally regenerate into the new forest. The East Site was harvested for timber most recently in 2016.

Habitat creation would occur in three phases. Phase 1 would include the creation of habitat on approximately 24 acres on the South Site, Phase 2 - 74 acres on the North Site, and Phase 3 - 82 acres on the East Site. Reconnaissance of the potential mitigation sites was conducted to determine suitable habitat areas. Site characteristics unsuitable for habitat creation, as discussed with NYSDEC, include the following: steep slopes, wetlands, surface water, and poorly drained soils. Results of the site reconnaissance are further described in Section 3.4. In addition, mapping of potential restoration sand areas, prepared by The Nature Conservancy (TNC), was used to further delineate mitigation sites. Potential restoration sand areas are based mostly on soils. The mitigation boundaries were chosen based on findings of the site reconnaissance and desktop review of potential constraints. In addition, an approximate 100-foot setback from wetlands, surface water, adjacent private property, and roadways was used to determine the proposed mitigation boundaries. The mitigation sites, especially the South Site, have adjacent forested areas that could be used for additional mitigation to accommodate for any unsuitable habitat areas (i.e. wetlands, poorly drained soils, steep slopes) that were not observed during the site visit. If unfavorable conditions are encountered during construction, these surrounding areas could be used for mitigation to ensure a total habitat creation of 180 acres.

Staging areas for construction of mitigation areas would take place within existing logging landing areas as shown on **Figure 11**. All equipment or vehicles used on site would be cleaned of all visible soil or plant matter before entering the site to prevent the spread of invasive plant species.

Proposed habitat mitigation for impacts to the KBB and frosted elfin butterfly species and habitat would include selective silvicultural thinning, scraping to mineral soil layer (removal of topsoil), followed by restoration planting with native grasses, nectar species, and locally-derived native lupine seed. Seeding would include a combination of seed drilling and non-mechanized hand-seeding. The process would convert pine-oak forest areas to a more open pine-oak savannah ecosystem where butterfly friendly plants would dominate the ground vegetation.

NYSDEC and USFWS were consulted during the development of the habitat mitigation plan. As stated previously, the existing habitat within the maintained airfield does not provide ideal habitat or long-term population viability due to lack of habitat diversity and ongoing Airport operations. Therefore, successful completion of the proposed heterogeneous habitat mitigation would create a more conducive habitat than the existing homogenous airfield habitat and improve the population viability at the Saratoga Sandplains.

The proposed habitat mitigation areas would be reseeded with the butterfly seed mix shown in **Table 7** below.

Table 7. Butterfly Seed Mix

Seed Latin Name	Seed Common Name	Rate of Application lb/acre
Lupinus perennis	Wild blue lupine	3.00-7.00
Asclepias tuberosa	Butterfly milkweed	0.50
Apocynum androsaemifolium	Spreading dogbane	0.10
Ceanothus americanus	New Jersey tea	0.10
Schizachyrium scoparium	Little bluestem	0.25
Monarda punctata	Spotted beebalm	0.25

Source: Impacts quantified by McFarland Johnson.

Wild blue lupine seeds would be obtained from various sources, including locally sourced from the Albany Pine Bush, WWPP, and the Airport, and from seed distributors. Locally sourced seeds would include seed harvesting efforts provided by volunteers, consultant(s), and County staff. According to the Albany Pine Bush and WWPP, opportunities are available to collect lupine seed from established lupine areas. If necessary, the County would provide a lupine seed management facility for drying and storing seeds. If seed substitutions are necessary, USFWS and NYSDEC would be consulted.

A separate Mitigation Management and Protection Plan (MMPP) for the mitigation sites would be developed during the habitat mitigation design phase. The draft MMPP would be provided to USWFS and NYSDEC for review. Annual review and modification of the MMPP, if necessary, would take place. The MMPP would establish criteria to implement, monitor and measure the success of the habitat mitigation, and include long-term management. The County would be responsible for monitoring the mitigation sites for a period of five years. Some entity and/or entities with resources and the expertise to conduct long-term management and stewardship of the mitigation sites would be selected during development of the MMPP.

Habitat management would include mowing, forest succession reduction, and invasive species control. Mowing would be used to control weedy species, reduce woody plant cover, and maintain early successional habitat. Mowing would be conducted mid-October after KBB activity has ceased and lupine has senesced. Mower blades would be set at least 6-8 inches above the ground, and areas of occupied KBB habitat would not be mowed more than once a year. Invasive plant species would be controlled with the use of approved herbicides after lupine has senesced for the year.

Monitoring protocols would be established in the MMPP and include protocols for monitoring butterflies, lupine, and nectar species within the mitigation sites.

Successful habitat mitigation, as determined one year following habitat creation, would be required prior to a proposed project impacting the butterflies and their habitat. Therefore, the above proposed construction projects and mowing plan would not occur until habitat mitigation of equal or greater size has been determined to be successful. Successful mitigation would be determined based on an overall rating of "Good" or better based on an assessment of the mitigation site habitat using the indicator rating criteria outlined in the USFWS's Karner Blue Butterfly *(Lycaeides melissa samuelis*) 5-Year Review: Summary and Evaluation. The USFWS indicator rating criteria are shown in the excerpted graphic below.

	Indicator Rating			
Indicator	**Poor**	**Fair**	**Good**	**Very Good**
lupine stem density/ acre[a]	≤1,801	1,802-2,401	2,402-3,603	>3,603
Spring nectar species richness	0	1	2-3	≥4
Summer nectar species richness	0	1	2-4	≥5
nectar density (percent quartiles)	≤25	25.1-50	50.1-75	>75
nectar evenness (index)	≤25	25.1-50	50.1-75	>75
grass cover (%)	<5, >95	5-20, 71-95	21-30, 51-70	30-50
overstory cover[b] (%)	<5, >50	50-31	30-16	15-5
shade heterogeneity	0-5 or 80.1-100	5.1-20 or 60.1-80	20.1-60	20.1-60, ≥5% each[c]

[a] Lupine density = Fuller (2008) stem estimate as a function of a range of carrying capacities (eggs/stem) (page 119 – Table 4.6); based on stem total for metapopulation divided by 320 acres.

[b] Overstory = woody overhead canopy (>2 m height, measured via periscope densitometer).

[c] Shade heterogeneity is Very Good when shade is contributed by both trees and shrubs, such that each type accounts for >30% density in at least 5% of the sample transects.

Source: USFWS, 2012

Phasing of project construction and implementation would occur to ensure habitat mitigation success and to phase the amount of habitat impacts over a longer period to limit large scale impacts and provide the butterfly population time to relocate or recover from the proposed activities. Project phasing is discussed in Section 2.6 below.

2.6 Project Timing and Duration

The current Airport Capital Improvement Plan (ACIP) for 2018-2022 was used to estimate the construction schedules for the above projects. Construction of the projects would be dependent on federal grant funding with the exception of the glider run-up staging area which would most likely be funded privately. Projects would be phased based on anticipated federal grant funding. In addition, projects would be phased to first establish new KBB habitat mitigation, ensure success, and to phase the amount of habitat impacts over a five-year period to limit large scale habitat impacts. Project phasing would also provide the butterfly population time to colonize newly created habitat areas. Prior to the construction of airport projects resulting in habitat and KBB impacts, habitat mitigation would be deemed successful.

The construction schedule is heavily dependent on FAA grant funding. Typically, grants are issued in late Summer/early Fall. Therefore, construction may not commence until Spring the following year. The duration of the construction schedule includes, but is not limited to, contractor mobilization and demobilization. The anticipated schedule is shown in the following **Table 8**.

Table 8. Project Tentative Timing and Duration

Construction/Project Description	Habitat Creation (Acres)	Project Habitat Impact (Acres)	Construction Commencement	Approximate Duration[1]
Perimeter Fence Replacement Phase 1 (outside of KBB habitat)	---	---	Fall 2020	10 Months
Habitat Mitigation Construction Phase 1 (South Site)	24	---	Winter/Spring 2021	4 Months
Partial-Parallel Taxiway	---	4.68	Fall 2022	12 Months
Habitat Mitigation Construction Phase 2 (North Site)	74	---	Winter/Spring 2022	4 Months
Habitat Mitigation Construction Phase 3 (East Site)	82	---	Winter/Spring 2023	4 Months
Mowing Plan (All TSAs & RW 23 RSA)	---	36	Fall 2023	Ongoing
Perimeter Fence Replacement Phase 2	---	3.64	Fall 2023	10 Months
Mowing Plan (RW 14-32 & RW 5 RSAs)	---	31.47	Fall 2024	Ongoing
Taxiway C Improvements	---	0.81	Fall 2024	4 Months
Glider Staging/Run-Up Area	---	0.38	Fall 2024	1 Month
Total	180	76.98		

[1] *Duration may include winter months when construction activity temporarily ceases.*
Source: Project timing and duration estimated by McFarland Johnson.

3.0 ACTION AREA

The Saratoga County Airport is located approximately five miles southwest of downtown Saratoga Springs, in the town of Milton, Saratoga County, New York. **Figure 1** shows the vicinity around the Airport and **Figure 2** shows an aerial map of the Airport. The town of Milton is made up of mostly suburban residential properties. Land uses immediately adjacent to the Airport property include residential, public service and vacant land to the north and east along Rowland Street, commercial,

community service and residential to the south along Geyser Road, and vacant and residential to the west along Stone Church Road.

The Airport is owned by Saratoga County and operated by Saratoga County Department of Public Works. The 559 acres of Airport property are classified as public services land use. The County owns an additional 30 acres surrounding the Airport which is not included as Airport property on the Airport Layout Plan (ALP). Proposed projects on-Airport property, including the safety area mowing, will take place on approximately 74 acres, which does not include proposed habitat mitigation acreage. Off-Airport proposed projects include vegetation obstruction removal of approximately 15.44 acres occurring on 35 individual properties, including proposed and existing easements, located on all four runway ends. A majority of the off-Airport properties consist of residential land with the remainder being classified as vacant or community services. An additional, approximately 0.11 acre of tree obstruction removal will take place on-Airport property on the Runway 32 end. Therefore, a total of 15.55 acres of tree removal would occur on 36 properties.

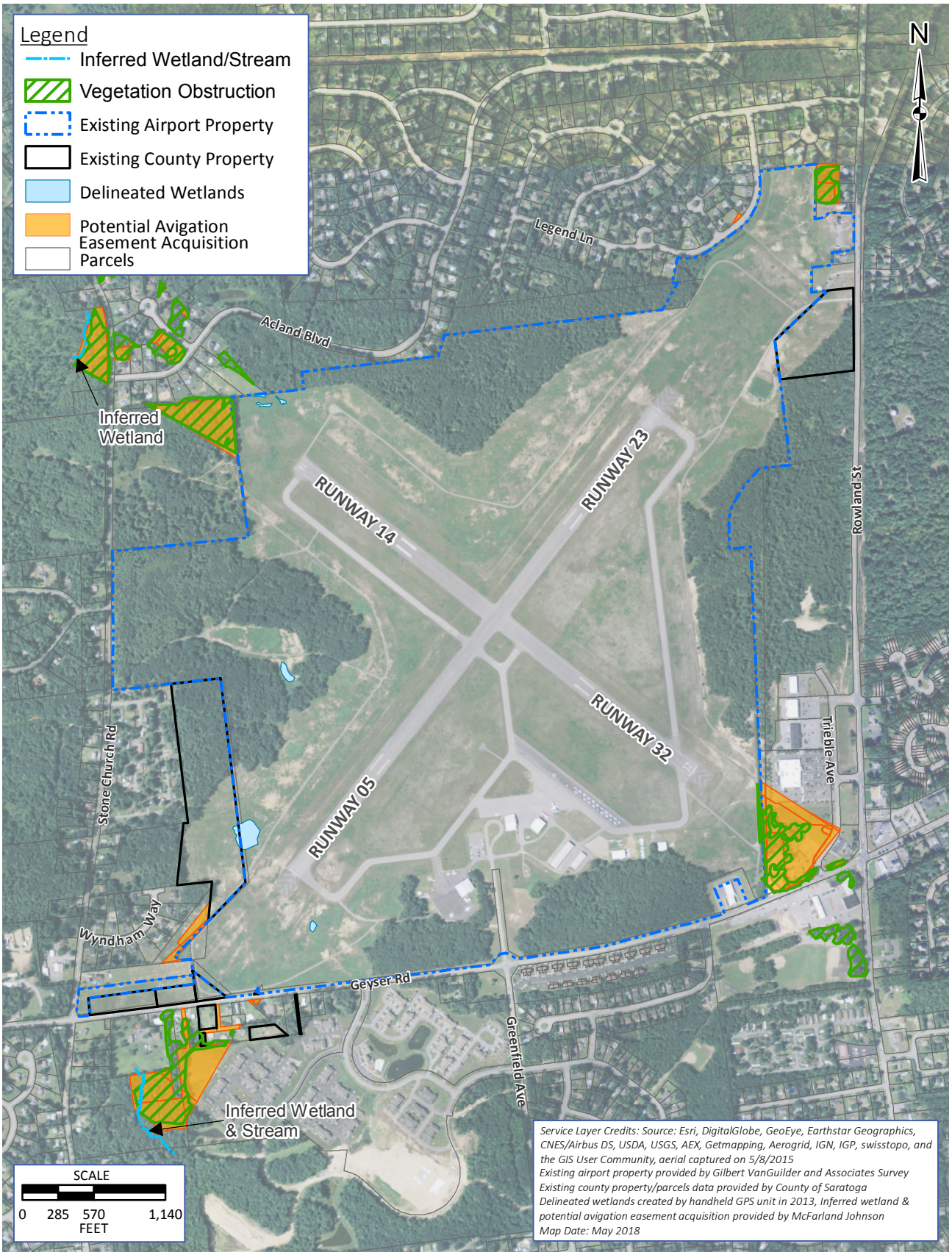
McFarland Johnson performed a wetlands and waterways delineation on airport property in August 2013. The wetland delineations were conducted through field investigations of vegetation, soils and hydrology in accordance with the 1987 *USACE Wetlands Delineation Manual* (1987 USACE Manual) and 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (2012 Regional Supplement). NYSDEC freshwater wetlands were mapped in the vicinity of the Proposed Action, therefore, the 1995 *New York State Freshwater Wetlands Delineation Manual* (1995 NYSDEC Manual) was also consulted. A total of six wetlands, all less than 1 acre in size each, were identified at the Airport. Based on the wetland delineation findings, it was determined that the NYSDEC and USACE do not have jurisdiction over the wetlands because they are isolated and not hydrologically connected to waters of the United States.

In addition, site reconnaissance of properties proposed for acquisition of land and/or avigation easement was conducted by McFarland Johnson in Spring 2016. Wetlands were observed on three properties proposed for acquisition and obstruction tree removal. One wetland area and a stream and bordering wetland were identified in close proximity to proposed obstruction removal areas. One state regulated wetland area is located on the Brownyard property located west of Stone Church Road on the Runway 14 end. The federally regulated stream and bordering wetland are located on the Anderson and Sharadin properties on the Runway 5 end. The stream and bordering wetland extend in a north-south direction across these properties and are located in the vicinity of the proposed obstruction removal. Approximate locations of the two wetlands and stream are shown on **Figure 12**.

Discussion of the existing conditions is grouped into the proposed projects as follows due to their project area similarities:

- *Airfield Projects* (Partial-Parallel Taxiway A Construction, Taxiway C Improvements, Glider Operations Improvements, Airfield Mowing Plan Modification)
- *Replacement of Perimeter Fence*
- *Obstruction Removal and Mitigation*

Figure 12: Delineated Wetlands



Document Path: K:\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\GIS\Figures\Biological Assessment\4 Saratoga DelineatedWetlands Map_BA.mxd

3.1 Airfield Projects

The airfield projects, consisting of the partial-parallel taxiway, Taxiway C realignment, glider staging/run-up area, and mowing plan modification, have similar existing conditions consistent with airport airfields. A majority of the project areas are located within the Known Habitat Area and a small portion of the glider staging/run-up project area is located in the Exempt Area (see Figure 1-1).

Most of the project areas consist of seasonally maintained grassland. According to the WHA, these grasslands are dominated by little bluestem (*Schizachyrium scoparium*), a warm season grass. In accordance with the DMA, the immediate grass areas surrounding the taxiways are regularly maintained at relatively short heights. The remainder of the grasslands within the Known Habitat Area, including lands immediately adjacent to the runways, is mowed only once a year after October 15th in order to protect the butterfly habitat. The project areas also include asphalt associated with existing taxiways and runways. Freshwater wetlands are not located within the airfield project areas. Areas surrounding the open airfield consist of mostly oak-pine forest.

3.2 Replacement of Perimeter Fence

A portion of the proposed perimeter fence improvement project area is located within the Known Habitat Area and within the Exempt Area along Geyser Road and the Airport entrance, Greenfield Avenue.

A majority of the perimeter fence project area is located along existing airfield turf areas. In some instances, the airport perimeter access road is located adjacent to the fence, specifically the southeast and southwest corners of Airport property. The remainder of the fence replacement project would take place adjacent to forested land. According to the WHA, dominant trees within the forested areas are pitch pine (*Pinus rigida*), white pine (*Pinus strobus*), red oak (*Q. rubra*), and black oak (*Q. velutina*), with an understory dominated by lowbush blueberry (*Vaccinium angustifolium*), sweet fern (*Comptonia peregrina*), bracken fern (*Pteridium aquilinum* var. *latiusculum),* and Pennsylvania sedge (*Carex pensylvanica*).

3.3 Obstruction Removal

On-airport obstruction removal would consist of a row of trees located along the perimeter fence on the Runway 32 end, totaling approximately 0.11 acre. The trees are located between the existing perimeter fence maintenance corridor and the existing perimeter access road.

The majority of off-airport obstruction removal would occur on wooded areas on occupied residential properties. The remainder would occur on commercial, public and vacant lands. Obstruction removal areas on the commercial and public lands on the Runway 5 and 32 ends consist of isolated groupings of trees similar to on-Airport tree species. Obstruction removal on the vacant property located on the Runway 14 end is adjacent to the airfield turf and is part of a larger forested area. The proposed obstruction removal area on the Runway 23 end is also adjacent to the airfield turf. Proposed off-airport tree obstruction removal totals approximately 15.45 acres.

Obstruction tree removal would occur between October 1 and March 31 to minimize potential direct impacts to the NLEB.

3.4 Off-Airport Habitat Mitigation

Off-airport habitat mitigation, of approximately 180 acres, would take place in forested areas on County owned property in the towns of Wilton and Northumberland. The County owned property is considered part of the WWPP and the Saratoga Sandplains within the Glacial Lake Albany (GLA) Recovery Unit for the KBB. The Glacial Lake Albany Recovery Unit is illustrated in the graphic on page 44. According to USFWS, the goal of the Saratoga Sandplains Recovery Unit is 320 acres of KBB habitat. Currently there is 140 acres of habitat. With the addition of the proposed 180 acres of habitat creation, the Saratoga Sandplains Recovery Unit would meet the goal of 320 acres.

Proposed off-airport habitat mitigation consists of approximately 180 acres of habitat creation in three separate areas. The three separate mitigation areas are referred to as the North Site, East Site, and South Site as shown on **Figure 11**.

The vegetation, soil, and topography characteristics of all three mitigation sites are similar. The forested areas are dominated by pitch pine, white pine, red oak, and black oak, with an understory dominated by serviceberry, sweet fern, and bracken fern. The mitigation sites are bound on the exterior by a mixture of vacant forested land, residential occupied land, and roadways. Proposed off-airport habitat mitigation is discussed further in Section 2.5.

4.0 SPECIES & CRITICAL HABITAT CONSIDERED

Airport

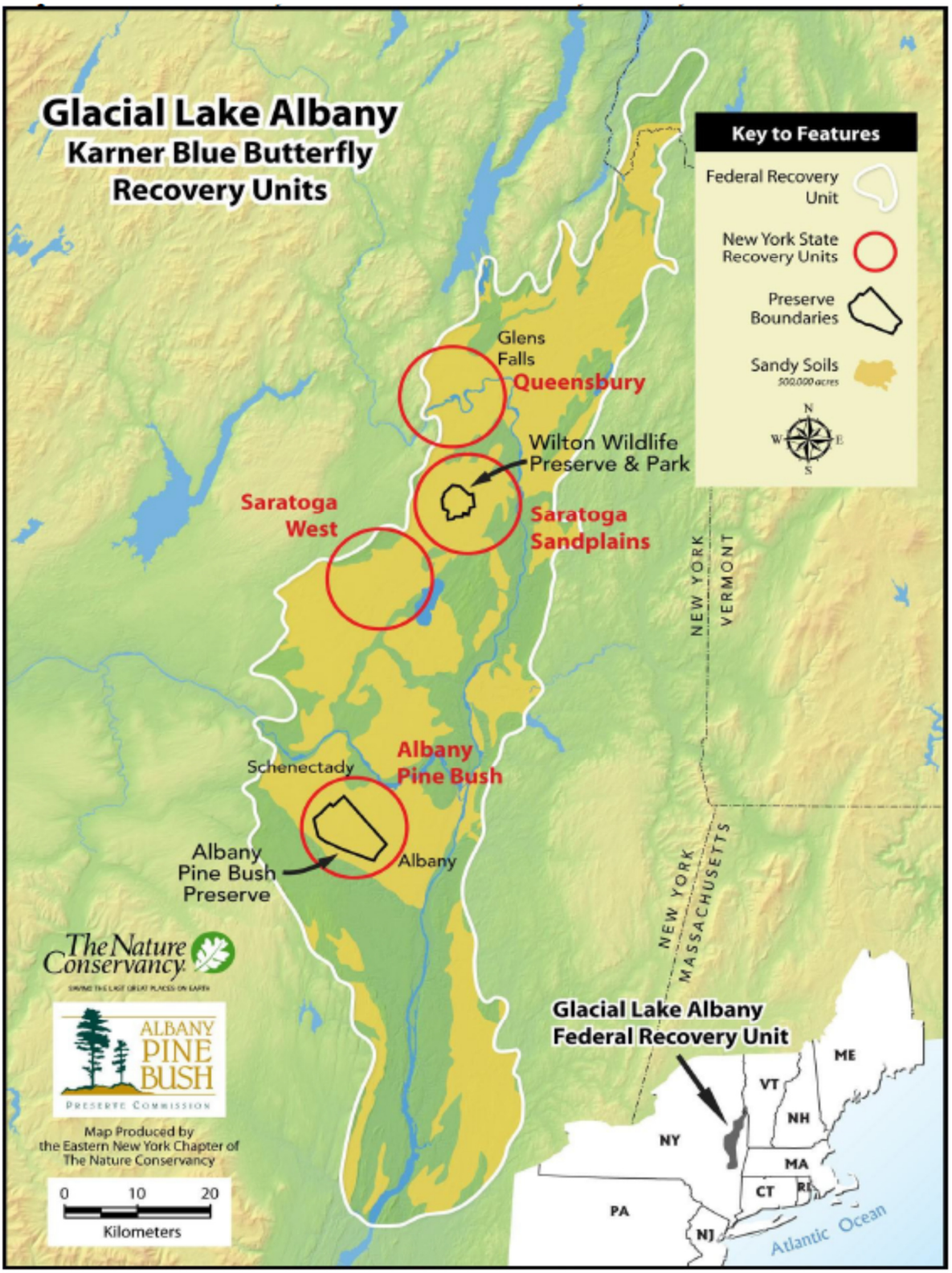
A review of the United States Fish and Wildlife Service (USFWS) Information, Planning and Consultation (IPaC) database was most recently conducted on April 20, 2018. The USFWS database indicated that the federally-listed endangered KBB and threatened NLEB is known to exist at the Airport. As stated in Section 1.0 of this BA, the NLEB is not addressed in this BA. Conservation measures, such as tree removal occurring outside of the active season (April 1 – September 30), will be taken to minimize potential impacts to the NLEB.

The Official Species List from the USFWS is included in **Appendix C**.

Consultation with the NYSDEC New York Natural Heritage Program (NYNHP) in September 2016 and May 12, 2018 indicated that the state-listed endangered KBB, state threatened frosted elfin butterfly, and state species of special concern mottled duskywing have been documented in the project area. In addition, the state threatened mock-pennyroyal (*Hedeoma hispida*) was documented in the project area in the 2016 NYNHP correspondence but not the 2018 correspondence. Also, the mock-pennyroyal was not observed in the on-airport project areas during site reconnaissance and is therefore not discussed any further in this BA.

A copy of the NYSDEC NHPNP correspondence has been included in **Appendix C**.

Figure 13: Glacial Lake Albany – KBB Recovery Units



Off-Airport Habitat Mitigation Sites

A review of the IPaC system was conducted on April 13, 2018. The USFWS database indicated the state and federally-listed endangered KBB may exist within the project area. The range of the federally threatened NLEB also covers the vicinity of the mitigation sites. The Official Species List from the USFWS is included in **Appendix C**.

A response from the NYSDEC NYNHP, dated May 3, 2018, indicated that the KBB, state threatened frosted elfin butterfly, and state threatened blanding's turtle (*Emydoidea blandingii*) have been documented on or within the in the vicinity of the project area. In addition, a significant natural community, Appalachian oak-pine forest, has been documented adjacent to the project area. The NYNHP states that the Appalachian oak-pine forest is in good condition and occurs in large patches in the landscape. A copy of this correspondence has been included in **Appendix B**.

Table 9 lists the species on or within the vicinity of Airport property and the off-airport habitat mitigation sites.

Table 9. Threatened and Endangered Species

Common Name	Scientific Name	Project Applicability	Federal/State Status
Fauna			
Karner blue butterfly	*Lycaeides melissa samuelis*	Airport & Mitigation Sites	Endangered/Endangered
Frosted elfin butterfly	*Callophrys irus*	Airport & Mitigation Sites	Not Applicable/Threatened
Mottled duskywing	*Erynnis martialis*	Airport	Not Applicable/Special Concern
Northern long-eared bat	*Myotis septentrionalis*	Airport & Mitigation Sites	Threatened/Threatened*
Blanding's turtle	*Emydoidea blandingii*	Mitigation Sites	Not Applicable/Threatened

** Not addressed as part of this BA. See Section 1.0.*
Source: USFWS IPaC dated April 13 & 20, 2018 and NYNHP correspondence dated September 9, 2016 and May 3, 2018.

As stated previously, the Airport has been operating under the conditions of the DMA, which restricts mowing and other operational activities at the Airport to protect habitat for the Karner blue butterfly, frosted elfin butterfly, and mottled duskywing.

Another species of butterfly not reported by the NYSDEC or USFWS, but that has the potential to be present at the Airport, is the persius duskywing butterfly (*Erynnis persius*). The persius duskywing is state-listed endangered species that feeds heavily upon wild blue lupine, and is closely related to the mottled duskywing. The identification of the two species of duskywing butterflies requires microscopic dissection of the male genitalia to confirm species identity, and to date, such studies have not been undertaken at the Airport (NatureServe Explorer).

Wild blue lupine at the airport has increased over the years mostly due to seeding efforts by the NYSDEC for habitat improvements, and by the Airport as part of mitigation efforts required by the NYSDEC and USFWS for previous impacts to the grassland habitat at the Airport. In addition, wild blue lupine is protected under the DMA as a result of restricted mowing and other activities.

Karner Blue Butterfly Life History

The KBB historically occurred in a band extending across twelve states, and now occurs in at least five states, including New York. The USFWS established the Glacial Lake Albany Recovery Unit in efforts to recover and protect the KBB. According to the USFWS KBB Recovery Plan, there are four recovery areas in NY and include the Albany Pine Bush, Saratoga Sandplains, Saratoga West, which includes the Airport, and Queensbury. The Glacial Lake Albany Recovery Unit and recovery areas are shown on **Figure 13**. As of 2011, there were 29 subpopulations of the species in New York, located in Albany, Saratoga, and Warren counties (USFWS 2012). KBB habitat has not been designated as critical under the ESA.

The KBB is a member of the order of Lepidoptera, family Lycaenidae. Adult butterflies have a wingspan of between 2.2 and 3.2 centimeters (0.75-1.25 inches). The KBB has two broods, or adult flight periods, each year. Eggs that have overwintered in leaf litter or wild blue lupine plants from the previous year typically hatch in April. The larvae feed solely on wild blue lupine plants and pupate in late May to early June. First brood adults emerge in late May to late June, mate, lay eggs, and die within about a week. Second brood eggs hatch and feed from early June to late July. Second brood adults are active in July and August, and females lay their eggs close to the ground, on lupine stems or in other vegetation. Adults feed on nectar of several species, including *Ceonothos americanus* (New Jersey tea), *Asclepias tuberosa* (butterfly weed), *Hieracium sp.* (hawkweed), *Achillea millefolium* (yarrow), and other flowering plant species. Generally, butterflies live an average of 4-5 days and by late August, all adult butterflies have perished.

Wild blue lupine plants are essential component of KBB habitat. Plants typically occur in areas with sandy soils that support oak and pine savanna / barrens plant communities. Lupine requires an open or partially open canopy and will not flower (or set seed) in deep shade.

Historically, areas that supported KBBs were kept partially open by many factors, most typically fire. Conversion of KBB habitat to industrial, residential, retail, and agricultural uses have altered their habitat and either destroyed the plant communities directly or altered habitat by interrupting the disturbances that have historically kept forested areas open or partially open (i.e. suppressing fire).

Frosted Elfin Butterfly Life History

The frosted elfin butterfly is a small (1” to 2.5” wing span) butterfly that also relies on wild lupine as the sole food source for the larvae of the species. However, larvae feed on the flowers and developing seedpods, rather than the leaves as the Karner blue larvae do. The species is globally vulnerable, but is not listed under the ESA to date. Frosted elfins produce just one brood per season, with adults hatching from pupae that have overwintered in leaf litter in mid-April and flying through early June. Eggs are laid on or near lupine plants, and larvae hatch in mid-June.

These larvae burrow into leaf litter and pupate. Adult frosted elfins rarely feed, but have been known to feed on the nectar of wild lupine (New York Natural Heritage Program). Males are highly territorial and known to position themselves at the edges of their habitat or along pathways to the habitat.

5.0 ENVIRONMENTAL BASELINE CONDITIONS

The Airport is part of the Saratoga West population of KBBs in New York. The Airport previously had the largest estimated population (10,000 KBBs in 1994) and largest contiguous acreage of KBB habitat (~299 acres) in the northeast (USFWS 2003). The 299 acres includes turf areas inside the Exempt Area near the airport beacon, tie-down apron, and FBO. According to NYSDEC, the contiguous KBB habitat contains large areas with very sparse lupine and small areas of dense lupine patches. Also, while most of the open grassed areas at the Airport provide potential habitat for KBB, the lupine patches are concentrated along existing runways. Overall, the site has declined dramatically and the Albany Pine Bush now has more than 600 acres and Saratoga Sandplains have healthier numbers of KBBs and habitat. It is unknown when the KBB first occupied the Airport property. However, the Airport has been operating since 1942. NYSDEC started conducting surveys of KBB at the Airport in 1997.

Management practices at the Airport necessary to maintain safe and efficient airfield operations have inadvertently improved and maintained areas suitable for KBB on the Airport as compared to areas adjacent to the Airport which have become developed over the years. It is highly likely that natural succession and reforestation processes would occur if Airport management practices were to end, and subsequently butterfly habitat would eventually disappear. The nearest KBB sub-populations to the Airport are located in powerline right-of-ways approximately 1,640 feet away (USFWS 2011).

All of the aforementioned butterfly species primarily rely upon the maintained grasslands at the Airport. The grasslands provide the sole larval stage food source of the KBB, wild blue lupine. Frosted elfin butterfly larvae are also known to feed on wild blue lupine, and therefore occupy similar habitats as the KBB. The mottled duskywing's preferred food plant is New Jersey tea, a small deciduous shrub that is also present throughout the airfield.

Transect surveys has been conducted by the NYSDEC at the Airport as an index to compare relative counts from year to year, however it does not represent the true population size. Therefore, distance sampling (a method for estimating population sizes based on the concentration of individuals measured from a transect or point) is now used at the Airport to estimate population size. According to NYSDEC, population count data has not been analyzed since 2012. Based on transect count data collected by the NYSDEC, the KBB population appears to have suffered a significant population decline in 2006. The contributing factors to the 2006 population decline are unknown, however weather conditions are believed to have been a factor (Kathy O'Brien, pers. comm.). Overall, the status is declining at the Airport and across the Saratoga West populations. Available butterfly count data from NYSDEC are provided in **Table 10**.

Table 10. Karner Blue Butterfly Counts at Saratoga Airport

Year	Transect Counts (second brood)	Summer Brood Estimates (based on distance sampling)
1997	426	
1998	277	
1999	457	
2000	208	
2001	907	
2002	129	
2003	226	
2004	938	
2005	358	
2006	29	
2007	42	900-1300
2008	177	
2009	43	550-800
2010	197	1,450-2,050
2011	27	
2012	11	
2013	2	
2014	140	
2015	77	
2016	110	

Source: NYSDEC- Division of Fish and Wildlife

Recent historical distributions of KBB in New York has not changed significantly with the exception of contraction of the species within counties that are occupied as small outlying populations mapped in 1989 disappeared (USFWS 2012). The USFWS identifies any site with less than 3,000 individuals in the second brood as a small population size, and identifies small populations as a threat to recovery of the species (USFWS 2012). Under this criterion, the population at Saratoga Airport is a small population. According to the USFWS KBB Recovery Plan, investigation is warranted to determine whether the KBB population at the Airport is a viable population. Weather events, such as frost, severe rain, thunderstorms and wind, all easily impact the species and the wild blue lupine plants. Most significantly, high winds at the Airport can easily impact the species. The KBB population at the Airport is also affected by the homogeneity of the site due to its relatively large open grassland, low diversity of plant species, and lack of shade cover.

No formal studies of frosted elfins have been conducted at Saratoga County Airport. The presence of frosted elfin butterflies at the Airport has been documented since at least 1980 and their presence has been documented anecdotally during Karner blue butterfly surveys (USFWS 2011).

As stated before, KBB and frosted elfin populations are dependent on wild lupine. Therefore, groupings of lupine plants are good indicators of butterfly locations because adults of both species are not highly mobile. It is also important to consider lupine quality in relation to KBB abundance. Early senescence of lupine plants in open sunny habitats may affect the viability of the larvae (USFWS 2003). Therefore, a mixture of sun and shady habitats to provide a greater lupine reproductive/phonological status (flowering, non-flowering, seed, senesced) could increase the viability of the KBB populations.

Concentrations of lupine have been identified at the Airport, primarily along the existing runways. However, detailed mapping of wild blue lupine or nectar species plants at the Airport has not been conducted. The acreage of existing and potential habitat on Airport property was estimated. The acreage, approximately 299 acres, was based on existing open grassland within the Known Habitat Area and the Exempt Area and did not include impervious surfaces (i.e. runways, taxiways, access roads, buildings), wetlands, and the County stockpile area located on the northeastern corner of the Airport property.

A general desktop qualitative assessment of the habitat quality at the Airport was conducted using a modified version of the TNC's viability indicator criteria for KBB in GLA. Based on familiarity with the Airport, ratings were estimated for each of the indicators, see highlighted areas in **Table 11**, below. The evaluation was based on the assumption of a single "large habitat patch" (>12.3 acres) as defined in the USFWS Karner Blue Butterfly Recovery Plan. Based on rating schemes used by the TNC and others (TNC, 2003; Bried et al, 2014), the categories were assigned the following numerical scores: Poor= 1.0, Fair= 2.5. Good = 3.5, and Very Good= 4. The equally weighted indicator scores were then averaged for an overall habitat grade, using the following numerical ranges: Poor= 1.0- 1.745, Fair= 1.75- 2.995, Good= 3.0 -3.745, Very Good= 4.0. Based on this assessment, the overall habitat grade was calculated to be 2.93 or Fair. Based on TNC's definitions of indicator ratings, Fair is defined as: "*The indicator lies outside of its range of acceptable variation and requires human intervention for maintenance. If unchecked, the target will be vulnerable to serious degradation*" *(*Groom et al, 2005).

Table 11. Viability Indicator Criteria of Large Habitat Patch at the Airport

Indicator	Indicator Rating			
	Poor	Fair	Good	Very Good
Lupine Stem Density (#/acre)	<200	201-404	405-999	1,000+
Spring Nectar Spp. Richness	0	1	2-3	≥4
Summer Nectar Spp. Richness	0	1	2-4	≥5
Nectar Species Stem Density (#/acre)	<100	100-199	200-400	>400
Nectar Species Cover (% cover)	<10%	10-20%	20-30%	>30%
Nectar Species Diversity*	>75%	50-75%	25-50%	<25%
Canopy Cover (%)	<5 or >50%	50-30%	30-15%	5-15%
Grass Cover (%)	<5 or >95%	5-20% or 70-95%	20-30% or 50-70%	30-50%
*Maximum % cover for any single spp.				

Source: McFarland Johnson

There are several factors that influence the ability of KBB and frosted elfin butterflies to survive and reproduce at the Airport. The USFWS Karner Blue Butterfly Recovery Plan identifies several threats to the survival of the KBB. Because the habitat for frosted elfins is essentially identical to KBB habitat, it is assumed that these would also threaten frosted elfins. Survival threats relevant to the Airport population are briefly described below:

Monotypic Plant Community Structure: The KBB habitat at the Airport generally consists of a large uniform open grassland. The habitat lacks structural diversity in the form of larger shrubs and trees that are typical of the pine savanna / barrens which provide preferred habitat for KBB. Larger shrubs and trees serve as wind breaks, as well as provide thermal refuge and physical protection. The lack of structural diversity leaves KBB more vulnerable to extreme weather events.

Destruction or Modification of Habitat: This includes threats to habitat from deer, grouse or insect browsing of lupine.

Disease and Predation: KBB larvae mortality is natural high due to predation, and adults are also preyed upon. Disease pathogens in KBB and plant diseases of lupine also have the potential to pose a threat to KBB survival, however little research has been conducted to establish the potential effects.

Other Potential Factors:

Weather conditions such as summer droughts, cool springs, and cold wet weather during flight periods can detrimentally affect KBB populations;

Aggressive invasive native and non-native plants such as Indian grass (*Sorghastrum nutans*), orange hawkweed (*Hieracium aurantiacum*), common ragweed (*Ambrosia artemisiifolia*), and spotted knapweed (*Centaurea maculosa*) have the potential to out-compete lupine; and

Global warming has the potential to cause early senescence of lupine and nectar species and create desynchronization of KBB emergence with and availability of necessary food resources.

6.0 EFFECTS OF THE ACTION

This section includes an analysis of the direct and indirect effects of the Proposed Action on the species and/or habitat. Factors considered in the analysis included: proximity of the action, distribution, timing, nature of the effect, duration, disturbance frequency, disturbance intensity, and disturbance severity.

Cumulative impacts, assuming all of the proposed projects are completed, are provided in **Table 12**. **Table 13** list projects and acreage previously authorized by the USFWS.

Table 12. Habitat Impacts Summary

Project Element	New Asphalt	Stormwater Features (Acres)	Appurtenant Features(Acres)	Construction Equipment Impacts (Acres)	Total Permanent (Acres)
Partial-Parallel Taxiway	2.11	0.71	0.79	1.07	4.68
Taxiway C Realignment	0.50	0.12	< 0.001	0.19	0.81
Glider Staging/Run-up Area	N/A	N/A	N/A	N/A	0.38
Safety Area Mowing Plan	N/A	N/A	N/A	N/A	67.47
Perimeter Fence Replacement	N/A	N/A	2.44 (Maintenance Corridor)	1.2	3.64
Proposed Action Total	**2.66**	**0.83**	**3.23**	**2.46**	**76.98**

Source: McFarland Johnson.

Table 13. Airport Projects Previously Authorized

Project	Acreage Affected	Type of Incidental Take
Reconfigure Itinerant Tie-down Apron (includes relocation of two fuel tanks)	2.84	Permanent occupied habitat loss (kill and harm)
Glider Hangar	0.50	Permanent occupied habitat loss
Construct Snow Removal Equipment Storage Building	0.08	Permanent occupied habitat loss
T-Hangar Development	0.40	Permanent occupied habitat loss
AWOS Gravel Access Road	0.08	Permanent occupied habitat loss
Paving of AWOS Access Road	NA	Already counted as permanent occupied habitat loss
FBO Building and Apron	0.37	Permanent occupied habitat loss
Access road paving	5.70	Permanent occupied habitat loss
Areas Mowed for Safety (i.e. around taxiway lights) - (Management Agreement)	3.00	Recurring disturbance (kill and harm)
Turf in Exempt Areas - (1) Mowing (Management Agreement)	11.00	Recurring disturbance
Snow Blowing and Plowing (Management Agreement)	0.12	Recurring disturbance
Glider Operations Areas (Glider Operations Agreement)	5.00	Recurring disturbance
	29.09	**Subtotal** (Permanent loss and recurring disturbance)
Rehabilitation of Runway 14/32	2.54	Temporary disturbance/habitat loss (kill and short-term harm)
Reconstruct Taxiway D-North	0.08	Temporary disturbance/habitat loss
Reconstruct Taxiway E	0.27	Temporary disturbance/habitat loss
Reconstruct Taxiway C	0.63	Temporary disturbance/habitat loss
Reconstruct Taxiway A	1.38	Temporary disturbance/habitat loss
Regrading Along the Entrance Taxiway to the North American Aviation Area	0.02	Temporary disturbance/habitat loss

Replacement of the Airport Beacon	0.04	Temporary disturbance/habitat loss
Itinerant apron replacement	0.06	Temporary disturbance/habitat loss within exempt mowing area (not duplicating acreage in final total)
Staging area	0.49	Temporary disturbance/habitat loss within exempt mowing area (not duplicating acreage in final total)
Access road maintenance	3.27	Temporary disturbance/habitat loss along edges
	9.03	**Subtotal** (Temporary disturbance/habitat loss)
Mowing in non-exempt areas	~261	Temporary disturbance to KBBs (kill/injure)
Previously Authorized	**298.32**	**TOTAL** (All projects and activities)

Source: USFWS July 22, 2011 Biological Opinion

6.1 Direct Effects

The proposed activities at the Airport are anticipated to result in direct effects on KBB and frosted elfin butterflies and their habitat as a result of both temporary and permanent disturbance of occupied and potential habitat for construction impacts associated with the Proposed Action. Life stages of both species (eggs, larvae, pupae, or adults) are present year-round in occupied habitat, and therefore, the Proposed Action would result in direct effects to the KBB and frosted elfin butterfly eggs, larvae, pupae, or adults, depending on the time of year of the disturbance to the habitat.

Wild lupine and other nectar species used by both the KBB and frosted elfin are not evenly distributed over the Airport property. Most of the open areas of the Airport are mowed in accordance with the HMPP (formerly DMA), which specifies certain methods and timing to minimize potential impacts to the butterflies or habitat. Therefore, the extent of butterfly habitat within the project areas is unknown and for the purposes of the quantification of project impacts, it is assumed that potential habitat for lupine, nectar, and KBB and frosted elfin butterflies (eggs, larvae, or adults) may be present in any open grassy/turf areas of the Airport property. Effects of the various projects and activities are evaluated based on the acreages of open grassy areas (within Known Habitat Areas) affected. Therefore, all impacts summarized in **Table 8** are assumed to affect KBB and frosted elfin butterfly habitat.

The Proposed Action would occur in open grassy areas and forested areas in both exempt and non-exempt areas. The proposed pavement associated with the taxiways would impact and remove approximately 2.66 acres of existing or potential KBB habitat. Additional permanent impacts include stormwater infiltration trenches and associated grading, which total approximately 0.83 acre. Other permanent impacts associated with the Proposed Action, include

taxiway lighting and signage removal, trenching activities for taxiway lighting and signage installation, and construction equipment activities. All project areas, with the exception of asphalt and stormwater features, would be reseeded with turf seed mix (see Table 2).

Proposed permanent impacts for all projects, approximately 76.98 acres, are anticipated to affect any KBB and frosted elfin, which may exist within the construction area, and the permanent loss of potential habitat. The 76.98 acres does not take into account impacts previously authorized by the USFWS. Prior authorized impacts are included in Table 13.

Behaviors essential to the life cycle of both KBB and frosted elfin butterflies at the Airport include feeding on lupine plants by larvae (caterpillars), pupation, emergence as adults, feeding on nectar plants by adults, mating, and egg laying. Caterpillars must be able to move on individual lupine plants, and adults must be able to fly to find nectar plants, find mates, and lay eggs. If KBB and/or frosted elfin butterflies are present within the impact area, the removal or destruction of vegetation could potentially result in egg, larval and adult mortality of these species. Additionally, if present, the removal of leaf duff could reduce the quantity and general quality of available egg overwintering habitat of KBB and frosted elfin.

In addition, disturbance to larval KBB from nearby activity may interrupt feeding and cause them to drop to the ground, presumably as an avoidance measure (USFWS 2012). This would indicate that disturbance other than habitat destruction may affect essential behaviors of larvae and adults. However, the project areas are adjacent to an active airfield and the existing butterfly population would continue to be disturbed by normal airfield activities such as powered and unpowered aircraft operations, airfield inspections, and maintenance and repair activities. At certain times airfield activity is quite intense.

Impacts from equipment noise, fumes from paving, dust control activities including water spraying, or exhaust from construction equipment could also have effects on behavior of both species, but these effects have not been previously documented or studied. However, the proposed project would not cause an increase in aircraft operations at the Airport, and therefore, operational impacts are not anticipated.

Impacts to predator species could have effects on the species as well. Larval Karner blue butterflies are preyed upon by a variety of insects including stink bugs, wasps, ants, ladybugs, and spiders. Adult Karner blue butterflies may be preyed upon by a variety of insects and birds as well. The project will not result in an enhancement or increase in habitat available for potential predators of KBB.

6.2 Indirect Effects

The proposed projects would have the potential to result in indirect effects to KBB and frosted elfin. Ongoing mowing of the safety areas and the fence access corridor, would have long-term indirect effects to occupied habitat.

The proposed project would affect about 73 acres of Airport property, most of which is impacts associated with mowing of the runway and taxiway safety areas. Of the 73 acres, approximately 1.6 acres would occur within the Exempt Area. The Airport provides approximately 299 acres of

potential KBB and frosted elfin butterfly habitat, maintained under the DMA to minimize impacts to the butterflies.

Saratoga County Airport would use several means to minimize the effects to KBB and frosted elfin butterflies from the proposed project, as discussed in Section 7.0.

6.3 Beneficial Effects

The proposed projects would have the potential to provide limited beneficial effects to KBB and frosted elfin. The proposed taxiways would provide shorter taxiing times and reduce queue times for aircraft during peak periods thus reducing the butterfly's exposure to jet/prop blast and exhaust fumes.

The continued management and protection of the KBB and frosted elfin butterfly under the proposed HMPP would be beneficial to protect the species. Continued mowing of the airfield would provide an overall benefit to habitat by preventing succession growth of vegetation. Mowing helps maintain early-successional habitat. The DMA also specifies that the County shall consult with the NYSDEC prior to future alterations or use of KBB and frosted elfin habitat to minimize deleterious effects to the species and/or habitat.

7.0 CONSERVATION MEASURES

Conservation measures, other than the proposed habitat creation, would be taken to avoid, reduce, or eliminate adverse effects or enhance beneficial effects on the impacted species. The proposed conservation measures are based on conversations with the USFWS, NYSDEC, FAA, Saratoga County, and other stakeholders. In addition, relevant measures listed in the USFWS 2011 amended BO were incorporated. In addition to the measures discussed in the specific project descriptions (see Section 2.0), the following conservation measures would be implemented during the construction, operation and management of the proposed projects.

- All of the proposed construction projects would include a construction monitor onsite during construction to ensure compliance with the conservation measures;
- Post-mounted signs (4-foot by 8-foot) would be placed at the entrances to the active haul roads (within exempt or temporary construction impact areas) with instructions to remind drivers to remain on existing gravel and paved areas.
- NYSDEC would be notified prior to commencement of construction activities and immediately after completion of construction. Ongoing coordination with NYSDEC during construction would be conducted if necessary;
- All construction, operation, and management of activities would be under the management of County personnel;

8.0 CUMULATIVE EFFECTS

Cumulative effects include all non-federal actions (local, state, private) that are reasonably certain to occur in the action area in the foreseeable future. Future development of areas adjacent to the action area and in the vicinity of the Airport is expected. Development of surrounding areas could result in the loss or disturbance of wildlife habitat, including existing or potential KBB habitat. However, the cumulative effect is expected to be minor given the implementation of the proposed mitigation plan would enhance the viability of the overall KBB population in the New York (Glacial Lake Albany) recovery area.

9.0 CONCLUSION

In conclusion, it has been determined that under Section 7 of the ESA the Proposed Action may affect, and is likely to adversely affect the federally-listed endangered KBB. No federally designated Critical Habitat has been designated for KBB and therefore, none would be affected. In addition, it has been determined that under 6 NYCRR Part 182 the Proposed Action will likely result in the incidental take of the state-listed endangered KBB and the state-listed threatened frosted elfin butterfly.

Given the extent of available habitat at the Airport and the proposed mitigation measures, the Proposed Action would not jeopardize the continued existence of these species. Additionally, phasing and timing of the proposed action and the availability of habitat during all phases of construction would not jeopardize the continued existence of the species. The Proposed Action, specifically the mitigation measures, would result in long term beneficial effects to the species. While many of the factors that affect the survival of the species are out of the control of the Airport (weather, predation, global warming), the project preferred alternatives have been chosen to minimize the modification of habitat, while maintaining and providing a safe and efficient operating conditions at the Airport for pilots, passengers and people on the ground.

As described above, appropriate measures to minimize impacts to the KBB and frosted elfin butterflies would be implemented. These measures, which would include limiting the physical footprint of the Proposed Action, replanting areas with non-invasive herbaceous species beneficial to the protected butterflies, habitat mitigation, and managing timing of the proposed work to minimize impacts to the butterflies, would limit the impacts to the species. The project areas are adjacent to an active airfield and the existing butterfly population would continue to be disturbed by typical airfield activities such as powered and unpowered aircraft operations, inspections, and maintenance and repair activities. For this reason, the proposed mitigation is expected to benefit the butterflies by providing a heterogeneous and more suitable habitat. Also, information provided herein indicates that an impact of this nature along with the mitigation would not reduce the likelihood of the survival or recovery of the species in New York.

10.0 LITERATURE CITED

Bried, J., T. Tear, R. Shirer, C. Zimmerman, N. Gifford, S. Campbell, and K. O'Brien. 2014. *A Framework to Integrate Habitat Monitoring and Restoration with Endangered Insect Recovery.* Environmental Management 54:6, 1385-1398. Online publication, August 10, 2014

Draft Management Agreement, between the NYSDEC and Saratoga County in Relation to Endangered Species Management at Saratoga County Airport, October 15, 2001

Draft Operations Agreement for Glider Activity at the Saratoga County Airport, between the NYSDEC, Saratoga County and Saratoga Soaring Association, Revised December 1995, Revised October 1, 2001

Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5200-33B *Wildlife Hazard Attractants on or Near Airports*

FAA AC 150/5340-18F *Standards for Airport Sign Systems* Advisory Circular

FAA, 2010 FAA Memorandum *Reminder of Responsibilities for FAA Personnel and Airport Sponsors for Protecting Approach and Departure Surfaces,* Aug. 18, 2015

FAA National Part 139 CertAlert No. 16-03 *Recommended Wildlife Exclusion Fencing,* August 3, 2016

FAA, U.S. Air Force, the U.S. Army Corps of Engineers, the U.S. EPA, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture - Wildlife Services, *Memorandum of Agreement to Address Wildlife Strikes,* 2003

Federal Register Volume 81 No. 9 1900, U.S. Fish and Wildlife Service, Endangered and Threatened Wildlife and Plants; 4(d) Rule for Northern Long-Eared Bat, January 14, 2016

Groom, M., G. Meffe, and R. Carroll. *Principles of Conservation Biology*, 3rd Edition. Sinauer Press: Sunderland, MA, 2005

Habitat Management and Monitoring Plan for Concord Municipal Airport; Revised August 1, 2001, Original November 18, 2003; New Hampshire Fish and Game Department

McFarland Johnson, Inc. *Airport Master Plan Update*, May 2015

McFarland Johnson, Inc. *Incidental Take Permit Application, Saratoga County Airport, Taxiway Lighting and Apron Rehabilitation*, July 2013

McFarland Johnson, Inc. *Wildlife Hazard Assessment*, July 2015

McFarland Johnson, Inc. *Wildlife Hazard Management Plan*, January 2016

NatureServe Explorer

New Hampshire Fish and Game Department, Fuller, S., Goulet, C., Hayward, D., *Habitat Management and Monitoring Plan for Concord Municipal Airport,* Revised August 1, 2007

New York Natural Heritage Program. Online Conservation Guide for *Callophrys irus*. Available from: http://www.acris.nynhp.org/guide.php?id=7860. Accessed November 2016.

USDA Natural Resources Conservation Service, Big Flat Plant Materials Center, *Release Brochure for Glacial Lake Albany Germplasm wild lupine (Lupinus perennis L.),* March 2015

U S. Fish and Wildlife Service (USFWS), *Biological Opinion for activities at the Saratoga County Airport*, September 24, 2009

USFWS, *Biological Opinion for activities at the Saratoga County Airport*, 2009, amended in 2011

USFWS, Ecological Services Field Office, New Franken, Wisconsin, *Final Karner Blue Butterfly (Lycaeides melissa samuelis) 5-Year Review: Summary and Evaluation,* 2012

USFWS, Great Lakes – Big Rivers Region, Fort Snelling, Minnesota, *Karner Blue Butterfly Recovery Plan (Lycaeides melissa samuelis),* September 2003

USFWS, Memorandum *Biological Opinion: Enhancement of Survival Permit Application* Submitted by The Nature Conservancy, Eastern NY Chapter, to Administer a Safe Harbor Program for Karner Blue Butterfly; Conference Opinion for Forested Elfin and Persius Duslywing, April 12, 2010

USFWS, Ecological Services Field Office, New Franken, Wisconsin, *Update to KBB Recovery Plan; Inclusion of Michigan Oak Openings Potential Recovery Unit,* February 25, 2011

The Nature Conservancy. *Five-S Framework for Site Conservation: A practitioner's handbook for site conservation planning and measuring conservation success*. Vol. I, Third Ed., 2003

Webb, L. 2010. Propagation Handbook for the Karner Blue Butterfly, *Lycaeides Melissa samuelis.* First Edition. New Hampshire Fish and Game Department, Nongame and Endangered Wildlife Program, Concord, New Hampshire. 37 pp.

Appendix A.

Biological Opinions & Airport Management Agreements

This page intentionally left blank

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

2 8 2009

September 24, 2009

Ms. Sukhbir K. Gill
Environmental Protection Specialist
U.S. Department of Transportation
Federal Aviation Administration
New York Airports District Office
600 Old Country Road, Suite 446
Garden City, NY 11530

Dear Ms. Gill:

We received your September 16, 2009, letter regarding the Saratoga County Department of Public Works' (County) proposed activities at the Saratoga County Airport (Airport) in the Town of Milton, Saratoga County, New York, and their effects on the Karner blue butterfly (*Lycaeides melissa samuelis*). In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*), the Federal Aviation Administration (FAA) has requested reinitiation of consultation for activities at the Airport to address one specific action, the paving of a 0.08-acre gravel access road to an Automated Weather Observation Station (AWOS).

Incidental take authorization was previously issued for the construction/maintenance/use of the access road in the U.S. Fish and Wildlife Service's (Service) July 6, 2009, Biological Opinion (BO). We now understand that the County wishes to pave the access road in September or early October 2009. The proposed action includes the following conservation measures to minimize impacts to Karner blue butterflies:

Construction vehicles will be prohibited from operating off the existing access road;

All disturbances will be restored with the addition of loam- and KBB-friendly grass seed.

All disturbances will be within areas currently mowed for safety at the edge of pavement areas.

Equipment will be staged on the existing road surface and will remain on the road whenever possible, however, limited passing of equipment off and within close proximity to the edge of the road will be required.

The County will coordinate activities with the New York State Department of Environmental Conservation (NYSDEC).

All activities will be under the management of County personnel.

The following incorporates all previous amendments/revisions to the November 8, 2002, BO into one document. To expedite the consultation process for this latest reinitiation request, we found that an amendment was the most efficient mechanism.

This BO is based on information provided in numerous meetings, telephone conversations, letters, and electronic mail exchanges among the Service, FAA, and others. A complete administrative record of this consultation is on file at the Service's Cortland, New York, Field Office.

I. CONSULTATION HISTORY

October 16, 1998	Letter from the FAA to the Service regarding the North American Flight Service Hangar at the Saratoga County Airport.
December 1, 1998	Letter from the Service to FAA regarding the North American Flight Service Hangar at the Saratoga County Airport and the presence of wild blue lupine (wild lupine, blue lupine, lupine).
May 12, 1999	Letter from the New York State Department of Environmental Conservation (NYSDEC) Endangered Species Unit regarding the North American Flight Service Hangar at the Saratoga County Airport.
May 25, 1999	Letter from Edwards & Kelcey (Saratoga Springs, NY) to the Service regarding the North American Flight Service Hangar at the Saratoga County Airport.
June 14, 1999	Letter from the Service to FAA regarding the North American Flight Service Hangar at the Saratoga County Airport and the presence of blue lupine.
August 18, 2000	Draft technical memorandum regarding Karner blue butterfly habitat prepared by Edwards & Kelcey.
August 2, 2000	Letter from Edwards & Kelcey (Saratoga Springs, NY) to the Service regarding vegetation removal.
September 13, 2000	Telephone conversation from the Service to Edwards & Kelcey (Saratoga Springs, NY) regarding what vegetation is to be removed.
November 27, 2000	Coordination meeting at the Saratoga County Department of Public Works facility regarding obstruction removal regarding the Saratoga County Airport.
December 11, 2000	Letter from Edwards & Kelcey (Saratoga Springs, NY) regarding resurfacing of Runway 14-32.

December 21, 2000	Letter from Edwards & Kelcey (Manchester, NH) to the Service conveying Minutes of the November 27, 2000, Coordination Meeting.
January 16, 2001	Letter from Edwards & Kelcey (Saratoga Springs, NY) to the Service regarding the obstruction removal.
February 23, 2001	Letter from Edwards & Kelcey (Manchester, NH) to the Service regarding Runway 05/03 Design Drawings and Specifications.
March 12, 2001	Letter from Edwards & Kelcey (Saratoga Springs, NY) to the Service providing updated information for the Airport Master Plan and Environmental Assessment.
March 28, 2001	Preconstruction Meeting at the Saratoga County Department of Public Works facility regarding runway resurfacing.
April 10, 2001	Letter from Edwards & Kelcey (Manchester, NH) to the Service providing the Draft Airport Master Plan and Environmental Assessment.
April 30, 2001	Letter from the Service to Edwards & Kelcey (Saratoga Springs, NY & Manchester, NH) regarding resurfacing of the runways and removal of vegetation.
November 6, 2001	Telephone conversation between NYSDEC Endangered Species Unit and the Service regarding the nature of the proposed gravel roads.
November 6, 2001	Letter from Edwards & Kelcey to the Service conveying the Draft Environmental Assessment for the Saratoga County Airport for review.
November 16, 2001	Telephone conversation from the Service to Edwards & Kelcey regarding the environmental assessment schedule.
November 19, 2001	Telephone conversation from the Service to the FAA regarding the Master Plan and Environmental Assessment for the Saratoga County Airport. FAA advised that the Karner blue butterfly is present at the airport.
November 20, 2001	FAX from the Service to the FAA conveying consultation information.
January 17, 2002	Coordination meeting at the Saratoga County Department of Public Works facility regarding obstruction removal.
January 31, 2002	Letter from FAA dated January 29, 2002, requesting initiation of formal consultation.
March 5, 2002	Letter from the Service to Edwards & Kelcey (Saratoga Springs, NY) regarding obstruction removal.

March 15, 2002	Letter from the Service to FAA requesting additional information necessary to initiate formal consultation.
March 22, 2002	Telephone conversation from the Service to Edwards & Kelcey (Saratoga Springs, NY) regarding replanting of vegetation in the area of obstruction removal.
March 22, 2002	Telephone conversation from the Service to Edwards & Kelcey (Saratoga Springs, NY) regarding replanting specifications.
June 7, 2002	Preconstruction meeting at the Saratoga County Department of Public Works facility regarding obstruction removal.
June 10, 2002	Telephone conversation from the Service to the NYSDEC Endangered Species Unit regarding placement of gravel in front of Richmoor Aviation for access to the Automated Weather Observation Station (AWOS) Unit.
June 11, 2002	Telephone conversation from the Service to the NYSDEC Endangered Species Unit regarding the potential for adverse impact to Karner blue butterflies in the process of removing the chain link fence.
June 26, 2002	Letter from FAA dated June 24, 2002, received by the Service providing the additional information requested.
August 5, 2002	Letter from Edwards & Kelcey (Saratoga Springs, NY) to the Service requesting endangered species information relative to the parcel of vacant land.
August 6, 2002	Letter from the Service to FAA acknowledging receipt of all the information necessary to initiate formal consultation.
August 9, 2002	Letter from Edwards & Kelcey (Saratoga Springs, NY) to the Service submitting additional information on a parcel of vacant land associated with obstruction removal.
August 27, 2002	Letter from the Service to Edwards & Kelcey (Saratoga Springs, NY) stating no endangered species involvement on the parcel of vacant land.
October 29, 2002	Telephone conversations between the Service and the consultant, and the Service and the FAA regarding including the Facility Base Operations (FBO) building and apron in the five- to ten-year time period and consultation.
November 8, 2002	Letter from Service to FAA issuing Biological Opinion (BO).
February 10, 2003	Letter from FAA to Service stating that the County is responsible for Terms and Conditions associated with the November 8, 2002, and any future BOs.

September 2003	Multiple phone calls among the NYSDEC, Service, FAA, and County regarding the AWOS access road installation.
October 23, 2003	Letter from the Service to FAA regarding the AWOS access road installation.
October 29, 2003	Letter from the County to FAA regarding the AWOS access road installation.
August 31, 2006	Meeting among the County, FAA, Service, and NYSDEC.
September 6, 2006	Letter from the FAA to the Service regarding the AWOS.
August 2008-June 2009	Multiple electronic mail exchanges among the Service, County, NYSDEC, FAA, and consultants.
August 27, 2008	Copied on letter from FAA to NYSDEC regarding AWOS.
October 9, 2008	Letter from the Service to FAA amending November 8, 2002, BO.
November 7, 2008	Conference call among FAA, County, NYSDEC, and Service regarding terms and conditions 4, 5, and 6.
November 24, 2008	Letter from the Service to FAA revising November 7, 2008, BO.
February 6, 2009	Letter from the County to Service regarding proposed 2009 projects.
April 22, 2009	Letter from the Service to County responding to February 6, 2009, letter.
May 5, 2009	Letter from the County to Service responding to April 22, 2009, letter.
June 30, 2009	Letter from FAA to Service requesting reinitiation of formal consultation
July 1, 2009	Electronic mails from NYSDEC to County and County to Service revising project description.
July 6, 2009	Letter from Service to FAA issuing BO.
September 16, 2009	Letter from FAA to Service requesting reinitiation of formal consultation.

II. BIOLOGICAL OPINION

Description of the Proposed Action

The proposed new Federal action that is the subject of this amended BO is the funding and/or approval of activities at the Airport.

The original action associated with the November 2002 BO was the approval by the FAA of the Saratoga County Airport Master Plan Update - Five Year Program. Although the project documents address proposed projects in the one-to-five, and five-to-10-year time periods, the FAA requested consultation regarding the projects in the first five-year time period. The Five Year Program included rehabilitation of both runways, on- and off-airport tree obstruction removal, reconfiguration of the itinerant apron including relocation of two aviation fuel tanks, taxiway reconstruction, new construction of a glider hangar and snow removal equipment storage building, replacement of the pole barn hangar, acquisition of snow removal equipment, and avigation easement acquisition as described in the Draft Master Plan Update and the Draft Environmental Assessment. In addition, a T-hangar, replacement of the airport beacon, and regrading along the entrance taxiway to the North American Aviation area, FBO building, and apron were addressed.

The Saratoga County Airport Master Plan also includes a Draft Management Agreement (see Enclosure 1) between the NYSDEC and the County for Endangered Species Management at the airport to minimize the adverse effects of airport activities on listed species and their habitat. In addition, the Master Plan update includes a Draft Operations Agreement for Glider Activity at the Saratoga County Airport (see Enclosure 2) among the NYSDEC, the County, and Saratoga Soaring Association. This agreement is designed to minimize the adverse effects of glider operations on listed species and their habitat. These two agreements are still technically in draft form but are used by the County to minimize impacts to Karner blue butterflies. Therefore, the effects of the implementation of these two agreements are included in this consultation.

During informal consultation with the FAA on several projects included in the Master Plan Update, the Service previously determined that, based on the information provided or with certain measures included, these projects would not be likely to adversely affect the Karner blue butterfly. These projects included the Runway 5/23 rehabilitation, the Runway 14/32 rehabilitation, on-airport obstruction removal, and the purchase of an adjacent parcel of property for obstruction removal. The FAA later requested that the Runway 14/32 rehabilitation project be addressed through formal consultation due to temporary impacts that may not be avoided as discussed during informal consultation.

On October 9, 2008, the Service amended the BO to include the County's construction, operation, and maintenance of their AWOS facility. In addition, the County agreed to relocate the current staging area boundary near the end of Runway 23 to provide an additional 0.85 acre of area to be restored and managed for the Karner blue butterfly. A summary of projects for which the Service and FAA anticipated incidental take from the 2002 BO and 2008 amendment is provided in Table 1.

Table 1. Projects for which incidental take has previously been provided (2002 and 2008 BOs).

Project	Acreage Affected	Type of Incidental Take
Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks)	2.84	Disturbance and removal
Glider Hangar	0.50	Disturbance and removal
Construct Snow Removal Equipment Storage Building	0.08	Disturbance and removal
T-Hangar Development	0.40	Disturbance and removal
AWOS Gravel Access Road	0.08	Disturbance and removal
FBO Building and Apron	0.37	Disturbance and removal
	4.27	**Subtotal** (Dist. and removal)
Rehabilitation of Runway 14/32	2.54	Temporary disturbance
Reconstruct Taxiway C	0.63	Temporary disturbance
Reconstruct Taxiway A	1.38	Temporary disturbance
Regrading Along the Entrance Taxiway to the North American Aviation Area	0.02	Temporary disturbance
Replacement of the Airport Beacon	0.04	Temporary disturbance
Areas Mowed for Safety (i.e. around taxiway lights) - (Management Agreement)	3.00	Recurring disturbance
Turf in Exempt Areas - Mowing (Management Agreement)	11.00	Recurring disturbance
Snow Blowing and Plowing (Management Agreement)	0.12	Recurring disturbance

Glider Operations Areas (Glider Operations Agreement)	5.00	Recurring disturbance
	24.45	**Subtotal** (Temporary and recurring)
	28.72	**TOTAL** (All projects and activities)

On July 6, 2009, the BO was amended to include the paving, operation, and maintenance of approximately 4.5 miles of gravel perimeter access roads; reconstruction, operation, and maintenance of Taxiways B, D, E, and F; and the reconstruction, operation, and maintenance of an itinerant apron. The May 5, 2009, letter from the SCDPW to the Service (Enclosure 3) describes these actions and provides updates on several actions previously considered by the Service in our 2002 BO and is incorporated by reference. The following information comes from that document.

Taxiways B, D, E, and F and Itinerant Apron Reconstruction

Taxiways B, D, E, and F and the itinerant apron are proposed for reconstruction starting in early September with completion in October 2009, unless an earlier start is possible. Three reconstruction techniques are possible: "Mill and Overlay" which consists of milling (or grinding) off 3 inches of the existing pavement and replacing with 3 inches of new bituminous pavement; "Remove and Replace" which consists of removing 4 inches of the existing pavement by excavation and replacing with 4 inches of new bituminous pavement; and "Reclaim and Replace" which consists of reclaiming (i.e., mixing) the existing bituminous materials in place with new stone and existing subgrade soils, shaping and compacting the reclaimed material, and adding 4 inches of new bituminous pavement.

The "Remove and Replace" method is anticipated to disturb 2 feet off the edge of the existing pavement. The 2-foot value is estimated conservatively based upon a 4-inch cut occurring at the edge of the existing pavement after the existing pavement is excavated. This will result in a temporary 4-inch turf "lip" which will be cut and sloped away from the pavement edge during construction of the gravel base course. After the pavement is placed, a 2-foot-wide panel of new loam will be placed to "back-up" the new pavement's exposed edge. The new loam areas will be seeded with Karner blue butterfly-friendly seed. The "Reclaim and Replace" method is anticipated to disturb 3 feet off the edge of the existing pavement. Reclaiming is a process where the existing pavement is pulverized and mixed in place to form gravel material on which the new asphalt pavement can be placed. The 3-foot value is estimated conservatively based upon the mechanical mixing of the reclaiming machine's operation at the edge of the existing bituminous pavement. The reclaiming machine will leave approximately a 6-inch windrow at the edge of the existing pavement. The windrow will then be graded and compacted to construct the base course. After the pavement is placed, a 3-foot-wide panel of new loam will be placed to "back-up" the new pavement's exposed edge. The new loam areas will be seeded with Karner blue butterfly-friendly seed. The "Mill and Overlay" technique is anticipated to result in no

temporary disturbance. The "Mill and Overlay" construction will be conducted within the existing pavement "foot print."

Conservation measures will be employed to minimize disturbances to Karner blue butterflies during the project construction. Construction vehicles will be prohibited from operating off of the existing taxiway and apron bituminous pavements and the airport perimeter roads. A 4-foot by 8-foot post-mounted sign will be placed at the entrances to the active haul roads with instructions to remind truck drivers to remain on the existing gravel roads and pavements. Truck turning movements will be limited to the existing gravel roads and pavements. A 3-foot high, continuous plastic orange snow fence will be installed 3 feet from the edge of the existing taxiway pavements as a visual cue to remind operators to stay within the pavements. After each phase of the taxiway project is completed, the snow fence will be removed to allow aircraft to use the newly constructed pavement. The contractor's operations will then move on to another portion of pavement for reconstruction where snow fence will be installed prior to working on that phase of the project. The contractor will not re-enter the previously constructed phase except to apply pavement markings which operations stay wholly on the existing pavements. The SCDPW consultant will be monitoring the construction full-time to ensure compliance with these conservation measures.

Access Road Paving

The project first includes thinning the existing heavy vegetative overgrowth from the gravel road with a very low mowing. The remaining vegetative growth would then be eliminated through the application of a systemic, broad spectrum herbicide (e.g. "Round-up") sometime in early to mid-September 2009. The herbicide would be applied by a licensed applicator using a tractor or other all-terrain vehicle mounted with a horizontal spray bar installed very low to the ground to target the herbicide on the gravel road surface and to avoid over spraying. The application will be carefully monitored and controlled and would only be applied in no-wind, dry conditions. After a sufficient waiting period, N.Y.S.D.O.T. Item No. 207.1 1 stabilization fabric will be installed over the entire area of the existing gravel road and an additional thickness of N.Y.S.D.O.T. Item No. 304.12 crusher run sub-base (+/- 3") will be installed, graded, and compacted to a width of 10' wide in order to true and level the existing gravel road sub-base. Three (3) inches of 10' wide N.Y.SD.O.T. Item No. 403.138902 asphalt binder will then be installed over the gravel sub-base material. A semi-permeable substrate material is not considered because it would be cost prohibitive. It is also the objective of this project to prevent future vegetative growth through the paved surface. The approximate total road area to be paved is 4.5 miles by 8-10 feet wide or 5.45 acres. The SCDPW anticipates completing the gravel sub-base and asphalt paving between late September and the end of October 2009 and this phase of the project will take four to six weeks to complete. The equipment used for the completion of this project will enter the site through one of the six gates located around the perimeter of the airport. Equipment will be staged on the existing gravel road surface and will remain on the road whenever possible through coordinated sequencing and backing-up of the equipment. Limited passing of equipment off and within very close proximity to the edge of the access road will be required. The SCDPW expects to coordinate the activities in advance of the start of construction with a representative of NYSDEC to identify specific activities and sequence of the work, so as to minimize disturbances and avoid the most environmentally sensitive habitat areas. All activities will be under the management of county personnel. Future maintenance of the paved access road includes isolated patching, crack sealing, and elimination of weed growth through

mechanical means. Chemical elimination of weeds would be used only with prior notification to NYSDEC.

In addition, on July 1, 2009, we received electronic mails from the County and NYSDEC regarding a 689-foot x 16-foot corridor (0.25 acre) from the dead end of the access road on the northwest side of Runway 14 to connect to the end of the runway. This area will either be paved or will have gravel placed in it.

In a letter dated September 16, 2009 (enclosure 4), we received a request for reinitiation of consultation from the FAA for the proposed authorization of paving of the current 0.08-acre gravel access road to the AWOS facility. As mentioned above and summarized in Table 1, the Service previously provided incidental take coverage to the County for the permanent loss of occupied habitat in this area from the construction/use/maintenance of the gravel access road. In addition, any temporary disturbance outside the 0.08-acre access road is in an area that is mowed for safety and incidental take authorization was previously provided for recurring disturbances in that area.

In summary, there are multiple actions at the Airport under consideration. Several of these actions have been completed and several actions have yet to be completed, are conducted annually, or are otherwise ongoing (see **Effects of the Action** section below).

Rangewide Status of the Species

Species not considered further in this opinion

Since the November 2002 BO, the bald eagle (*Haliaeetus leucocephalus*) has been delisted and is not considered further. Therefore, the only Federally-listed species known to occur in the vicinity of the action area is the Karner blue butterfly.

Listing Status

The Karner blue butterfly was listed as endangered on December 14, 1992 (U.S. Department of Interior 1992). No critical habitat has been designated for this species. This species has been listed as endangered by the State of New York since April 1977.

Species Description

The Karner blue butterfly is a member of the Order Lepidoptera, Family Lycaenidae. Adult butterflies are rather small, with a wingspan of between 2.2 and 3.2 centimeters. The dorsal surface of the wing of males is silvery blue, with a narrow black border and a white fringe. The dorsal surface of the female is similar, but more brown in color, with a row of dark spots with orange crescents. The ventral surface of the wings of both sexes is slate gray with several marginal rows of orange and black spots.

Life History

The following is a summary of Karner blue butterfly life history. The Karner Blue Butterfly Recovery Plan (Recovery Plan) (Service 2003) provides a comprehensive summary of Karner blue butterfly life history and is incorporated by reference.

The Karner blue butterfly has two broods, or adult flight periods, each year. Eggs that have overwintered from the previous year hatch in April. The larvae feed on wild lupine leaves and mature rapidly. Near the end of May, the larvae pupate and adult Karner blue butterflies emerge very late in May in most years. The adults are typically in flight for the first 10 to 15 days of June when the wild lupine is in bloom. Female Karner blue butterflies lay eggs on or near wild lupine plants. The eggs hatch in about one week and the larvae feed for about three weeks. They then pupate and the second brood of adults appears about the first or second week of July. This flight of adults lays their eggs among leaf litter or on grass blades at the base of lupines or on lupine pods or stems; these eggs do not hatch until the following spring. Generally, by late August, no adults remain. Cold and/or rainy weather can delay the two flight periods of the butterfly.

In addition to wild lupine, the Karner blue butterfly generally requires tall grass for late afternoon basking and overnight roosting, some shading vegetation to prevent overheating, a source of water, and nectar sources for the adults. A variety of understory plants serve as nectar sources for the adults.

Since the only known food plant for Karner blue butterfly larvae is wild lupine, the distribution of the Karner blue butterfly is closely tied to the distribution of habitats that support the wild lupine. In eastern New York and in New Hampshire, this habitat typically occupies sandplain communities and grassy openings within very dry pitch pine/scrub oak barrens. In the mid-western states, the habitat is also dry, sandy openings, including openings in oak savannas, jack pine (*Pinus banksiana*) stands, and dune or sandplain communities.

The Karner blue butterfly is an example of a species for which suitable habitat occurs in relatively small areas (or patches) distributed over the landscape. Like other species whose habitat occurs in patches rather than large continuous tracts of land, populations of the Karner blue butterfly exist as dynamic collections of subpopulations (metapopulations) that are interconnected genetically by dispersal. Metapopulations have been described further as dynamic clusters of subpopulations (or demes) continually shifting in distribution across a changing landscape of habitat patches in varying stages of disturbance and succession (Givnish et al. 1988, Schweitzer 1989).

To preserve species with patch distributions, it is necessary to maintain: (1) existing patches of suitable habitat, (2) the processes that create new habitat patches, and (3) the corridors that allow a species to migrate between habitat patches (Harrison et al. 1998). Various research has shown dispersal of the Karner blue butterfly to range from about 200 yards (about 600 feet) to about 2 miles. Open linear areas such as road and railroad rights-of-ways, utility corridors, and forest roads and trails can serve as dispersal corridors for the Karner blue allowing them to re-colonize or colonize wild lupine patches.

Status and Distribution

Historically, the Karner blue butterfly occurred in a narrow geographic area that extended from eastern Minnesota, across portions Iowa, Wisconsin, Illinois, Indiana, Michigan, Ohio, Ontario (Canada), Pennsylvania, New York, Massachusetts, New Hampshire, and Maine. Over the past 100 years, the overall number of individuals present in all populations declined by 99 percent throughout the species' range. More than 90 percent of that decline occurred in the last 10 to 15 years. It is now thought to be extirpated from Iowa, Illinois, Ontario, Pennsylvania, Massachusetts, and Maine. Karner blue butterflies were also extirpated from Ohio in 1988 but reintroduction efforts at a Nature Conservancy preserve have been ongoing since 1998 with success. New Hampshire's population was extirpated in 2000, however, reintroduction efforts are ongoing using eggs from the Saratoga County Airport.

The decline of Karner blue butterfly populations in the mid-western states of Iowa, Illinois, Ohio, Indiana, Michigan, and Wisconsin has resulted chiefly from loss of habitat due to fire suppression, conversion by agriculture and forestry practices, and commercial and residential development (Service 2003). In addition, incompatible management practices (e.g. timing of controlled burns and mowing) within suitable habitat can adversely affect the Karner blue butterfly.

Wisconsin supports the largest and most widespread populations of the Karner blue butterfly. It is known from over 270 locations in Wisconsin, and most of the populations can be grouped into about fifteen large population areas in central and northwest Wisconsin (refer to Chapter II.B of the Habitat Conservation Plan, Volume 1, pp. 52-59, for distribution information) (Wisconsin Department of Natural Resources 1999). About two-thirds of the Karner blue butterfly colonies are on state, county, or Federal lands.

Species Recovery

The goal of the Recovery Plan is to perpetuate viable metapopulations of the Karner blue butterfly in the major ecological regions throughout its geographic range. Thirteen ecological regions or recovery units and six potential recovery units are identified.

The recovery objective is to perpetuate viable populations and large viable metapopulations of the Karner blue butterfly in the major physiographic, vegetational, and climatic regions throughout the range of the butterfly. The criteria (summarized) for reclassification from endangered to threatened status are:

1. Establish viable populations and large viable populations of Karner blues in the 13 specified recovery units; and

2. Each viable population shall have a management and monitoring plan to be implemented into the future, a sufficient number of individuals in an appropriate metapopulation structure for at least five years after the implementation of the management plan, and connectivity between subpopulations so that the average nearest-neighbor distance is no more than 1 kilometer and the maximum distance is no greater than 2 kilometers.

Also, each large viable population shall have the above as well as a larger areal extent and more suitable habitat than required for a viable population, a more robust metapopulation structure with larger number of individuals than a viable population, and reduced monitoring and reduced monitoring and management requirements compared to those required for a viable population.

The criteria for delisting are the same with the addition that each viable population shall be demonstrably self-reproducing, shall be maintained at or above minimum allowable population sizes, and shall be managed and monitored under the specific management and monitoring plans for at least 10 consecutive years.

Recovery Units

As stated above, thirteen recovery units have been identified for the Karner blue butterfly. One of these recovery units is in New York and includes the area between Glens Falls and the Albany Pine Bush and is named the Glacial Lake Albany (GLA) Recovery Unit. Two potential recovery units were also identified in the Recovery Plan in the Rome Sandplains and Tonawanda areas in central and western New York.

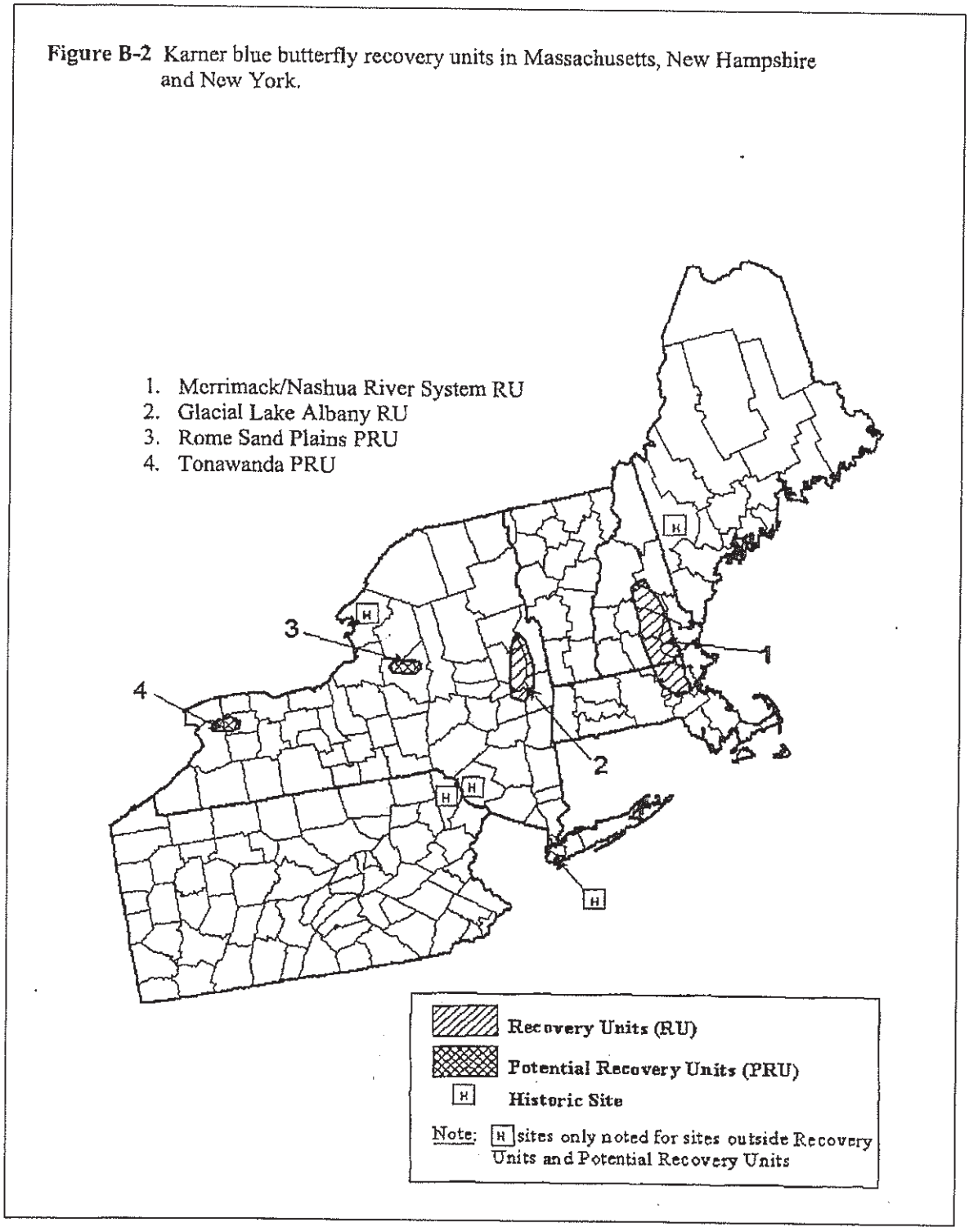


Figure 1. Recovery units and potential recovery units in New York and New England (Appendix B-11, Service 2003).

Within the GLA Recovery Unit, three metapopulation (viable population) areas are required under criterion #1. The Albany Pine Bush, Saratoga West, and Saratoga Sandplains have been described as potential areas for these viable populations.

Habitat loss, fragmentation, and degradation are considered the primary threats to the survival of the species (Service 2003). Development throughout the Saratoga, Queensbury, and Albany regions has contributed to the species decline and remains the primary threat to Karner blue butterflies in New York State. Fire suppression (resulting in vegetational succession) and habitat fragmentation have also impacted Karner blues in New York. These activities have reduced the native vegetation of the Albany Pine Bush in New York State from 25,000 acres to about 2,500 acres. However, the NYSDEC and partners like The Nature Conservancy are actively working to restore habitat throughout the Albany Pine Bush and Saratoga Sandplains.

The Karner blue butterfly is known from approximately 28 locations in New York (all within the GLA Recovery Unit) at this time. There may be multiple management sites within a given sub-population and habitat restoration activities since 2002 have connected many previously separate areas. At least half of the New York management sites are 10 acres or less in size and another 25 percent are less than 20 acres (K. O'Brien, NYSDEC, 10/25/2002 pers. communication). These small sites are threatened by unfavorable mowing practices, woody encroachment from adjacent woodlands, development, and incompatible management practices.

The following paraphrased information was provided for the 2008 Service Recovery Data Call (K. O'Brien, NYSDEC, 08/28/2008 pers. communication). In 2008 we saw a continuation of the general downturn except in a few locations where Karner blue butterflies are expanding into recently created habitat adjacent to an existing subpopulation. Numbers at most known sites are lower than past years and even more sites may be extirpated. In Albany Pine Bush, the highest number seen at any site was a spring brood count of 19 which then had a peak second flight count of 8. In Saratoga Sandplains, the new habitat sites had peak counts markedly higher than in 2007 (103 was the highest count at one site, with several in the 90s), but almost all had summer brood counts much lower than the spring. The Airport had second brood counts over 100 for the first time since 2005; however, most of the other sites in Saratoga West had extremely low counts. There are no currently viable sites within the Queensbury population. Loss of lupine due to succession and/or damage from human activity, as well as weather, may account for the low counts at many sites.

Environmental Baseline

Status of the Karner blue butterfly at Saratoga County Airport

As noted above, there are approximately 28 Karner blue butterfly sub-populations in New York. Nine sub-populations are located in the Saratoga West viable population area (Airport, Geyser Road Dune Cut, Geyser Road Railroad, Geyser Road/Rowland Street, Rowland Street PROW, Rowland Street West, Hutchins Road, Route 145 Sandpit, Saratoga Spa State Park). The Airport is currently the largest Karner blue butterfly single site by acreage in the entire state. However, there are larger sub-populations in terms of numbers in Saratoga Sandplains. The closest two sub-populations to the Airport are powerlines approximately 500 meters away with the remaining much farther away.

The NYSDEC conducts transect surveys at the Airport each year. The counts from these transects do not represent the true population size, rather, they are an index to compare relative counts from year to year. The actual population size is likely much greater than the transect counts, however, distance sampling results from a 2007 study are not yet available for this site. That said, we do know that the Airport has provided some of the largest numbers of Karner blue butterflies in the state. Peak second brood counts were 426 in 1997, 277 in 1998, 457 in 1999, 208 in 2000, 907 in 2001, 129 in 2002, 226 in 2003, 938 in 2004, 358 in 2005, 29 in 2006, 42 in 2007,and 177 in 2008. The variability in the numbers is most likely due to weather events at the airport. For example, in the Spring of 2002, late frosts damaged much of the lupine by killing leaves and flowers and during the activity period of the second brood, severe thunderstorms and wind events went through the area.

One of the most significant factors potentially limiting the Karner blue butterfly population at the Airport is the homogeneity of the site; the habitat is very open with little to no diversity in structure or topography. This homogeneity decreases the Karner blue's ability to survive weather events such as frosts or high winds. In addition, the nectar is poorly distributed throughout the site. Finally, some management practices of the County impact the Karner blue butterfly, as well as accidental incidents involving the County or users of the airport property. However, it is difficult to fully assess the long-term viability of the site, as the butterfly's future presence on nearby tracts is unknown; dispersal rates from or to the site are also unknown. Nearby Karner blue butterfly patches have an uncertain future given their lack of management. In addition, we have limited opportunities to create new patches near the Airport at this time.

Action Area

The action area, considered to be the area of direct and indirect impact, includes the Saratoga County Airport Property (see Figure 2) which is located in the Town of Milton, New York. The airport consists of 14 parcels of land that total 530 acres. In addition, the action area includes off-airport properties identified for acquisition and obstruction removal (see Enclosure 3).

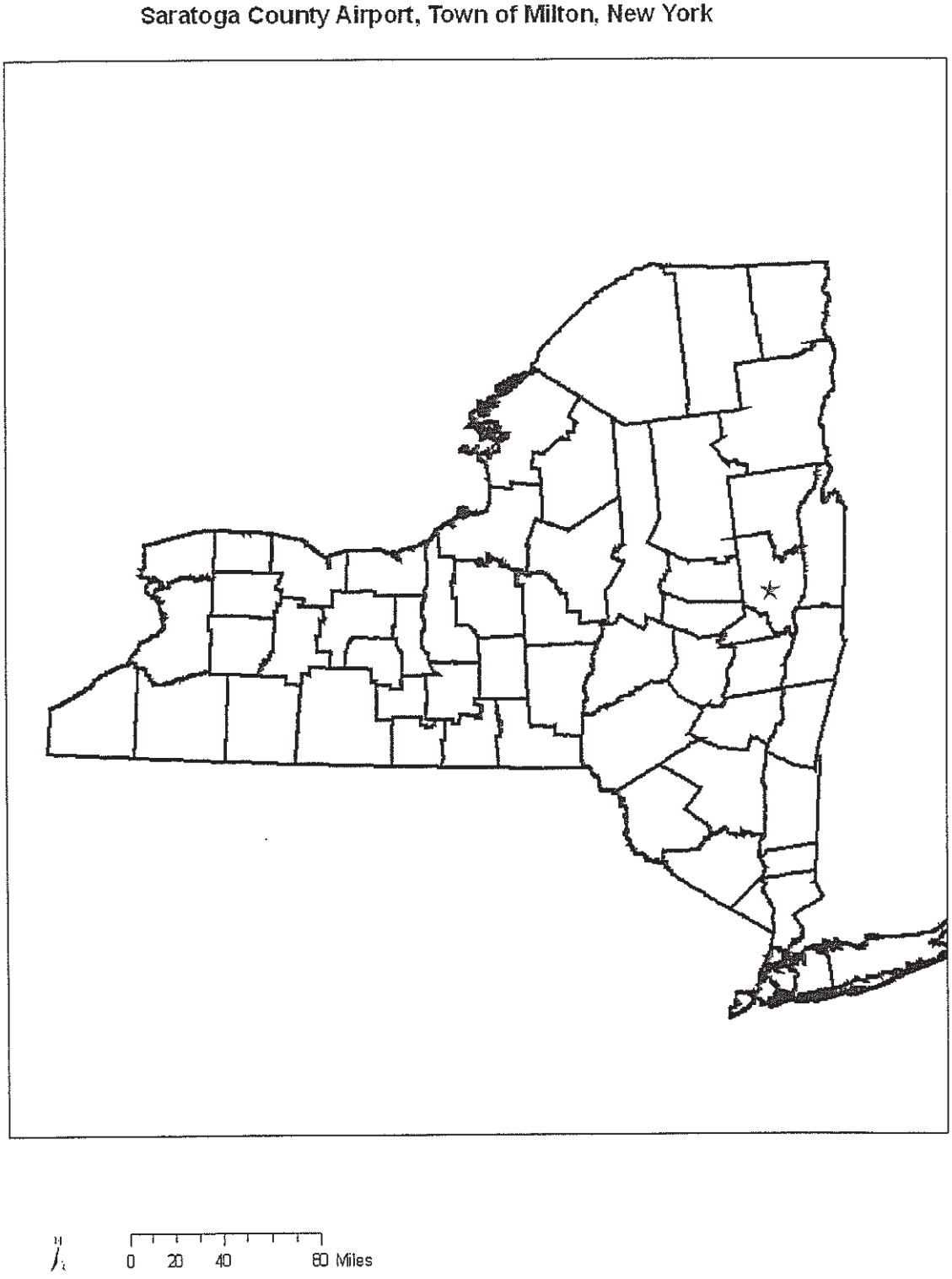


Figure 2. Location of Saratoga County Airport.

Effects of the Action

In evaluating the effects of the Federal action under consideration in this consultation, 50 CFR 402.2 and 402.14(g)(3) requires the Service to evaluate the direct and indirect effects of the action on the species.

Direct Effects

Many of the proposed activities at the Airport will result in direct adverse effects on Karner blue butterflies and their habitat as a result of the initial disturbance and removal of occupied and potential habitat for some of the projects, and the temporary disturbance of occupied and potential habitat for other projects and activities. Since some life stage of the Karner blue butterfly (eggs, larvae, pupae, or adults) are present year-round in occupied habitat, those projects and activities affecting occupied habitat, either permanently or temporarily will result in the taking (kill or injure) of Karner blue butterfly eggs, larvae, pupae, or adults, depending on the time of year of the disturbance to the habitat.

The host plant for the Karner blue butterfly, wild blue lupine, and the nectar species used by the adults are not evenly distributed over the airport property. Most of the open areas of the airport are mowed according to the existing Management Agreement with the NYSDEC using certain methods and timing to minimize potential impacts on the butterflies or their other life stages. This Management Agreement is being updated as a part of this Master Plan Update. Some areas of the airport have been designated as "exempt areas" under the Management Agreement and more frequent mowing and certain other necessary activities are allowed to take place within the exempt areas. Lupine and Karner blue butterflies or their other life stages may occur in grassy open areas within these exempt areas as well as the other open areas of the airport property; however, lupine and Karner blue butterfly occurrences in these exempt areas would be more scattered and sparse due to the habitat conditions, development, and activities there.

There has been no comprehensive mapping of lupine or nectar species at the airport, although lupine concentrations have been identified. For the purposes of this consultation and evaluation of project impacts, it was agreed to assume that lupine, nectar and Karner blue butterflies or their other life stages may be present in any open grassy areas of the property, and that the effects of the various projects and activities would be evaluated based on the acreages of open grassy areas affected. In addition, access roads currently have lupine and nectar growing through the gravel in many locations. Therefore, other non-forested, non-paved, non-manicured lawn areas are also considered as habitat. The Service recognizes that the actual amount of potential habitat or habitat that is occupied by Karner blue butterflies or their other life stages, and therefore affected, is less than the acreages described in the project documents and this BO.

Projects and activities that will result in the loss of Karner blue butterflies in any of their life stages which are present have been identified in the project documents and information provided for this consultation. Italicized projects have been completed since the 2002 BO. These projects and the acreages affected by them are:

- Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks) (2.84 acres)- Not completed but the avgas tank has been removed from the site

- *Glider Hangar (0.5 acre)- completed*
- Construct Snow Removal Equipment Storage Building (0.08 acre)
- T-Hangar Development (0.4 acre)
- *Gravel AWOS Access Road (0.08 acre)- completed-*
- **9/16/09 update - Paving of AWOS Access Road (same acreage)**
- FBO Building and Apron (0.37 acre)
- Annual Areas Mowed for Safety (i.e. around taxiway lights) (3.0 acres)
- Annual Areas Mowed Around the AWOS (up to 0.72 acre)
- Turf in Exempt Areas – Annual Mowing (11 acres)
- Annual Glider Operations Areas (up to 5.0 acres)
- *Rehabilitation of Runway 14/32 (2.54 acres)- completed*
- Reconstruct Taxiway C (0.63 acre)
- Reconstruct Taxiway A (1.38 acres)
- Reconstruct Taxiway D-North (0.08 acre)
- Reconstruct Taxiway E (0.27 acre)
- Reconstruct Itinerant Apron (0.06 acre)
- Temporary staging area for Taxiway B, D, E, F and Itinerant Apron reconstruction (0.49 acre)
- *Regrading Along the Entrance Taxiway to the North American Aviation Area (0.02 acre)- completed*
- *Replacement of the Airport Beacon (0.04 acre)- completed*
- Annual Snow Blowing and Plowing (0.12 acre)
- Annual Mowing in Non-Exempt Areas - Between October 15 and December 31 (191 acres)
- Annual Mowing in Newly Cleared and Replanted Areas (70 acres)

- Access Road Paving (limited off-road work and some small patches of lupine in current gravel roads) (5.7 acres)

Indirect Effects

Many of the above-listed activities also have the potential to result in indirect effects to Karner blue butterflies. The following actions will result in permanent loss of occupied habitat (lupine and/or nectar).

- Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks) (2.84 acres)- *Not completed but the avgas tank has been removed from the site*
- *Glider Hangar (0.5 acre)- completed*
- Construct Snow Removal Equipment Storage Building (0.08 acre)
- T-Hangar Development (0.4 acre)
- *AWOS Access Road (0.08 acre)- completed*
- **9/16/09 update - Paving of AWOS Access Road (same acreage)**
- FBO Building and Apron (0.37 acre)
- Access Road Paving (limited off-road work and some small patches of lupine and nectar in current gravel roads) (5.7 acres)

The following activities will result in long-term impacts (although no removal or destruction) to occupied habitat. The continual nature of the disturbance throughout the growing season renders them virtually permanently unavailable to Karner blue butterflies. Temporary adverse effects associated with the recurring activities taking place under the Management Agreement and Glider Operations Agreement were originally anticipated to be short-term but recurring periodically as described in the agreements. A more accurate description is that effects are long-term in the set-up areas adjacent to the runways given the repeated disturbance except for the set-up area next to runway 14 which is seldom used by gliders. Effects of glider landing areas off runways are less frequent and can be considered short-term in nature.

- Annual Areas Mowed for Safety (i.e. around taxiway lights) (3.0 acres)
- Annual Areas Mowed Around the AWOS (up to 0.72 acre)
- Turf in Exempt Areas – Annual Mowing (11 acres)
- Annual Glider Operations Areas (up to 5.0 acres)
- Access Road Maintenance (up to 3.27 acres)

In addition, other projects and activities will result in the loss of lupine with replanting of grasses/nectar. These projects and activities and the acreages affected are:

- *Rehabilitation of Runway 14/32 (2.54 acres)- completed*
- Reconstruct Taxiway C (0.63 acre)
- Reconstruct Taxiway A (1.38 acres)
- Reconstruct Taxiway D-North (0.08 acre)
- Reconstruct Taxiway E (0.27 acre)
- *Regrading Along the Entrance Taxiway to the North American Aviation Area (0.02 acre)- completed*
- *Replacement of the Airport Beacon (0.04 acre)- completed*

However, the small acreage and scattered nature of the areas of impact when compared to the overall availability of habitat for the Karner blue butterfly within their daily home range (<200 m on average) should result in minimal and short-term indirect effects to individual butterflies.

Beneficial Effects

Mowing in non-exempt areas (191 acres) and mowing in the newly cleared and replanted areas (70 acres) between October 15 and December 31 under the Management Agreement will minimize the adverse effects from the mowing operation because only Karner blue butterfly eggs will be present at that time. This mowing is anticipated to provide an overall benefit to the species by helping to maintain the suitability of the habitat at the site which otherwise would become unsuitable for lupine and Karner blue butterflies over time as a result of vegetation succession.

The clearing and replanting with lupine and nectar species which were part of the on-airport obstruction removal discussed in the 2002 BO has provided approximately 70 acres of additional habitat for the Karner blue butterflies at the airport. As of October 2008, the planting was successful in terms of increasing available nectar plants in some areas and in creating more open, grassy areas for Karner blue butterflies to fly around and rest in. However, there was minimal lupine seed in the mix and little expansion of breeding habitat associated with these efforts. A new term and condition was developed to address the need for increased plantings in the November 2008 amendments.

Cumulative Effects

Cumulative effects include the effects of future State, local, or private actions that are reasonably certain to occur in the action area considered in this BO. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the Endangered Species Act.

Due to continued development pressure, future State, local, or private actions are anticipated to result in the loss and disturbance of other habitat and potential habitat for the Karner blue butterfly in areas around this site and throughout the region as well.

Since this site is part of an area which is a focus of State and Federal Recovery planning, it is anticipated that future State, local, and private actions will continue to occur in a manner that will contribute to the recovery of the Karner blue butterfly. The Service anticipates that additional habitat restoration, protection, and management in the area will occur over time, enhancing the overall importance and contribution of the recovery efforts at this site.

Conclusion

After reviewing the current status of the Karner blue butterfly at the Saratoga County Airport, in the Glacial Lake Albany recovery unit, as well as throughout the rest of its range, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's Biological Opinion that the FAA's approval of the Saratoga County Airport Master Plan Update - Five Year Program, as proposed, is not likely to jeopardize the continued existence of the Karner blue butterfly. No critical habitat has been designated for this species, therefore, none will be affected.

The Service has based this determination on the relative quality and size of the actual areas that will be adversely affected by the proposed action, the measures to avoid and minimize adverse impacts on the Karner blue butterfly that have been included in the proposed action and related projects and activities, the draft Management Agreement and draft Glider Operations Agreement which are designed to minimize adverse effects on the Karner blue butterfly, and the creation of approximately 70 acres of habitat at the site, as part of the proposed action which is expected to benefit the Karner blue butterfly.

III. INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulations under Section 4(d) of the ESA prohibit the taking of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns such as breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited under the ESA, provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the FAA so that they become binding conditions of any funding, permits, and/or approvals issued to the County, as appropriate, for the exemption in Section 7(o)(2) to apply. The FAA has a continuing duty to regulate the activity covered by this incidental take statement. If the FAA 1) fails to require the

County to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit, authorization, or funding document; and/or 2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of Section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the FAA or County must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement (50 CFR §402.14(I)(3)).

Amount and Extent of Take

The Service anticipates that incidental take of Karner blue butterflies will result from the initial disturbance and removal, and the temporary disturbance of occupied lupine habitat through crushing of adults, eggs, larvae, or pupae during project construction and conducting the described activities. This amount of take will be difficult to detect for the following reasons: the small size and delicate anatomical structure of the various life stages of the species; losses may be masked by fluctuations in numbers from other causes; and finding a dead or impaired specimen is unlikely.

Because of the difficulty in determining a level of take based on the number of Karner blue butterflies that will be adversely affected, and the strong association of the species to its habitat, the Service has decided that it is appropriate to base the level of authorized incidental take on the habitat acreage that will be affected by the proposed projects.

The following table lists the projects and activities which the Service anticipates will result in incidental take of Karner blue butterflies. Projects in italics have been completed between the issuance of the November 2002 BO and this amendment. Either adults, eggs, larvae, or pupae may be incidentally taken depending on the timing of the disturbance to the occupied habitat. As discussed previously, since lupine and nectar species are not evenly distributed over the airport property and comprehensive mapping of lupine has not been done, the following acreages represent the areas of occupied and potentially occupied habitat that will be affected.

Incidental take coverage for mowing in non-exempt areas (191 acres), and mowing in the newly cleared and replanted areas (70 acres) - between October 15 and December 31, was not previously covered through a BO prior to July 2009, but was addressed through the NYSDEC's Section 10(a)(1)(A) permit which authorizes letters of permission to those acting on NYSDEC's behalf for recovery activities for the Karner blue butterfly. This was addressed in the July 6, 2009, BO.

Table 2. Anticipated incidental take for projects in 2009 and beyond.

Project	Acreage Affected	Type of Incidental Take
Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks)	2.84	Permanent occupied habitat loss (kill and harm)
Glider Hangar	*0.50*	*Permanent occupied habitat loss*
Construct Snow Removal Equipment Storage Building	0.08	Permanent occupied habitat loss
T-Hangar Development	0.40	Permanent occupied habitat loss
AWOS Gravel Access Road	*0.08*	*Permanent occupied habitat loss*
9/16/09 update - Paving of AWOS Access Road	**NA**	**Already counted as permanent occupied habitat loss**
FBO Building and Apron	0.37	Permanent occupied habitat loss
Access road paving	5.7	Permanent occupied habitat loss
Areas Mowed for Safety (i.e. around taxiway lights) - (Management Agreement)	3.00	Recurring disturbance (kill and harm)
Turf in Exempt Areas – (1) Mowing (Management Agreement)	11.00	Recurring disturbance
Snow Blowing and Plowing (Management Agreement)	0.12	Recurring disturbance
Glider Operations Areas (Glider Operations Agreement)	5.00	Recurring disturbance
	29.09	**Subtotal** (Permanent loss and recurring disturbance)

Rehabilitation of Runway 14/32	*2.54*	*Temporary disturbance/habitat loss (kill and short-term harm)*
Reconstruct Taxiway D-North	0.08	Temporary disturbance/habitat loss
Reconstruct Taxiway E	0.27	Temporary disturbance/habitat loss
Reconstruct Taxiway C	0.63	Temporary disturbance/habitat loss
Reconstruct Taxiway A	1.38	Temporary disturbance/habitat loss
Regrading Along the Entrance Taxiway to the North American Aviation Area	*0.02*	*Temporary disturbance/habitat loss*
Replacement of the Airport Beacon	*0.04*	*Temporary disturbance/habitat loss*
Itinerant apron replacement	0.06	Temporary disturbance/habitat loss within exempt mowing area (not duplicating acreage in final total)
Staging area	0.49	Temporary disturbance/habitat loss within exempt mowing area (not duplicating acreage in final total)
Access road maintenance	3.27	Temporary disturbance/habitat loss along edges
	9.03	**Subtotal** (Temporary disturbance/habitat loss)
Mowing in non-exempt areas	**~261**	Temporary disturbance to KBBs (kill/injure)
	298.32	**TOTAL** (All projects and activities)

Effect of the Take

In the accompanying Biological Opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures to Minimize Take

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take:

1. Avoid disturbance of Karner blue butterfly habitat adjacent to or outside the areas described for project construction in the Master Plan documents, the FAA's September 7, 2006, and September 16, 2009, letters, and the County's May 5, 2009, letter.

2. Ensure the measures described in the draft Management Agreement and draft Glider Operations Agreement are carried out.

3. Restore additional habitat and enhance current habitat at the Airport.

Terms and Conditions

In order to be exempt from prohibitions of Section 9 of the Act, the FAA must ensure that the following terms and conditions, which implement the reasonable and prudent measures described above, and outline required reporting and monitoring requirements, are included in the project plans. These terms and conditions are non-discretionary.

1. The County shall inform all employees and contractors of the presence of Karner blue butterflies and their habitat, and areas where construction operations and equipment are permitted and not permitted.

2. The County shall make all reasonable attempts to inform (via bulletins/notices, verbal communications, signage, etc.) all users of the airport of the presence of Karner blue butterflies and their habitat, and areas where activities are permitted and not permitted.

3. The County shall install/maintain a permanent sign (visible above any accumulated snow) demarcating the location for snow storage.

4. The County (or NYSDEC) shall inspect project areas at the start of and during construction to ensure construction disturbance is limited to the appropriate areas as described in the Master Plan and accompanying documents and the June 24 and January 29, 2002, and September 7, 2006, and September 16, 2009, letters from the FAA, and the County's May 5, 2009, letter.

5. The draft Management Agreement and draft Glider Operations Agreements shall be fully implemented in their current forms until finalized in versions that are at least as protective of Karner blue butterflies and their habitat as the draft agreements provided for this consultation.

6. The County shall assist the Service and NYSDEC with the hand planting of 0.85 acre of lupine and nectar near the end of Runway 23 by May 31, 2009. The NYSDEC shall provide seeds. *Completed May 14, 2009.*

7. The County is responsible for the planting of additional lupine and nectar in patches scattered throughout the original 70-acre planting area at the Airport by May 31, 2011. Planting shall

occur in April or May of a given year with planting efforts initiated in 2009 if possible; however, planting efforts may be spread out across the 3 years. Planting shall be done by seed drill pulled by a tractor. The NYSDEC will provide the seed drill and the County will provide the tractor and driver. The NYSDEC has agreed to mark out the areas for planting and assist the County tractor driver during the planting effort. *Completed May 14, 2009.*

8. The County shall implement rotational mowing operations along the outer portions of the Airport (e.g., areas 200 feet from runway/taxiway pavement to current fence lines). This section will be divided into three mowing units. Two units shall be mowed each year. The NYSDEC and Service shall meet with the County to clearly delineate these units by **August 1, 2009**. The County shall revise the Airport mowing plan with the assistance of the NYSDEC to reflect these changes.

9. Follow non-exempt mowing plan along access roads (e.g., mow after October).

10. Limit future herbicide application on the access roads to the width of the paved road (no overspray) and coordinate efforts with NYSDEC.

11. Reporting and Monitoring Requirements

    a. The FAA or the County (if designated by the FAA) shall notify the Service and the NYSDEC, in writing, regarding the projected and actual start dates, progress, and completion, to the extent known, of project construction activities **by December 31 annually**.

    b. The FAA or the County (if designated by the FAA) shall notify the Service and the NYSDEC of any unauthorized activities (regardless of who conducted said activities) or emergencies resulting in any adverse impacts not described in the Master Plan and subsequent documents and addressed in this BO. This notification shall be made within 48 hours or sooner, if possible.

    c. The FAA shall notify the Service, in writing, **within 60 days** of the date of this BO, whether the FAA or the County shall be responsible for the above reporting requirements.

    d. The contact for these reporting requirements is as follows:

David A. Stilwell, Field Supervisor
New York Field Office
U.S. Fish and Wildlife Service
3817 Luker Road
Cortland, NY 13045
(607) 753-9334

In conclusion, the Service believes that Karner blue butterflies, eggs, pupae, or larvae occurring in no more than **298.07 acres** of habitat will be taken incidentally, and only in the manner described above, as a result of the proposed action. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take

that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded (e.g., if the geographical limit of what is currently anticipated to be the fullest extent of habitat alternation is exceeded), such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Federal Agency (FAA) must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

Conservation Recommendations

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered or threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The following are conservation recommendations for your consideration:

The Service has identified the following actions that, if undertaken by the FAA and/or County, would further the conservation and assist in the recovery of the Karner blue butterfly.

1. The FAA and the County should continue to coordinate with the Service and the NYSDEC to promote the conservation and recovery of the Karner blue butterfly at the Saratoga County Airport.

2. The FAA and the County should consider supporting (funding) the use of distance-sampling techniques to provide further information on the status of the Karner blue butterfly population at the Saratoga County Airport.

3. The FAA and the County should coordinate with the Service and the NYSDEC regarding additional lupine and nectar species plantings to further enhance the Karner blue butterfly habitat at the site.

4. Saratoga County should continue to support management of Karner blue butterflies on other properties to reduce the overall risk of loss of Karner blue butterflies in highly fragmented habitat in Saratoga County.

5. Saratoga County should support incorporation of Karner blue butterfly conservation measures in planning, acquisition, and development review throughout the County.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

Reinitiation of Formal Consultation

This concludes formal consultation on the action(s) outlined in the September 16, 2009, request. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by

law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this Opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

The Service appreciates the opportunity to work with the FAA, the County, and the NYSDEC in fulfilling our mutual responsibilities under the Endangered Species Act. Please contact Robyn Niver of this office at (607) 753-9334 if you have any questions or require additional information.

Sincerely,

David A. Stilwell
Field Supervisor

REFERENCES

Airport Master Plan Update, Saratoga County Airport, Draft Environmental Assessment, September 2001. Prepared by Edwards and Kelcey for the Saratoga County Department of Public Works.

Airport Master Plan Update, Saratoga County Airport, Draft Master Plan, April 2001. Prepared by Edwards and Kelcey for the Saratoga County Department of Public Works.

Draft Management Agreement between the Department of Environmental Conservation, Division of Fish, Wildlife, and Marine Resources and Saratoga County in Relation to Endangered Species Management at Saratoga County Airport. October 15, 2001.

Draft Operations Agreement for Glider Activity at the Saratoga County Airport. November 1, 2001.

Givnish, T.J., E.S. Menges, and D.F. Schweitzer. 1988. Minimum area requirements for long-term conservation of the Albany Pine Bush and Karner blue butterfly: an assessment. Unpublished report prepared by Malcolm Pirnie, Inc. for the City of Albany; Albany, New York. Typescript.

Harrison, S., D. Murphy, and P. Ehrlich. 1988. Distribution of the bay checkerspot butterfly, *Euphydryas editha bayensis*: evidence for a metapopulation model. The American Naturalist 132: 360-382.

O'Brien, K. October 25, 2002. Telephone conversation.

O'Brien, K. August 28, 2008. New York State Department of Environmental Conservation.

Schweitzer, D.F. 1989. Fact sheet for the Karner blue butterfly with special reference to New York. Unpublished report prepared for The Nature Conservancy, Albany, New York.

Schweitzer, D.F. 1990. The status of selected Karner blue remnants in Saratoga and Albany Counties, New York, with a discussion of monitoring methods. Report prepared for the New York State Department of Environmental Conservation, Endangered Species Unit, 23 pp.

U.S. Department of the Interior, U.S. Fish and Wildlife Service. December 14, 1992. Endangered and threatened wildlife and plants; determination of endangered status for the Karner blue butterfly. Federal Register 50 CFR Part 17, Vol. 57, No. 240: pp. 59236-59244.

U.S. Fish and Wildlife Service. 2003. Final Recovery Plan for the Karner Blue Butterfly *(Lycaeides melissa samuelis)*. U.S. Fish and Wildlife Service, Fort Snelling, Minnesota. 273 pp.

Wisconsin Department of Natural Resources. March 1999. Wisconsin statewide Karner blue butterfly habitat conservation plan and environmental impact statement. Volume 1: statewide habitat conservation plan. 186 pp. Bureau of Endangered Resources, Madison, Wisconsin.

Enclosures

cc: Saratoga County Department of Public Works, Ballston Spa, NY (T. Speziale)
Jacobs Engineering, Manchester, NH (Attn: J. Gorham)
NYSDEC, Albany, NY (Endangered Species Unit, P. Nye and K. O'Brien)
NYSDEC, Ray Brook, NY (Env. Permits)
FWS, Albany, NY (Law Enforcement)

Enclosure 1

Rev: 10/15/01

DRAFT

MANAGEMENT AGREEMENT

Between
Department of Environmental Conservation
Division of Fish, Wildlife, and Marine Resources
and
Saratoga County
in Relation to Endangered Species Management at
Saratoga County Airport

Witnesseth

This agreement, made _____ Day of _____, 2001 by the New York State Department of Environmental Conservation Division of Fish, Wildlife and Marine Resources, acting by and through its Commissioner, hereafter referred to as DEC, and Saratoga County, 40 McMaster Street, Ballston Spa, New York 12020, hereinafter referred to as the County.

Whereas, DEC recognizes that the Karner Blue butterfly (*Lycaeides melissa samuelis*) is considered an endangered species by the State of New York and the US Department of the Interior, with the largest known population located on the Saratoga County Airport property in the Town of Milton, and

Whereas, the DEC recognizes that the airport property also supports the Frosted Elfin butterfly (*Callophrys irus*), a state threatened species, and the mottled duskywing (*Erynnis martialis*), a state species of special concern, together with many other specialized grassland invertebrates and nesting birds and

Whereas DEC, under its legal mandate and responsibilities under Sections 11-0303 and 11-0535 of the New York State Fish and Wildlife Law and the Endangered Species Cooperative Agreement with the United States Fish and Wildlife Service, hereafter referred to as the Service, is responsible for the welfare and protection of resident threatened and endangered species and

Whereas, activities adversely affecting an endangered or threatened species or its occupied habitat may be construed as taking under Section 11-0535 of the New York State Fish and Wildlife Law

Whereas, the County has previously been a party to a non-binding management agreement to protect the Karner Blue and perpetuate and manage its habitat on the airport property and

DRAFT

Whereas, since the 1991 effective date of the original management agreement, the Frosted Elfin has been listed as a state threatened species which is also protected under 11-0-535 and

Whereas since the 1991 effective date of the original management agreement the Karner Blue has been listed as a federal endangered species under Section 4 of the Endangered Species Act and is under the jurisdiction of the Service, and since aspects of the activities covered under the original agreement may be construed as take under Sections 3 and 9 of the Endangered Species Act and

Whereas the County has completed a new draft Master Plan for the Airport property which must be approved by the Federal Aviation Administration, hereafter referred to as FAA, and that such approval may be subject to a Section 7 consultation with the Service regarding impacts to the Karner Blue butterfly and

Whereas this new management agreement shall be considered a part of the Master Plan.

Now, therefore, the DEC and the County do hereby respectfully agree to the following including new or altered conditions to the original 1991 agreement designed to reduce habitat "take" as much as possible

1. The County will not begin its annual mowing of the airport property until after October 15 of each year and will complete such mowing before December 31 to allow the Karner Blue and Frosted Elfin to fully carry out their life functions and to allow for completion of the life cycles of essential habitat plants including but not limited to wild blue lupine (*Lupinus perennis*). Mowing blades will be set to between **six (6) and eight (8) inches**. Areas which must be mowed earlier to allow for safe use of the runways and taxiways by aircraft, as specifically identified in Exhibit 1 are exempt from this clause. These areas are described as follows and designated on the attached map, which will be considered part of this agreement.

    A. Generally, the area between Geyser Road (County Rd. 43) and the terminal areas and the aircraft tie-down areas along taxiways A and C . The width of the area is irregular and roughly extends on the west side along the airport fence at the parking lot to the extent of the 2001 development of the North American facility and along the tree line back to Geyser Road. On the east side, it extends as far as the proposed glider hangar location at the turn of taxiway C toward Runway 32 (See the attached map).

    B. The itinerant apron between taxiways A and C and the grassy area between the aircraft tie downs along taxiway C and the hangar area (both of which are proposed to be paved under the 2001 Master Plan).

    C. A swath along taxiways and the taxiway into the North American facility to clear

vegetation around lights and directional signs. Mowers will be reminded each year to mow only the minimum area needed to clear the lights and signs. Previously, a large mower was used to cut a swath along the edge of the pavement and around the lights, then another swath behind the lights, and a smaller riding mower cut away the remainder of the grass from the lights themselves. Under this new agreement, a large mower will only cut a swath between the lights and the pavement and a small mower will follow up cutting one circular pass around the lights. There will be no swath cut behind the lights and the area between the lights will also remain unmowed (See detail A on the attached map).

Since the lights of the runways are on pavement, there will be no mowing along the runways themselves.

D. The area surrounding the airport beacon. There is considerable Lupine habitat readily used by Karner Blues and Frosted Elfins on and above the slope near the beacon and between the beacon and the hangars. While part of the exempt area, this Lupine should not be disturbed until the October 15 annual mowing date unless there is a compelling safety or operational reason. If the habitat will be affected by excavation for cable placement or repair, every effort should be made to minimize the extent of the damage to the habitat and it should be reseeded with habitat mix as specified by DEC. The County, with DEC's assistance in designating the edge, will mark the limits of this area to aid its mowers in avoiding it.

E. The access road built and used **during runway 05-23 reconstruction in 2001** from the airport entry road to the southeast corner of taxiway A. As the County has expressed the desire to keep this road for future access, the County will maintain the road at its present width with gravel to keep lupine from growing into the road.

F. **The two (2) permanent access roads which are west and north of the runway intersection. These roads will be constructed during the course of on-site obstruction removal project. The county will maintain these roads with gravel to keep Lupine from growing into the roads.**

G. **Service access roads and aprons to the automated weather observation station, electrical vault and beacon. The location of these roads and aprons will be coordinated with DEC and will be constructed during the course of on-site obstruction removal project. The county will maintain these roads and aprons with gravel to keep Lupine from growing in these areas.**

2. The County will avoid use of machinery on all habitat areas at any time of the year with

the exception of those areas and times specifically identified in this agreement. The County will annually instruct its employees of the mowing schedule and the restrictions of driving or parking any vehicles outside of designated areas and will emphasize the importance of adhering to the terms of this agreement. Early mowing may kill Karner Blues or Frosted Elfins and impair long-term integrity of the habitat.

3. DEC and The County will annually **inform** airport tenants about restrictions on operation of aircraft or vehicles off-pavement in undesignated areas and will be encouraged to inform pilots they are in radio contact with of these restrictions. The County will erect signs at the entrance road advising visitors and pilots that vehicles may be parked only in designated areas and may not be parked off-pavement. **The County will request that a pilot notification be placed in the FAA Airport Facility Directory regarding restrictions and unauthorized off pavement operations at the Saratoga County Airport.**

4. Snow may be blown off runways and taxiways into the habitat areas via snowblowers to clear pavement and the lights. Snow plowed from the aircraft parking areas in front of the Richmor Offices may be pushed off the pavement into the area immediately adjacent to the west side of the aircraft parking but must not be pushed any further than the corner of the fence line (see attached map). **A reasonable effort will be made to raise the blade of the plow so as to minimize scraping up the ground and vegetation in this area.** This condition must be part of the annual instruction county workers receive.

5. The County agrees to consult with DEC concerning and prior to any alterations of or use of Karner blue and Frosted Elfin habitats except in emergencies or as specifically identified in this agreement. The County will notify DEC Endangered Species Unit immediately after any accident or emergency on the airfield. Emergencies would include but not be limited to spills; fires, emergency repairs to lights, aircraft crashes or aircraft emergency landings off pavement.

6. The DEC will conduct periodic surveys of the Karner blue and Frosted Elfin populations and make the results of such surveys available to the County. The County agrees to grant reasonable access to department officials or their designees for purposes of research and management of Karner Blue and Frosted Elfin butterflies and their habitat.

7. **The extent of the present "Known Habitat Area" is depicted on the attached map. It includes the area outside the Exempt Area and is primarily considered to be bound**

by the existing airport fence. The exception being that portion of the existing airport fence that is northeast, north and southwest of Runway 14 at which location the habitat extends beyond the fence line for a distance of ten (10) feet. After the completion of the on-site obstruction clearing and grubbing project proposed by the County, portions of the existing perimeter airport fence will be relocated outward. The relocated fence, for its entire perimeter around the airport property, will delineate the extent of the "Known Habitat Area", with no buffers beyond the fence line at any location. The newly cleared areas will be managed on the same mowing schedule as the present Habitat Area. The County agrees to plant these areas with Karner Blue butterfly habitat plants. However, DEC and the County agree to discuss where there may be areas that could be allowed to remain non-lupine habitat. Beyond what the County will plant in the newly cleared areas, the County agrees to allow DEC to improve and expand habitat on the airport property to the extent that it will not impinge on the exempt areas or the other areas agreed to remain non-lupine habitat.

8. The DEC will prepare a recovery plan for the Karner Blue which will include consultation with the County in developing specific recommendations and tasks which involve the airport property or other County property.

9. Together the County and DEC will develop the format and language for an interpretive sign for the airport that will educate the public on the Karner Blue and the other values of the sand prairie habitat at the airport.

10. The County and DEC will develop agreements with all aircraft users who request operations off-pavement that will detail approved locations for their activities and the procedure to report and document any emergency landings off pavement in the habitat areas. These agreements shall be designed to minimize and control occasional and temporary take from off pavement activities. Activities which would permanently remove habitat or which would involve substantial and/or frequent take or disturbance will not be authorized in any such agreement.

11. In eventualities where DEC and US Fish and Wildlife approve that projects, repairs or other activities may occur within the habitat areas, the County will keep such projects to a minimum extent and reseed with DEC approved mixes of native habitat seeds or seedlings. Projects, repairs or activities occurring within the exempt areas will be re-seeded using species approved by DEC that will not encroach or invade native habitat.

12. While the Department generally approves of the Airport Master Plan, it reserves the right to review and comment on the preliminary design strategies of any new construction, techniques and timing of projects or expansions that may be proposed under that Master Plan. This will ensure that working habits and procedures will not have a detrimental

effect on the protected butterflies or their habitat.

13. This agreement shall be effective beginning midnight December 31, 2001 until modification or termination by either party as described below.

14. **While it is understood that Saratoga County is the owner and manager of the Saratoga County Airport and that Saratoga County will make every effort to administer and enforce this plan in accordance with its terms, Saratoga County will not be held responsible for violations, or any resulting monetary fines, of its terms by persons or parties not in the employ or under the direction of Saratoga County.**

15. This agreement is to be considered legally binding in that it constitutes a feature of major significance to the protection and management of the Karner Blue butterfly in the Master Plan as reviewed by the US Fish and Wildlife Service in its Biological Opinion to FAA for its approval of the Master Plan. At any point during its effective period, it may be amended upon approval of both parties and the concurrence of the Service.

In witness whereof we have hereunto set our hand and seals the day and year first written above.

State of New York
Department of Environmental Conservation

Gerald A. Barnhart

Director, Division of Fish, Wildlife,
and Marine Resources

Date

Saratoga County

Joseph C. Ritchey, P.E.

Saratoga County
Commissioner of Public Works

Date

F:\share\Airport\KB L Management Plan.doc

Enclosure 2

DRAFT

OPERATIONS AGREEMENT FOR GLIDER ACTIVITY
AT THE
SARATOGA COUNTY AIRPORT

REVISED DECEMBER 1995

REVISED 11/01/01

INTRODUCTION

The Karner blue butterfly (*Lycaeides melissa samuelis*), a federal and New York State endangered species, and the frosted elfin butterfly (*Callophrys irus*), a state threatened species, and their essential host plant, wild blue lupine (*Lupinus perennis*), occur at the Saratoga County Airport (the airport) in the Town of Milton, New York. In fact, the airport contains the largest remaining Karner blue population within the entire species range, and is nearly ten times the size of the next largest known population. Maintenance and perpetuation of the airport Karner blue and frosted elfin populations are critical to their long-term survival throughout their ranges.

The airport is managed by Saratoga County Department of Public Works (DPW). Regular airport maintenance (mowing), also maintains suitable habitat for the butterflies and, as per a management agreement with the Department of Environmental Conservation (DEC), this mowing is timed to minimize adverse effects to the butterflies.

A variety of general and specific factors can and do influence the growth and survival of both butterflies and their habitat at the airport. It has been determined that operation of gliders (and the activities attendant thereto, such as set up and take down) at the airport could have a detrimental effect on these animals and their habitat. The magnitude of this effect is not known, but it is believed to be minor by itself. However, cumulatively with the impact of other factors, it could be significant. As part of the effort to minimize all deleterious effects, the following procedures relating to the operation of gliders at the airport are necessary. While it is recognized that the Saratoga Soaring Association (SSA) is the primary glider operator at this airport, these procedures shall apply to all glider use at the airport.

1. Tie-down Zones

A. The presently used glider tie down area consists of a strip 100 feet wide and 300 feet long parallel and adjacent to taxiway A beginning approximately 20 feet northeast of the of the directional sign for runways 05/23 (see attached map). As per the 2001 Master Plan for the

DRAFT

Saratoga County Airport, the SSA proposes to construct a hangar for its gliders along taxiway C which runs to Runway 32. When and if this hangar is built, the original tie-down area along taxiway A will be eliminated. No gliders may be kept off-pavement outside of the approved tie-down zone. Non-SSA glider owners wishing to leave their gliders at the airport will have to make arrangements with SSA or the DPW regarding storage or parking of their crafts within the hangar or the tie-down area. If the glider hangar is not built, the glider tie down area will remain as described.

II. Take Off, Landing and Assembly Zones

B. The primary landing zones will always be the paved runways. When air traffic conflicts with safe landing on a runway or in the few instances where a new member is being trained in grass landings, landing within secondary zones off-pavement are permitted as described below. Gliders will be moved into and out of the hangar and to and from launch zones only via hard-surfaced runways, taxiways and permitted assembly, landing or glider parking zones. Vehicles will not use the "old roadbeds" to get to the assembly areas except when a glider lands more than half way down a secondary landing area. To retrieve it a vehicle is allowed to travel to the glider and back on the old roadbed tracks where those exist. For Runway 14, where no old roadbed exists in the secondary landing zone), the glider should be pushed to Taxiway E and picked up by a vehicle on the hard pavement.

All tie-down, landing, glider staging and assembly zone boundaries shall be clearly and permanently marked by SSA to prevent accidental encroachment into the habitat. These markings shall be clearly visible, safe to aircraft, and acceptable to the DPW and DEC. Grass in landing zones may be mowed to a height no lower than 6-8 inches and no earlier than August 15 annually for safety reasons. SSA will mark the landing zone boundaries to be *extremely* obvious to the mower with flags, poles, or other visible markers safe for aircraft. If there are patches of important nectar plants within the landing zones for which August mowing may eliminate their setting and releasing seeds, DEC may designate that they be excluded from the mowing and will mark them. Because mowing at this time may prevent the little bluestem grass from setting its seed, undesirable vegetation such as spotted knapweed may invade the landing zones and become a problem. If DEC feels such a problem is developing, SSA agrees to seed the landing zones and the assembly zones with native little bluestem every three years.

A. Runway 05 (Area 1 on the map)

The assembly zone for this runway will be in the area to the northwest of Runway 05 starting 500 feet behind and extending for 600 feet parallel to the runway. The width of the assembly zone extends from the secondary landing area back to the fence line. If and when this fence is moved back after the obstruction removal project conducted by the DPW, the back limits of the assembly zone will remain the same and must be marked clearly to avoid incursions

DRAFT

beyond the authorized area.. The runway will be the primary landing zone. The secondary landing zone will be the old dirt road closest to and parallel to the runway's northwest side (along the left side as aircraft approach). The dimensions of the landing zone are 100 feet wide and 1600 feet long beginning from the southwest end of the assembly zone. The strip between the runway and the secondary landing zone from the end of the runway to the second set of runway lights may be used to access the assembly zone and as a glider staging zone for gliders waiting to be launched.

B. Runway 14 (See Area 2 on the map)

The assembly zone for this runway will be on the northwest side of Taxiway E as it enters the runway, extending from the RMP sign to the curve in the taxiway. The assembly zone will extend no further than100 feet back from the taxiway. If field inspections in spring 2002 show a large amount of lupine is within that line, the back line may be moved closer to the taxiway or specific lupine concentrations may be marked to be avoided. This determination will be at DEC's discretion. The runway will be the primary landing zone. The secondary landing zone for this runway will be an area 100 feet wide in the center of the grassy area between the runway and taxiway E and will run for1000 feet beginning from the end of the glider staging zone. This staging zone will be 200 feet long and 100 feet wide adjacent to the runway starting at the edge of the runway/taxiway junction and will be used to park gliders waiting to be launched. No vehicles are allowed within this staging zone. This zone will not be mowed early with the secondary landing zone. There is a great deal of habitat in this part of the airport, and off-pavement uses must be limited to those absolutely necessary for operation and safety.

C. Runway 23 (See Area 3 on the map)

The assembly zone for this runway will be the area adjacent to and northwest of runway 23. This zone will start at the end of Runway 23 and will parallel the runway for 500 feet and will extend back to the fence. As with the assembly zone for Runway 05, if and when this fence is moved back after the obstruction removal project conducted by the DPW, the back limits of the assembly zone will remain the same and must be marked clearly to avoid incursions beyond the authorized area. The runway will be the primary landing zone. The secondary landing zone will be 100 feet wide centered on the old road bed running parallel to Runway 23 and will extend for1000 feet starting at the end of Runway 23. A glider staging zone and access to the assembly area from the pavement will extend in a strip between the secondary landing zone and the runway from the end of the runway to the seconds set of runway lights.

D. Runway 32 (See Area 4 on the map)

The assembly zone and glider staging zone will extend from the junction of Runway 32 and Taxiway D to 100 feet behind the end of the runway, and will extend back to the

DRAFT

airport fence. This fence is also proposed to be moved back after obstruction clearing, and the back line of the assembly zone must be marked to reflect the original fence limit. The runway will be the primary landing zone. The secondary landing zone will be 100 feet wide centered on the old road bed paralleling the northeast side of the runway (to the right as craft approach the runway) and will extend for 1000 feet starting at the junction of the runway and Taxiway D.

In the event of an emergency, gliders will land anywhere on the airport that will permit a safe landing. Circumstances necessitating the need for any emergency landings in non-authorized areas will be detailed in a written report to be submitted to the DPW Commissioner and DEC Endangered Species Unit Leader,625 Broadway, Albany, NY 12233-4754 within two weeks of the event.

No additional mowing (beyond that specified in II above) is permitted on the airport grounds, except as currently specified under the cooperative agreement for Karner blue and frosted elfin management at the airport between DPW and DEC.

III. Communication and Documentation

A. SSA will be responsible for informing all its members of the operational conditions at the airport. Any non-members towed by SSA will also be informed by the club of landing/assembly/tie down restrictions.

B. SSA will keep records of all off-pavement landings during the gliding season and make a report to the DPW and DEC Endangered Species Unit no later than December 31 each year. The records shall include the date and landing zone used.

C. Saratoga County DPW, in its role as the responsible entity for management of this airport, will oversee the implementation of this glider plan. Since these operational procedures restrict some of the past traditional use of the airport by gliders, the DPW will strive to notify motorized aircraft users to make them aware of these restrictions on glider landings and to ask for their cooperation in deferring to gliders whenever possible.

This agreement is to be considered binding. The elements detailed within are designed to minimize taking of Karner blue and frosted elfin butterflies during operation of off-pavement gliding activities. Should the terms of this agreement be violated by Saratoga Soaring Association members, guests, contractors or employees, operations off-pavement may be suspended. This operating agreement shall be periodically reviewed as necessary and modified

Enclosure 2

State of New York
Department of Environmental
Conservation

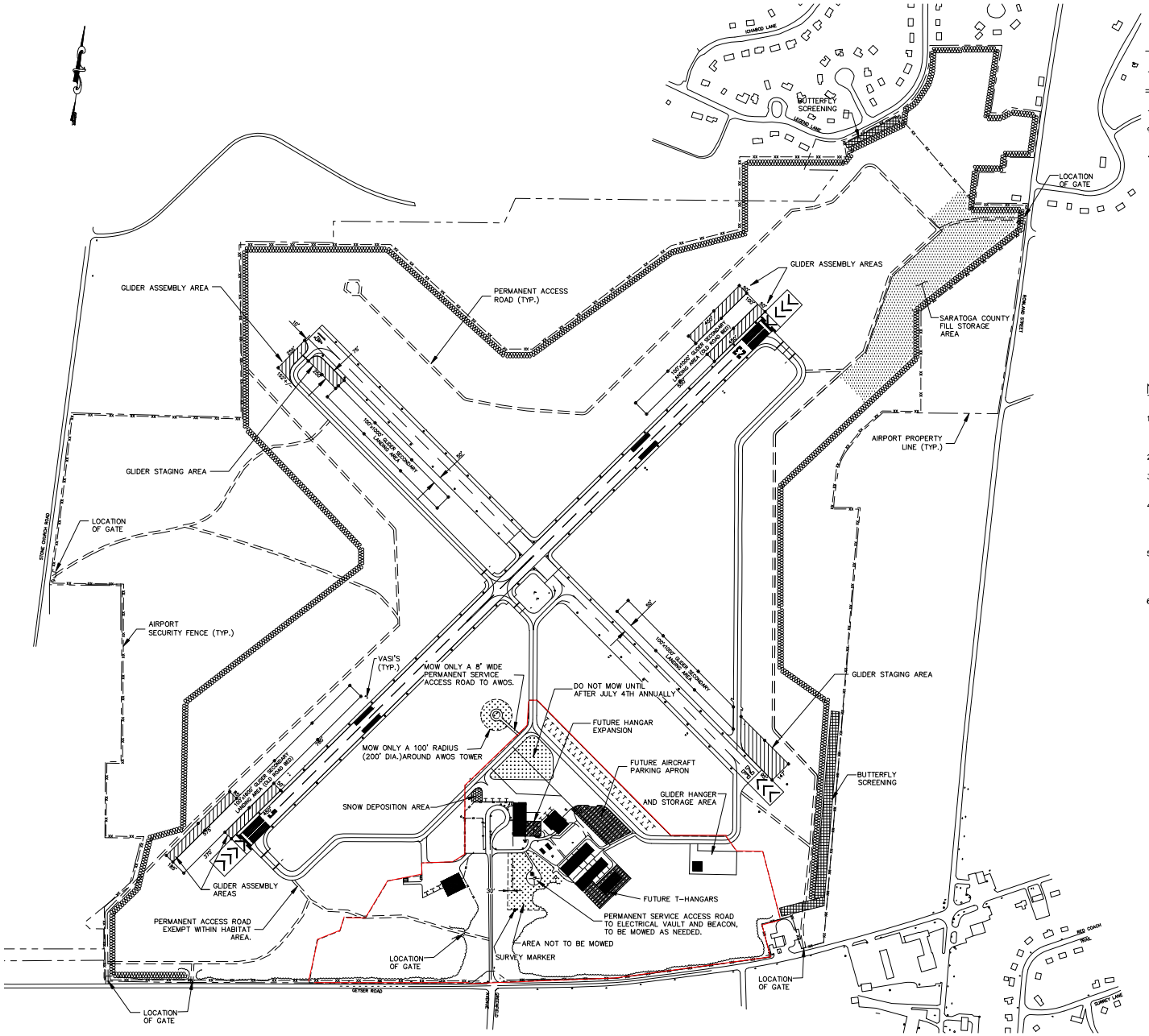
_____
Gerald A. Barnhart
Director, Division of Fish
Wildlife, and Marine Resources

Saratoga County

_____
Joseph C. Ritchey
Commissioner of Public Works

Saratoga Soaring Association

_____
President



LEGEND

- AIRPORT BOUNDARY
- AIRPORT SECURITY FENCE
- ACCESS HAUL ROAD
- EXEMPT ZONE
- LIMITS OF HABITAT AREA
- LIMITS OF 'BEACON HABITAT AREA' (WITHIN EXEMPT ZONE)
- BUTTERFLY SCREENING
- FUTURE BUILDING CONSTRUCTION
- FUTURE APRON CONSTRUCTION
- SNOW STORAGE AREA – MAY NOT EXTEND FURTHER THAN THE CORNER OF THE FENCELINE
- GLIDER ASSEMBLY/STAGING AREA
- SARATOGA COUNTY FILL STORAGE AREA
- LOCATION OF FLAGS FOR LANDING, ASSEMBLY, STAGEING AREAS AND MOWING LIMITS (ALL FLAGS TO BE PLACED BY GLIDER CLUBS)

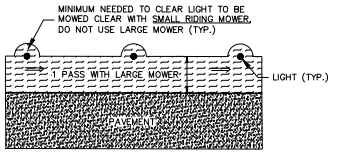
NOTES:

1) REFER TO BOTH THE WRITTEN MANAGEMENT AGREEMENT AND THE WRITTEN OPERATIONS AGREEMENT FOR GLIDER ACTIVITY FOR MORE DETAILED HABITAT MANAGEMENT INFORMATION.
2) ALL GLIDER SECONDARY LANDING AREAS TO AVOID VASI'S.
3) MOWING IS TO ONLY BE PERFORMED BY SARATOGA COUNTY. AS WORK LOAD PERMITS.
4) GRASS IN LANDING, STAGING AND ASSEMBLY AREAS WILL BE MOWED TO A HEIGHT NO LOWER THAN 6-8 INCHES AND NO EARLIER THAN AUGUST 15 ANNUALLY. THE LOCATION OF FLAGS FOR MOWING AS SHOWN ON THIS PLAN ARE TO BE PLACED BY GLIDER CLUBS.
5) FLAGS FOR STAGING AND ASSEMBLY AREAS ARE TO BE PLACED BY THE GLIDER CLUBS PRIOR TO THE BEGINNING OF EACH GLIDER SEASON. FLAGS ARE TO BE MAINTAINED FOR THE DURATION OF THE GLIDER SEASON.
6) NON-EXEMPT AREAS OTHER THAN ITEM 4 ABOVE CANNOT BE MOWED UNTIL AFTER OCTOBER 15TH ANNUALLY.

GRAPHIC SCALE

300 0 150 300 600

1" = 300'



TAXIWAY LIGHT MOWING DETAIL

*** DO NOT MOW ALONG RUNWAY EDGES ***

ACCEPTED BY

NEW YORK STATE DEC _____ DATE _____

SARATOGA COUNTY _____ DATE _____

Path: Airport\Karner Blue Butterfly\Mowing Plan.pdf

SARATOGA COUNTY
DEPARTMENT OF PUBLIC WORKS
3654 GALWAY ROAD
BALLSTON SPA, NY 12020
JOSEPH C. RITCHEY, P.E.
COMMISSIONER OF PUBLIC WORKS

SCALE:
DATE: 5/17/2005
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED:

SARATOGA COUNTY AIRPORT
COUNTY OF SARATOGA, NEW YORK

KARNER BLUE BUTTERFLY HABITAT MANAGEMENT PLAN

REVISIONS

REV.	DATE	DESCRIPTION	BY
1	9/13/05	DIMENSIONED GLIDER SECONDARY LANDING AREAS AND STAGING AREAS	WAB
2	9/28/05	MODIFY ACCESS ROADWAYS AND UPDATED CLEARED & GRUBBED AREAS	LF
3	5/16/06	NOTE NUMBER 3 REVISED	WAB
4	6/19/06	MISCELLANEOUS ADDITIONS	WAB
5	9/13/06	NOTE NUMBER 4 REVISED	WAB
6	5/29/07	MOWING AREA REVISIONS	WAB

PROJ. NO.: Airport\Karner Blue butterfly\
FILE NAME: Habitat E-K.dwg
AIP NO:

DRAWING NO.
1

SHEET 1 OF 1 REV. 6

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

July 22, 2011

Ms. Sukhbir K. Gill
Environmental Protection Specialist
U.S. Department of Transportation
Federal Aviation Administration
New York Airports District Office
600 Old Country Road, Suite 446
Garden City, NY 11530

Dear Ms. Gill:

We received your March 10, 2011, letter regarding the Saratoga County Department of Public Works' (County) proposed activities at the Saratoga County Airport (Airport) in the Town of Milton, Saratoga County, New York, and their effects on the Karner blue butterfly (*Lycaeides melissa samuelis*). In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*), the Federal Aviation Administration (FAA) has requested reinitiation of consultation for activities at the Airport to address the proposed rehabilitation of the taxiway lighting system and the installation of Precision Approach Path Indicator lights for Runways 5, 23, and 32 end, and reconstruction of the based aircraft apron.

This serves as an update to the U.S. Fish and Wildlife Service's (Service) September 24, 2009, Biological Opinion (BO) (enclosed). While all work is within areas where the Service has previously authorized incidental take of Karner blue butterflies due to other County activities, the proposed action was not previously considered. We must review the proposed action in light of the current status of the species and provide an updated assessment. Please note that while previous BOs did not include an end date, we consider any incidental take authorized to date from actions previously considered as valid through December 2012, as we understand the next Master Plan Revision Process will occur in 2012.

This BO is based on information provided in telephone conversations, letters, and electronic mail exchanges among the Service, FAA, and others. A complete administrative record of this consultation is on file at the Service's Cortland, New York, Field Office.

We are amending the 2009 BO by including additions to or replacing current language by section.

I. CONSULTATION HISTORY SINCE SEPTEMBER 2009 BO

Add the following items to the existing consultation history.

September 24, 2009	Letter from the Service to FAA amending BO to include paving of the current 0.08-acre gravel access road to the AWOS facility.
December 29, 2009	Letter from the Service to FAA providing technical assistance regarding obstruction removal at the ends of Runways 5, 14, and 23 and avigation easement acquisition for future tree clearing at the end of Runway 32.
January 24, 2011	Electronic mail exchange among McFarland-Johnson, New York State Department of Environmental Conservation (NYSDEC), and the Service regarding lighting replacement.
February 3, 2011	Conference call among McFarland-Johnson, County, FAA, and the Service to discuss proposed projects.
March 10, 2011	Letter from FAA to the Service requesting reinitiation of formal consultation.
July 2011	E-mail exchanges between the Service and FAA regarding project description clarification.

II. BIOLOGICAL OPINION

Description of the Proposed Action

Add the following to the original description.

The proposed new Federal action is the funding and/or approval of the following activities at the Airport: rehabilitation of the taxiway lighting system and the installation of Precision Approach Path Indicator (PAPI) lights for Runways 5, 23, and 32 end, and reconstruction of the based aircraft apron (Figure 1). The taxiway lighting system and the runway PAPIs play an integral part in airport operations and provide a safe environment for aircraft to operate in.

This project will rehabilitate the airport's failing taxiway lighting system. The lighting rehabilitation will require trenching procedures to remove the old direct buried cable and replace it with new conduit and wiring. New taxiway light units will be installed on new bases in situ to replace the current light units. New wiring to the electrical vault will be connected to the indoor electrical vault.

The taxiway edge lighting work includes installation of the following elements:

- Individual edge lights, which are placed 10 feet from the taxiway pavement edge, and are located a maximum of 200 feet apart, along the length of the existing taxiways.
- Electrical conduit and cable that connect each light (conduit is parallel to the pavement edge).
- Bare copper wire (counterpoise, or ground wire) that is installed 5 feet from the edge of the taxiway pavement.

The total length of lighting system is approximately 21,500 linear feet (10,750 linear feet of taxiway pavement, with the lights installed on each side of taxiway). The area of disturbance is conservatively estimated as an area 15 feet wide (conduit installed 10 feet from pavement edge, and the track of the construction equipment is assumed to extend an additional five feet beyond the conduit trench) by 21,500 linear feet in length, for a total area of 322,500 square feet. Trenching will be completed using the narrowest trench width possible (generally 12 inches) (typically per a Ditch Witch). All work will be initiated and completed during frozen ground conditions. All disturbances will be within areas currently mowed.

The outdated Visual Approach Slope Indicator (VASI) currently in place at the airport for Runways 5, 23, and 32 ends will be replaced with modernized PAPIs. Installation of the proposed PAPIs will impact turf areas adjacent to the south edge of pavement of runway 23 approach end, the north edge of pavement of runway 5 approach end, and the south edge of pavement of runway 32 approach end.

The PAPI's consist of navigational equipment installed on a concrete foundation, 2 feet wide by 4 feet in length. Each PAPI installation consists of two units, installed 30 feet and 50 feet, respectively, from the runway edge. The area of this installation that will be disturbed is conservatively estimated as 60 feet by 20 feet, or 1,200 square feet. Three PAPI's will be installed, resulting in a total disturbance of 3,600 square feet.

In addition to the PAPI equipment itself, electrical conduit (approximately 4,600 linear feet) will be installed to provide power to the units. The PAPIs will require approximately 4,600 feet of additional trenching for the new electrical wiring. The PAPIs will require two trench lines, one five feet from pavement for the bare copper ground wiring and the other at ten feet from the edge of the pavement for the conduit line. Trenching will be completed in the same manner as the lighting rehabilitation and will be also limited to a 12-inch maximum width. Assuming the conduit is placed 10 feet from the pavement edge, with a 15 foot width of disturbance, the installation of the PAPI conduit will disturb an additional 4,600 ft X 15 ft = 69,000 square feet. All work will be initiated and completed during frozen ground conditions. All disturbances will be within areas currently mowed.

Total disturbance is calculated as 322,500 sf + 3,600 sf + 69,000 sf = 395,100 sf = 9.07 acres. It should be noted that other than the actual PAPI equipment foundations, and the individual edge lights themselves, all disturbance is temporary. These areas will be regraded to match existing ground elevations, and re-seeded with butterfly-friendly seed.

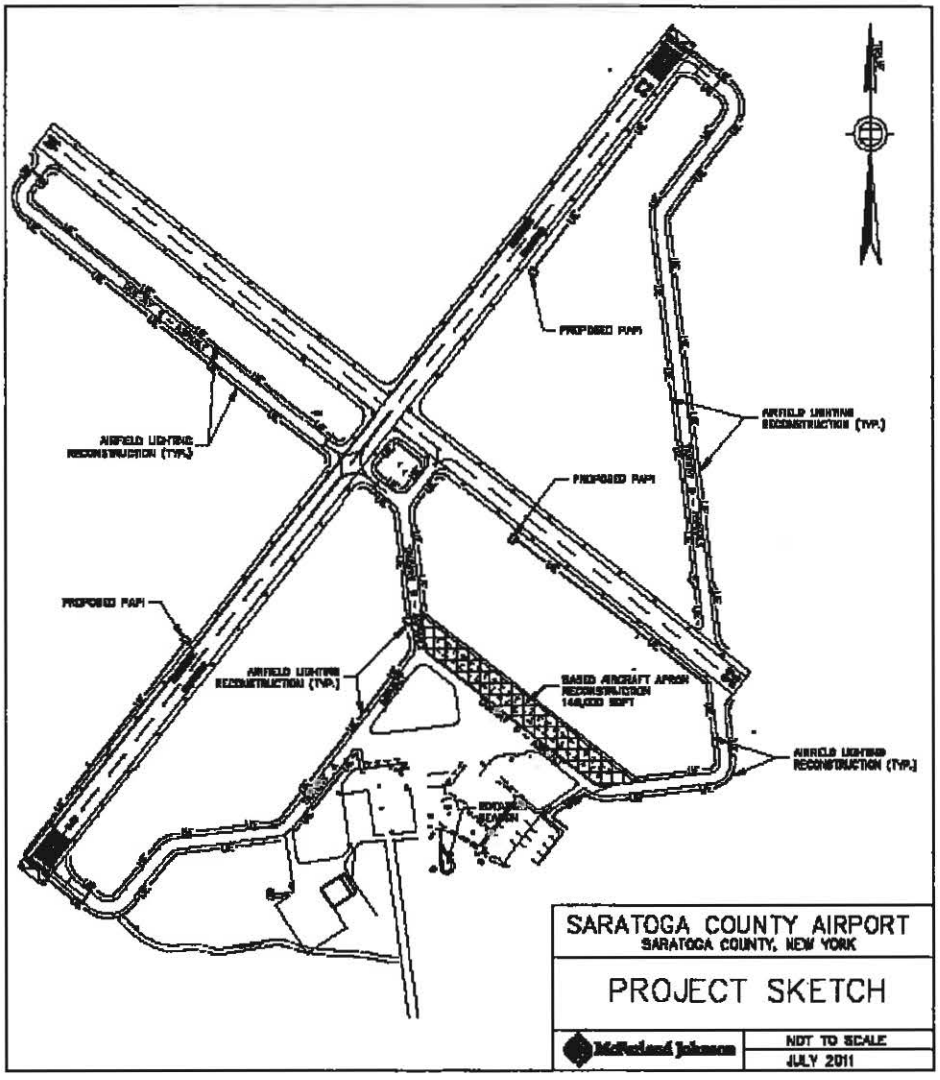
The based aircraft tie-down ramp asphalt pavement is critically deteriorated with full depth cracks throughout the surface area. Reconstruction will require a full depth reconstruction of the ramp within the current ramp footprint occupying approximately 16,500 square yards.

The existing apron pavement will be removed and reconstructed, with no additional permanent impervious surface being installed. During construction, an area 15 feet from the existing pavement edge, and 1,150 feet in length will likely be disturbed due to construction equipment

activity. This area is calculated to be 17,250 square feet, or 0.4 acre. Similar to the electrical work, all disturbance is temporary. These areas will be regraded to match existing ground elevations, and re-seeded with butterfly-friendly seed. The project will also paint new lines to remark the tie down area.

Add a new Figure 1 and renumber all of the following figures accordingly.

Figure 1. Proposed project sketch.



The proposed action includes the following conservation measures to minimize impacts to Karner blue butterflies (item in italics is a requested change):

Work will be conducted in the winter during frozen ground conditions;

Construction vehicles will be limited to the project work limits (as defined in project plans);

Protective orange fencing will be installed and maintained during construction activities to limit activity within the project work limits;

A 4-foot by 8-foot post-mounted sign will be placed at the entrances to the active haul roads with instructions to remind drivers to remain on existing gravel roads and pavements;

A consultant will monitor the construction full-time to ensure compliance with the conservation measures;

Equipment will be staged on a closed section of existing taxiway or apron pavement;

All temporary disturbances will be restored with the addition of loam and Karner blue butterfly-friendly grass seed. *Please note that sandy soils (not loam) shall be used (see **terms and conditions**);*

Equipment will be staged on the existing road surface and will remain on the road whenever possible; however, limited passing of equipment off and within close proximity to the edge of the road will be required;

The County will coordinate activities with the NYSDEC; and

All activities will be under the management of County personnel.

A summary of projects for which the Service and FAA anticipated incidental take from the 2002 BO and subsequent amendments is provided in Table 1. Replace Table 1 (page 7 of the 2009 BO) with the following.

Table 1. Projects for which incidental take has previously been provided.

Project	Acreage Affected	Type of Incidental Take
Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks)	2.84	Permanent occupied habitat loss (kill and harm)
Glider Hangar	0.50	Permanent occupied habitat loss
Construct Snow Removal Equipment Storage Building	0.08	Permanent occupied habitat loss
T-Hangar Development	0.40	Permanent occupied habitat loss
AWOS Gravel Access Road	0.08	Permanent occupied habitat loss
Paving of AWOS Access Road	NA	Already counted as permanent occupied habitat loss
FBO Building and Apron	0.37	Permanent occupied habitat loss
Access road paving	5.7	Permanent occupied habitat loss
Areas Mowed for Safety (i.e. around taxiway lights) - (Management Agreement)	3.00	Recurring disturbance (kill and harm)
Turf in Exempt Areas – (1) Mowing (Management Agreement)	11.00	Recurring disturbance
Snow Blowing and Plowing (Management Agreement)	0.12	Recurring disturbance
Glider Operations Areas (Glider Operations Agreement)	5.00	Recurring disturbance
	29.09	**Subtotal** (Permanent loss and recurring disturbance)
Rehabilitation of Runway 14/32	2.54	Temporary disturbance/habitat loss (kill and short-term harm)
Reconstruct Taxiway D-North	0.08	Temporary disturbance/habitat loss
Reconstruct Taxiway E	0.27	Temporary disturbance/habitat loss
Reconstruct Taxiway C	0.63	Temporary disturbance/habitat loss
Reconstruct Taxiway A	1.38	Temporary disturbance/habitat loss

Regrading Along the Entrance Taxiway to the North American Aviation Area	0.02	Temporary disturbance/habitat loss
Replacement of the Airport Beacon	0.04	Temporary disturbance/habitat loss
Itinerant apron replacement	0.06	Temporary disturbance/habitat loss within exempt mowing area (not duplicating acreage in final total)
Staging area	0.49	Temporary disturbance/habitat loss within exempt mowing area (not duplicating acreage in final total)
Access road maintenance	3.27	Temporary disturbance/habitat loss along edges
	9.03	**Subtotal** (Temporary disturbance/habitat loss)
Mowing in non-exempt areas	**~261**	Temporary disturbance to KBBs (kill/injure)
	298.32	**TOTAL** (All projects and activities)

Rangewide Status of the Species

Species not considered further in this opinion

No updates.

Listing Status

No updates.

Species Description

No updates.

Life History

No updates.

Status and Distribution

No updates.

Species Recovery

No updates.

Recovery Units

No changes to first two introductory paragraphs. Add new subheadings and revise remainder of page 15 of the 2009 BO as described below.

Status of the Karner Blue Butterfly within GLA

The Karner blue butterfly is known from approximately 28 locations in New York (all within the GLA Recovery Unit) at this time. There may be multiple management sites within a given sub-population and habitat restoration activities since 2002 have connected many previously separate areas. At least half of the New York management sites are 10 acres or less in size and another 25 percent are less than 20 acres (K. O'Brien, NYSDEC, 10/25/2002 pers. communication). These small sites are threatened by unfavorable mowing practices, woody encroachment from adjacent woodlands, development, and incompatible management practices.

The following paraphrased information was provided for the 2008 Service Recovery Data Call (K. O'Brien, NYSDEC, 08/28/2008 pers. communication). In 2008 we saw a continuation of the general downturn except in a few locations where Karner blue butterflies are expanding into recently created habitat adjacent to an existing subpopulation. Numbers at most known sites are lower than past years and even more sites may be extirpated. In the Albany Pine Bush, the highest number seen at any site was a spring brood count of 19 which then had a peak second flight count of 8. In the Saratoga Sandplains, the new habitat sites had peak counts markedly higher than in 2007 (103 was the highest count at one site, with several in the 90s), but almost all had summer brood counts much lower than the spring. The Airport had second brood counts over 100 for the first time since 2005; however, most of the other sites in Saratoga West had extremely low counts. There are no currently viable sites within the Queensbury population. Loss of lupine due to succession and/or damage from human activity, as well as weather, may account for the low counts at many sites.

The 2009 Service Recovery Data Call indicated an increase (compared to very low counts in 2006-2008) in the Saratoga County Airport population, with general declines at other New York (GLA) sites (Service 2009). In general, Karner blue butterfly numbers were better in 2010 than in 2009, possibly due to the better (although still extreme) weather (NYSDEC 2011).

Factors Affecting the Species' Environment within GLA

Habitat loss, fragmentation, and degradation are considered the primary threats to the survival of the species (Service 2003). Development throughout the Saratoga, Queensbury, and Albany regions has contributed to the species' decline and remains the primary threat to Karner blue butterflies in New York State. Fire suppression, resulting in vegetational succession, and habitat fragmentation have also impacted Karner blues in New York. These activities have reduced the native vegetation of the Albany Pine Bush in New York State from 25,000 acres to about 2,500 acres. However, the NYSDEC and partners like The Nature Conservancy (TNC) are actively working to restore habitat throughout the Albany Pine Bush and Saratoga Sandplains.

Ongoing Karner blue butterfly management and monitoring (e.g., monitoring and marking butterflies; mowing and prescribed burning of vegetation; collection of lupine seed; captive-rearing and translocations of butterflies) may exert near-term adverse effects on small proportions of local populations of Karner blue butterflies; however, these activities are also essential to maintain long-term habitat conditions that cannot persist without regular active management.

Similar restoration and management activities, along with the potential for a return to baseline habitat conditions associated with a recently issued Safe Harbor Agreement to TNC, were addressed in an intra-Service biological opinion dated April 12, 2010.

A biological opinion issued to the U.S. Army Corps of Engineers on May 20, 2010, documented effects and anticipated incidental take associated with butterfly management and monitoring of a restoration site as part of mitigation for impacts associated with expansion of the Albany County Landfill. No other biological opinions have been issued for Karner blue butterflies in New York State.

Environmental Baseline

Status of the Karner blue butterfly at Saratoga County Airport

Replace the entire section with the following language.

As noted above, there are approximately 28 Karner blue butterfly sub-populations in New York. Nine sub-populations are located in the Saratoga West viable population area (Airport, Geyser Road Dune Cut, Geyser Road Railroad, Geyser Road/Rowland Street, Rowland Street PROW, Rowland Street West, Hutchins Road, Route 145 Sandpit, Saratoga Spa State Park). The Airport is currently the largest Karner blue butterfly single site by acreage in the entire state. However, there are larger sub-populations in terms of numbers in Saratoga Sandplains. The closest two sub-populations to the Airport are powerlines approximately 500 meters away with the remaining much farther away.

The NYSDEC conducts transect surveys at the Airport each year. The counts from these transects do not represent the true population size, rather, they are an index to compare relative counts from year to year. The actual population size is likely much greater than the transect counts, and distance sampling is now used at the Airport to estimate population size. That said, we do know that the Airport has provided some of the largest numbers of Karner blue butterflies in the state. Peak second brood counts were 426 in 1997, 277 in 1998, 457 in 1999, 208 in 2000, 907 in 2001, 129 in 2002, 226 in 2003, 938 in 2004, 358 in 2005, 29 in 2006, 42 in 2007, and 177 in 2008. Distance sampling conducted in 2007, 2009, and 2010 resulted in summer brood estimates of 900-1,300, 550-800, and 1,450-2,250 butterflies respectively (NYSDEC 2011). The variability in the numbers is most likely due to weather events at the airport. For example, in the Spring of 2002, late frosts damaged much of the lupine by killing leaves and flowers and during the activity period of the second brood, severe thunderstorms and wind events went through the area.

One of the most significant factors potentially limiting the Karner blue butterfly population at the Airport is the homogeneity of the site; the habitat is very open with little to no diversity in structure or topography. This homogeneity decreases the Karner blue's ability to survive weather events such as frosts or high winds. In addition, the nectar is poorly distributed throughout the site. Finally, some management practices of the County impact the Karner blue butterfly, as well as accidental incidents involving the County or users of the airport property. However, it is difficult to fully assess the long-term viability of the site, as the butterfly's future presence on nearby tracts is unknown; dispersal rates from or to the site are also unknown. Nearby Karner blue butterfly patches have an uncertain future given their lack of management. In addition, we have limited opportunities to create new patches near the Airport at this time.

Action Area

No updates.

Effects of the Action

No changes to the introductory sentence.

Direct Effects

Replace the entire section with the following language.

Many of the proposed activities at the Airport will result in direct adverse effects on Karner blue butterflies and their habitat as a result of the initial disturbance and removal of occupied and potential habitat for some of the projects, and the temporary disturbance of occupied and potential habitat for other projects and activities. Since some life stage of the Karner blue butterfly (eggs, larvae, pupae, or adults) are present year-round in occupied habitat, those projects and activities affecting occupied habitat, either permanently or temporarily will result in the taking (kill or injure) of Karner blue butterfly eggs, larvae, pupae, or adults, depending on the time of year of the disturbance to the habitat.

The host plant for the Karner blue butterfly, wild blue lupine, and the nectar species used by the adults are not evenly distributed over the airport property. Most of the open areas of the airport are mowed according to the existing Management Agreement with the NYSDEC using certain methods and timing to minimize potential impacts on the butterflies or their other life stages. Some areas of the airport have been designated as "exempt areas" under the Management Agreement and more frequent mowing and certain other necessary activities are allowed to take place within the exempt areas. These areas total approximately 14 acres. Lupine and Karner blue butterflies or their other life stages may occur in grassy open areas within these exempt areas as well as the other open areas of the airport property; however, lupine and Karner blue butterfly occurrences in these exempt areas would be more scattered and sparse due to the habitat conditions, development, and activities there. The proposed activities addressed in this BO update will all occur within 4.94 acres of previously described "exempt areas". An additional 4.53 acres of temporary disturbance is proposed within "non-exempt" currently mowed areas.

There has been no comprehensive mapping of lupine or nectar species at the Airport, although lupine concentrations have been identified. For the purposes of this consultation and evaluation of project impacts, it was agreed to assume that lupine, nectar, and Karner blue butterflies or their other life stages may be present in any open grassy areas of the property, and that the effects of the various projects and activities would be evaluated based on the acreages of open grassy areas affected. Access roads previously had lupine and nectar growing through the gravel in many locations. However, access roads have since been paved. Other non-forested, non-paved, non-manicured lawn areas are also considered as habitat. The Service recognizes that the actual amount of potential habitat or habitat that is occupied by Karner blue butterflies or their other life stages, and therefore affected, is less than the acreages described in the project documents and this BO.

Projects and activities that will result in the loss of Karner blue butterflies in any of their life stages that are present have been identified in the project documents and information provided for this consultation. Italicized projects have been completed or are ongoing since the 2002 BO. These projects and the acreages affected by them are:

- Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks) (2.84 acres) *- Not completed but the avgas tank has been removed from the site*
- *Glider Hangar (0.5 acre) - completed*
- Construct Snow Removal Equipment Storage Building (0.08 acre) - *no longer proposed*
- T-Hangar Development (0.4 acre)
- *Gravel AWOS Access Road (0.08 acre) - completed*
- *Paving of AWOS Access Road (same acreage) - completed*
- FBO Building and Apron (0.37 acre)
- *Annual Areas Mowed for Safety (i.e. around taxiway lights) (3.0 acres) - ongoing*
- *Annual Areas Mowed Around the AWOS (up to 0.72 acre) - ongoing*
- *Turf in Exempt Areas – Annual Mowing (11 acres) - ongoing*
- *Annual Glider Operations Areas (up to 5.0 acres) - ongoing*
- *Rehabilitation of Runway 14/32 (2.54 acres) - completed*
- *Reconstruct Taxiway C (0.63 acre) - completed*
- *Reconstruct Taxiway A (1.38 acres) - completed*
- *Reconstruct Taxiway D-North (0.08 acre) - completed*

- *Reconstruct Taxiway E (0.27 acre) - completed*
- *Reconstruct Itinerant Apron (0.06 acre) - completed*
- *Temporary staging area for Taxiway B, D, E, F and Itinerant Apron reconstruction (0.49 acre) - completed*
- *Regrading Along the Entrance Taxiway to the North American Aviation Area (0.02 acre) - completed*
- *Replacement of the Airport Beacon (0.04 acre) - completed*
- *Annual Snow Blowing and Plowing (0.12 acre) - ongoing*
- *Annual Mowing in Non-Exempt Areas - Between October 15 and December 31 (191 acres) - ongoing*
- *Annual Mowing in Newly Cleared and Replanted Areas (70 acres) - ongoing*
- *Access Road Paving (limited off-road work and some small patches of lupine in current gravel roads) (5.7 acres) - completed*
- *New Hangar and apron adjacent to North American Flight Services (formerly Richmor) - completed*

Indirect Effects

Replace the entire section with the following language.

Many of the above-listed activities also have the potential to result in indirect effects to Karner blue butterflies. The following actions will result in permanent loss of occupied habitat (lupine and/or nectar).

- Reconfigure Itinerant Tiedown Apron (includes relocation of two fuel tanks) (2.84 acres) - *Not completed but the avgas tank has been removed from the site*
- *Glider Hangar (0.5 acre) - completed*
- Construct Snow Removal Equipment Storage Building (0.08 acre) - *no longer proposed*
- T-Hangar Development (0.4 acre)
- *AWOS Access Road (0.08 acre) - completed*
- *Paving of AWOS Access Road (same acreage) - completed*

- FBO Building and Apron (0.37 acre)

- *Access Road Paving (limited off-road work and some small patches of lupine and nectar in current gravel roads) (5.7 acres) - completed*

The following activities will result in long-term impacts (although no removal or destruction) to occupied habitat. The continual nature of the disturbance throughout the growing season renders them virtually permanently unavailable to Karner blue butterflies. Temporary adverse effects associated with the recurring activities taking place under the Management Agreement and Glider Operations Agreement were originally anticipated to be short-term but recurring periodically as described in the agreements. A more accurate description is that effects are long-term in the set-up areas adjacent to the runways given the repeated disturbance except for the set-up area next to runway 14 which is seldom used by gliders. Effects of glider landing areas off runways are less frequent and can be considered short-term in nature.

- *Annual Areas Mowed for Safety (i.e. around taxiway lights) (3.0 acres) - ongoing*

- *Annual Areas Mowed Around the AWOS (up to 0.72 acre) - ongoing*

- *Turf in Exempt Areas – Annual Mowing (11 acres) - ongoing*

- *Annual Glider Operations Areas (up to 5.0 acres) - ongoing*

- *Access Road Maintenance (up to 3.27 acres) - ongoing*

In addition, other projects and activities will result in the loss of lupine with replanting of grasses/nectar. These projects and activities and the acreages affected are:

- *Rehabilitation of Runway 14/32 (2.54 acres) - completed*

- *Reconstruct Taxiway C (0.63 acre) - completed*

- *Reconstruct Taxiway A (1.38 acres) - completed*

- *Reconstruct Taxiway D-North (0.08 acre) - completed*

- *Reconstruct Taxiway E (0.27 acre) - completed*

- *Regrading Along the Entrance Taxiway to the North American Aviation Area (0.02 acre) - completed*

- *Replacement of the Airport Beacon (0.04 acre) - completed*

However, the small acreage and scattered nature of the areas of impact when compared to the overall availability of habitat for the Karner blue butterfly within their daily home range (<200 m on average) should result in minimal and short-term indirect effects to individual butterflies.

Beneficial Effects

Add the following introductory paragraph to page 21 of the 2009 BO.

The proposed action implements recovery actions in the Karner blue butterfly recovery plan (Service 2003). The primary actions addressed are Action 1.23 (continue/start management activities for New York), 1.4111 (protect existing Karner blue populations using Section 7 Federal responsibilities), and 4.2 (inform local governments of Karner blue recovery units).

Cumulative Effects

No updates.

Conclusion

Replace the entire section with the following language.

The proposed taxiway lighting rehabilitation, installation of PAPI lights, and reconstruction of the based aircraft apron are anticipated to result in the death of any Karner blue butterflies (egg stage) that are present in the 9.47 acres of construction work area that were not already killed during routine mowing of the area. As stated above, all work will be conducted within areas that are routinely mowed and for which the Service has previously authorized incidental take of Karner blue butterflies.

In addition, the trenching activities are anticipated to result in the injury or death of any wild blue lupine, grass, or nectar plants with roots in the trench zone. This will result in a temporary decrease in habitat for Karner blue butterflies until new plants are established. No additional acres of Karner blue butterfly habitat will be impacted from the proposed action than previously considered. However, we did not previously expect death of plants due to routine mowing. Instead, we expected that plants would be maintained in a state that was generally unsuitable for use by Karner blue butterflies. Therefore, we expect few Karner blue butterflies to be exposed to the activities. However, any butterflies that are exposed to heavy equipment are anticipated to be crushed and die.

The FAA/County have proposed restoring the work area with loam and Karner blue butterfly grass seed. Please see **terms and conditions** for a revision to the restoration terms.

Given that no new habitat areas are proposed for disturbance, we do not anticipate any new impact to the overall population at the Airport. In turn, we do not expect the project to result in reductions in the overall fitness of the population. Therefore, it is the Service's Biological Opinion that the FAA's approval of the proposed taxiway lighting rehabilitation, installation of PAPI lights, and reconstruction of the based aircraft apron, is not likely to jeopardize the continued existence of the Karner blue butterfly. No critical habitat has been designated for this species, therefore, none will be affected.

The Service has based this determination on the relative quality and size of the actual areas that will be adversely affected by the proposed action, the measures to avoid and minimize adverse

impacts on the Karner blue butterfly that have been included in the proposed action and related projects and activities, the draft Management Agreement and draft Glider Operations Agreement that are designed to minimize adverse effects on the Karner blue butterfly, and the creation of approximately 70 acres of habitat at the site, as part of the proposed action that is expected to benefit the Karner blue butterfly.

III. INCIDENTAL TAKE STATEMENT

No changes to the introductory paragraphs.

Amount and Extent of Take

To the end of this section, add the following.

The proposed taxiway lighting reconstruction and PAPI will result in the death of any Karner blue butterflies (egg stage) that are present in the 9.47 acres of construction work area that were not already killed during routine mowing of the area. In addition, the trenching activities are anticipated to result in the injury or death of any wild blue lupine, grass, or nectar plants with roots in the trench zone.

Table 2 on page 24 of the 2009 BO describes the Project areas where the proposed lighting actions will occur. 4.94 acres will occur in "Areas Mowed for Safety (i.e. around taxiway lights) - (Management Agreement) - 3.00 acres of recurring disturbance (kill and harm)" or "Turf in Exempt Areas (1) Mowing – (Management Agreement) - 11.0 acres of recurring disturbance" and 4.53 acres will occur in "Mowing in non-exempt areas – 261 acres of temporary disturbance to KBBs."

Effect of the Take

In the accompanying BO, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures to Minimize Take

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take:

Add the following measure to the 2009 BO.

1. Avoid disturbance of Karner blue butterfly habitat adjacent to or outside the areas described for project construction in the FAA's March 20, 2011, letter.

Terms and Conditions

In order to be exempt from prohibitions of Section 9 of the Act, the FAA must ensure that the following terms and conditions, which implement the reasonable and prudent measures described

above, and outline required reporting and monitoring requirements, are included in the project plans. These terms and conditions are non-discretionary.

Add the following terms and conditions to the 2009 BO.

1. The County (or NYSDEC) shall inspect project areas at the start of and during construction to ensure construction disturbance is limited to the appropriate areas as described in the FAA's March 10, 2011, letter.

2. The County shall backfill trenched areas with the trenched soil material or other clean, sandy soils immediately after taxiway and PAPI equipment installation. The County shall plant all disturbed soils with butterfly-friendly grass by May 15, 2012. Plant species shall be coordinated with NYSDEC and the Service by October 31, 2011.

No changes to conclusion paragraph.

Conservation Recommendations

No updates.

Reinitiation of Formal Consultation

This concludes formal consultation on the action(s) outlined in the March 10, 2011, request. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this Opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

The Service appreciates the opportunity to work with the FAA, the County, and the NYSDEC in fulfilling our mutual responsibilities under the Endangered Species Act. Please contact Robyn Niver of this office at (607) 753-9334 if you have any questions or require additional information.

Sincerely,

David A. Stilwell
Field Supervisor

REFERENCES

Add the following references.

New York State Department of Environmental Conservation. 2011. PROGRESS REPORT: KARNER BLUE BUTTERFLY SURVEYS OVERVIEW. April 1, 2010 - March 31, 2011.

U.S. Fish and Wildlife Service. 2009. Recovery Data Call unpublished report.

Enclosure

cc: Saratoga County Department of Public Works, Ballston Spa, NY (T. Speziale)
NYSDEC, Albany, NY (Wildlife Diversity Unit, K. O'Brien)
NYSDEC, Warrensburg, NY (Env. Permits)
NYFO, Project & BR Files
Niver File
ES:NYFO:RNiver:ran:mvd

Appendix B.

Agency Correspondence

This page intentionally left blank

McFarland Johnson

60 Railroad Place, Suite 402
Saratoga Springs, NY 12866
Phone: (518) 580-9380
Fax: (518) 580-9383
www.mjinc.com

MEMORANDUM

TO: Jeff Wood & Tom Wirickx (MJ), Kathy O'Brien & Jed Hayden (NYSDEC), Noelle Rayman & Robyn Niver (USFWS), and Tom Speziale & Keith Manz (Saratoga County DPW), Suki Gill (FAA)

FROM: Aimee N. Rutledge

DATE: November 30, 2015

SUBJECT: **S**aratoga County Airport
Master Plan Phase I Projects – EA
Summary of Agency Coordination Kick-Off Meeting

PROJECT NO.: 17588.11

☐ **Urgent** ☒ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

An agency coordination kick-off meeting for the above referenced project was held on Monday, November 23, 2015 via a McFarland Johnson, Inc. (MJ) teleconference at 10 AM.

Present via Telephone: Aimee Rutledge (MJ), Jeff Wood (MJ), Tom Wirickx (MJ), Kathy O'Brien (NYSDEC), Noelle Rayman (USFWS), Jed Hayden (NYSDEC). Absent: Robyn Niver (USFWS), Suki Gill (FAA)

Meeting Agenda & Discussion:

1. Introductions/Meeting Purpose – *MJ discussed that the purpose of the meeting was to explain the proposed Environmental Assessment projects, discuss concerns the agencies may have, and the Section 7 process requirements.*

2. Master Plan Update Status – *The Airport Layout Plan is pending FAA approval and should be approved any day now. A runway extension is not being considered. Tree obstructions will only be addressed if they "significantly impact" airport operations.*

3. EA Proposed Action Overview – *MJ provided a general overview of the proposed projects as outlined below and shown on Figure 1-1, "Proposed Action", which was provided with the meeting agenda.*
    - Revisions to the Airport's Habitat Management Plan (WHMP) – *Tom W. gave an overview of the Draft Wildlife Hazard Management Plan and discussed that the County is completing their review and then it will get submitted to the FAA. Wildlife hazard reduction measures, such as improved fencing, depredation permits, etc. are being recommended. The only outstanding item is assigning responsibility for implementation of the measures (County, FBO, etc.). MJ will*

request permission from the County to provide the draft WHMP to the group participating on the call.

    - Mowing – *Kathy asked that the EA include the acreage of Karner blue butterfly (KBB) habitat impacts for the proposed mowing.*
- Construction of Partial Parallel Taxiway A, Realignment of Taxiway C, and Modifications to Taxiway D – *Construction of the partial parallel taxiway would impact at least 2.11 acres of KBB habitat. This acreage does not include the associated lighting and signage. Kathy requested that all proposed lighting, signage and mowing be considered in the habitat impact acreage.*
- Establishment of a Glider Staging Area Near the Runway 32 End – *The glider staging area would be funded by the glider clubs. The proposed staging area is a work in progress at this point and could potentially change before the draft EA based on feedback from the glider clubs. Discussed potential impacts to KBB habitat for the glider staging area. MJ will calculate that area. Kathy questioned whether or not the glider operations would change – MJ stated operations are not expected to change.*
- Potential Land and/or Easement Acquisition and Obstruction Removal – *A total of approximately 31 acres of land acquisition is proposed. If all properties could be acquired, approximately 21 acres of tree obstruction removal would be necessary due to runway end siting surface penetrations. Tree obstruction removal would include tree removal or topping. MJ will need to consider the Indiana bat and Northern long-eared bat for tree obstruction removal. Tree removal for KBB habitat creation will need to be addressed as well.*
- Expansion of the Itinerant Apron – *There are no proposed KBB habitat or other T/E species/habitat impacts. The project area is within the airport habitat "exempt" area. Kathy questioned whether or not the County had any plans to pave the grass area between Taxiways A and C because aircraft are often tied down there when the existing apron is full. This was not identified in the MPU process. MJ will follow up with the County.*
- Expansion of the Airport's Fuel Farm – *There are no proposed KBB habitat or other T/E species/habitat impacts. The project area is within the airport habitat "exempt" area.*

4. *Section 7 process – Noelle stated that a Biological Assessment (BA) will be needed, which should include the project impacts, management plan, conservation measures, and timing for mowing. The USFWS has 135 days to review the BA and issue a Biological Opinion.*

   Kathy stated MJ could use the EA document for the Incidental Take Permit application as long as it covers habitat mitigation, etc.

5. EA Proposed Schedule

• Project Kick-Off	October 14, 2015
• Agency Coordination Kick-Off Meeting	November 23, 2015
• Land Owner Meetings	January 2016
• Preliminary Draft EA for FAA Review	November 2016
• Public Information Meeting	January/February 2017
• Final EA	June 2017

6. Other Items?
    a. *MJ will provide the Draft Wildlife Hazard Management Plan to the USFWS and NYSDEC assuming the County will consent to forwarding a draft of the plan.*
    b. MJ discussed the proposed KBB habitat mitigation area which would be located in the vicinity of the existing mitigation area, on the west side of the airport property. It was noted that there was a small wetland located in this area but could be avoided.
    c. MJ will plan on having an agency site meeting at the airport in Spring 2016 and an agency meeting in the Fall 2016 prior to submittal of the draft EA to the FAA.
    d. It was discussed that open communication is critical to making the process go smoothly. It was suggested that preliminary draft documents be circulated early to allow for agency input.

ANR

\\mjcolo-dc-x64\k\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Communication\Memo_Agency Coordination KickOff Meeting Summary_2015-11-30.docx

This page intentionally left blank

Aimee N. Rutledge

From: Aimee N. Rutledge
Sent: Wednesday, March 02, 2016 1:08 PM
To: Rayman, Noelle; Tom C. Wirickx
Cc: O'Brien, Kathleen (DEC); Jeff R. Wood; Niver, Robyn; Sukhbir.Gill@faa.gov; Michael L. Churchill
Subject: RE: Saratoga County Airport- Wildlife Hazard Management Plan (WHMP)

Hi Noelle,

I apologize for any confusion or misunderstanding. I have spoken to Suki and Tom W. regarding your email below. Some recommendations made in the WHMP, such as the fencing and mowing modifications, will be evaluated as part of the Saratoga Master Plan Phase I Projects EA. Keep in mind that the WHMP is a working document and can be modified in the future based on feedback from agencies or changes to the airport operations, etc.

Our goal is to have the DEC and FWS weigh in on the WHMP recommendations during the EA and Section 7 consultation process. The EA will also include the Biological Opinion. We have compiled the habitat impacts resulting from the EA projects and plan to have those available for discussion purposes with the FWS and DEC very shortly. I would like to have a meeting with the FWS, DEC, County and FAA in early April to discuss the proposed EA projects, WHMP recommendations and potential habitat impacts. I will send out an email regarding the meeting in the next week or two.

Feel free to contact me if you have any questions or concerns.

Thank you,

Aimee N. Rutledge, PWS, CPESC, CPSWQ
Senior Environmentalist
McFarland Johnson

From: Rayman, Noelle [mailto:noelle_rayman@fws.gov]
Sent: Thursday, February 18, 2016 7:59 AM
To: Tom C. Wirickx
Cc: O'Brien, Kathleen (DEC); Jeff R. Wood; Aimee N. Rutledge; Niver, Robyn; Sukhbir.Gill@faa.gov; Michael L. Churchill
Subject: Re: Saratoga County Airport- Wildlife Hazard Management Plan (WHMP)

Thanks Tom for providing us with a copy of the final Wildlife Hazard Management Plan. It was my understanding that FWS would have a chance to review the WHMP once FAA completed their initial review of it. It doesn't appear that this happened. We were provided a copy of the Wildlife Hazard Assessment for 2013-2014, but not the WHMP itself.

Noelle

On Wed, Feb 17, 2016 at 5:05 PM, Tom C. Wirickx <TWirickx@mjinc.com> wrote:

Noelle and Kathy,

Attached is the final FAA approved Wildlife Hazard Management Plan (WHMP) for Saratoga County Airport for your review as part of the Master Plan EA. Hard copies will be mailed to your attention as well.

Tom

Thomas C. Wirickx, CE, PWS, QAWB • Senior Environmentalist

McFarland Johnson, Inc.

49 Court Street • P.O. Box 1980 • Binghamton, NY 13902
Office: 607-723-9421 • Fax: 607-723-4979

--
Noelle L. Rayman
Endangered Species Biologist
U. S. Fish and Wildlife Service
New York Field Office
3817 Luker Road
Cortland, NY 13045
Phone: 607-753-9334
Fax: 607-753-9699
E-mail: noelle_rayman@fws.gov
http://www.fws.gov/northeast/nyfo/

McFarland Johnson

60 Railroad Place, Suite 402
Saratoga Springs, NY 12866
Phone: (518) 580-9380
Fax: (518) 580-9383
www.mjinc.com

MEMORANDUM

TO: Suki Gill, FAA; Noelle Rayman, USFWS; Kathy O'Brien, NYSDEC; Keith Manz & Tom Speziale, Saratoga County DPW; Jeff Wood, MJ

FROM: Aimee N. Rutledge, PWS, CPESC, CPSWQ

DATE: May 31, 2016, Revised July 11, 2016

SUBJECT: Saratoga County Airport – Master Plan Phase I EA Habitat Impacts

PROJECT NO.: 17588.11

☐ **Urgent** ☒ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

The following memorandum and attachments are being provided for review and discussion purposes for the agency coordination meeting scheduled for June 2, 2016 at the Saratoga County DPW offices and the Saratoga County Airport. The memorandum has been revised to reflect the comments and discussion during the June 2, 2016 meeting.

As part of the development of the EA alternatives, MJ has estimated the total potential impacts to the endangered Karner blue butterfly (KBB) habitat and the threatened Northern long-eared bat (NLEB) habitat. The Master Plan Phase I EA projects evaluated include taxiway improvements, glider operation improvements, airfield mowing and replacement of the existing airport property perimeter fence. The attached figure illustrates the proposed projects and habitat impact areas.

In all work areas, efforts will be made to limit ground disturbance to the minimum necessary to construct the project components. The method of calculating impacts was based on a prior method used for the Airfield Lighting Improvements project, which included habitat mitigation and Biological Opinion review and approval by the involved agencies, including USFW and NYSDEC. Impacts were quantified by type of impact consisting of the following:

Permanent impacts include those areas where turf will be replaced with pavement, light fixture and signage footings, wind cone relocation, or other "non-turf" surfaces. In addition, turf surfaces mowed during the growing season (e.g. prior to October 15) are considered permanent impacts.

Temporary impacts include those areas that will be temporarily disturbed as a result of removal of existing above ground lighting and signage features along the taxiway areas which are proposed to be abandoned or used as glider run-up/staging areas. In addition, temporary impacts include construction equipment activity and other miscellaneous ancillary work. A 25 foot offset from the proposed edge of new pavement and a 15 foot offset from existing pavement was used to conservatively estimate the potential temporary impacts which would occur outside of the mowing area alternatives. It is unlikely that all of the temporary impact areas would be

disturbed. The temporary impacts associated with operation of each piece of construction equipment will vary based on the type of equipment and the construction operation being performed. Turf will be re-established in the temporarily impacted areas using a FAA, NYSDEC, and USFWS pre-approved seed mix. It should be noted that the construction impact offset for the Airfield Lighting Improvement Project in 2013 was typically 15 feet from the existing pavement.

The EA proposes mowing of the runway and taxiway safety areas (SA) to reduce wildlife hazards as recommended in the FAA approved Wildlife Hazard Management Plan (WHMP). The existing mowing plan is limited to mowing of the area immediately adjacent to the taxiways and associated lighting and signage, which is an approximate 10-foot width. The existing mowing plan impacts approximately 4.83 acres of KBB habitat.

The WHMP also recommended the replacement of the existing perimeter fence with a partially buried 10 foot fence to prevent wildlife access to the Airport Operations Area. The majority of the existing at-grade fence is only 6 feet tall. The perimeter fence improvements within the non-exempt habitat area would involve the replacement of approximately 20,271 linear feet of existing fence, including 5 access gates. Of the 20,271 linear feet of perimeter fence, approximately 6,700 linear feet is located in forested areas on the eastern and western portions of the Airport and County owned property. Approximately 13,571 linear feet are located along turf areas within the non-exempt habitat area. The existing fence and gates have concrete foundations and would be removed during installation of the proposed wildlife fence. Additionally, based on the WHMP, the EA proposes to provide an 8 foot wide grass area on the inside of the fence, which will be maintained and mowed to allow motor vehicle access for fence inspections and maintenance. There is an existing grass access way along the perimeter fence. It is assumed that the permanent impacts to the KBB habitat for the fence replacement and associated access way mowing during the growing season would occur along the turf areas and not within the forested areas.

An informal site inspection of the perimeter fence was performed on May 27, 2016 to assess the current condition of the fence access way. The site inspection determined that tree removal would be required along the more densely wooded areas, specifically along the western existing fence line, to accommodate the proposed fence 8 foot wide access way. Specifically, sporadic tree removal along approximately 2,500 linear feet of the western fence line would be necessary. Tree clearing necessary for the fence access way would be accomplished between October 31 and March 31 to prevent potential direct impacts to the threatened NLEB. In addition, tree clearing for proposed tree obstruction removal would be conducted during that time to avoid potential impacts to the NLEB.

The following tables summarize the habitat impacts for the EA alternatives.

KBB HABITAT IMPACTS FOR EA ALTERNATIVES				
Project Description	**Mowing Plan Description**	**Habitat Creation[i] (Acres)**	**Permanent Impacts (Acres)**	**Temporary Impacts (Acres)**
Partial-Parallel Taxiway & Glider Staging/Run-Up Area	Existing (typically 10')	0.22	8.69	2.75
	20 Foot Width	0.17	20.07	2.15
	Safety Areas	*0.21*	*69.19*	*2.81*
	Object Free Areas	0.0	141.25	1.2
Perimeter Fence Replacement (along turf areas only)	8' Wide Access Way	N/A	*2.5*	0.0
Total for Preferred Alternatives – Projects with Safety Area and Fence Access Mowing		**0.21**	**71.69**	**2.81**

The preferred alternative KBB habitat impacts would be a result of the construction of approximately 2.11 acres of impervious area for the partial-parallel taxiway, approximately 0.89 acres of impervious/turf areas for the glider staging/run-up operations and approximately 66.19 acres for mowing of the runway and taxiway safety areas during the growing season. Note that the mowing acreage footprint includes the lighting and signage associated with the partial-parallel taxiway and the glider staging/run-up area and the wind cone relocation. The total of these permanent impacts to the KBB habitat is approximately 69.19 acres.

NLEB HABITAT IMPACTS	
Project Description	**Permanent Impacts (Acres)**
Tree Obstruction Removal	17.6
Tree Removal for Perimeter Fence 8' Wide Access Way	0.5
Total	**18.1**

At this point in the EA process, the above impact acreages are for discussion purposes and the final proposed impact acreages will be determined based on the June 2nd agency coordination meeting and further consultation with the agencies.

ANR
Attachments

cc: Tom Wirickx, McFarland Johnson
Jed Hayden, NYSDEC
Robyn Niver, USFWS

[i] Habitat created from removal of the existing taxiway stub between Taxiway B and Runway 14-32.

This page intentionally left blank

Figure 1-1: Proposed Action

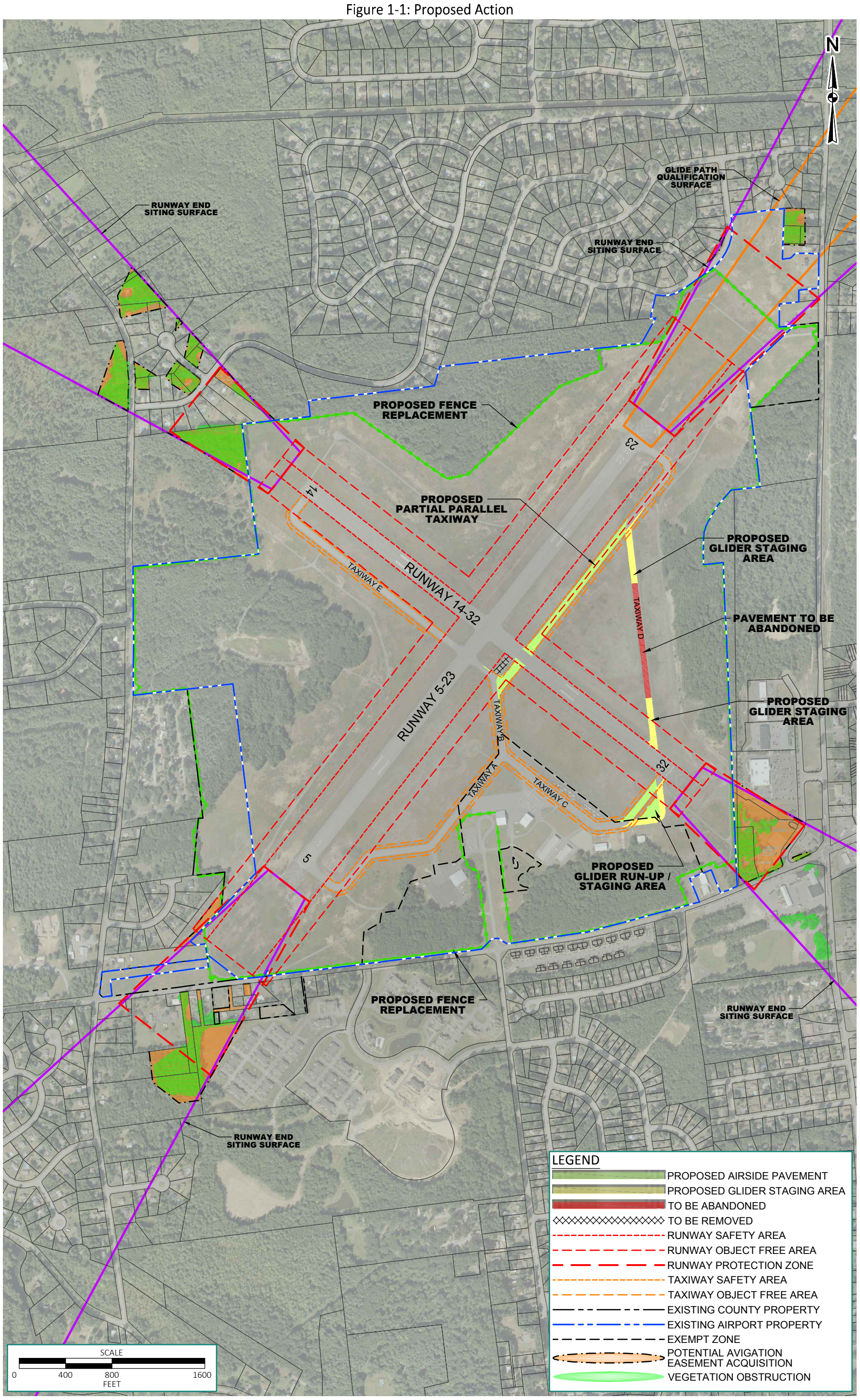


Figure 3-9: Glider Alternative 1 - No-Build

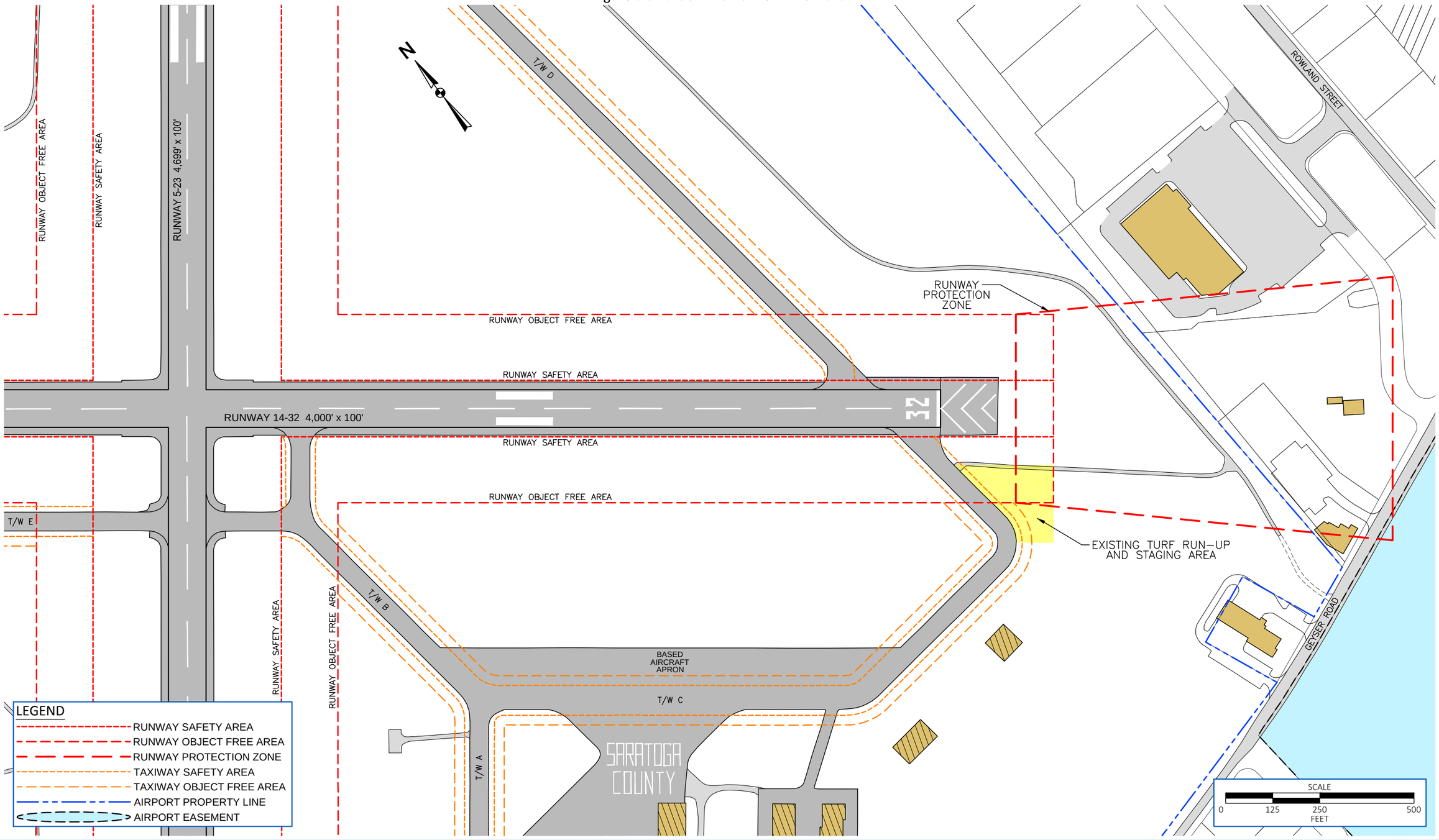
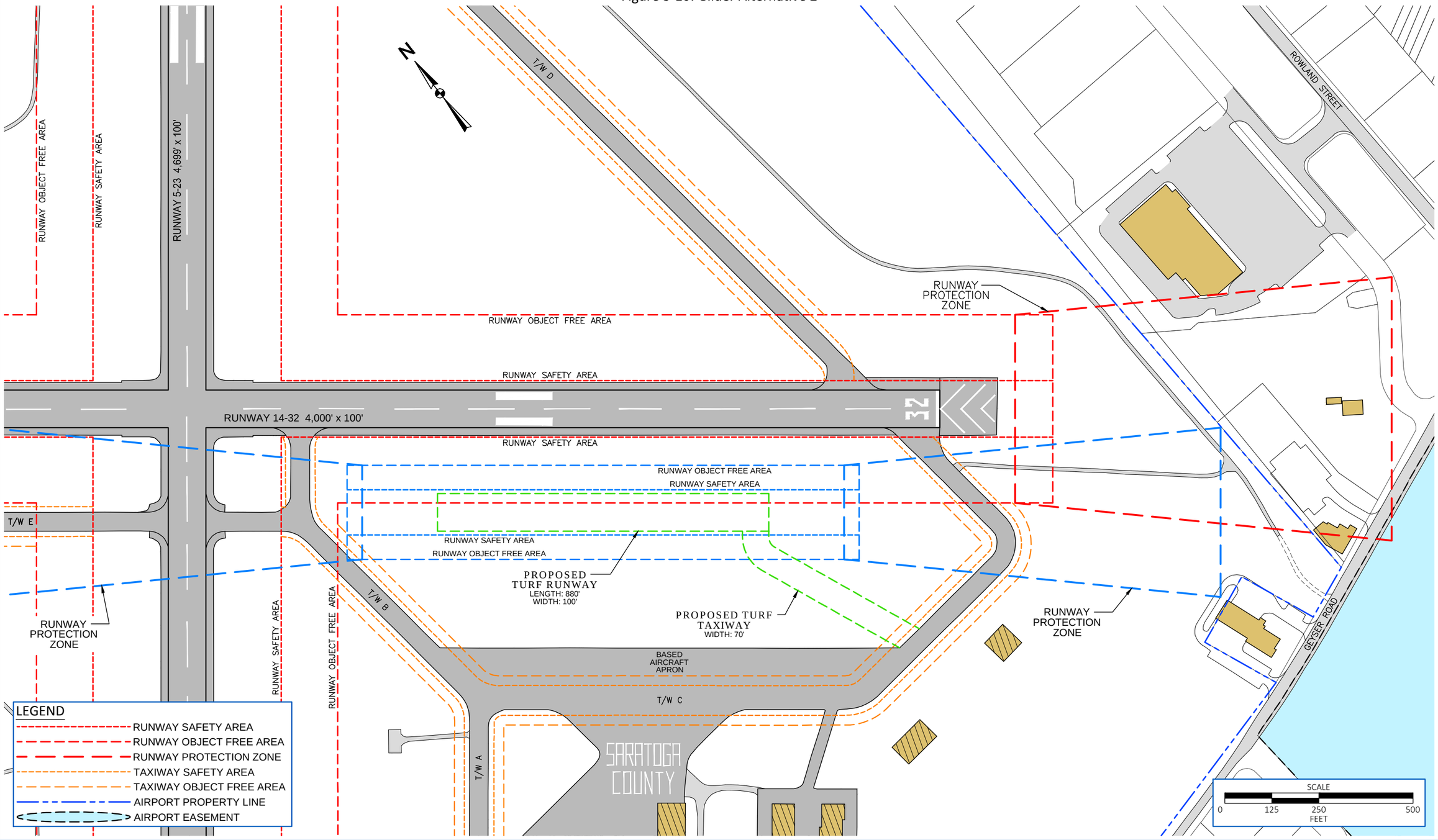
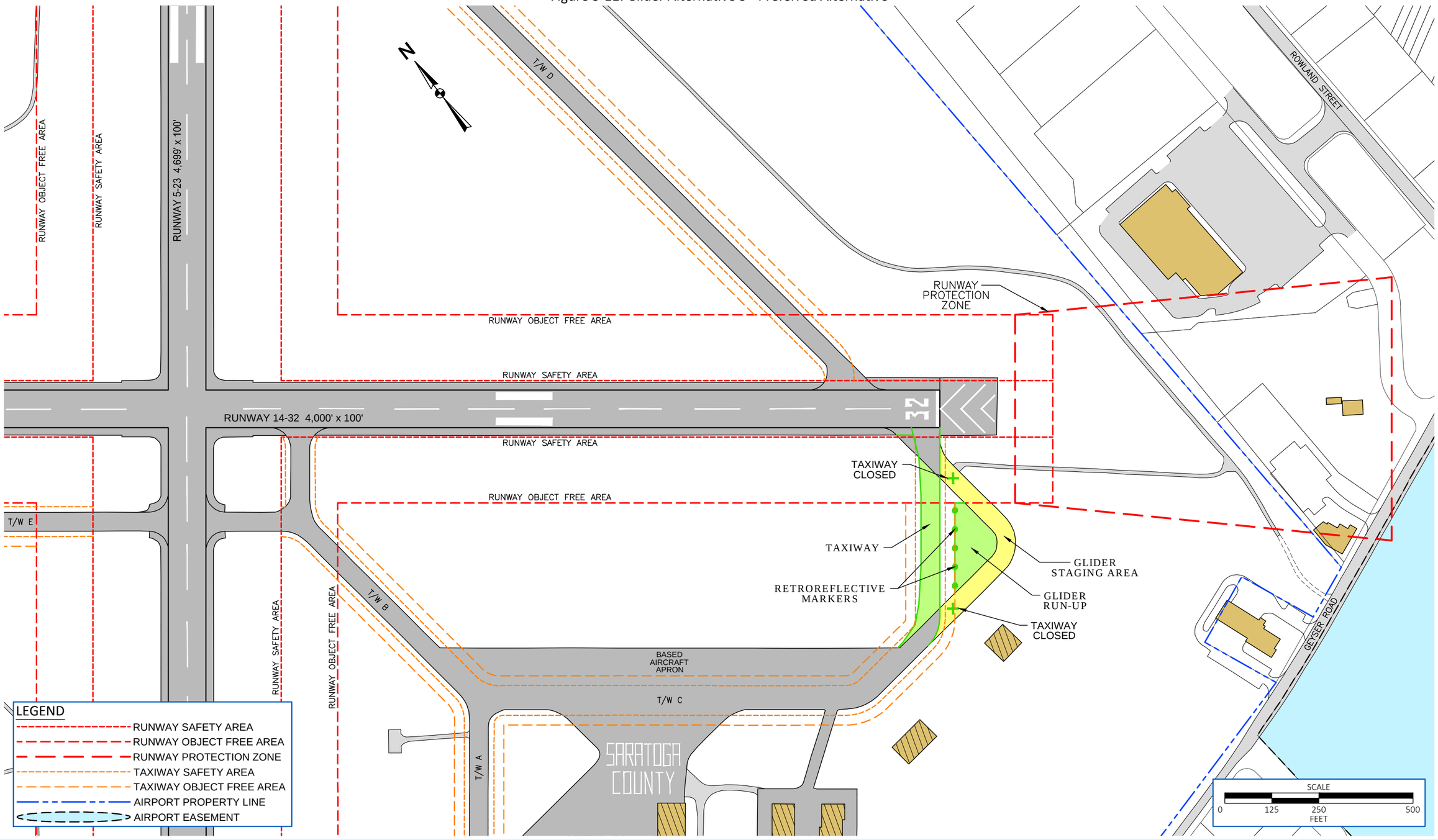


Figure 3-10: Glider Alternative 2



\\mjcolo-dc-x64\K\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\Drawings\AutoCAD\Figures\ALT-GLIDER.dwg

Figure 3-11: Glider Alternative 3 - Preferred Alternative



\\mjcolo-dc-x64\K\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\Drawings\AutoCAD\Figures\ALT-GLIDER.dwg

Figure 3-6: Taxiway Alternative 1 - No Build

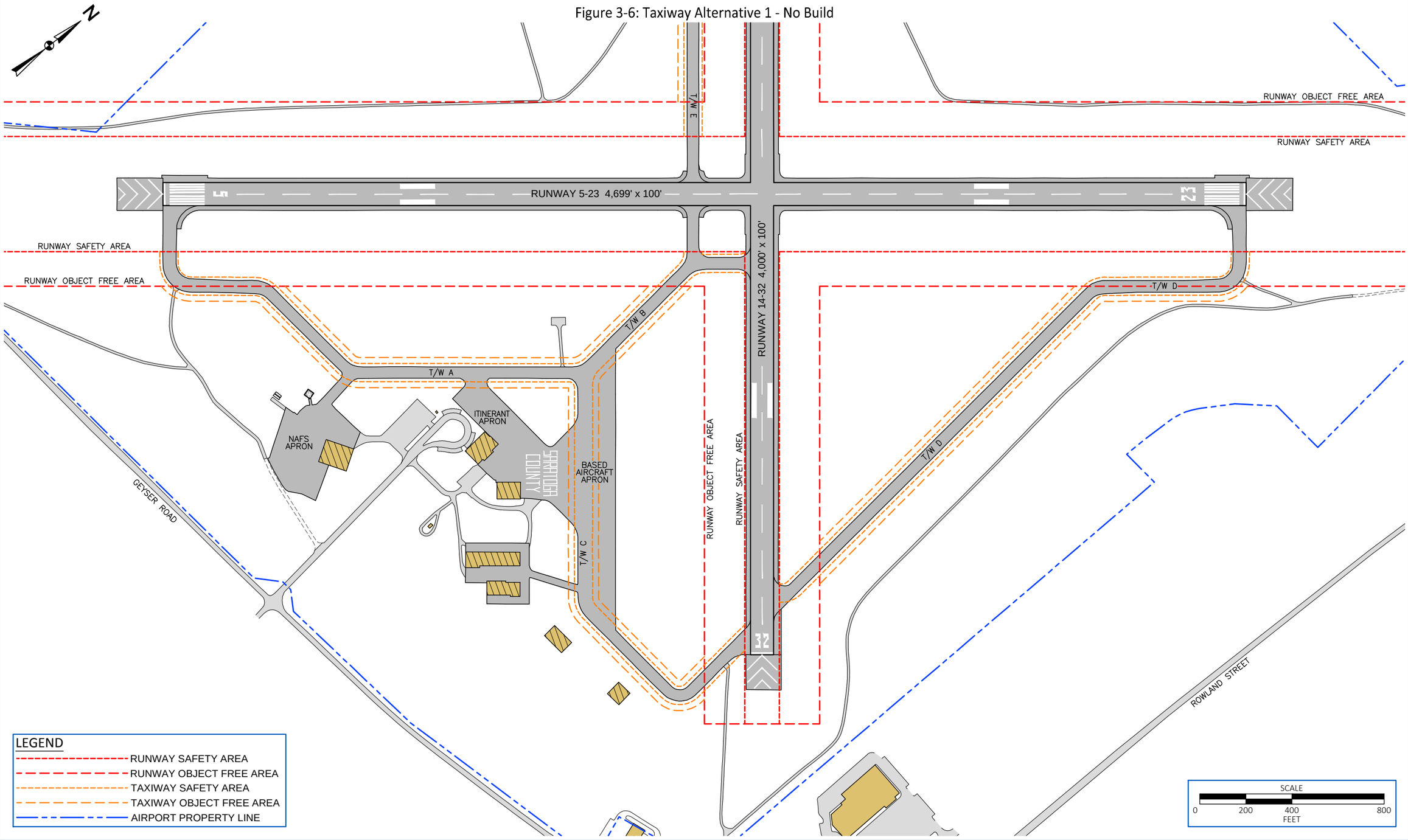
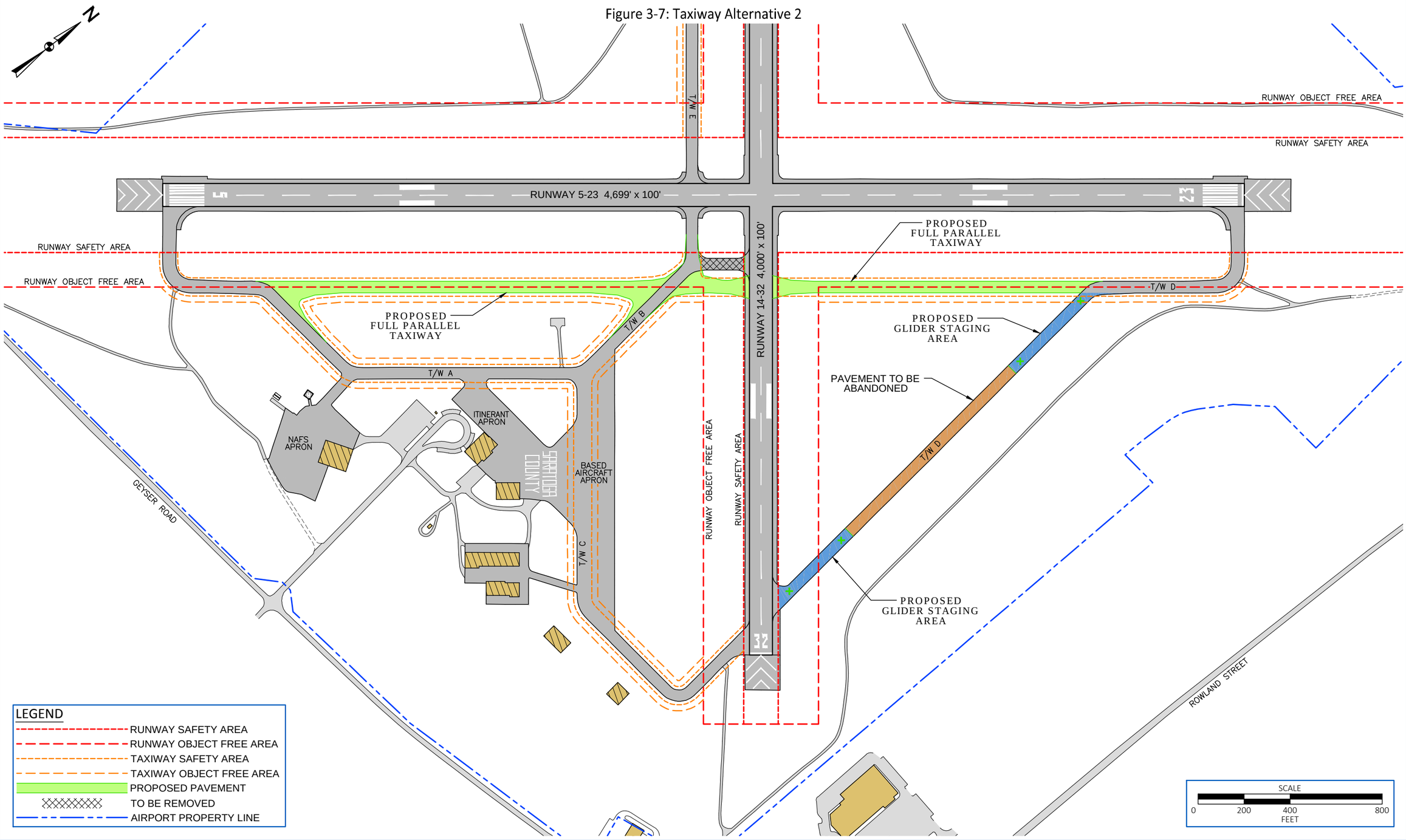
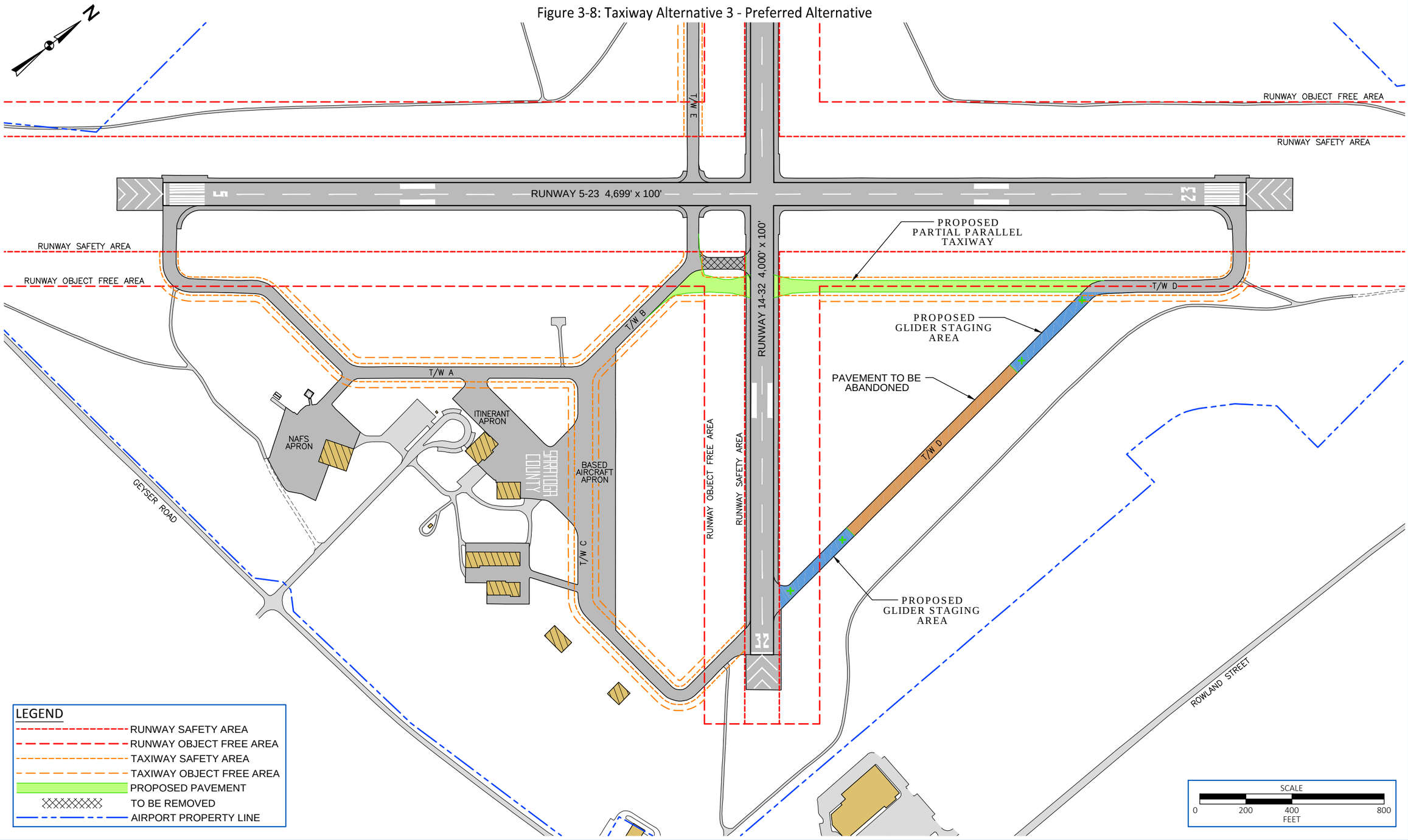


Figure 3-7: Taxiway Alternative 2



\\mjcolo-dc-x64\K\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\Drawings\AutoCAD\Figures\ALT-TAXIWAY.dwg

Figure 3-8: Taxiway Alternative 3 - Preferred Alternative

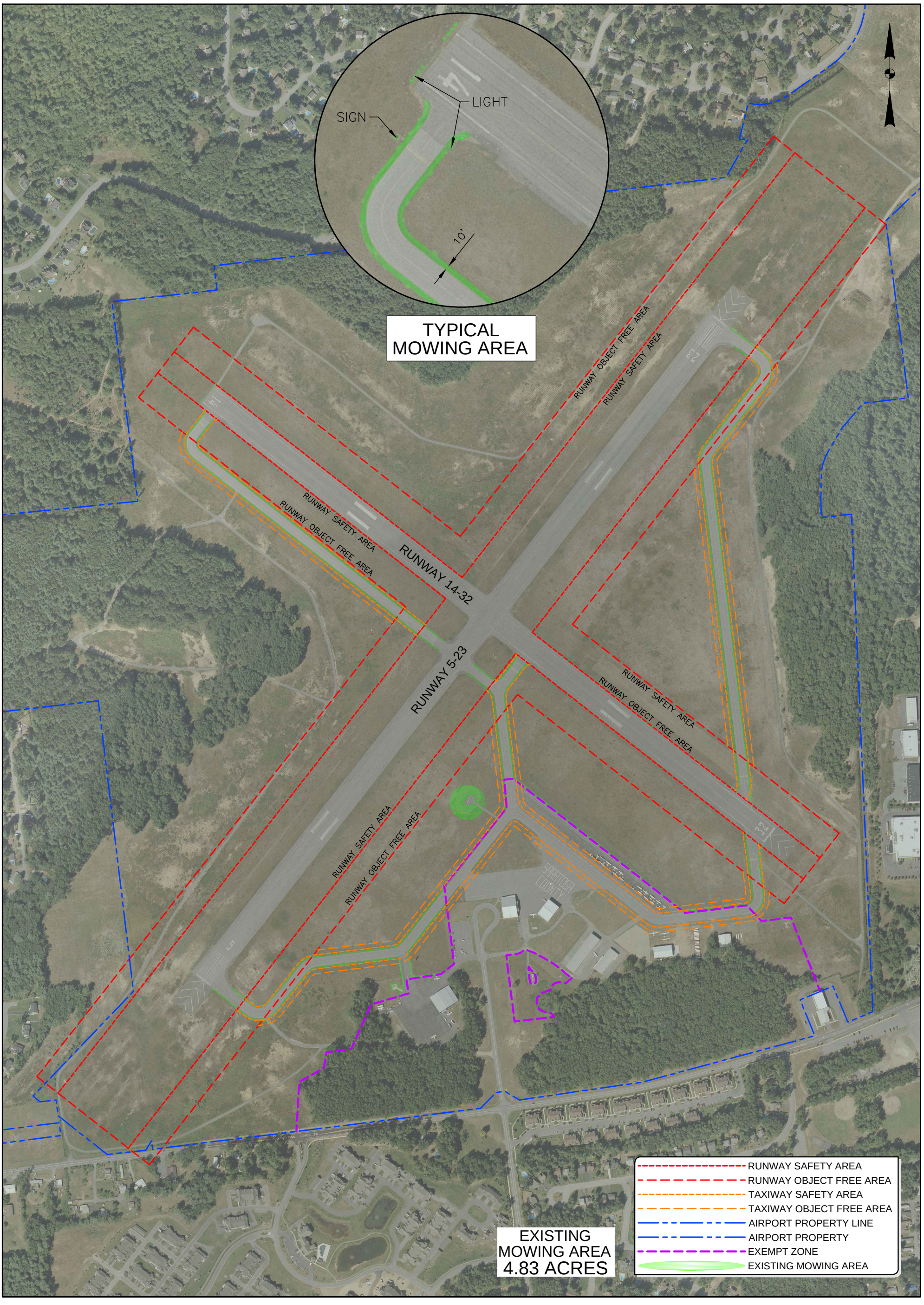


\\mjcolo-dc-x64\K\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\Drawings\AutoCAD\Figures\ALT-TAXIWAY.dwg

\\mjcolo-dc-x64\K\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\Drawings\AutoCAD\Figures\MOWING.dwg

EXISTING MOWING PLAN

FIGURE 1



SARATOGA COUNTY AIRPORT

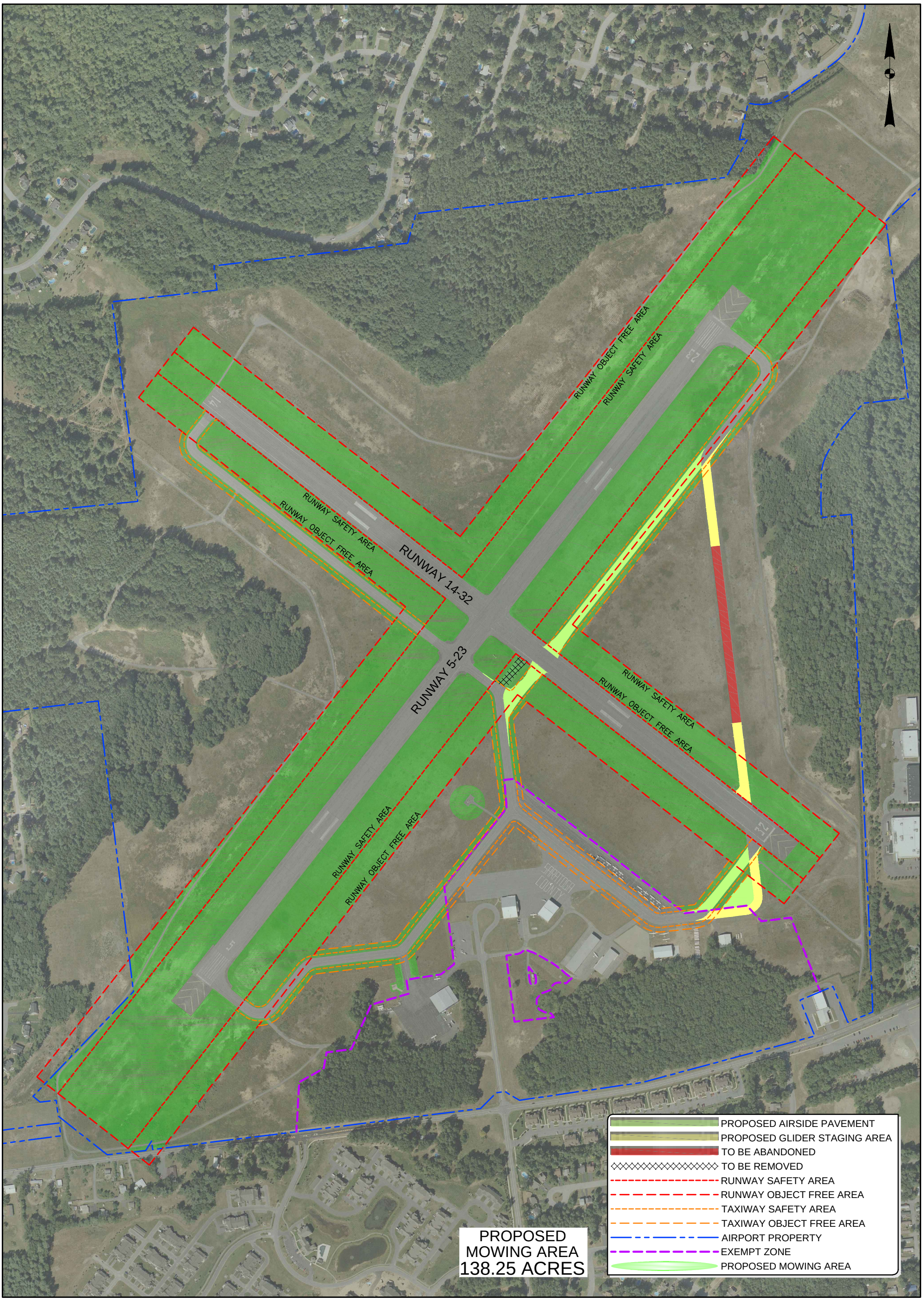
SCALE
0 500 1000
FEET

McFarland Johnson

\\mjcolo-dc-x64\K\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\Drawings\AutoCAD\Figures\MOWING.dwg

PROPOSED MOWING PLAN - OBJECT FREE AREA

FIGURE 2



SARATOGA COUNTY AIRPORT

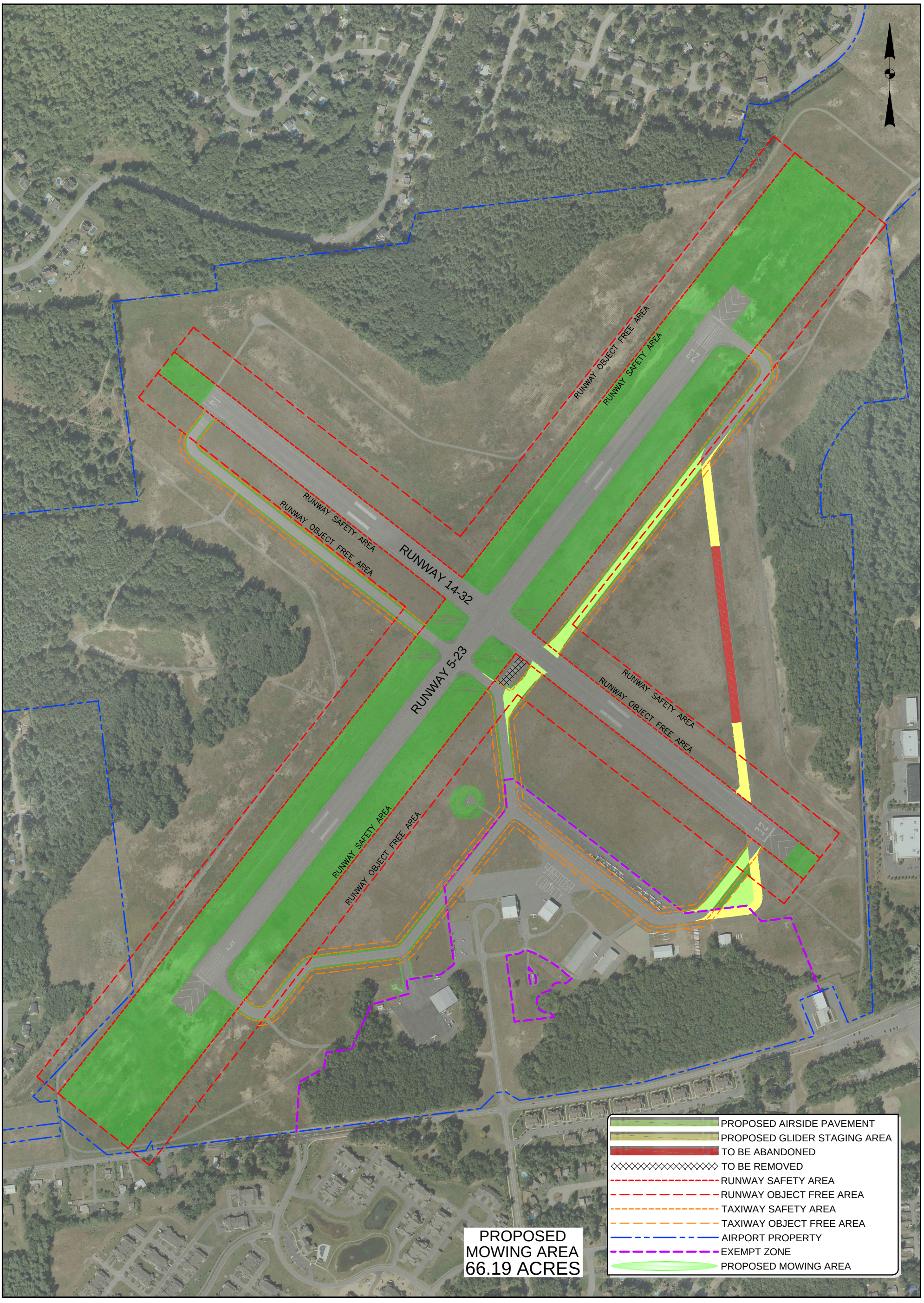
SCALE
0 500 1000
FEET

McFarland Johnson

\\mjcolo-dc-x64\K\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\Drawings\AutoCAD\Figures\MOWING.dwg

PROPOSED MOWING PLAN - SAFETY AREA

FIGURE 3



SARATOGA COUNTY AIRPORT

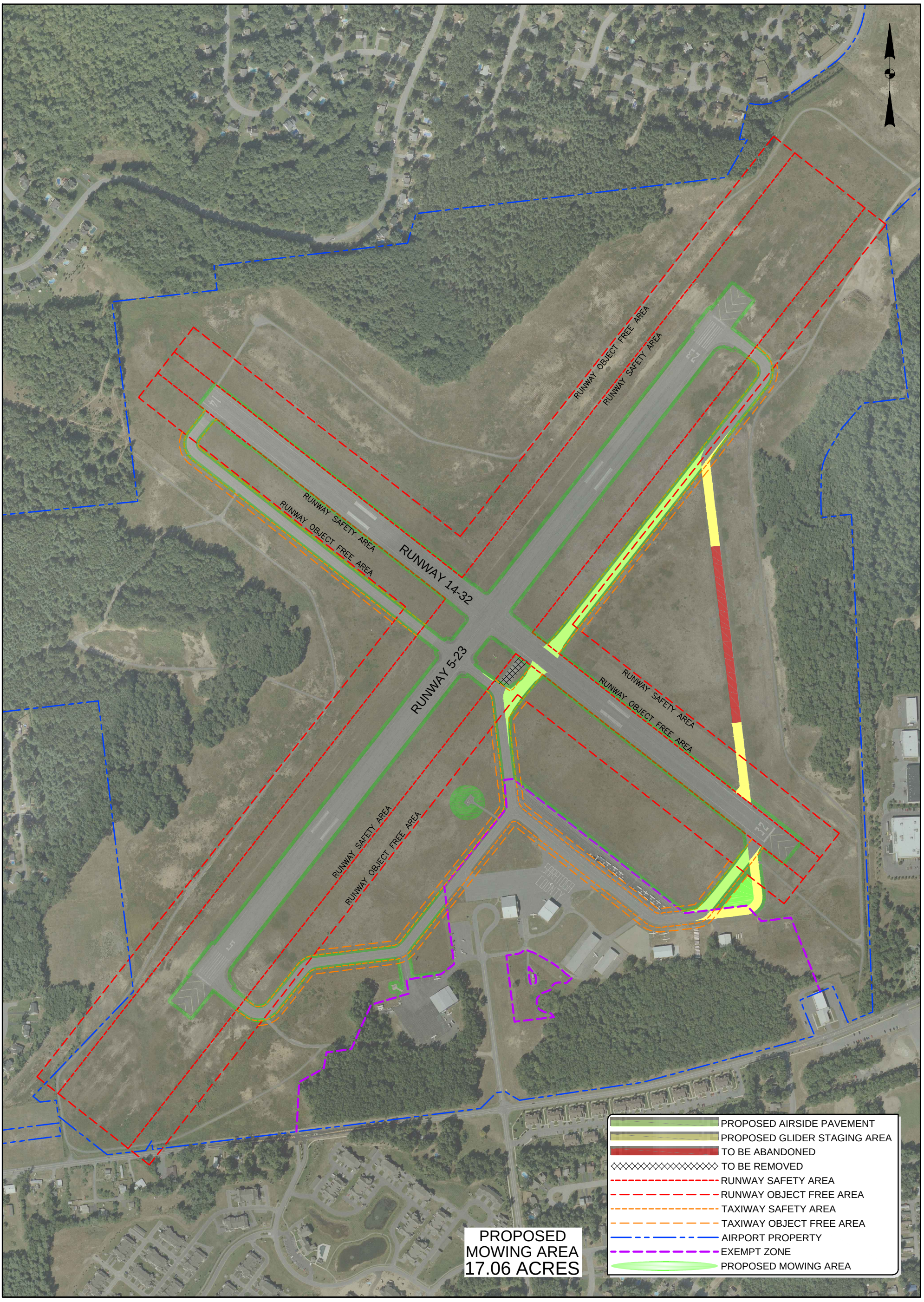
SCALE
0 500 1000
FEET

McFarland Johnson

\\mjcolo-dc-x64\K\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\Drawings\AutoCAD\Figures\MOWING.dwg

PROPOSED MOWING PLAN - 20'

FIGURE 4



SARATOGA COUNTY AIRPORT

SCALE
0 500 1000
FEET

McFarland Johnson

McFarland Johnson

60 Railroad Place, Suite 402
Saratoga Springs, NY 12866
Phone: (518) 580-9380
Fax: (518) 580-9383
www.mjinc.com

MEMORANDUM

TO: Jeff Wood & Tom Wirickx (MJ), Kathy O'Brien & Jed Hayden (NYSDEC), Noelle Rayman & Robyn Niver (USFWS), and Tom Speziale & Keith Manz (Saratoga County DPW), Suki Gill (FAA)

FROM: Aimee N. Rutledge

DATE: July 13, 2016

SUBJECT: **S**aratoga County Airport
Master Plan Phase I Projects – EA
Summary of Agency Coordination Meeting

PROJECT NO.: 17588.11

☐ **Urgent** ☒ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

An agency coordination meeting for the above referenced project was held on Thursday, June 2, 2016 at the Saratoga County DPW offices and the Saratoga County Airport.

Present: Aimee Rutledge (MJ), Jeff Wood (MJ), Kathy O'Brien (NYSDEC), Noelle Rayman (USFWS), Tom Speziale & Keith Manz (Saratoga County DPW), Suki Gill & Ybrahina Cohen (FAA).
Absent: Robyn Niver (USFWS), Tom Wirickx (MJ), Jed Hayden (NYSDEC).

Meeting Agenda & Discussion:

1. Introductions/Meeting Purpose – *MJ discussed the proposed Environmental Assessment projects, discuss concerns the agencies may have, and the Section 7 process requirements. Prior to the June 2, 2016 meeting, a Habitat Impacts Memorandum dated May 31, 2016 and associated figures were provided for review and discussion purposes.*

2. Environmental Assessment Status Update – *The EA Purpose and Need Chapter and Alternatives Chapter was submitted to Suki Gill for review. Suki stated she had no comments. The Environmental Consequences Chapter will be completed during the Section 7 consultation process. Meetings with landowners affected by proposed property easement acquisition/obstruction removal were conducted in January 2016. Subsequently, site visits of proposed easement/acquisition properties of interested landowners were conducted.*

3. Master Plan Update/ALP Status – *The Airport Layout Plan was approved by the FAA. FAA made a finding on the RW 32 RPZ medical building obstruction in April 2016. FAA determined there will be No Action for the building and recommended the County*

implement practicable means to have control over the RPZ lands to avoid future incompatible uses.

4. EA Proposed Action Habitat Impacts – *MJ discussed potential habitat impacts as a result of the project alternatives and more specifically the preferred alternatives. The Habitat Impacts Memorandum dated May 31, 2016 was referred to during this discussion.*

    - Construction of Partial Parallel Taxiway – *Construction of the partial parallel taxiway would impact at least 2.11 acres of KBB habitat, including associated lighting, signage and wind cone relocation.*
    - Establishment of a Glider Staging Area near the Runway 32 End – *Construction of the glider staging/run-up area would impact at least 0.89 acre of KBB habitat, including associated lighting and signage.*
    - Revisions to the Airport's Habitat Management Plan (WHMP) – *USWFS & NYSDEC were reminded that their review and potential comments on the WHMP recommendations will be considered during the EA and Section 7 consultation process.*
        - Mowing Plan Impacts – *NYSDEC & USFWS prefer that any additional mowing be avoided. Kathy stated the oldest KBB habitat exists along the runways. Kathy stated shorter grass would attract geese causing other issues, i.e. wildlife strikes. They suggested considering rotational mowing of the KBB habitat area. Can it be considered an option? Would it be beneficial? This will be discussed during the Biological Assessment/EA process. NYSDEC & USFWS requested that the mowing alternative impacts be included with the taxiway and glider preferred alternatives to better assess overall impacts.*
        - Fence Replacement – *NYSDEC & USFWS stated that if routine mowing is proposed along the 8-foot wide fence access, it would be considered a permanent impact to the KBB habitat. MJ will provide the linear feet of fence replacement in non-exempt habitat areas and calculate fence impact acreage for mowing of the 8 foot wide access in open areas of the KBB habitat.*
    - Potential Land and/or Easement Acquisition and Obstruction Removal – *As stated previously, meetings with affected landowners were conducted in January 2016 and property site visits for all interested landowners were conducted. Approximately 17 acres of tree obstruction removal will be necessary due to runway end siting surface penetrations. Tree obstruction removal would include tree removal or topping. MJ will need to consider the Northern long-eared bat for tree obstruction removal and potential KBB habitat creation.*
    - Expansion of the Itinerant & Expansion of the Airport's Fuel Farm – *These projects were removed from the EA because there are no proposed KBB habitat or other T/E species/habitat impacts and the project areas are within the airport habitat "exempt" area.*

4. Impact Avoidance, Minimization & Mitigation – *The Biological Assessment will need to include an Implementation & Monitoring Plan for KBB habitat creation. NYSDEC & USFWS stated they would want the habitat mitigation areas constructed prior to any*

habitat impacts including a new mowing plan. Kathy O'Brien mentioned that Blue Lupine transplanting isn't typically successful due to its sensitive root system.

a. *Mitigation options discussed included the following, restoration of existing habitat areas, tree removal for larger areas, and property acquisition adjacent to airport KBB habitat. Off-site mitigation may disturb or interfere with the Wilton Wildlife Preserve & Park (WWPP) recovery unit. Habitat creation for the WWPP KBB population may be an option on County owned property associated with the park.*

5. Section 7 Process – *Agencies stated the Section 7 Consultation process for USFWS can be done concurrently with NYSDEC's project review. The Section 7 Consultation will be conducted in the following order as discussed at the meeting:*

1) Finalize mitigation options.
2) Develop Biological Assessment. Suki will confirm if the Biological Assessment needs public review.
3) FAA submits letter for Section 7 Consultation initiation.
4) USFWS approval of Biological Assessment.
5) 135 day review process by USFWS.
6) USFWS issues a Biological Opinion.

6. EA Proposed Schedule

• Project Kick-Off	October 14, 2015	COMPLETED
• Agency Coordination Kick-Off Meeting	November 23, 2015	COMPLETED
• Land Owner Meetings	January 2016	COMPLETED
• Section 7 Consultation	Summer 2016	
• Preliminary Draft EA for FAA Review	November 2016	
• Public Information Meeting	February 2017	
• Final EA	June 2017	

7. Other Items?
   a. *MJ will revise the Habitat Impacts Memo and recirculate to the group.*
   b. MJ contacted Jed Hayden to confirm his involvement in the project in the future. Jed stated he is still involved in the project and to copy Ed Reed at NYSDEC in the future.
   c. MJ will add the location of the constructed KBB habitat mitigation area to applicable project plans/figures in the future.
   d. USFWS & NYSDEC recommended phasing implementation of the projects to limit impacts to the habitat/species.

8. Site Visit – *Meeting attendees, with the exception of Keith Manz, performed a site visit of the Airport immediately after the meeting. Attendees visited the following areas: preferred alternative project areas, KBB habitat creation area on west side of Airport and other KBB habitat areas. Blue Lupine was observed in the habitat mitigation area on the west side of the airport.*

ACTION ITEMS

- *MJ will revise Habitat Impacts Memo to include meeting comments and additional information requested and will recirculate to group. The Memo will include a figure with*

all preferred alternative impacts, including mowing, impervious areas and temporary impacts.

- *MJ will develop Biological Assessment for agency review.*
- *Suki will confirm whether or not public involvement is necessary for the Biological Assessment.*

ANR

K:\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Communication\Agency Coordination Meeting Minutes_2016-06-06.docx

Aimee N. Rutledge

From: Rayman, Noelle <noelle_rayman@fws.gov>
Sent: Tuesday, October 11, 2016 3:51 PM
To: Aimee N. Rutledge
Cc: O'Brien, Kathleen (DEC); Trisha Cole
Subject: Re: FW: Saratoga County Airport EA - Biological Assessment

Follow Up Flag: Follow up
Flag Status: Completed

Hi Aimee,

Thanks for reaching out to us. I can help you with some of the questions you asked.

- Regarding northern long-eared bats - when using the 4(d) rule, remember that you cannot make a "no effect/impact" or a "NLTAA" determination. It has to be a "may affect" as the 4(d) rule exempts any take that may occur as a result of the project. So make sure to reflect this in the EA.

- Regarding the inclusion of frosted elfins - FWS will just focus on KBB, but you can include FE for Kathy's review. I'm sure it will make it easier for you to include both in one document.

- Regarding impact calculations - we will need details per project and cumulative total, so both. Make sure to clearly state which are permanent vs. temporary impacts, the amount of acreage loss for such things as snow plowing, mowing, and from the glider activities, etc. Also note which impacts will be on an annual, monthly, biannual, etc. basis.

- Regarding mitigation - as of my last understanding of the project as proposed, the FWS still had significant concerns about losing the viable population at the airport. It may be premature to discuss mitigation yet when we haven't seen any revised avoidance and minimization measures along with a detailed impact analysis. Feel free to send us these sections for review, if ready, ahead of any mitigation discussion.

It's been a while since our last meeting so I think it would be great to set up a conference call to touch base.

Hope you are doing well.

Noelle

On Thu, Oct 6, 2016 at 9:27 AM, Aimee N. Rutledge <arutledge@mjinc.com> wrote:

> Hello,
>
> Just a friendly reminder…it's been about a month since I sent the original email below with questions regarding the BA. Besides addressing the questions in the email below, I'd also like to discuss potential habitat mitigation associated with the Wilton Wildlife Preserve & Park. I've attached maps of the parkland and the County owned parcels. If possible, we would like to include potential habitat mitigation opportunities at the WWPP in the EA and BA with the understanding that they will be conceptual ideas and final mitigation plans would be completed at a later date with specific project designs. If we agree mitigation could be an option at the WWPP, I'd be interested in available acreage for mitigation, the current known locations of KBB habitat within or in the vicinity of the WWPP, areas that are being actively managed for KBB, potential sites on County owned land for KBB habitat mitigation, including tree clearing, controlled burns, etc.

I also need a better understanding of what mitigation ratio(s) you are expecting?

Again, if this is easier to discuss via a conference call I can send out a doodle poll for dates/times. The sooner the better, since my goal is to have the Draft BA and the Draft EA submitted to the FAA in November.

Thank you,

Aimee N. Viens Rutledge, PWS, CPESC, CPSWQ

Senior Environmentalist
McFarland Johnson

From: Aimee N. Rutledge
Sent: Thursday, September 08, 2016 8:44 AM
To: O'Brien, Kathleen (DEC); (noelle_rayman@fws.gov)
Subject: FW: Saratoga County Airport EA - Biological Assessment

Hello Kathy & Noelle,

Now that the summer madness has subsided, I'd like to submit the draft BA to FAA for their review asap. Can you please address my questions below. If it makes more sense to have a conference call to discuss I am available.

Thank you,

Aimee N. Viens Rutledge, PWS, CPESC, CPSWQ

Senior Environmentalist
McFarland Johnson

From: Aimee N. Rutledge
Sent: Wednesday, August 24, 2016 1:39 PM
To: O'Brien, Kathleen (DEC); (noelle_rayman@fws.gov)
Subject: Saratoga County Airport EA - Biological Assessment

Hello Kathy & Noelle,

I am currently working on the Biological Assessment and am looking for some feedback from both of you. At this point, these are my two main concerns with the BA. I may have more questions for you as I finalize the draft for FAA review over the next few weeks.

1. The BA will focus on just the Karner blue butterfly. Umbrella species, such as the frosted elfin, will be discussed but not in detail. It is assumed that there will be no impacts to the northern long-eared bat based on the Final 4(d) Rule. Also, the project areas are greater than 0.25 mile of any known hibernacula locations and proposed tree removal activities will occur outside of the pup and roosting seasons from June 1 through July 31. The BA would include this justification. Also, the NLEB and measures taken to avoid impacts to potential NLEB and/or their habitat will be addressed in the EA. Please confirm that you agree with the BA focusing on the KBB only.

2. What is your preference for impact calculations? I can either include impacts per project or the total (cumulative) for all projects. For example, I can have an impact table for the partial-parallel taxiway project, including lighting, signage, etc. and separate tables for the proposed mowing plan, glider staging/run-up project, etc. Or, I can include a table similar to the Habitat Impact Summary Memo, which will show the total impacts for all of the projects. Separate tables for each project will have duplicate impacts due to the mowing plan covering a majority of the project construction areas. Therefore, I would suggest a cumulative table to keep it simple.

Thanks for your assistance!

Aimee N. Rutledge, PWS, CPESC, CPSWQ

Senior Environmentalist
McFarland Johnson

60 Railroad Place • Suite 402 • Saratoga Springs, NY 12866
Office: 518-580-9380 Ext. 369 • Fax: 518-580-9383

arutledge@mjinc.com

www.mjinc.com

--
Noelle L. Rayman-Metcalf
Endangered Species Biologist
U. S. Fish and Wildlife Service
New York Field Office
3817 Luker Road
Cortland, NY 13045
Phone: 607-753-9334
Fax: 607-753-9699
E-mail: noelle_rayman@fws.gov
http://www.fws.gov/northeast/nyfo/

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

March 22, 2017

Ms. Sukhbir K. Gill
Assistant Manager
Federal Aviation Administration
New York Airports District Office
159-30 Rockaway Boulevard
Jamaica, NY 11434

Dear Ms. Gill:

We received your January 10, 2017, letter regarding the Saratoga County Department of Public Works' (County) proposed activities at the Saratoga County Airport (Airport) in the Town of Milton, Saratoga County, New York, and their effects on the Karner blue butterfly (*Lycaeides melissa samuelis*). In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*), the Federal Aviation Administration (FAA) has submitted a draft Biological Assessment (BA) to address effects from Phase 1 Projects resulting from the Saratoga County Airport Master Plan Revision.

The U.S. Fish and Wildlife Service (Service) appreciates this opportunity to provide comments on the draft BA in advance of FAA's official request to initiate formal consultation. Staff from this office and the New York State Department of Environmental Conservation (NYSDEC) discussed our comments with you on March 13, 2017. We offer a few general comments and, as discussed, will provide the majority via electronic mail within track changes for ease of revisions.

Overview

The BA addresses the Karner blue butterfly, but mentions the potential presence of the federally-listed threatened northern long-eared bat (*Myotis septentrionalis*). To complete consultation for the northern long-eared bat, please provide the estimated amount of suitable habitat that will be cleared as part of the proposed action. We recommend conducting tree removal between October 1 and March 31 to avoid direct effects to the northern long-eared bat. If that is not possible, please provide the dates of planned clearing activities. FAA may choose to use our streamlined consultation form[1] to complete consultation for the northern long-eared bat. Please let us know if that is your plan.

[1] https://www.fws.gov/Midwest/endangered/mammals/nleb/s7.html

Project Description (Proposed Action)

The proposed action should clarify the status of the existing glider agreement and mowing agreement with the NYSDEC. All agreements should be incorporated into the proposed action. This section combines a description of the proposed action with anticipated effects. While much of the discussion could be moved to the Effects of the Action section of the BA, it is fine to keep it here. Overall, this section provides a good summary of the estimated permanent and temporary impacts to Karner blue butterfly habitat. However, it does not address impacts to the butterflies (e.g., death of individuals from the life stage present) and does not adequately describe the anticipated effects to the local population from those impacts.

Environmental Baseline Conditions

This section should be updated to reflect the current status of the species at the Airport. Several years of survey data are missing in the table and discussion. This section should also clarify where concentrated lupine patches occur.

Effects of the Action

Similar to the Project Description, impacts to the butterflies and the local population are lacking.

Conservation Measures

This section describes minimization and mitigation measures and should be included in the Project Description to clarify that the County and FAA are committing to these measures.

Mitigation Plan

Additional discussion is required to complete the mitigation plan and monitoring of mitigation actions. The proposed action should include a description of what is being proposed (e.g., tree removal, grubbing, grading, planting, herbicide applications, mowing, captive management), how much (e.g., acres), who will conduct the activities, where the activities will occur (with maps), and when they will occur. Additional details are also needed regarding monitoring of any mitigation projects (e.g., who, what, and for how long). Under separate cover, we will provide success criteria for existing Karner blue butterfly habitat restoration projects in New York for your review.

We look forward to talking with you more about our comments on April 18.

The Service appreciates the opportunity to work with the FAA, the County, and the NYSDEC in fulfilling our mutual responsibilities under the ESA. Please contact Robyn Niver of this office at (607) 753-9334 if you have any questions or require additional information.

Sincerely,

David A. Stilwell
Field Supervisor

cc: Saratoga County Department of Public Works, Ballston Spa, NY (T. Speziale)
NYSDEC, Albany, NY (Wildlife Diversity Unit, K. O'Brien)
NYSDEC, Warrensburg, NY (Env. Permits)

Aimee N. Rutledge

From: Niver, Robyn <robyn_niver@fws.gov>
Sent: Tuesday, April 18, 2017 11:34 AM
To: Jeff R. Wood; Tom C. Wirickx; Keith Manz; Tom Speziale; Michael L. Churchill; Suki Gill; Aimee N. Rutledge
Cc: Noelle Rayman; Kathy O'Brien; Anne Secord
Subject: Re: Saratoga County Airport EA/Biological Assessment Call
Attachments: 2017 April Recovery Team Briefing.pdf

Hi all,

Thanks for the call today. Attached is the ppt per your request. I understand the next steps are for the County, FAA, and McFarland Johnson to regroup and consider the options presented today. We look forward to hearing from you. Let us know if you have any questions.

Robyn

On Wed, Apr 12, 2017 at 9:23 AM, Niver, Robyn <robyn_niver@fws.gov> wrote:

> We expect the call to focus on:
> 1) FWS/DEC webinar discussion of impacts of proposed action and mitigation options
> 2) questions that the group may have on the BA letter and track changes - if you want those up on the screen we can do that
> 3) next steps
>
> Syntela Conference call-in info:
> 866-416-1721
> Participant #: 9625781
>
> Here's the webinar information for next week
>
> Instant Net Conference Details: ---------- Meeting Number: 442373243 Meeting Passcode: 5052241 Meeting Host: MS ROBYN NIVER Join Instructions for Instant Net Conference: 1. Join the meeting now: http://www.mymeetings.com/nc/join.php?sigKey=mymeetings&i=442373243&p=5052241&t=c 2. Enter the required fields. 3. Indicate that you have read the Privacy Policy. 4. Click on Proceed.
>
> Talk to you Tuesday!
> Robyn
> --
> **********
> Robyn A. Niver
> Endangered Species Biologist
> USFWS
> New York Field Office
> Cortland, NY 13045
> 607-299-0620
>
> *"Let us have faith that right makes might, and in that faith, let us to the end, dare to do our duty as we understand it." -* Abraham Lincoln

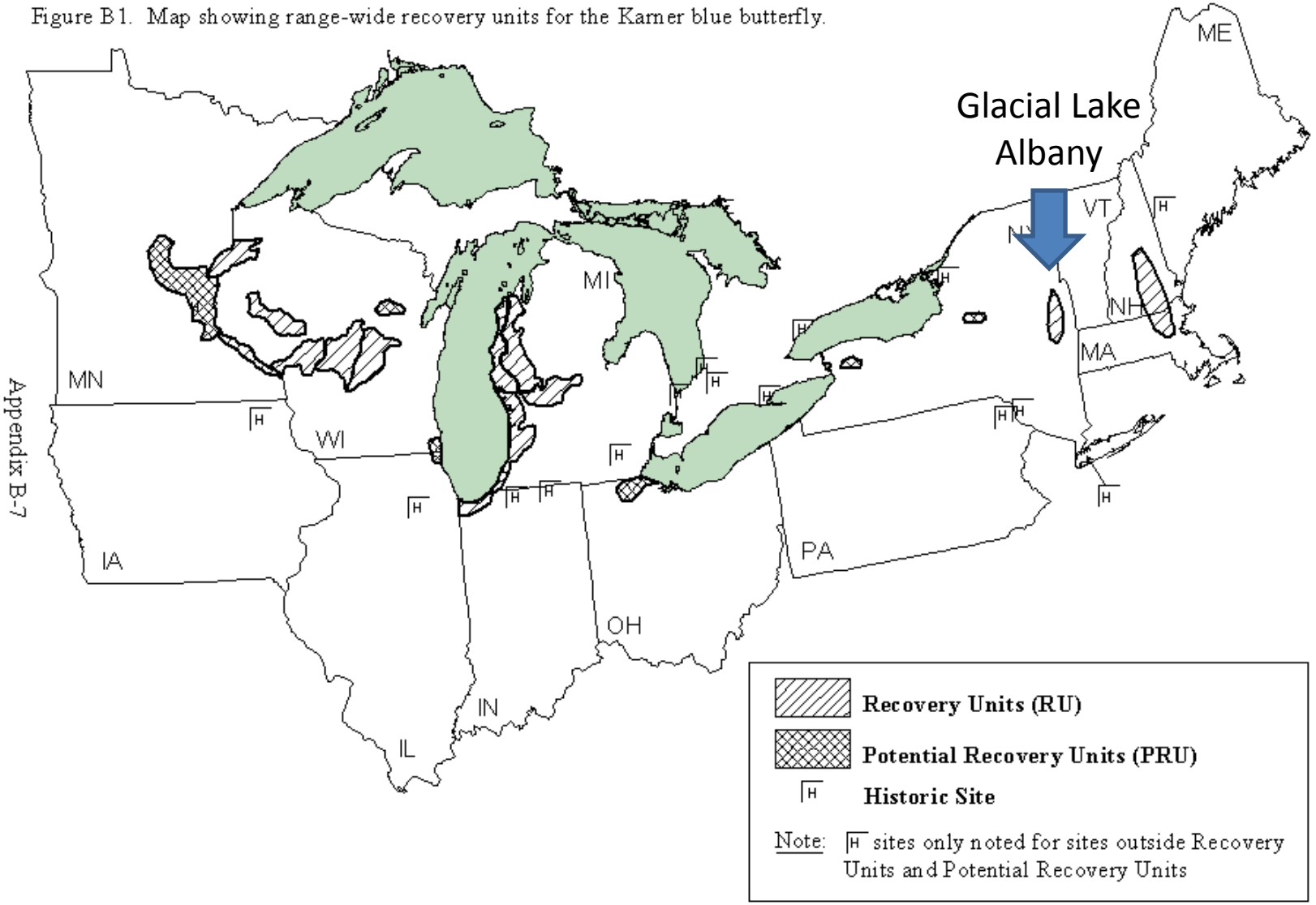
--
****
Robyn A. Niver
Endangered Species Biologist
USFWS
New York Field Office
Cortland, NY 13045
607-299-0620

"Let us have faith that right makes might, and in that faith, let us to the end, dare to do our duty as we understand it." - Abraham Lincoln

Saratoga County Airport Update

4/10/2017

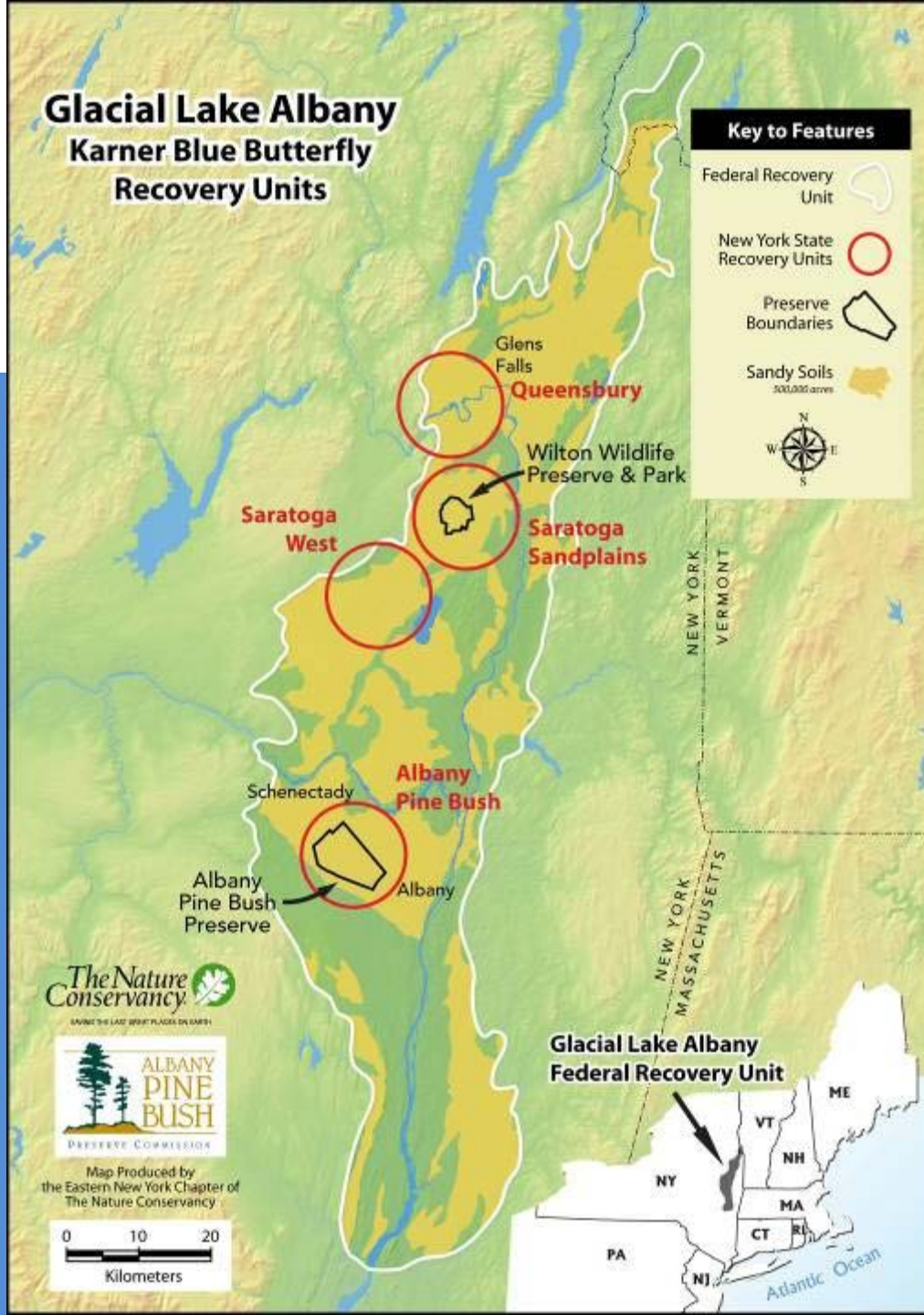
Figure B1. Map showing range-wide recovery units for the Karner blue butterfly.



New York Metapopulation Goals

- Glacial Lake Albany RU
  - Reclassification: 3 VP
  - Delisting: 3 VP
  - No discussion of LPs
- Two Potential RU
  - Could offset one VP in Glacial Lake Albany RU

New York State Kbb Recovery



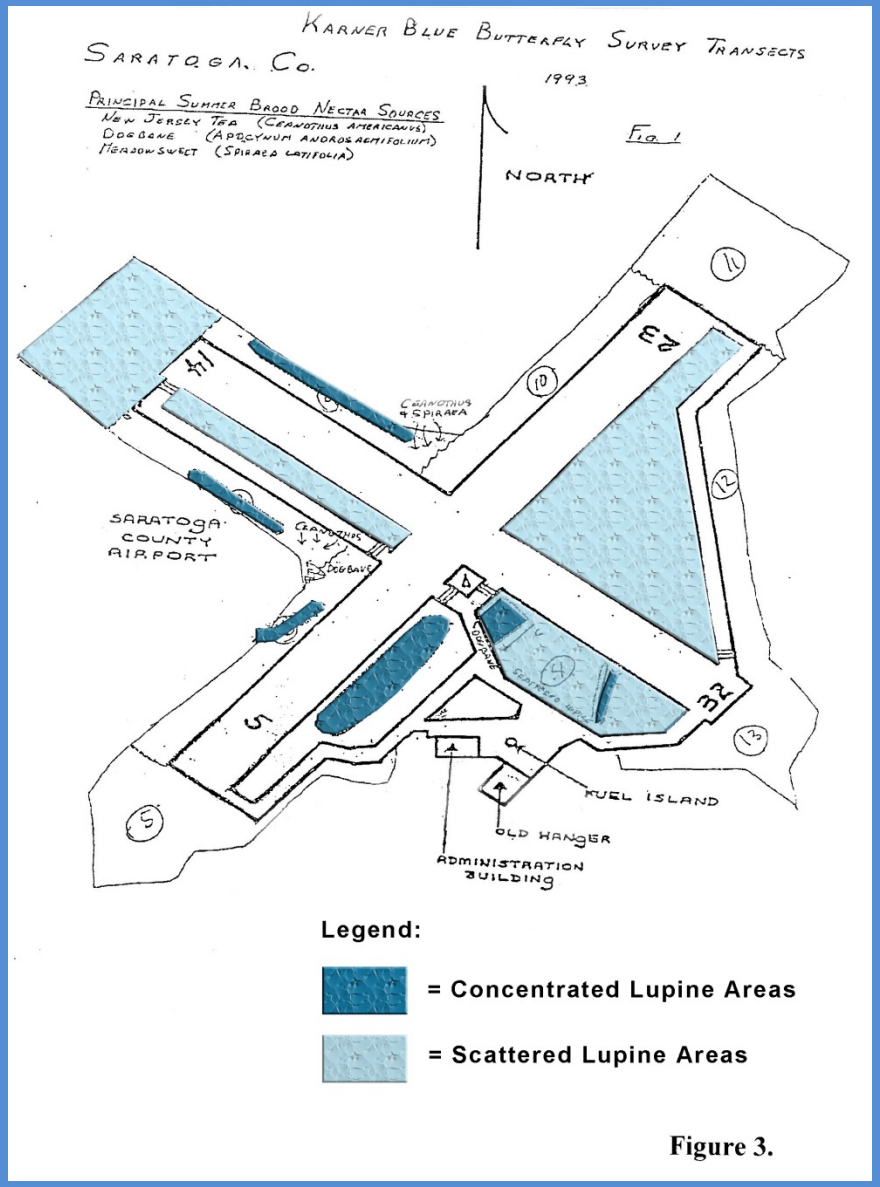
GLA Status

- Queensbury – limited habitat, small KBB pops
- Saratoga Sandplains – ~1/2 way for habitat acreage, good KBB pop response
- Saratoga West – almost everything at 1 site (Saratoga County Airport, KBB pop significantly reduced)
- APB – habitat size and connectivity, KBB pop size, mgmt plan all meet LP standards

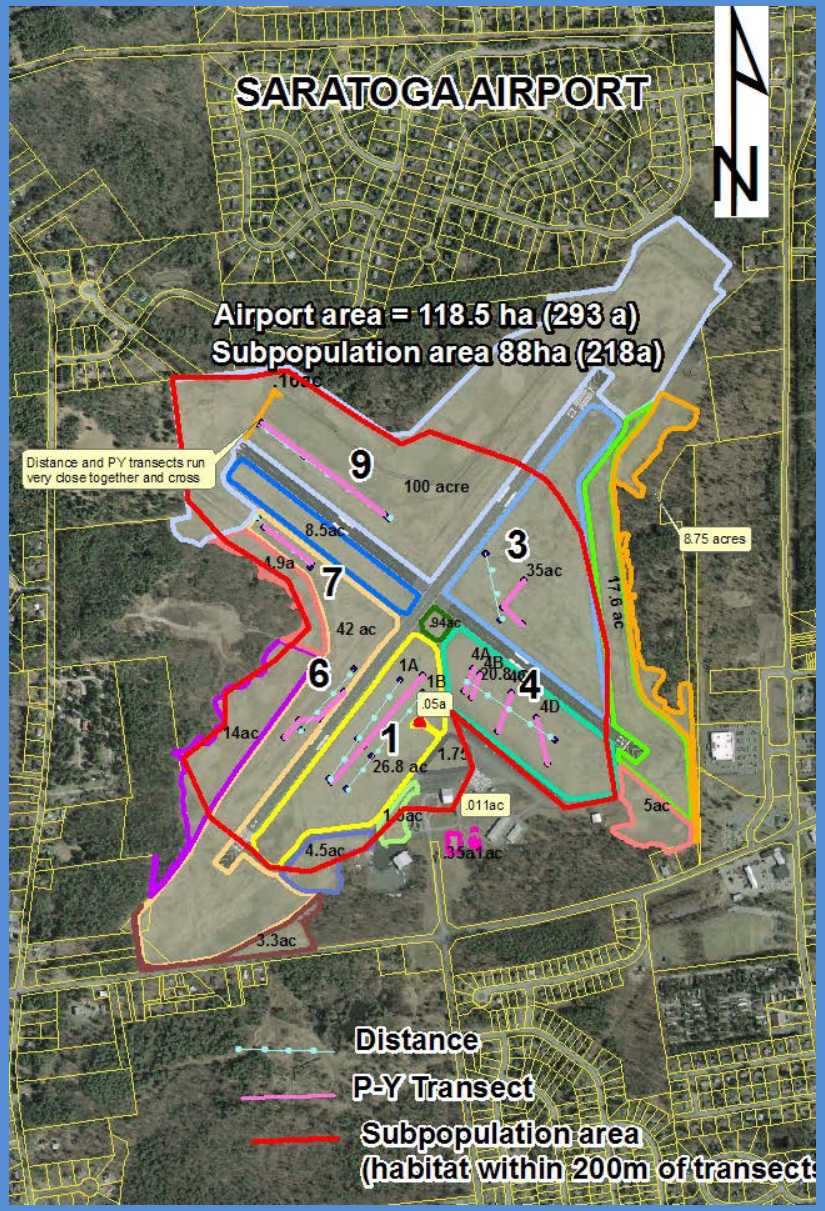
Saratoga West

- Primarily Saratoga County Airport
- ~293-acre site
- Lupine concentrated in smaller acreage
- ~10,000 KBB estimated in 1989
- DEC second brood transect data peak counts 300-900, dropped in 2006, 2016 was 30

2004 core lupine areas
(dk blue)



2010 core lupine areas
(pink transects)



Saratoga West

- Declining baseline
- Poor habitat response with past restoration efforts by County
- Lack of shrub/tree cover
- Continued management challenges – mowing, snow removal, airport improvements, glider clubs
- Lack of connectivity options away from Airport
- New proposed Master Plan at Airport

Saratoga West

- New safety measures plan for mowing of an additional 61 acres – overlaps significantly with core habitat
- Additional impacts associated with other Airport improvements

Future Options

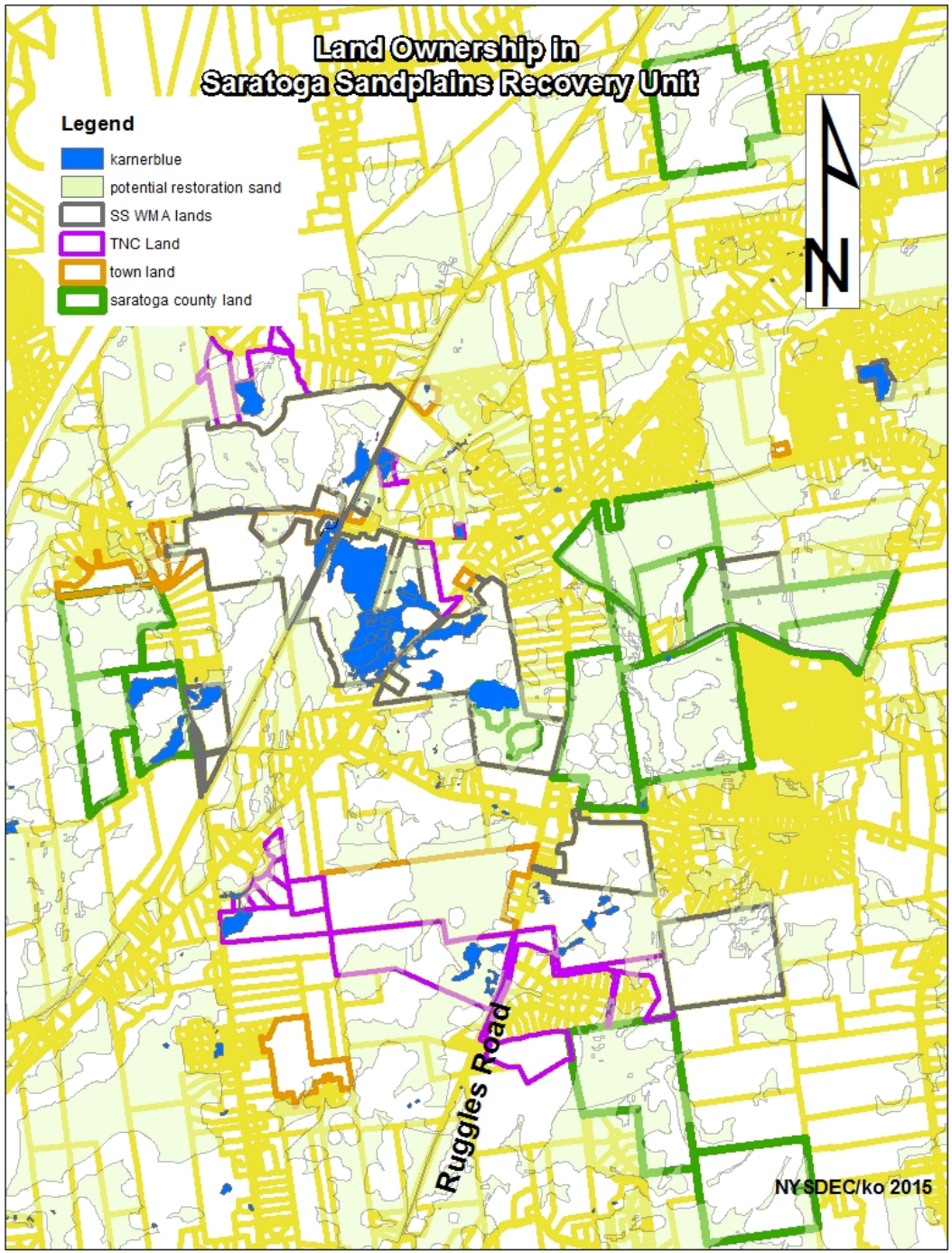
- Concerned about long-term opportunities for a healthy population of KBB at the Airport and Saratoga West
- Mitigation onsite would need to include ALL of available habitat – but connectivity is still problematic
- Offsite options in Saratoga Sandplains

Current: 140 acres
Goal: 320 acres

County lands available (already protected) for restoration and management

Good connectivity

Good response from KBBs from nearby sites



Aimee N. Rutledge

From: Niver, Robyn <robyn_niver@fws.gov>
Sent: Thursday, May 18, 2017 2:44 PM
To: Aimee N. Rutledge
Cc: Noelle Rayman
Subject: Saratoga County Airport

Follow Up Flag: Follow up
Flag Status: Completed

Thank you for the update on the County wishing to pursue off-site mitigation. Looking forward to getting more information soon.
Robyn

--
****
Robyn A. Niver
Endangered Species Biologist
USFWS
New York Field Office
Cortland, NY 13045
607-299-0620

"Let us have faith that right makes might, and in that faith, let us to the end, dare to do our duty as we understand it." - Abraham Lincoln

Aimee N. Rutledge

From: O'Brien, Kathleen (DEC) <kathleen.obrien@dec.ny.gov>
Sent: Thursday, June 01, 2017 10:11 AM
To: Aimee N. Rutledge
Cc: Noelle Rayman; Niver, Robyn
Subject: RE: Saratoga Airport Mitigation

Aimee, I hope I can get up to Saratoga later in June. Just too much taking up the first two weeks.
On you map:
We have two openings on the land west of Edie Road, but TNC considered it too problematic to do more clearing because of wetlands. Not just because they are wetlands are but that getting in behind them would be too difficult without damaging them. There also is the public trail system on those parcels now. Maybe when the Town owns the land between the County parcels and I87 we could look at potential for creative access strategies.

The parcel immediately east of Ruggles that you marked in red was one I walked in a little bit, but I could not tell when I passed from one parcel to another There are some stream gullies in there and also an extremely steep dune. But that is also situated as a good stepping stone from our Fox parcel to the areas further east and north.

Years ago I walked back into part of the parcel you marked with red that touches on Colebrook Road. My faded memory was that it looked pretty good. That also is adjacent to a 20 acre area we have from a housing development set-aside.
Kathy

From: Aimee N. Rutledge [mailto:arutledge@mjinc.com]
Sent: Wednesday, May 31, 2017 3:32 PM
To: O'Brien, Kathleen (DEC) <kathleen.obrien@dec.ny.gov>
Cc: Noelle Rayman <noelle_rayman@fws.gov>; Niver, Robyn <robyn_niver@fws.gov>
Subject: Saratoga Airport Mitigation

Hi Kathy,

Can you take a look at the attached draft figure and let me know what you think about the potential mitigation areas I have outlined. I've outlined the potential mitigation areas in red on County property in close proximity to the SS WMA lands. All of the areas outlined in red total over 200 acres and are located within potential restoration sand areas and outside of state/federal wetlands as shown on the figure.

I'd like to use the map for discussion purposes with the County with the understanding that the suitability of these areas will be determined based on field recon and further coordination with FWS and DEC. If there are any other areas on County property that may suitable for mitigation please mark up the attached figure.

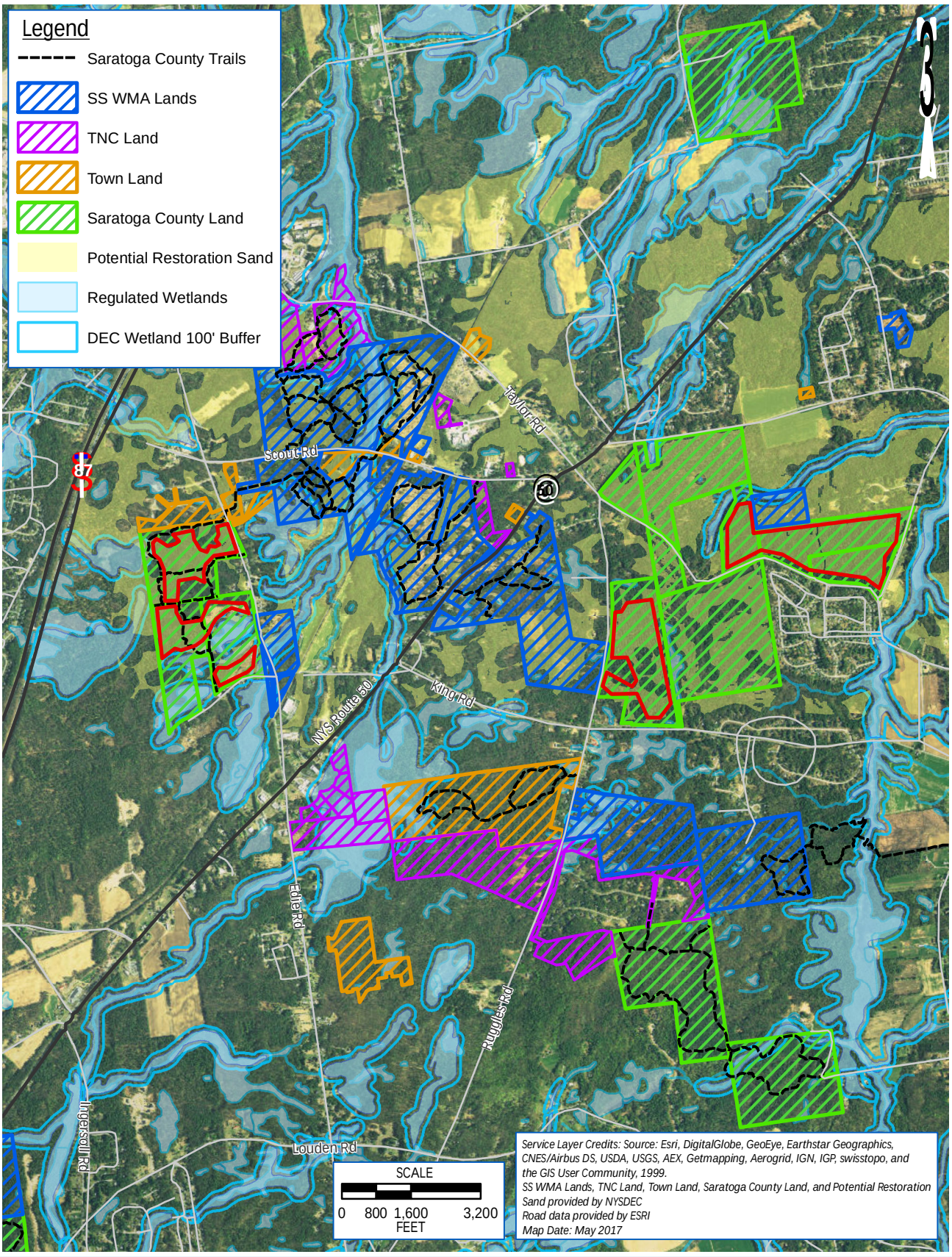
Based on our previous conversation, you were hoping to do a site recon of County properties end of May/early June. Let me know when you anticipate this field work so I can join you if possible.

Thank you,

Aimee N. Viens Rutledge, PWS, CPESC, CPSWQ
Senior Environmentalist
McFarland Johnson

60 Railroad Place • Suite 402 • Saratoga Springs, NY 12866
Office: 518-580-9380 Ext. 369 • Fax: 518-580-9383
arutledge@mjinc.com
www.mjinc.com

Figure 3-#: Potential Wilton Mitigation Areas



McFarland Johnson
Innovative Solutions / Sustainable Results

60 Railroad Place • Suite 402 • Saratoga Springs, NY 12866
Phone: 518-580-9380 • Fax: 518-580-9383
www.mjinc.com

SARATOGA COUNTY AIRPORT
MASTER PLAN PHASE I PROJECTS - ENVIRONMENTAL ASSESSMENT

AGENCY COORDINATION MEETING
MEETING MINUTES – January 29, 2018

Meeting Date: January 16, 2018
Location: Teleconference
Attendees: *Robyn Niver, USFWS*
Kathy O'Brien, NYSDEC
Tom Speziale, Saratog County
Zack DeLaune, FAA
Tom Wirick, McFarland Johnson
Jeff Wood, McFarland Johnson
Aimee Rutledge, McFarland Johnson

1. Introductions/Meeting Purpose

2. Overview of Proposed Off-Airport Habitat Mitigation Site Reconnaissance

   MJ performed site reconnaissance of three potential habit mitigation sites in October 2017. K. O'Brien and Greg Strait (DEC seasonal tech.) walked the north and south sites (only) with A. Rutledge on October 12th. All three sites (north, east, and south) appear to be suitable for habitat creation. K. O'Brien confirmed the east site was suitable even though she did not perform a site walkover at the time.

3. Confirm Habitat Mitigation Plan & Mitigation Acreage

   Based on the site reconnaissance, a proposed habitat mitigation map was revised to illustrate the new habitat creation boundaries. The new boundaries took into account site constraints, such as, wetlands, steep slopes, and included a 100-foot setback from the abutting roads, neighboring properties, and wetlands.

   R. Niver confirmed the habitat mitigation acreage should be a minimum of 180 acres.

   Butterfly population and natural colonization of the proposed sites were discussed. Natural colonization occurred on the nearby habitat created on the Fox Parcel. K. O'Brien did not think butterfly translocation would not be necessary. K. O'Brien will provide all with a summary of information to support natural colonization for the mitigation sites. However, R. Niver and K. O'Brien decided to separately discuss whether to recommend the translocation of KBB from the airport to the mitigation sites.

Agencies requested MJ include a map in the BA illustrating the WMA lands and population connectivity.

K. O'Brien noted that wet areas should be avoided since they are not conducive to lupine plant growth/success or wildlife. She also noted a preliminary investigation of wetland areas on the sites is sufficient, and therefore, a wetland delineation is not necessary. A 100-foot buffer should be applied to all wetland areas. A preliminary investigation was performed during the October 2017 site visits and wetland areas were identified. Therefore, MJ recommended that prior to vegetation removal, a site walkover would be conducted to locate potential wet areas not identified during the preliminary investigation.

4. Discuss Draft Management Agreement

FWS and DEC confirmed that the airport will need to revise and maintain the DMA. Development in "Known Habitat Areas" that are outside of the Runway Safety Area mowing areas would still require coordination with the FWS and DEC.

5. Agency Review Timeline

FWS – R. Niver said FWS will need 135 days to review the BA and issue a BO. FWS will provide a 30-day notice for complete BA application.
- *FWS could provide a quick review draft BA beforehand.*
- *There is the option to request an expedited BO also.*
- *In general, if necessary, review of the BA could be prioritized if there is a grant deadline before 135 days.*

DEC – The BA must demonstrate a net benefit for the Incidental Take Permit to be acceptable for public review.

FAA – Z. DeLaune will need to confirm the FONSI deadline with Suki Gill. However, he assumed the submittal of a Draft EA (ready for public review) by April 30th would be acceptable. A FONSI in June would be more reasonable for the FWS BO timeline.
- *Need to confirm with S. Gill if we can have a public meeting before a BO is issued if FWS states in writing that the initial mitigation concept is acceptable for public review.*
- *Ask S. Gill when FAA would like to initiate ESA formal consultation.*

4. Next Steps

- *Discuss the FONSI deadline and any other outstanding items outlined above with the FAA.*
- *Follow-up with DEC and FWS regarding KBB translocation from airport to mitigation sites.*
- *MJ plans to submit the BA to the agencies in February.*

ANR

This page intentionally left blank

Appendix C.

State and Federal Species List

This page intentionally left blank

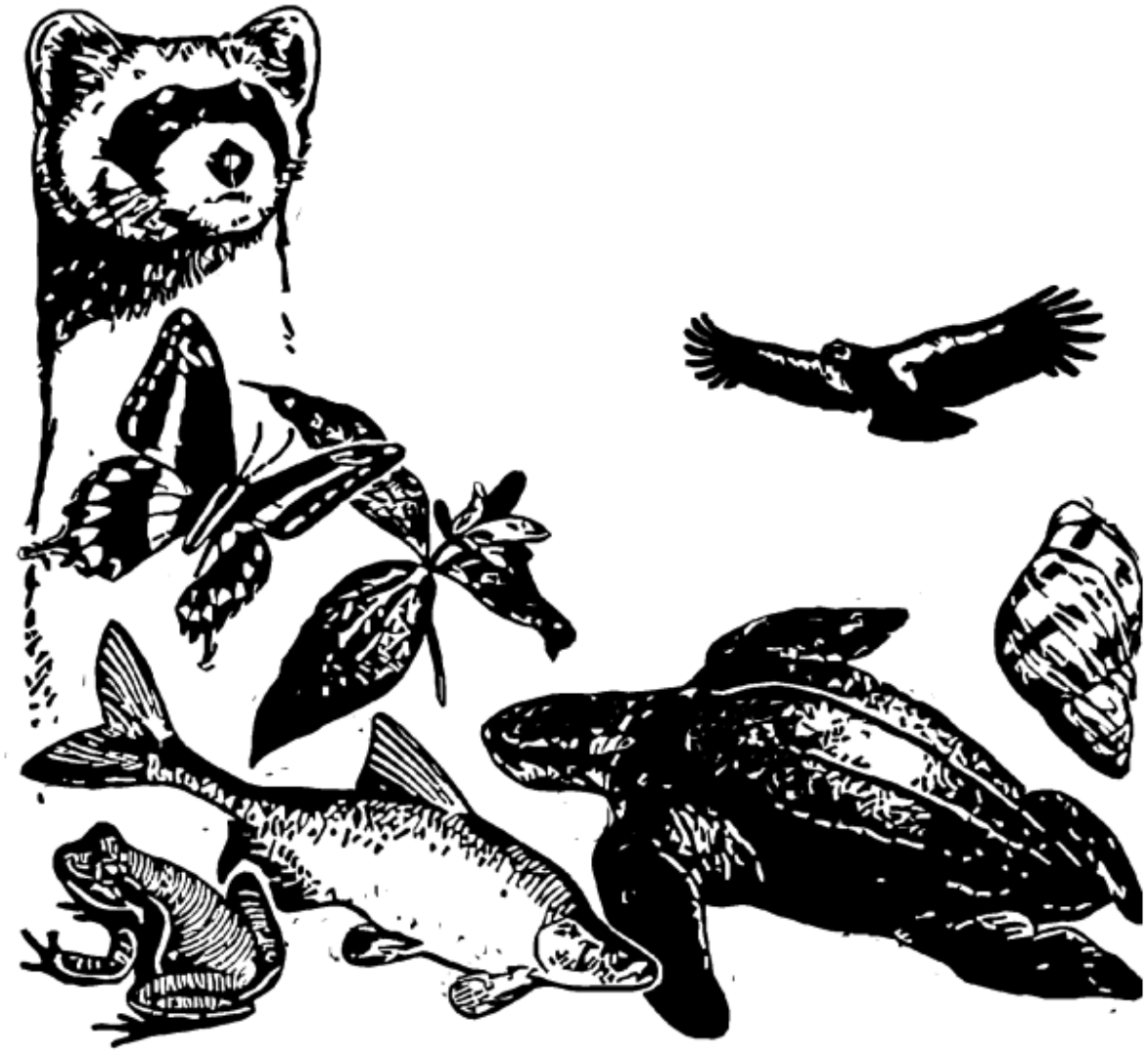
U.S. Fish & Wildlife Service

Saratoga County Airport EA

IPaC Trust Resources Report

Generated October 26, 2016 01:47 PM MDT, IPaC v3.0.9

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

Table of Contents

U.S. Fish & Wildlife Service

IPaC Trust Resources Report

NAME

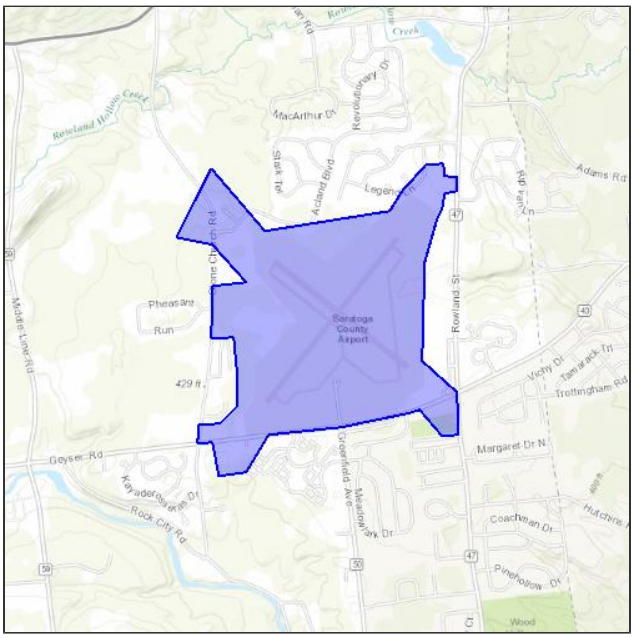
Saratoga County Airport EA

LOCATION

Saratoga County, New York

IPAC LINK

https://ecos.fws.gov/ipac/project/4XY63-FA7UR-HLVEK-EX52F-XO5BYM



U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9349
(607) 753-9334

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Insects

Karner Blue Butterfly Lycaeides melissa samuelis — Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=I00F

Mammals

Northern Long-eared Bat Myotis septentrionalis — Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A0JE

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

---

1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.birdscanada.org/birdmon/default/datasummaries.jsp

The following species of migratory birds could potentially be affected by activities in this location:

American Bittern Botaurus lentiginosus — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Season: Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Black-billed Cuckoo Coccyzus erythropthalmus — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HI

Black-crowned Night-heron Nycticorax nycticorax — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EU

Blue-winged Warbler Vermivora pinus — Bird of conservation concern
Season: Breeding

Canada Warbler Wilsonia canadensis — Bird of conservation concern
Season: Breeding

Golden-winged Warbler Vermivora chrysoptera — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0G4

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Pied-billed Grebe Podilymbus podiceps — Bird of conservation concern
Season: Breeding

Prairie Warbler Dendroica discolor — Bird of conservation concern
Season: Breeding

Red-headed Woodpecker Melanerpes erythrocephalus — Bird of conservation concern
Season: Breeding

Short-eared Owl Asio flammeus — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Upland Sandpiper Bartramia longicauda — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HC

Willow Flycatcher Empidonax traillii — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Wood Thrush Hylocichla mustelina — Bird of conservation concern
Season: Breeding

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

This location overlaps all or part of the following wetlands:

Freshwater Forested/shrub Wetland

PFO1/4E
PFO4/1E
PSS1E

A full description for each wetland code can be found at the National Wetlands Inventory website: http://107.20.228.18/decoders/wetlands.aspx

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov

September 09, 2016

Aimee Rutledge
McFarland Johnson
60 Railroad Place, Suite 402
Saratoga Springs, NY 12866

Re: Master Plan Phase I Projects, Saratoga County Airport and Vicinity
Town/City: Milton. County: Saratoga.

Dear Aimee Rutledge:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur, or may occur, on your site or in the immediate vicinity of your site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Andrea Chaloux

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

1104

The following state-listed animals have been documented in the project area, and in its vicinity.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for your project, contact the Permits staff at the NYSDEC Region 5 Office. For information about potential impacts of your project on these species, and how to avoid, minimize, or mitigate any impacts, contact the Wildlife Manager.

A listing of Regional Offices is at http://www.dec.ny.gov/about/558.html.

The following species have been documented in the project area, and within 0.5 mile.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Butterflies				
Frosted Elfin	*Callophrys irus*	Threatened		2977
Karner Blue	*Plebejus melissa samuelis*	Endangered	Endangered	6952

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

The following rare plants, rare animals, and significant natural communities have been documented in the project area.

We recommend that potential onsite and offsite impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following animals, while not listed by New York State as Endangered or Threatened, are of conservation concern to the state, and are considered rare by the New York Natural Heritage Program.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Butterflies			
Mottled Duskywing	*Erynnis martialis*	Special Concern	Critically Imperiled in NYS and Globally Uncommon

Saratoga County Airport, 1999-07-28: The butterflies were observed in the fields of the airport containing New Jersey tea. 11148

The following plants are listed as Endangered or Threatened by New York State, and/or are considered rare by the New York Natural Heritage Program, and so are a vulnerable natural resource of conservation concern.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Vascular Plants			
Mock-pennyroyal	*Hedeoma hispida*	Threatened	Imperiled in NYS

Saratoga County Airport, 1992-07-25: Mowed airport apron. 769

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.

Appendix D.

Habitat Management and Protection Plan

This page intentionally left blank

Habitat Management and Protection Plan for Saratoga County Airport

Submitted to:
Saratoga County Department of Public Works
New York State Department of Environmental Conservation
Division of Fish, Wildlife, and Marine Resources
United States Department of Interior's Fish and Wildlife Service

For:
Saratoga County Department of Public Works

May 2018

I. INTRODUCTION

The non-binding Draft Management Agreement (DMA) between the New York State Department of Environmental Conservation (NYSDEC) Division of Fish, Wildlife, and Marine Resources and Saratoga County (County) and the non-binding Draft Operations Agreement for Glider Activity at the Airport (DOA) between the NYSDEC, the County, and Saratoga Soaring Association have been combined into this plan to address endangered species management at the Saratoga County Airport. The Saratoga County Airport is owned by Saratoga County and managed by the Saratoga County Department of Public Works (DPW).

As part of the County's Environmental Assessment (EA) and associated Biological Assessment (BA) for the Master Plan Phase I Projects, the DMA and DOA have been combined into the Saratoga County Airport Habitat Management and Protection Plan (HMPP).

The original DMA was drafted in 1991 and most recently revised October 15, 2001. The DOA was drafted in December 1995 and most recently revised November 1, 2001. The DMA protects the Karner blue butterfly *(Lycaeides melissa samuelis)* and frosted elfin butterfly *(Callophrys irus),* perpetuates, and manages habitat on the airport property. In addition, the DOA was designed to minimize the adverse effects of glider operations on protected species and their habitat.

Saratoga County completed an Airport Master Plan Update (MPU) for the airport in 2015. The MPU made a number of recommendations for the 20-year planning horizon to assist the airport in meeting current Federal Aviation Administration (FAA) design and safety standards and to accommodate forecast growth. Subsequently, the County completed a Draft Environmental Assessment (EA) for the Master Plan Phase I Projects in May 2018. The EA must be approved by the FAA and that approval will be subject to a Section 7 consultation with the United States Fish and Wildlife Service (USFWS) under the Endangered Species Act (ESA) regarding impacts to the Karner blue butterfly.

The Karner blue butterfly is considered a federally and state-listed endangered species and the frosted elfin butterfly is a states-listed threatened species. Known populations of these species occur on Saratoga County Airport property in the Town of Milton, Saratoga County, New York. The airport property also supports the mottled duskywing *(Erynnis martialis),* a state-listed species of special concern, together with many other specialized grassland invertebrates and nesting birds.

Endangered, threatened, and species of special concern are considered "protected wildlife" under Article 11 of the Environmental Conservation Law (ECL). The NYSDEC, under its legal mandate and responsibilities under Sections 11-0303 and 11-0535 of the New York State Fish and Wildlife Law and the Endangered Species Cooperative Agreement with the USFWS, is responsible for the welfare and protection of resident threatened and endangered species. Activities adversely affecting an endangered or threatened species or its occupied habitat may be construed as taking under Section 11-0535 of the New York State Fish and Wildlife Law.

The Karner blue butterfly has been listed as a federal endangered species under Section 4 of the

ESA and is under the jurisdiction of the USFWS and aspects of the activities covered under the HMPP may be construed as take under Sections 3 and 9 of the ESA.

II. HABITAT MANAGEMENT GUIDELINES

The following are general habitat management guidelines taken from the original DMA and DOA, which are still applicable to this plan.

The extent of the present "Known Habitat Area" is depicted on the attached Habitat Management and Protection Plan, drawing 1, dated May 2018. It includes the area outside the Exempt Area and is primarily considered to be bound by the existing airport fence. The fence, for its entire perimeter around the airport property, will delineate the extent of the "Known Habitat Area", with no buffers beyond the fence line at any location. According to the original DMA, the County agreed to allow the DEC to improve and expand habitat on the airport property to the extent that it would not impinge on the exempt areas or the other areas agreed to remain non-lupine habitat.

The County will avoid use of machinery on all habitat areas at any time of the year with the exception of those areas and times specifically identified in this HMPP. The County will annually instruct its employees of the mowing schedule and the restrictions of driving or parking any vehicles outside of designated areas and will emphasize the importance of adhering to the terms of this HMPP. Early mowing may kill Karner blues or frosted elfin butterflies and impair long-term integrity of the habitat.

Snow may be blown off runways and taxiways into the habitat areas via snowblowers to clear pavement and the lights. Snow plowed from the aircraft parking areas in front of the fix based operator (FBO) offices may be pushed off the pavement into the area immediately adjacent to the west side of the aircraft parking but must not be pushed any further than the corner of the fence line (see attached map). A reasonable effort will be made to raise the blade of the plow so as to minimize scraping up the ground and vegetation in this area. This condition must be part of the annual instruction County workers receive.

The NYSDEC and USFWS reserve the right to review and comment on the preliminary design strategies of any new construction, techniques and timing of projects or expansions that may be proposed under the 2018 Master Plan Phase I Projects EA. This will ensure that working habits and procedures will not have a detrimental effect on the protected butterflies or their habitat.

In eventualities where NYSDEC and USFWS approve that projects, repairs or other activities may occur within the habitat areas, the County will keep such projects to a minimum extent and reseed with NYSDEC approved mixes of native habitat seeds or seedlings. Projects, repairs or activities occurring within the exempt areas will be re-seeded using species approved by NYSDEC that will not encroach or invade native habitat.

Under the original DMA, the County and NYSDEC developed the format and language for an interpretive sign for the airport to educate the public on the Karner blue and the other values of

the sand prairie habitat at the airport. The sign was installed on the north end of the existing public parking area. The sign will be relocated near the public parking area proposed under the 2018 Master Plan Phase I Projects EA.

The County and DPW will make every effort to administer and enforce this plan in accordance with its terms, the County will not be held responsible for violations, or any resulting monetary fines, of its terms by persons or parties not in the employ or under the direction of Saratoga County.

A. MOWING PLAN

The following mowing plan includes language from the original DMA and has been revised to reflect mowing areas as proposed under the 2018 Master Plan Phase I Projects EA. Mowing areas have been revised under the EA to reduce wildlife hazards in accordance with the FAA approved Wildlife Hazard Management Plan for the airport. Regular airport maintenance (mowing), also maintains suitable habitat for the butterflies and this mowing is timed to minimize adverse effects to the butterflies.

The County will not begin its annual mowing of the airport property until after October 15 of each year and will complete such mowing before December 31 to allow the Karner blue and frosted elfin to fully carry out their life functions and to allow for completion of the life cycles of essential habitat plants including but not limited to wild blue lupine (*Lupinus perennis*). Mowing blades will be set to between six (6) and eight (8) inches. Areas which must be mowed earlier to allow for safe use of the runways and taxiways by aircraft, as specifically identified in the attached map are exempt from this restriction. Areas described below are illustrated on the attached Habitat Management and Protection Plan, drawing 1, dated May 2018, which will be considered part of this HMPP.

1. Generally, the area between Geyser Road (County Route 43) and the terminal areas and the aircraft tie-down areas along Taxiways A and C. The width of the area is irregular and roughly extends on the west side along the airport fence at the parking lot to the extent of the 2001 development of the North American Flight Services (NAFS) facility and along the tree line back to Geyser Road. On the east side, it extends as far as the glider hangar location at the turn of Taxiway C toward Runway 32.

2. The grassy area between the aircraft tie-downs along Taxiway C and the hangar area (both of which are proposed to be paved under the 2001 Master Plan).

3. A swath along taxiways and the taxiway into the NAFS facility to clear vegetation within the taxiway safety areas. Based on the taxiway and runway dimensions, approximately 14.5 feet on each side of the taxiways will be mowed, varying slightly in the fillet areas. Mowers will be reminded each year to mow only the minimum area needed to clear the lights and signs. A large mower will be used to cut a swath along the edge of the pavement and a smaller riding mower cut around the lights and the remainder of the grass within the safety area. (See detail A on the attached map).

4. Safety area mowing for Runway 14-32 would include a 5-foot wide area on both sides of the runway, 300 feet off of the Runway 14 end and approximately 150 feet off of the Runway 32 end. Mowing of safety areas on Runway 05-23 would consist of 180-foot wide area on both sides of the runway and 800 feet from the edge of pavement on the runway ends. The County, will mark the limits with yellow or orange retroreflective markers to avoid mowing outside of the safety areas and potentially impacting butterfly species and/or their habitat.

5. The area surrounding the airport beacon. There is considerable lupine habitat readily used by Karner blues and frosted elfins on and above the slope near the beacon and between the beacon and the hangars. While part of the exempt area, this lupine should not be disturbed until the October 15 annual mowing date unless there is a compelling safety or operational reason. If the habitat will be affected by excavation for cable placement or repair, every effort should be made to minimize the extent of the damage to the habitat and it should be reseeded with habitat mix as specified by NYSDEC. The County, with NYSDEC's assistance in designating the edge, will mark the limits of this area to aid its mowers in avoiding it.

6. The grassy area along the southeast side of Runway 05-23, which is proposed to be paved for a partial-parallel taxiway (connecting Taxiway A to Taxiway B) under the 2018 Master Plan Phase I Projects EA.

7. The remaining area located between the proposed partial-parallel taxiway (connecting Taxiway A to Taxiway B) and Runways 14-32 and 05-23. The existing Taxiway B stub is proposed to be removed and the partial-parallel taxiway is proposed to be constructed under the 2018 Master Plan Phase I Projects EA.

8. The grassy area at the elbow of Taxiway D at the Runway 32 end, which is proposed to be turf for a glider staging area and paved for the realignment of Taxiway D under the 2018 Master Plan Phase I Projects EA.

9. The access road built and used during Runway 05-23 reconstruction in 2001 from the airport entry road to the southeast corner of Taxiway A. The County will maintain the road at its present width with gravel to keep lupine from growing into the road.

10. The two (2) permanent access roads which are west and north of the runway intersection: These roads were constructed during the course of on-site obstruction removal project. The County will maintain these roads with gravel to keep lupine from growing into the roads.

11. Service access roads and aprons to the automated weather observation station, electrical vault and beacon. The location of these roads and aprons were coordinated with NYSDEC and constructed during the course of on-site obstruction

removal project. The County will maintain these roads and aprons with gravel to keep lupine from growing in these areas.

B. GLIDER OPERATIONS

The County and NYSDEC have developed management guidelines, as set forth herein, with respect to all aircraft users who request operations off-pavement that detail approved locations for their activities and the procedure to report and document any emergency landings off pavement in the habitat areas. This plan is designed to minimize and control occasional and temporary take from off pavement activities.

A variety of general and specific factors can and do influence the growth and survival of both butterflies and their habitat at the airport. It has been determined that operation of gliders (and the activities attendant thereto, such as set up and take down) at the airport could have a detrimental effect on these animals and their habitat. The magnitude of this effect is not known, but it is believed to be minor by itself. However, cumulatively with the impact of other factors, it could be significant. As part of the effort to minimize all deleterious effects, the following procedures relating to the operation of gliders at the airport are necessary. While it is recognized that the Saratoga Soaring Association (SSA) is the primary glider operator at this airport, these procedures shall apply to all glider use at the airport.

Areas described below are illustrated on the attached Habitat Management and Protection Plan, drawing 1, dated May 2018.

1. Tie-Down Zones

The presently used glider tie down area consists of a strip 100 feet wide and 300 feet long parallel and adjacent to Taxiway A beginning approximately 20 feet northeast of the of the directional sign for Runways 05-23. As per the previous 2001 Master Plan for the Saratoga County Airport, the SSA proposes to construct a hangar for its gliders along Taxiway C which runs to Runway 32. When and if this hangar is built, the original tie-down area along Taxiway A will be eliminated. No gliders may be kept off-pavement outside of the approved tie- down zone. Non-SSA glider owners wishing to leave their gliders at the airport will have to make arrangements with SSA or the DPW regarding storage or parking of their crafts within the hangar or the tie-down area. If the glider hangar is not built, the glider tie down area will remain as described.

2. Take Off, Landing and Assembly Zones

The primary landing zones will always be the paved runways. When air traffic conflicts with safe landing on a runway or in the few instances where a new member is being trained in grass landings, landing within secondary zones off-pavement are permitted as described below. Gliders will be moved into and out of the hangar and to and from launch zones only via hard-surfaced runways, taxiways and permitted assembly, landing or glider parking zones.

Vehicles will not use the old roadbeds to get to the assembly areas except when a glider lands more than half way down a secondary landing area. To retrieve it a vehicle is allowed to travel to the glider and back on the old roadbed tracks where those exist. For Runway 14, where no old roadbed exists in the secondary landing zone, the glider should be pushed to Taxiway E and picked up by a vehicle on the hard pavement.

All tie-down, landing, glider staging and assembly zone boundaries shall be clearly and permanently marked by SSA to prevent accidental encroachment into the habitat. These markings shall be clearly visible, safe to aircraft, and acceptable to the DPW and NYSDEC. Grass in landing zones may be mowed to a height no lower than 6-8 inches and no earlier than August 15 annually for safety reasons. SSA will mark the landing zone boundaries to be *extremely* obvious to the mower with flags, poles, or other visible markers safe for aircraft. If there are patches of important nectar plants within the landing zones for which August mowing may eliminate their setting and releasing seeds, NYSDEC may designate that they be excluded from the mowing and will mark them. Because mowing at this time may prevent the little bluestem grass from setting its seed, undesirable vegetation such as spotted knapweed may invade the landing zones and become a problem. If NYSDEC feels such a problem is developing, SSA agrees to seed the landing zones and the assembly zones with native little bluestem every three years.

Runway 05

The assembly zone for this runway will be in the area to the northwest of Runway 05 starting 370 feet behind and extending for 575 feet parallel to the runway. The runway will be the primary landing zone. The secondary landing zone will be the old dirt road closest to and parallel to the runway's northwest side (along the left side as aircraft approach). The dimensions of the landing zone are 100 feet wide and 1600 feet long beginning from the southwest end of the assembly zone. The strip between the runway and the secondary landing zone from the end of the runway to the second set of runway lights may be used to access the assembly zone and as a glider staging zone for gliders waiting to be launched.

Runway 14

The assembly zone for this runway will be on the northwest side of Taxiway E as it enters the runway, extending from the RMP sign to the curve in the taxiway. The assembly zone will extend no further than 100 feet back from the taxiway. The runway will be the primary landing zone. The secondary landing zone for this runway will be an area 100 feet wide in the center of the grassy area between the runway and Taxiway E and will run for 1000 feet beginning from the end of the glider staging zone. This staging zone will be 250 feet long and 75 feet wide adjacent to the runway starting at the edge of the runway/taxiway junction and will be used to park gliders waiting to be launched. No vehicles are allowed within this staging zone. This zone will not be mowed early with the

secondary landing zone. There is a great deal of habitat in this part of the airport, and off-pavement uses must be limited to those absolutely necessary for operation and safety.

Runway 23

The assembly and glider staging zone for this runway will be on the northern portion of the Taxiway D proposed to be abandoned under the 2018 Master Plan Phase I Projects EA. This zone will start at the junction of the proposed partial-parallel taxiway and the abandoned Taxiway D and extend back approximately 466 feet. The runway will be the primary landing zone. The secondary landing zone will be 100 feet wide centered on the old road bed running parallel to Runway 23 and will extend for 1000 feet starting at the end of Runway 23.

Runway 32

The assembly zone and glider staging zone will be on the southern portion of the Taxiway D (proposed to be abandoned under the 2018 Master Plan Phase I Projects EA) and will extend back approximately 422 feet. A glider staging turf area at the elbow of Taxiway D at the Runway 32 end is proposed under the 2018 Master Plan Phase I Projects EA. Retroreflective markers would serve to designate the turf glider run-up area and would prevent gliders from crossing over to the taxiway and interfering with powered aircraft operations. The markers would be installed on the edge of the run-up area, between the proposed Taxiway C and the glider run-up area. The runway will be the primary landing zone. The secondary landing zone will be 100 feet wide centered on the old road bed paralleling the northeast side of the runway (to the right as craft approach the runway) and will extend for 1000 feet starting at the junction of the runway and Taxiway D.

Saratoga County DPW, in its role as the responsible entity for management of this airport, will oversee the implementation of these glider use requirements. Since these operational procedures restrict some of the past traditional use of the airport by gliders, the DPW will strive to notify motorized aircraft users to make them aware of these restrictions on glider landings and to ask for their cooperation in deferring to gliders whenever possible.

The elements detailed within are designed to minimize taking of Karner blue and frosted elfin butterflies during operation of off-pavement gliding activities. Should the terms of this HMMP be violated by SSA members, guests, contractors or employees, operations off-pavement may be suspended.

No additional mowing (beyond that specified in Take Off, Landing and Assembly Zones above) is permitted on the airport grounds, except as specified under in Section II.A. above.

III. PLANNING

The County agrees to consult with the NYSDEC and USFWS concerning and prior to any alterations of or use of Karner blue and frosted elfin butterfly habitats except in emergencies or as specifically identified in this plan. The County will notify the NYSDEC and USFWS immediately after any

accident or emergency on the airfield. Emergencies would include but not be limited to spills; fires, emergency repairs to lights, aircraft crashes or aircraft emergency landings off pavement.

The NYSDEC will conduct periodic surveys of the Karner blue and frosted elfin butterfly populations and make the results of such surveys available to the County. The County agrees to grant reasonable access to department officials or their designees for purposes of research and management of Karner blue and frosted elfin butterflies and their habitat.

The County will annually inform airport tenants about restrictions on operation of aircraft or vehicles off-pavement in undesignated areas and will be encouraged to inform pilots they are in radio contact with of these restrictions. The County will erect signs at the entrance road advising visitors and pilots that vehicles may be parked only in designated areas and may not be parked off-pavement. The County will request that a pilot notification be placed in the FAA Airport Facility Directory regarding restrictions and unauthorized off pavement operations at the Saratoga County Airport.

SSA will be responsible for informing all its members of the operational conditions at the airport. Any non-members towed by SSA will also be informed by the club of landing/assembly/tie down restrictions.

IV. DOCUMENTATION

In the event of an emergency, gliders and other aircraft will land anywhere on the airport that will permit a safe landing. Circumstances necessitating the need for any emergency landings in non-authorized areas will be detailed in a written report to be submitted to the DPW Commissioner and NYSDEC Endangered Species Unit Leader,625 Broadway, Albany, NY 12233-4754 within two weeks of the event.

Glider clubs at the airport will keep records of all off-pavement landings during the gliding season and make a report to the DPW and NYSDEC Endangered Species Unit no later than December 31 each year. These records will also be made available for review by the USFWS, should they be requested. These records shall include the dates and landing zones used.

This HMPP constitutes a feature of major significance to the protection and management of the Karner blue butterfly in the BA, and within the USFWS BO to FAA. This HMPP will be a living document and will be reviewed periodically. At any point during its effective period, it may be amended upon approval of the County and glider clubs, if applicable, and the concurrence of the NYSDEC and USFWS. Any more that minor updates would be reflected in an amendment to the USFWS BO and/or a NYSDEC Incidental Take Permit.

N

ACLAND BOULEVARD

STONE CHURCH ROAD

RUNWAY 14-32

RUNWAY 5-23

T/W E

T/W B

T/W A

T/W C

T/W D

ROWLAND STREET

GEYSER ROAD

BUTTERFLY SCREENING

LOCATION OF GATE

SARATOGA COUNTY FILL STORAGE AREA

GLIDER ASSEMBLY AREA

100'x1000' GLIDER SECONDARY LANDING AREA (OLD ROAD BED)

PERMANENT ACCESS ROAD (TYP.)

GLIDER STAGING AREA

100'x1000' GLIDER SECONDARY LANDING AREA

LOCATION OF GATE

AIRPORT SECURITY FENCE (TYP.)

ABANDONED T/W MARKERS

100'x1000' GLIDER SECONDARY LANDING AREA

GLIDER ASSEMBLY AREA

PAVEMENT TO BE ABANDONED

GLIDER ASSEMBLY AREAS

100'x1600' GLIDER SECONDARY LANDING AREA (OLD ROAD BED)

MOW ONLY A 8' WIDE PERMANENT SERVICE ACCESS ROAD TO AWOS

MOW ONLY A 100' RADIUS (200' DIA.) AROUND AWOS TOWER

DO NOT MOW UNTIL AFTER JULY 4TH ANNUALLY

SNOW DEPOSITION AREA

PROPOSED HANGAR / OFFICE BUILDING

FUTURE AIRCRAFT PARKING APRON

PROPOSED T/W C REALIGNMENT

BUTTERFLY SCREENING

GLIDER ASSEMBLY AREAS

PERMANENT ACCESS ROAD EXEMPT WITHIN HABITAT AREA

LOCATION OF GATE

ENTRANCE GATE

FUTURE HANGAR

PERMANENT SERVICE ACCESS ROAD TO ELECTRICAL VAULT AND BEACON, TO BE MOWED AS NEEDED

GLIDER HANGARS AND STORAGE AREAS

PROPOSED GLIDER STAGING AREA

AREA NOT TO BE MOWED

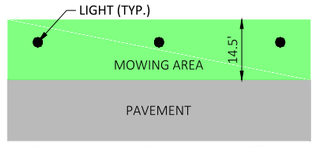
LOCATION OF GATE

LEGEND

- MOWING AREA
- AREA NOT TO BE MOWED
- BUTTERFLY SCREENING
- SNOW STORAGE AREA
- SARATOGA COUNTY FILL STORAGE AREA
- GLIDER ASSEMBLY / STAGING AREA
- PROPOSED AIRSIDE PAVEMENT
- PROPOSED GLIDER STAGING AREA
- TO BE ABANDONED
- TO BE REMOVED
- LOCATION OF FLAGS FOR LANDING,ASSEMBLY, STAGING AREAS AND MOWING LIMITS
- LIMITS OF HABITAT
- SECURITY FENCE
- COUNTY PROPERTY
- AIRPORT PROPERTY
- EXEMPT ZONE

NOTES:

1. REFER TO THE HABITAT MANAGEMENT AND PROTECTION PLAN FOR MORE DETAILED HABITAT MANAGEMENT INFORMATION.
2. ALL GLIDER SECONDARY LANDING AREAS TO AVOID VASI'S.
3. MOWING IS TO ONLY BE PERFORMED BY SARATOGA COUNTY AS WORK LOAD PERMITS.
4. GRASS IN LANDING AREAS WILL BE MOWED TO A HEIGHT NO LOWER THAN 6-8 INCHES AND NO EARLIER THAN AUGUST 15 ANNUALLY. THE LOCATION OF FLAGS FOR MOWING AS SHOWN ON THIS PLAN ARE TO BE PLACED BY GLIDER CLUBS.
5. FLAGS FOR STAGING AND ASSEMBLY AREAS ARE TO BE PLACED BY THE GLIDER CLUBS PRIOR TO THE BEGINNING OF EACH GLIDER SEASON. FLAGS ARE TO BE MAINTAINED FOR THE DURATION OF THE GLIDER SEASON.
6. NON-EXEMPT AREAS OTHER THAN ITEM 4 ABOVE CANNOT BE MOWED UNTIL AFTER OCTOBER 15TH ANNUALLY.



TAXIWAY LIGHT MOWING DETAIL

SCALE

0 600 1200

FEET

SARATOGA COUNTY AIRPORT

SARATOGA COUNTY, NEW YORK

HABITAT MANAGEMENT AND PROTECTION PLAN

SCALE:	DATE:	FIGURE:
1" = 600'	MAY 2018	1

McFarland Johnson

K:\SARATOGA\T-17588.11 Master Plan Ph 1 EA\Draw\Drawings\AutoCAD\Figures\HABITAT PLAN.dwg