Saratoga County Airport

AIRPORT MASTER PLAN UPDATE

DRAFT CHAPTER 4 ENVIRONMENTAL OVERVIEW

Prepared for:

SARATOGA COUNTY DEPARTMENT OF PUBLIC WORKS

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4.0. INTRODUCTION

The operation, maintenance, and development at an Airport has the potential to affect its neighbors and the natural environment and therefore is a major concern in the airport planning and development process. A balance must be achieved between the orderly maintenance and improvement of an airport and the significance of the effects these activities can have upon the environment and community. This section presents the general environmental conditions that exist on and adjacent to Saratoga County Airport. This data serves as a basis to evaluate future environmental considerations for existing and new facilities identified as part of the Facility Requirements Analysis and Alternatives Analysis.

4.1. ENVIRONMENTAL OVERVIEW ANALYSIS

The National Environmental Policy Act (NEPA) of 1969 requires all Federal agencies to consider the potential impacts their projects and policies may have on the environment. The Federal Aviation Administration (FAA) Order 1050.1E, *Environmental Impacts: Policies and Procedures for Implementing NEPA,* in conjunction with FAA Order 5050.4B *The National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* establishes the policies and procedures for compliance with NEPA regulations for all Federally funded airport development projects. These orders identify specific environmental categories that must be considered in relation to a proposed action, in order to determine whether a significant impact would result from the proposed action. If so, appropriate measures to take to avoid or minimize an impact's effect would be determined. These categories must be addressed prior to implementation of a Federally funded airport project. The following is a list of environmental concerns identified in the handbook that are commonly associated with development projects:

- **Air Quality**
- **Biotic Resources**
- **Coastal Resources**
- **Compatible Land Use**
- **Construction Impacts**
- **Environmental Justice**
- **Farmlands**
- **Federal and State Listed Species**
- **Floodplains**
- **Hazardous Materials**
- **Historic and Archeological**
- **Light Emissions and Visual Effects**
- **Natural Resources and Energy**
- **Noise**
- **Section 4(f) Resources**
- **Socioeconomic Impacts**
- **Solid Waste**
- **Water Quality**
- **Wetlands**
- **Wild and Scenic Rivers**
- **Cumulative Impacts**

The objective of this Environmental Overview (EO) chapter is to identify environmental resources or other constraints to airport development at the Saratoga County Airport. Early identification of these resources and constraints is important to the formulation of reasonable alternatives to an activity or project that would eliminate or avoid a project's impact on a particular resource. The potential for future projects to affect certain identified environmental impact categories was based on information obtained from State and Federal resources and

information that was gathered during on-site investigations conducted as part of the MPU process for the Saratoga County Airport. For the purposes of this EO, only Airport property has been evaluated.

4.2. AIR QUALITY

Increases in vehicle exhaust emissions, caused by development-related increases in aircraft activity and automobile traffic may affect air quality. However, the air quality impact attributable to potential airport development is expected to be negligible at the Saratoga County Airport.

Under Section 176(c) of the Clean Air Amendments of 1977, the FAA is responsible for ensuring that Federal airport actions conform to the State Implementation Plan (SIP), which protects against area-wide air pollution impacts. In areas that do not have indirect source review requirements for airports, such as Upstate New York, air quality analysis is not required for airport location determinations, runway development, and airside and/or landside improvements that increase capacity if a commercial service airport has less than 1.3 million passengers, and 180,000 annual general aviation operations. Based on the forecasts prepared for the MPU, activity levels are not expected to exceed those thresholds. A detailed air quality assessment would not be required for proposed improvements.

Saratoga County Airport is currently located in a marginal nonattainment area for 8-hour ozone under the 1997 attainment standards. Ozone is one of the six priority pollutants classified under the National Ambient Air Quality Standards (NAAQS). Since Saratoga County Airport is located in a nonattainment area, development projects are subject to the EPA's general conformity regulations. Under general conformity regulations, an air quality analysis can be necessary depending on the nature of the proposed improvement and activity levels at the airport. Forecast activity levels are not expected to exceed the 180,000 annual general aviation operations that would require a detailed air quality study within the 20 year planning horizon for this Master Plan.

4.3. BIOTIC RESOURCES

Biotic resources refer to the various types of flora (plants) and fauna (fish, birds, reptiles, amphibians, mammals, etc.) in a particular area. It also includes the habitat supporting the various flora and fauna including rivers, lakes, wetlands, forests, and other ecological communities. Airport projects can affect these ecological communities and thereby affect vegetation and wildlife populations.

The majority of the habitat at the Saratoga County Airport consists of maintained grassland and wet meadow, interspersed with paved airfield surfaces. All habitats identified at the Saratoga County Airport are common and secure within New York State. However, there are habitats located at the Airport that are designated as "critical habitats" for State and/or Federally-listed endangered species, or species of special concern. Further detail of State and Federally-listed threatened or endangered species is discussed in Section 4.9. Furthermore, specific details of the Karner Blue Butterfly Management Plan can be found in Section 4.9. Further information regarding State and Federally regulated waterways and wetlands is presented in Sections 4.19 and 4.20.

4.4. COASTAL BARRIERS AND COASTAL ZONE MANAGEMENT

The Airport is not located in a Coastal Zone Management Area. Coastal Zone Management regulations will not apply to any proposed improvements at the Saratoga County Airport.

4.5. COMPATIBLE LAND USE

When considering improvement projects that meet airport development goals, it is important early in the planning process to identify potential impacts to existing land uses on airport property and in the surrounding area, and to determine how potential airport projects will affect future land use and development patterns. If necessary, this will enable the plan to incorporate measures into the future design and layout of airport developments that will avoid or minimize land use conflicts as well as improve existing conflicts.

Land use around the Airport varies, but is primarily surrounded by clusters of residential areas and some public use areas as shown on Figure 2-10, *Town of Milton Land Use Map*. Land use at the Saratoga County Airport is regulated by the Town of Milton Planning Board. The Airport is zoned as an "Airport District", and the land surrounding the Airport is mostly zoned as "R1 Residential", except for a small section south of the Airport zoned as "Mixed Use". The "R1 Residential Zone" is primarily residential property, with a small amount of commercial, public use, and vacant property. The "Mixed Use" land currently contains a mix of vacant land, commercial, and residential properties. Immediately surrounding the Airport are some forested areas on the east and west sides of the property, along Stone Church Road and Route 47. Land use along Route 43, or Geyser Road, shows a mix of residential, recreational, and commercial land uses. In addition to the primary airport surroundings, most of outlying areas are residential.

Land uses that are considered more susceptible to airport development include, but are not limited to, residential areas, schools, religious institutions, hospitals, and public places including recreational areas and parks. Potential impacts to these land uses result from exposure to disruption and safety hazards. Certain land use impacts result from exposure to elevated noise levels generated by aircraft and automobile traffic, as well as community disruption and safety hazards. Additionally, some land uses can negatively impact the operation of the Airport and are also considered incompatible with airport activity. These land uses could include, but are not limited to, recreational areas containing wildlife habitat that attract birds and other animals and commercial and industrial facilities that generate high-voltage electricity, utilize bright lights, or create a significant amount of smoke or steam.

FAA Advisory Circular (AC) 150/5300-13A, *Airport Design*, identifies several land uses that are compatible with an airport's RPZ. In general, the RPZ should be clear of places of public assembly, including residences, schools, religious institutions, hospitals, and industrial buildings, recreational areas, transportation facilities (including roads), fuel and hazardous materials storage facilities, wastewater treatment facilities, and above-ground utility infrastructure. Acceptable land uses within the RPZ include agriculture meeting the minimum specified buffers, irrigation channels that do not attract birds, airport service roads, underground facilities, and unstaffed navigational aids and facilities. Further revised guidance on acceptable land use within the RPZ is anticipated in late 2014. In general, it is expected that the FAA will place more limitations on land use in the RPZ. Various land uses including public roads, residences, and commercial properties are present within the RPZ's at Saratoga County Airport.

4.6. CONSTRUCTION IMPACTS

Construction activities may produce temporary environmental impacts such as noise, dust, soil erosion, and negative effects on water quality. Noise impacts will be mitigated to the extent possible through the use of Best Management Practices (BMPs), such as requiring the use of properly mufflerized equipment or the implementation of work hour limitations if necessary. Dust, soil erosion, and water quality impacts are mitigated by implementation of an Erosion of Sediment Control Plan (ESCP) containing BMPs inclusive of site specific temporary and permanent measures to limit erosion and off-site migration of materials. BMPs that may be incorporated include, but are not limited to, grass-lined swales, dikes, berms, temporary sediment basins, fiber mats, and re-vegetation during construction as appropriate. When implemented properly, BMPs are generally sufficient to mitigate potential construction impacts.

4.7. ENVIRONMENTAL JUSTICE

An environmental justice analysis considers the potential of Federal actions, including those involving Federally obligated airports, to cause a disproportionate and adverse effect upon low-income or minority populations. Physically, Saratoga County Airport is within the Town of Milton, with the City of Saratoga Springs approximately one half mile to the east and the Village of Ballston Spa approximately two miles south of the Airport. However, any improvements made to the Saratoga County Airport will not have any impacts outside of the Town of Milton. For this EO, only the Town of Milton will be considered for the discussion of potential impacts that improvements to the Airport could have on the community.

As shown on Table 4-1, the 2010 U.S. Census recorded the Town of Milton as having a total population of 3,395, with 6.7% below the poverty threshold. The percentage of residents who classify themselves as white is 97.7%, which is 21.8% above the national average, as well as 3.5% above the percentage for Saratoga County. However, when considering median household income, the median in Milton is $66,806, which is above the national average and slightly below the median for Saratoga County, which is $67,186.

The New York State Department of Environmental Conservation (NYSDEC) Environmental Justice Preliminary Mapping showing the locations of such minority population was referenced on August 5, 2013 (Appendix 4-A). The mapping did not identify any areas of concern in Milton for populations that are potentially sensitive to environmental justice areas. However, the mapping did identify a potentially sensitive area in the City of Saratoga Springs. This neighborhood, however, is not adjacent or within the nearby vicinity of the Saratoga County Airport.

Due to the location of the Airport, and the layout of the current facilities at Saratoga County Airport in relation to the potential environmental justice areas identified from the NYSDEC mapping, disproportionately high and adverse human health or environmental effects are not anticipated to occur among minority or low-income populations as a result of potential airport development.

Table 4-1 - Demographic Profile Surrounding the Saratoga County Airport (2010)

Census Category	National Average	Saratoga County	Town of Milton
Total Population	N/A	222,133	3,395
White Population	77.9%	94.4%	97.7%
Minority Population	22.1%	5.6%	2.3%
Population Under Age 5	6.4%	12,140	6.1%
Population Age 65 & Older	13.7%	13.7%	14.5%
Individuals Below Poverty Level	14.3%	6.5%	6.7%
Median Household Income	$52,762	$67,186	$66,806
Non-English Speaking Households	20.3%	3.1%	3.1%

Source: U.S. Census American Factfinder, 2010 Census

4.8. FARMLANDS

The Farmland Protection Policy Act (FPPA), 7 CFR Part 658, requires the consideration of project alternatives that will minimize impacts to such soils. According to the U.S. Natural Resource Conservation Service (NRCS) *Web Soil Survey* (see USDA Soil Report in Appendix 4-B, accessed on August 8, 2013), approximately 0.3% of the property encompassing the Saratoga County Airport is classified as prime farmland soils, and 99.6% is classified as farmland soils of statewide importance, as shown in Figure 4-1, Soil Survey Map. FPPA does not apply to land already committed to "urban development or water storage" (i.e. airport developed areas), regardless of the NRCS designation. Currently, the Airport property is not utilized for any active agricultural production, but is dedicated to Airport utilization. Therefore, Airport property is not subject to FPPA regulations. In addition, the NRCS notes in the

"Farmland Protection Policy Act Manual" that lands identified by the United States Census Bureau as an urbanized are not subject to the provision of FPPA. According to the 2010 Census, the area surrounding the Saratoga County Airport, including the Airport property, is within a designated urbanized area. Should future developments occur in that area, they would not be subject to the FPPA requirements.

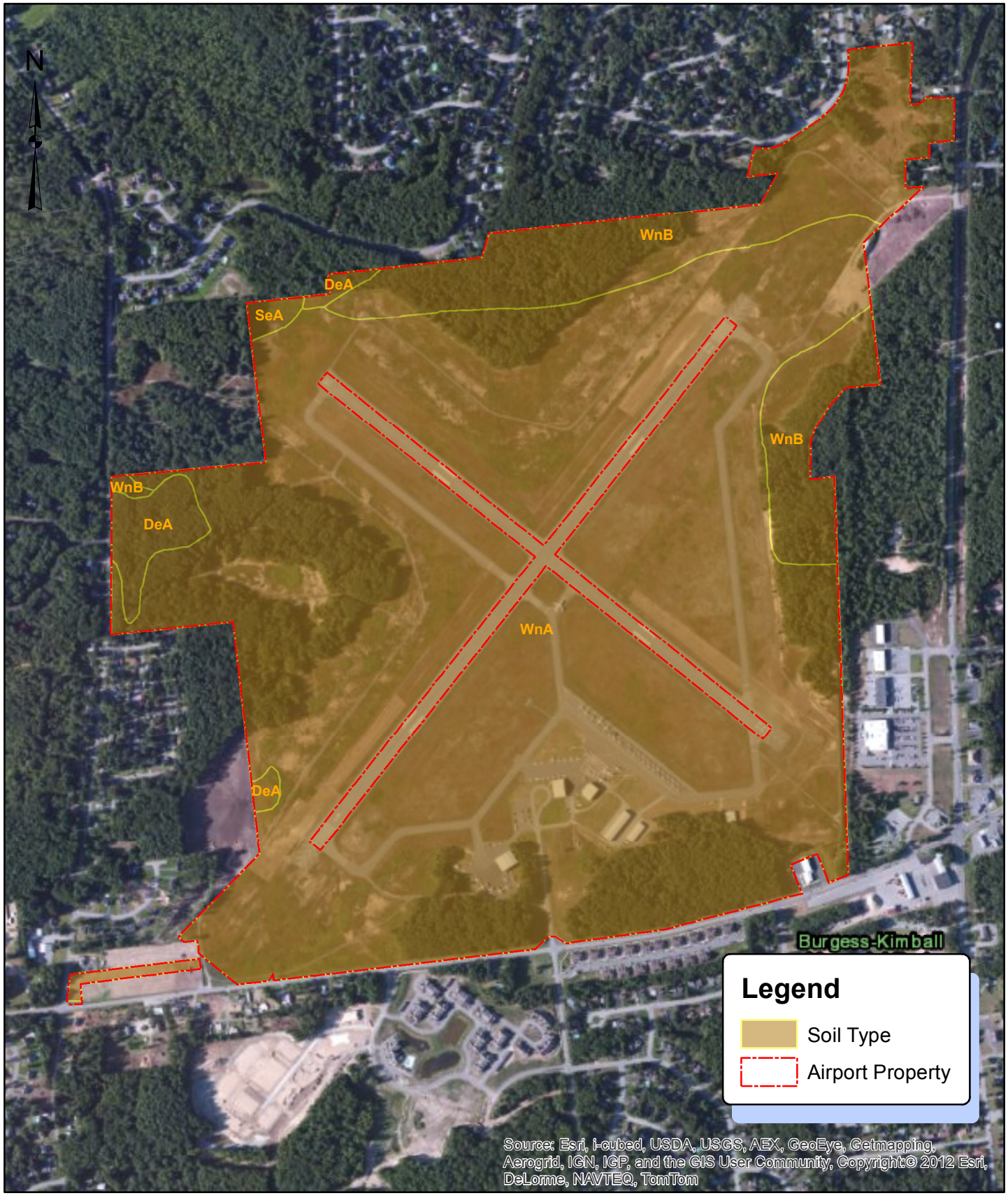
Article 25-AA of the New York State Agriculture and Markets Law, Section 305(4), protects farmlands by requiring a Notice Of Intent and public review procedure for acquisition of more than one acre from any actively operated farm in an Agricultural District or a cumulative total of more than ten acres in any Agricultural District. According to the New York State Department of Agriculture and Markets, none of the Saratoga County Airport property is located within an Agricultural District. If future development is proposed as part of this MPU to include acquisition of land within an agricultural district, a Notice Of Intent will be required for project funding through the FAA. Figure 4-2 depicts Saratoga County Agricultural Districts in relation to the Saratoga County Airport.

4.9. FEDERAL & STATE LISTED THREATENED AND ENDANGERED SPECIES

The Endangered Species Act (ESA) directs all Federal agencies to work to conserve endangered and threatened species and to use their authorities to further the purposes of the ESA. Section 7 of the ESA, titled "Interagency Cooperation," is the mechanism by which Federal agencies ensure the actions they take, including those they fund or authorize, do not jeopardize the existence of any listed species. Endangered species are those, which are in danger of

SOIL COMPOSITION

FIGURE 4-1



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Source: USDA NRCS Soil Survey

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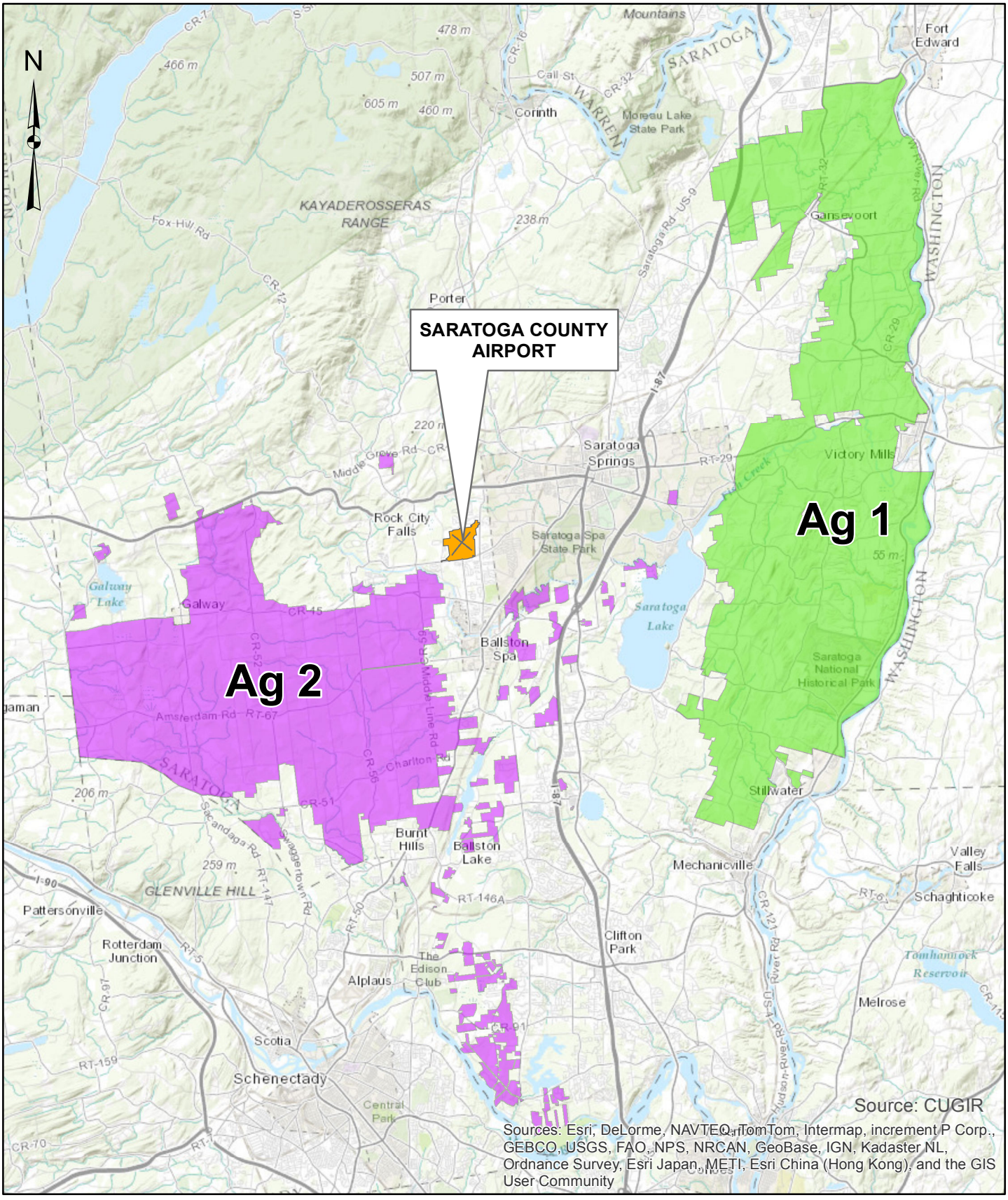
AGRICULTURAL DISTRICTS

FIGURE 4-2



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extinction throughout their range or a significant portion of its range. Threatened species are those, which are likely to become endangered within the foreseeable future throughout all or a significant portion of their range. Candidate species are species for which the U.S. Fish & Wildlife Service (USFWS) has sufficient information on the biological vulnerability and threats to support issuance of a proposal list, but issuance of a proposed rule is currently precluded by higher priority listing actions. Candidate species do not receive substantive or procedural protection under the ESA. However, USFWS does encourage Federal agencies and other appropriate parties to consider these species in the planning process.

New York State regulation 6 NYCRR Part 182 prohibits the take or engagement in any activity that is likely to result in a take of any State-listed threatened or endangered species. Species listed as endangered in New York are native species in imminent danger of extirpation or extinction in the State, or are species listed as endangered by the United States Department of the Interior. Species listed as threatened in New York are native species that are likely to become an endangered species within the foreseeable future in New York. Species listed as species of special concern are native species that are at risk of becoming threatened in New York. Fauna classified as species of special concern do not qualify as either endangered or threatened, but have been determined by the NYSDEC to require some measure of protection to ensure that the species does not become threatened in the future. Species of special concern are considered "protected wildlife" under Article 11 of the Environmental Conservation Law (ECL).

Consultations with the USFWS and the NYSDEC were initiated to determine the existence of any recorded observations of Federal or State listed threatened or endangered flora or fauna in the vicinity of Saratoga County Airport.

A review of the USFWS Information, Planning and Consultation (IPaC) system was conducted on July 30, 2013. The USFWS database indicated that the Federally-listed endangered Karner blue butterfly (*Lycaeides melissa samuelis)* is known to exist at the Airport. The Official Species List from the USFWS is included in Appendix 4-A.

A response from the NYSDEC, dated August 13, 2013, identified several State protected species and a species of special concern that are known to occur at the Airport (Appendix 4-A). The table below identifies the species noted by the NYSDEC.

Table 4-2 - NYSDEC Threatened & Endangered Species in the Vicinity of 5B2

Common Name	Scientific Name	State Status	Habitat on Airport
Frosted elfin butterfly	*Callophrys irus*	Threatened	Yes
Karner blue butterfly	Lycaeides melissa samuelis	Endangered	Yes
Mottled duskywing	*Erynnis martialis*	Special Concern	Yes

Source: NYSDEC Correspondence dated August 19, 2013

All of the aforementioned rare species primarily rely upon the maintained grasslands at the Airport. These grasslands also support an abundance of wild blue lupine (*Lupinus perrens*), an herbaceous perennial plant that serves as the sole larval stage food source of the State and Federally-listed Karner blue butterfly. Frosted elfin butterfly larvae are also known to feed heavily upon wild blue lupine, and therefore occupy similar habitats as the Karner blue butterfly.

The mottled duskywing's preferred food plant is New Jersey tea (*Ceanothus americanus*), a small deciduous shrub that is present throughout the airfield.

Another species of butterfly not reported by the NYSDEC, 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.

In addition, during site visits conducted by McFarland Johnson two bird species that are State listed species of special concern were observed. The species included the horned lark (*Eremophila alpestris*) and vesper sparrow (*Pooecetes gramineus*). These species rely upon the Airport's grasslands for nesting and foraging habitat.

The distribution and density of wild blue lupine has been dramatically increased at the Airport by 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, the Airport has been operating under the conditions of a non-executed Draft Management Agreement (DMA) with the NYSDEC, which restricts mowing and other operational activities at the Airport. A copy of this agreement has been included in Appendix 4-C.

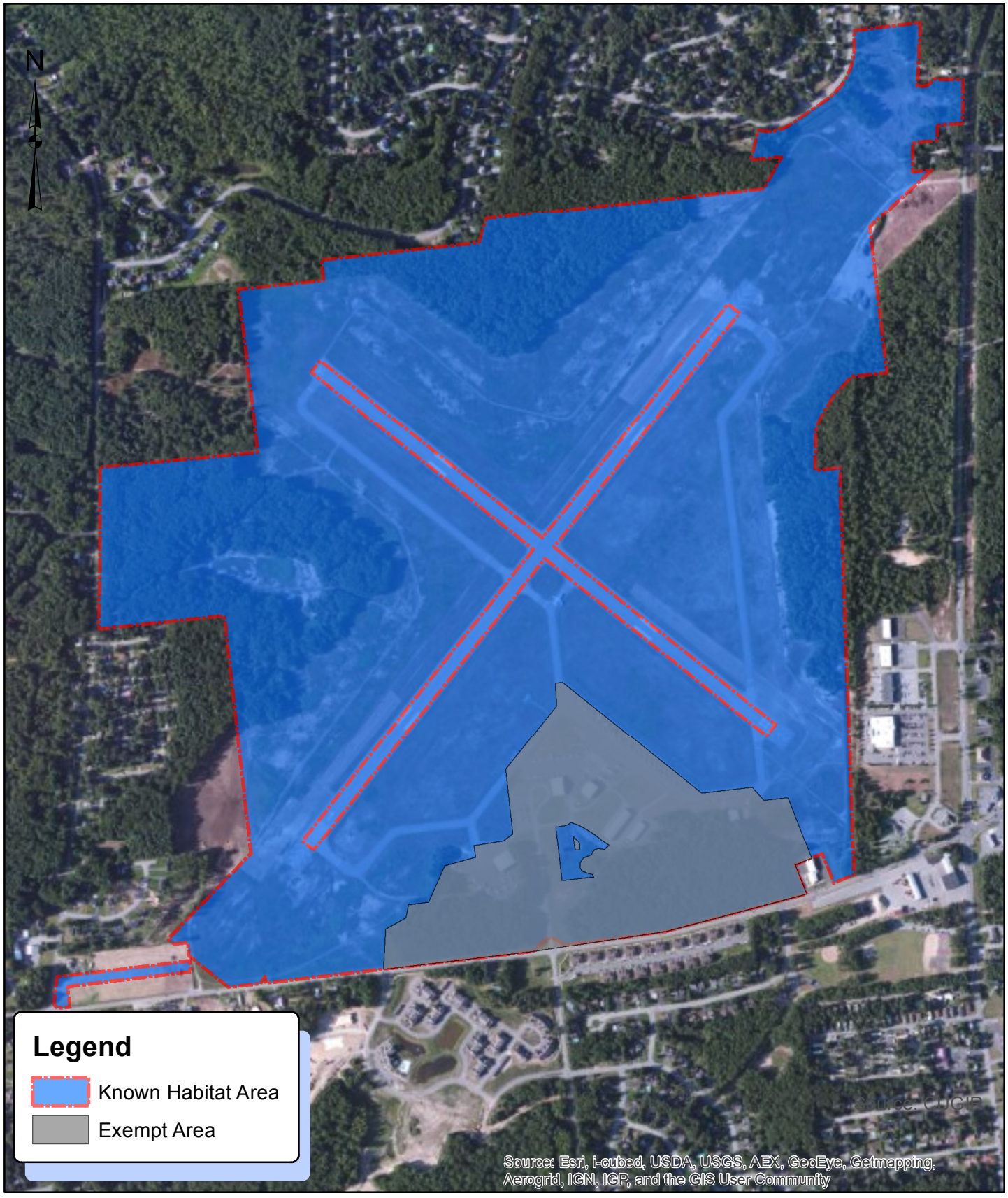
The focus of the DMA is on the Karner blue and frosted elfin butterflies. Karner blue and frosted elfin butterflies are considered "umbrella species", in that providing for their habitat protection; protection is provided for several other rare species and their habitat. The DMA separates the Airport property into two areas, "Known Habitat Area" and "Exempt Area" (Figure 4-3). The Known Habitat Area is subject to the management restrictions outlined in the DMA, while the Exempt Area is not. The most significant land use restrictions imposed within the Known Habitat Area include no motor vehicle traffic off paved or gravel surfaces and a seasonal mowing restriction from January 1 to October 15. Any Airport development project located within the Known Habitat Area will require consultation with the NYSDEC and USFWS. Projects that are found to have an effect on any State listed species will require an Incidental Take Permit in accordance with 6 NYCRR Part 182.

The USFWS considers all open grasslands, non-manicured lawn areas, non-forested areas, and non-paved areas at the Airport as potential habitat for the Federally-listed Karner blue butterfly. Any project that has the potential to affect Karner blue butterfly habitat will require modification of the latest Biological Opinion (BO) issued by the USFWS, dated July 22, 2011. A copy of the USFWS BO has been included in Appendix 4-D.

Some of the Karner blue butterfly habitat management and enhancement activities may be inadvertently creating or enhancing a wildlife attractant. Wild turkeys, deer, coyote, and other small mammals as well as numerous avian species have been observed on the airfield. Accordingly, Saratoga County is currently seeking FAA funding to conduct a Wildlife Hazard Assessment (WHA) and prepare a Wildlife Hazard Management Plan (WHMP) for the Airport. The WHA will evaluate the wildlife species present at the Airport, features on and near the Airport that attract wildlife, and provide descriptions of potential wildlife hazards to air carrier operations, as well as recommend actions for reducing the identified wildlife hazards. Based on the information collected in the WHA, a WHMP would be developed for the Airport to reduce

HABITAT MANAGEMENT AREA

FIGURE 4-3



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potential wildlife hazards. Elements of the WHMP include wildlife control techniques, wildlife population management, habitat modification and land use changes. Any wildlife hazard management activity that has the potential to affect a State or Federally listed species will also require consultation with the NYSDEC and USFWS.

The FAA Office of Safety and Standards, Certalert No. 06-07- *Requests by State Wildlife Agencies to Facilitate and Encourage Habitat for State-Listed Threatened and Endangered Species and Species of Special Concern on Airports,* states that: "Airport operators should exercise great caution in adopting new management techniques; new techniques may increase wildlife hazards and be inconsistent with safe airport operations". Certalert No. 06-07 further states that: "Adopting such techniques could place them in violation of their obligations and subject to an FAA enforcement action and possible civil penalties under 49 USC §44706, as implemented by 14 CFR §139.337.

Given the potential for conflicts between Airport operations, development, and wildlife hazard management activities, and State and Federally listed threatened and endangered species, Saratoga County is currently in discussions with the NYSDEC and USFWS regarding the development of a Habitat Conservation Plan (HCP) for the Airport. The HCP would be developed to consider all anticipated future actions at the Airport, including wildlife hazard management activities, that have the potential to affect State or Federally-listed threatened and endangered species that are known to occur at the Airport. In addition, any Airport project that has the potential to affect wildlife populations or habitat at or in the immediate vicinity of the Airport, including those recommended or requested by the NYSDEC or USFWS should be thoroughly reviewed by a FAA Qualified Airport Wildlife Biologist or a USDA Wildlife Services' Airport Biologist prior to prior to taking any action.

4.10. FLOODPLAINS

Floodplains are lands associated with bodies of water (lakes, rivers, and wetlands) that are likely to become inundated during a flooding event. The area or magnitude of a floodplain will vary according to the magnitude of the storm events as determined by the storm interval occurrences. For example, a five-year storm has a magnitude that can be expected once every five years. Typically, the Federal Emergency Management Agency (FEMA) utilizes a 100-year storm interval for flood preparation. Flooding related to a 100-year storm statistically has a one percent chance of occurring during any given year. The 100-year floodplain has been selected as having special significance for floodplain management because it is the maximum level of flooding that can reasonably be expected and planned for during a project's expected life span.

A Flood Insurance Study (FIS) for all jurisdictions within Saratoga County, including the Town of Milton, was published by FEMA on August 16, 1995. According to the Flood Insurance Rate Map (FIRM) panel depicting the Saratoga County Airport (FIRM 36091C0436); also published August 16, 1995, all of the Airport property is classified as Zone X. The *Definitions of FEMA Flood Zone Designations* website (http://cugirdata.mannlib.cornell.edu/, accessed August 6, 2013) states that Zone X is an "Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level." The Airport is not located in a FEMA floodplain area.

4.11. HAZARDOUS MATERIALS

A hazardous or contaminated environmental condition is the presence or likely presence of any hazardous substances or petroleum products (including products currently in compliance with

applicable regulations) on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.

The preliminary hazardous waste and contaminated materials screening conducted for the Airport included a review of available historical topographical maps, aerial photographs, and Environmental Protection Agency (EPA) and NYSDEC environmental databases files. In addition, a visual inspection was conducted during a site walkover that was conducted on April 25, 2013.

Review of the available historical USGS topographical maps (1902, 1947, and 1967) and aerial photographs of the site (1960, 1978, 2004, 2013) indicated that the area surrounding the Airport has historically largely consisted of flat, residential lands with small clusters of residential dwellings and some commercial properties. The available USGS topographical maps and aerial photographs did not indicate the presence of any specific structures, buildings, or activities that had the potential to create environmental concerns within the vicinity of the project area.

Review of the NYSDEC Spills Incidents (1978-Current) and Environmental Site Remediation Databases indicated two incidents of spills in the immediate vicinity of the. According to the NYSDEC Spills Incidents Database, Spill #0701537, a waste oil/used oil spill affected soil at the Saratoga County Airport on May 7, 2007, and the case was closed on July 2, 2007. Another spill, Spill #0711811, a jet fuel spill occurred on February 8, 2008, affected the soil at the Saratoga County Airport. However, this spill case was closed on December 28, 2010. The Airport does store and dispense fuel from aboveground storage tanks located at the facility, however the NYSDEC Bulk Storage Database does not provide information on the storage capacity and fuel types at the Airport in accordance with New York Public Officers Law §87.2(f) and §89.5(a)(1)(1-a), “Critical Infrastructure”. Further information regarding the Airport’s fuel storage capacity and fuel types can be found in Section 2.4.4; however it was noted during the site walkover that there was no visual indications of any current or recent releases of petroleum products stored at the Airport.

The EPA Enviromapper Database System did not indicate any sites located within the immediate vicinity of the Airport that had the potential to have previously released or have the threat of a release of any hazardous substances or petroleum products into structures within the project area or into the ground, ground water, or surface water within the project area.

The site inspection conducted on April 25, 2013 did not reveal any visual conditions that would be cause for environmental concern.

No suspected hazardous wastes or contaminated materials were identified within or adjacent to the project area during the course of the preliminary hazardous waste and contaminated materials screening of the project area. Although the potential risk for involvement with documented or undocumented inactive hazardous waste or contaminated materials is considered to be unlikely, a more thorough hazardous waste and contaminated materials review is recommended prior to commencing with any projects at the Saratoga County Airport.

4.12. HISTORICAL AND ARCHEOLOGICAL

According to 36 CFR Part 800, a historic property is “any prehistoric or historic district, site, building, structure, or object included in, or eligible for, inclusion in the National Register of

Historic Places (NHRP)." The National Historic Preservation Act (NHPA) Section 106 requires that Federal agencies such as the FAA consider the effects of their actions on historic properties via consultation with the State Historic Preservation Office (SHPO). The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) on-line mapping application, accessed on July 31, 2013, shows no archeologically sensitive areas on or adjacent to Airport property. The potential of an archeological site on or adjacent to Airport property may have no effect on development alternatives. As required by NEPA, specific project documentation will be provided to SHPO for evaluation prior to any ground disturbance.

Correspondence dated August 21, 2013 from the OPRHP states that this project will have no effect upon cultural resources in or eligible for inclusion in the National Registers of Historic Places (Appendix 4-A). When a specific airport development is proposed, the required documentation, including detailed descriptions and pictures of structures to be affected, will be sent to the OPRHP for a determination of that project's potential effect on historic or cultural resources as part of future studies to comply with NEPA.

4.13. LIGHT EMISSIONS AND VISUAL EFFECTS

Airport improvements may include the installation of additional lighting or change the location of lighting on airport property to accommodate the construction of the infrastructure improvement. These installations can alter the existing lighting conditions both on-airport and in the vicinity of the Airport. Light emissions are typically one of the greatest concerns for residents in neighborhoods, as well as users of other incompatible land uses. The potential for light emissions and visual effects will be evaluated in a subsequent NEPA document after specific Airport development proposals have been identified.

4.14. NATURAL RESOURCES AND ENERGY

Use of energy supplies and natural resources is closely linked to construction of airport improvements and operations. In general, natural resources and energy supply are readily available in Saratoga County.

4.15. NOISE

Aircraft noise emissions, inherent to the operation of an airport, can adversely impact land use compatibility between an airport and its surrounding properties, particularly in the presence of noise-sensitive receptors. Religious institutions, hospitals, schools, amphitheaters, and residential districts are receptors that are sensitive to elevated noise levels. Recreational areas and some commercial uses are moderately sensitive to elevated noise levels. Therefore, it is important to predict any change in noise levels associated with airport development, to determine the significance, if any, of the impact to noise sensitive land-uses. Subsequent abatement measures can be incorporated into airport development plans to avoid and/or minimize the impacts.

In order to evaluate the noise impacts of aviation activity on surrounding areas, the FAA has developed the Integrated Noise Model (INM). This computer model calculates cumulative aircraft noise at ground level expressed in decibels (dB), using a Day-Night Average Level (DNL). The DNL is the average daily noise level, with an additional 10 dB weight for nighttime aircraft operations. Decibels are measured in A-weighted units, which approximate the range of human hearing. The FAA considers the 65 dB DNL level to be the threshold of impact for noise-

sensitive areas. In order to help put the 65 dB DNL into perspective, the typical ambient noise level in suburban residential areas is 55 dB DNL. Table 4-3 shows the typical noise levels associated with specific areas commonly encountered every day. Table 4-4 on the next page shows the Day-Night average noise levels (DNL, dB) that are used by the FAA to evaluate land use compatibility with respect to airports.

Table 4-3 - Typical Outdoor Day-Night Noise Levels

DNL Day-Night Noise Level (dB)	Locations
50 dB	Small town residential area or quiet suburban area
55 dB	Suburban residential area
60 dB	Urban residential
65 dB	Noisy urban residential area
70 dB	Very noisy urban residential area
80 dB	City Noise (Downtown of a Major Metropolitan Area)
88 dB	3rd Floor Apartment in a Major City Next to a Freeway

Source: "Noise Fundamentals Training Document, Highway Noise Fundamentals", U.S. Dept. of Transp, Federal Highway Admin.

Table 4-4 - Land Use Compatibility

Land Use	Yearly Day-Night Average Noise Level (DNL, dB)		
	Compatible Below 65	Compatible Between 65 and 70	Compatible Between 70 and 75
Residential	YES	NO	NO
Mobile Home Parks	YES	NO	NO
Transient Lodgings	YES	NO	NO
Schools	YES	NO	NO
Hospitals/Nursing Homes	YES	YES	YES
Churches/Auditoriums	YES	YES	YES
Governmental Services	YES	YES	YES
Transportation/Parking	YES	YES	YES
Offices/Business/Professional	YES	YES	YES
Wholesale and Retails	YES	YES	YES
Utilities	YES	YES	YES
Communications	YES	YES	YES
Manufacturing	YES	YES	YES
Photographic/Optical	YES	YES	YES
Agriculture and Forestry	YES	YES	YES
Livestock Farming	YES	YES	YES
Mining/Fishing	YES	YES	YES
Outdoor Sports Arenas	YES	YES	YES
Outdoor Music Shells	YES	NO	NO
Nature Exhibits/Zoos	YES	YES	NO
Amusement/Parks/Camps	YES	YES	YES
Golf Courses/Stables	YES	YES	YES*

Source: 14 CFR 150, Airport Noise Compatibility Planning

A review of aerial photography, along with land use and zoning maps of the area, indicates that much of the land surrounding the Saratoga County Airport could be considered noise sensitive. There are residential land uses located on all sides of the Airport with an increased density of residential land use on the north side of the Airport. Almost all of the land surrounding the Airport is zoned Residential, with a small section on the south zoned as Mixed Use. Further evaluation of potential noise impacts requiring NEPA compliance will reveal if noise impacts are anticipated relative to future developments, and will consider mitigation measures if necessary.

4.16. SECTION 4(F) RESOURCES

Section 4(f) of the Department of Transportation Act of 1966 states that Federal approval will not be given to projects requiring the use of any land from a public park, recreation area, wildlife/waterfowl refuge, or historic site unless there is no feasible or prudent alternative to the use of such land, and the project includes all possible planning to minimize harm resulting from use.

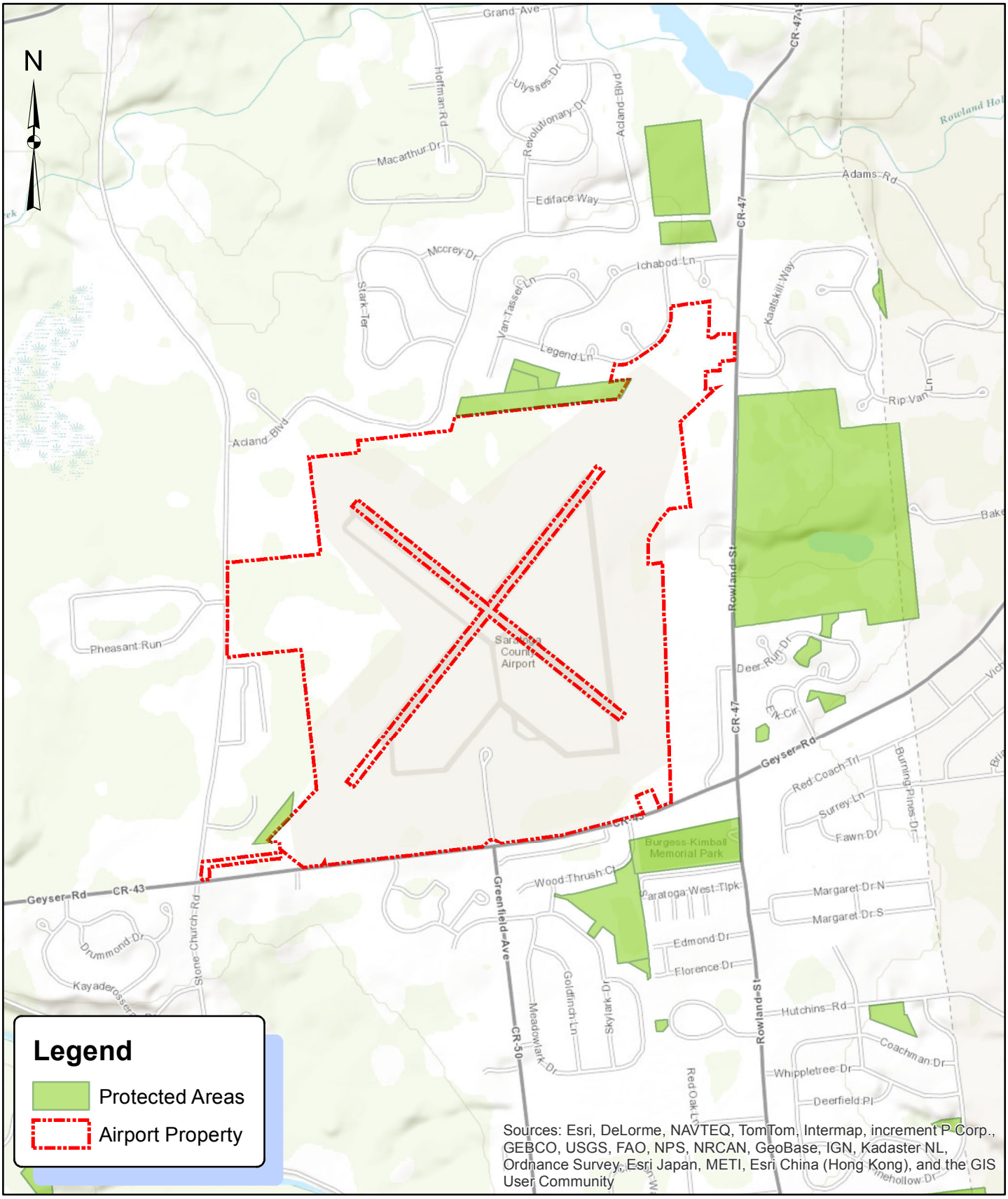
There are no parks, recreation, or conservation lands on Airport property. However in the immediate vicinity of the Airport there are protected lands, as shown on Figure 4-4. South of the Airport on the south side of Route 43 (Geyser Road), is the Burgess Kimball Memorial Park, owned by the Town of Milton. North of the Airport there is forested land owned by Saratoga County; according to the New York Protected Areas Database (NYPAD) this is protected conservation land. East of the Airport, across County Route 47 (Rowland Street), is the Ballston Spa Reservoir, which is a water resource owned by the Village of Ballston Spa. There are a few small water resource lands around the immediate Airport vicinity, which are deemed protected lands for flood control purposes. Finally, along the north end of the Airport property is the Rowland Hollow Waterworks Company, which is also a protected water resource according to NYPAD.

4.17. INDUCED SOCIOECONOMIC IMPACTS

Under the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR Part 1502.1), Federal agencies are required to consider the effects to the area population's health, safety risks to children, and socioeconomic impacts. Under 40 CFR 1508.14 the CEQ requires that the human environment be considered for Federal projects to address the relationship of people with their natural and physical environments. Therefore, social impacts are required to be considered as an effect of any proposed airport project. Principal impacts to be considered include the displacement of families or businesses, effects to neighborhood characteristics, dividing or disruption of established communities, changing ground transportation patterns, disruption of orderly planned community developments, or creating measurable changes in employment. If land acquisition were necessary for proposed airport development alternative, it would be accomplished in accordance with 49 CFR Part 24, *Uniform Relocation Assistance and Real Property Acquisition Policies Act* (Uniform Act) and FAA Advisory Circular 150/5100-17, *Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects.* The Uniform Act standardizes real property acquisition policies and requires the uniform and equitable treatment of persons relocated due to a Federally assisted project. Proposed projects need to be evaluated for the potential effects to the community economy, social structure and necessary community health and safety service.

NEW YORK PROTECTED AREAS

FIGURE 4-4



SARATOGA COUNTY AIRPORT

0 0.5 1 Miles

McFarland Johnson

Source: New York Protected Areas Database, 2013.

K:\SARATOGA\T-17588.04 Saratoga AMPU\Draw\GIS\Section4f.mxd

Pursuant to Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, Federal agencies are directed to make identification and assessment of environmental health and safety risks that may disproportionately affect children a high priority. Federal agencies are encouraged to ensure that their policies, programs, and activities address any disproportionate risks children may incur from environmental health and safety risks. These risks are generally attributable to products or substances that a child is likely to come in contact with or ingest, such as air, food, drinking water, recreational waters, soil, or products they might use, or which they may be exposed. Proposed projects will be assessed for their potential to impair the ability of neighborhood children to access clean breathable air, healthy food, potable water, and appropriate recreation sites.

4.18. SOLID WASTE

Solid waste facilities inherently attract wildlife, particularly birds, and therefore can increase the aircraft-bird strike hazard. There are no solid waste facilities on or adjacent to Airport property. Consultation with the local solid waste management facilities for projects that may substantially increase solid waste generation will be required to ensure that adequate facilities and procedures are in place to accommodate the solid waste.

4.19. WATER QUALITY

This section discusses water quality, including surface waters and stormwater.

4.19.1. Surface Waters (Excluding Wetlands)

The United States Army Corps of Engineers (USACE) regulates water bodies under Section 10 of the Rivers and Harbors Appropriation Act (RHA) that are considered to be a Traditionally Navigable Water of the United State (TNW) as defined specifically there within. The USACE also regulates water bodies through Section 404 of the Clean Water Act (CWA) that have a significant nexus to a TNW as defined in Section 10 of RHA or a TNW as defined in Section 404 of the CWA. A significant nexus is generally defined as having more than an insubstantial or speculative effect on the chemical, physical, or biological integrity of a downstream TNW.

The NYSDEC regulates activities in water bodies that are considered“protected streams” or “Navigable Waters of the State” under the Article 15 of the ECL.

There are currently no NYSDEC protected streams or USACE regulated streams on, or immediately adjacent to Airport property. If any disturbances are determined, the use of BMPs during construction will minimize indirect impacts to any regulated surface waters.

4.19.2. Stormwater

The Saratoga County Airport is situated in the Town of Milton, which is partially included in the Saratoga Springs Urban Area. This urban area is considered an Automatically Designated Urbanized Area under the Municipal Separate Storm Sewer Systems (MS4s) as part of the National Pollutant Discharge Elimination System (NPDES) Stormwater Phase II permit program. Urbanized municipalities, publically funded institutions and other public entities must follow MS4 regulations for discharges from their facilities that discharge into

surface waters. Therefore, the Airport is required to manage its stormwater runoff from its developed areas within the Town of Milton. NYSDEC has been delegated to enforce the Federal MS4 Phase II regulations in New York State under its State Pollution Discharge Elimination System (SPDES) General Permit Program.

NYSDEC regulations do not allow an increase in the visible turbidity of water when compared to preconstruction conditions. If one or more acres of land are disturbed during construction, a SPDES permit for Construction Activities, issued by NYSDEC is required. During the construction period, erosion and sediment control measures would be implemented, as prescribed in a Stormwater Pollution Prevention Plan (SWPPP), to avoid or minimize impacts to water quality.

If the proposed improvements disturb one or more acres of land, a SPDES permit would be required. The SPDES permit requires implementation of a SWPPP, developed specifically for the project site, to minimize and mitigate any impacts due to erosion and sedimentation during construction. As part of the SWPPP, all SPDES permit sites must develop an Erosion and Sediment Control Plan (ESCP) to control stormwater discharge during construction.

The ESCP consists of temporary and permanent BMPs intended to reduce erosion, control siltation and sedimentation, and ensure that sediment-laden water does not leave the site. As each proposed project is progressed to the final design phase, an ESCP will be developed for implementation during construction to address water quality concerns and avoid significant impacts on water quality. The plans will incorporate acceptable BMPs, which will serve to protect the water quality in and around the Saratoga County Airport.

If the ground disturbance is greater than one acre, or within the regulated MS4, a full SWPPP including a Water Quality and Quality Control Plan must be implemented for the project. The Water Quality and Quality Control portion of the SWPPP consists of permanent BMPs intended to enhance water quality and provide water quantity control through peak flow attenuation. To meet the goal of no net increase in peak stormwater runoff from pre-project condition, BMPs must compensate for the increase in runoff resulting from additional impervious surfaces.

The full SWPPP would be implemented during construction and then properly maintained thereafter. This would ensure that water quality standards are met. The increase in runoff resulting from the expansion or creation of impervious surfaces during development would be mitigated by the SWPPP. Any proposed BMPs would be designed to accommodate an increase in stormwater volume. BMPs designed to accommodate an increase in runoff, generally meet water quality objectives by default. The SWPPP will comply with FAA Order 150/5200-33B, *Hazardous Wildlife Attractants On or Near Airports.*

4.19.3. Groundwater

According to the U.S. Geological Survey (USGS), the Airport is not situated in a sole-source aquifer as defined by the EPA pursuant to Section 1424(e) of the Safe Drinking Water Act. The Airport is located just south of the New York and New English carbonate rock aquifer, and is partially covered by an Aquifer of Alluvial and Glacial Origin, according to the USGS.

4.20. WETLANDS

USACE regulates activities in wetlands that have a significant nexus to TNWs under Section 404 of the Clean Water Act (CWA). The USACE requires that an area have hydrophytic vegetation primacy, hydric soils, and wetland hydrology present in order to be considered a wetland. The National Wetland Inventory (NWI) mapping indicates potential wetland areas that were identified by the USFWS using aerial photography. These maps do not have any regulatory consequence, but rather indicate areas that may meet Federal wetland criteria. Review of the NWI mapping of the Airport did not indicate the potential presence of any wetlands or waterways (Figure 4-5).

The NYSDEC also regulates certain wetlands within New York State under the Article 24 of the ECL, often referred to as the "Freshwater Wetlands Act". The NYSDEC regulates those wetlands within the state that are larger than 12.4 acres (5 hectares) in size, and certain smaller wetlands of unusual local importance. The NYSDEC also regulates an adjacent area of 100 feet to provide protection for the wetland. Review of the NYSDEC Freshwater Wetlands Map of the Airport area indicated that NYSDEC Freshwater Wetland S-18 is mapped near the northwest corner of the Airport (Figure 4-6).

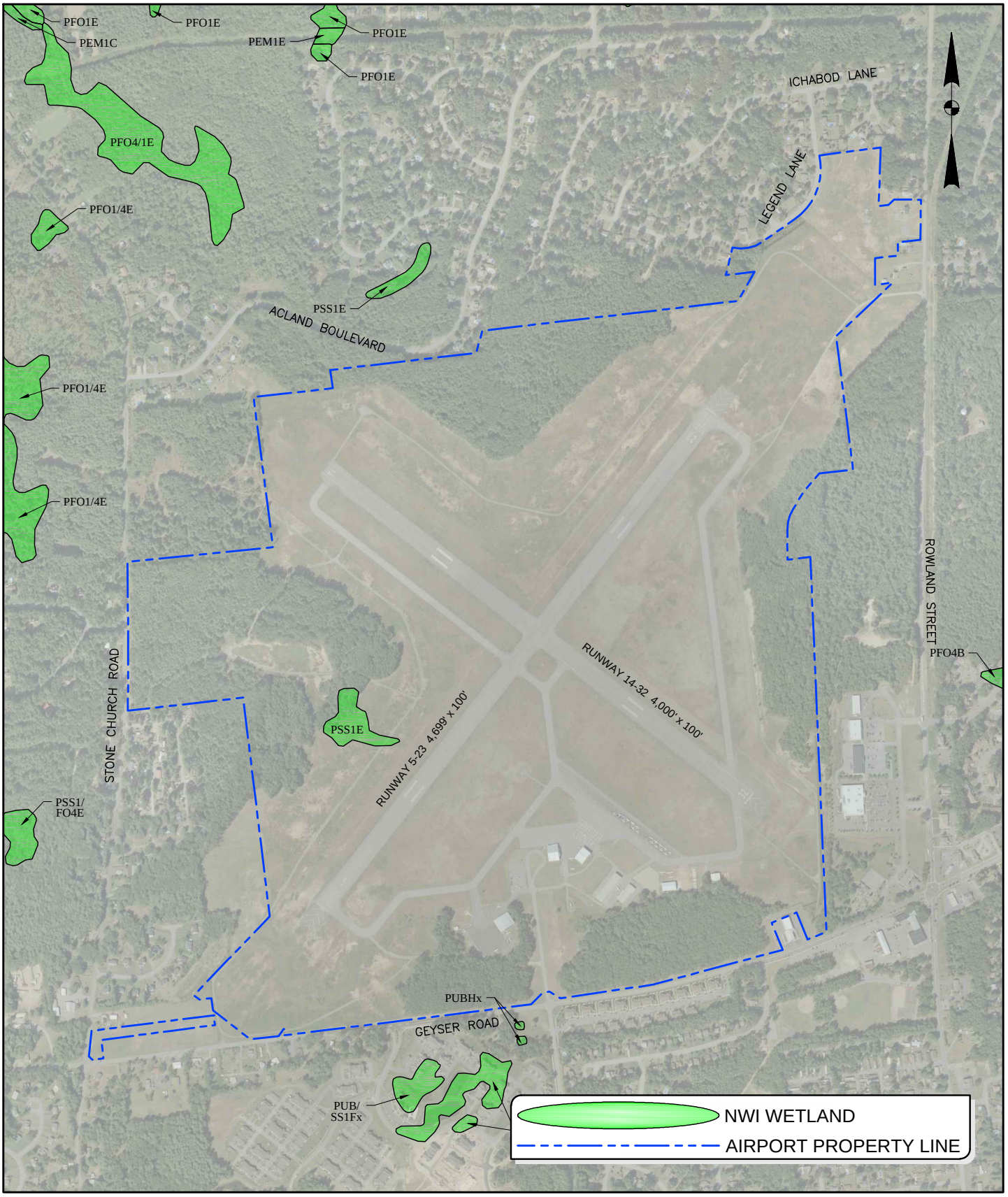
McFarland Johnson performed a wetlands and waterways delineation in April 2013. The wetland delineation was conducted through field investigations of vegetation, soils and hydrology in accordance with the 1987 *USACE Wetlands Delineation Manual* (1987 USACE Manual) and 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (2012 Regional Supplement). In the vicinity of those areas where NYSDEC Freshwater Wetlands were mapped, the 1995 *New York State Freshwater Wetlands Delineation Manual* (1995 NYSDEC Manual) was also consulted. See Appendix 4-E for a copy of the complete Wetlands and Waterways Delineation Report. A total of six wetlands, hereafter referred to alphabetically as Wetland A through Wetland F, were identified at the Airport. The locations of these wetlands are shown on Figure 4-7.

Based on field reconnaissance, it is McFarland Johnson's opinion that all six wetlands identified at the Airport, Wetlands A through F, are closed depressional wetlands with no significant nexuses to a TNW, and therefore it is assumed that none of the identified wetlands are subject to USACE jurisdiction under Section 404 of the Clean Water Act. The Section 404 jurisdictional statuses of these wetlands will need to be confirmed by the USACE.

As previously stated, review of the NYSDEC Freshwater Wetlands Map indicated that NYSDEC Freshwater Wetland S-18, is mapped near the northwest corner of Saratoga County Airport. Based on field reconnaissance of the general vicinity and offset survey data collected from Airport property, it is believed that NYSDEC Freshwater Wetland S-18 occurs off Airport property, with the 100 feet protected adjacent area extending onto Airport property. Although Wetlands D, E, and F were delineated on Airport property, and within the area mapped as NYSDEC Freshwater Wetland S-18, these wetlands are small isolated wetlands. Wetlands D and F are located within 50 linear feet from what is believed to be the true boundary of NYSDEC Freshwater Wetland S-18, while Wetland E is not. It is believed that Wetlands D, E, and F do not, collectively or individually, function as a unit with, nor do they significantly contribute to the ability of NYSDEC Freshwater Wetland S-18 in providing the wetland benefits listed in paragraphs (a), (b), (c), (e), (f), and (i) of Section 0105-7 of Article 24 of the ECL. Based on this assessment, it is believed that none of the six delineated wetlands on Airport property are

NWI WETLANDS

FIGURE 4-5



SARATOGA COUNTY AIRPORT

SCALE

0 1000 2000

FEET

McFarland Johnson

NY DEC WETLANDS

FIGURE 4-6

SARATOGA COUNTY AIRPORT

SCALE
0 1000 2000
FEET

McFarland Johnson

DELINEATED WETLANDS

FIGURE 4-7

SARATOGA COUNTY AIRPORT

SCALE
0 1000 2000
FEET

McFarland Johnson

subject to NYSDEC jurisdiction under Article 24 of the ECL. The Article 24 jurisdictional statuses of these wetlands will need to be confirmed by the NYSDEC. Regardless of their State and Federal jurisdictional statuses, all six wetlands delineated by McFarland Johnson are subject to EO 11990.

Depending on the State and Federal jurisdictional statuses of the identified wetlands, projects that have no practicable alternatives to avoid direct impacts to wetlands may require Section 404 permits from USACE and/or Article 24 permits from the NYSDEC. Impacts to NYSDEC regulated wetlands 100 feet adjacent areas would also require an Article 24 permit from the NYSDEC. The USACE issues activity specific Nationwide Permits (NWP), for wetland disturbances meeting specific conditions. If a proposed project does not meet the conditions of any of the Nationwide Permits, a USACE Individual Permit is required before any work that causes disturbance in or near protected wetlands can commence.

Compensatory wetland mitigation may be required as a permit condition by USACE and/or NYSDEC depending on the specific details of the proposed project(s). Wetland mitigation can come in the form of restoration, establishment, enhancement, and/or preservation of wetlands. Typical mitigation ratios that are recommended by the USACE are shown in Table 4-5.

Table 4-5 - Typical USACE Recommended Wetland Mitigation Ratios

Wetland Type	Restoration (Re-establishment)	Creation (Establishment)	Enhancement (Rehabilitation)	Preservation (Protection/Management)
Open Water (PUB)	1:1	1:1	Project Specific	Project Specific
Emergent (PEM)	2:1	2:1 to 3:1	3:1 to 10:1	15:1
Scrub-Shrub (PSS)	2:1	2:1 to 3:1	3:1 to 10:1	15:1
Forested (PFO)	2:1 to 3:1	3:1 to 4:1	5:1 to 10:1	15:1

Source: Excerpted from USACE's "New England District Compensation Mitigation Guidance"' dated July 20, 2010

Based on regulations promulgated by the Department of Defense and Environmental Protection Agency in *Mitigation for Losses of Aquatic Resources; Final Rule* (Fed. Reg. Vol. 73, No. 70, April 10, 2008) the hierarchy of preferred wetland mitigation options for impacts to Federally regulated wetlands is shown below.

Use of credits from a wetlands mitigation bank
↓
Use of credits from an in-lieu-fee program
↓
Permittee-responsible mitigation using a watershed approach
↓
On-site permittee-responsible mitigation
↓
Off-site permittee-responsible mitigation

It should be noted that five Federal agencies, including the FAA and USACE, signed a Memorandum of Agreement (MOA) in July 2003 to facilitate interagency cooperation on aircraft-wildlife strikes related issues, including wetland management at airports. As part of the MOU, the signatory agencies are required to diligently consider the siting criteria recommendations as

stated in FAA Advisory Circular (AC) 150/5200-33- *Hazardous Wildlife Attractants On or Near Airports*.

FAA AC 150/5200-33B recommends separation distances between an airport's air operations area (AOA) and potential wildlife hazards, including proposed wetland mitigation sites. These siting distances are:

- 5,000 feet of a runway that serves piston-powered aircraft
- 10,000 feet of a runway that serves turbine-powered aircraft
- 5 statute miles if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace

The above siting criteria will be taken into consideration when considering potential wetland mitigation options and site selection.

In addition to USACE Section 404 and NYSDEC Article 24 regulations, Section 401 of the CWA provides states with the authority to ensure that Federal agencies do not issue permits or licenses that violate their water quality standards. The NYSDEC implements Section 401 compliance through a certification process called Water Quality Certification (WQC). The NYSDEC has issued blanketed WQC for many of the NWPs, providing certain special conditions are met. Individual WQCs are required from the NYSDEC for USACE Individual Permits and for those NWPs where the NYSDEC as not issued blanketed WQCs, and on projects qualifying for a NWP, but where the blanket WQC special conditions cannot be met.

Furthermore, when impacts to wetlands cannot be avoided, an EO 11990 "Wetland Finding" must be prepared to document compliance with the order and that the wetland impacts are justified.

Future proposed projects will take measures in design and construction to avoid, minimize or mitigate any possible adverse impacts to wetland resources to the maximum degree possible. The use of BMPs during construction project will minimize indirect impacts to wetland resources at the Airport.

4.21. WILD AND SCENIC RIVERS

The Wild and Scenic Rivers Act (Public Law 90-542) describes river areas eligible to be included in a system afforded protection under the Act as free flowing and possessing "…outstanding remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or similar values." There are no State or Federal Wild and Scenic Rivers on or adjacent to the Airport.

4.22. CUMULATIVE IMPACTS

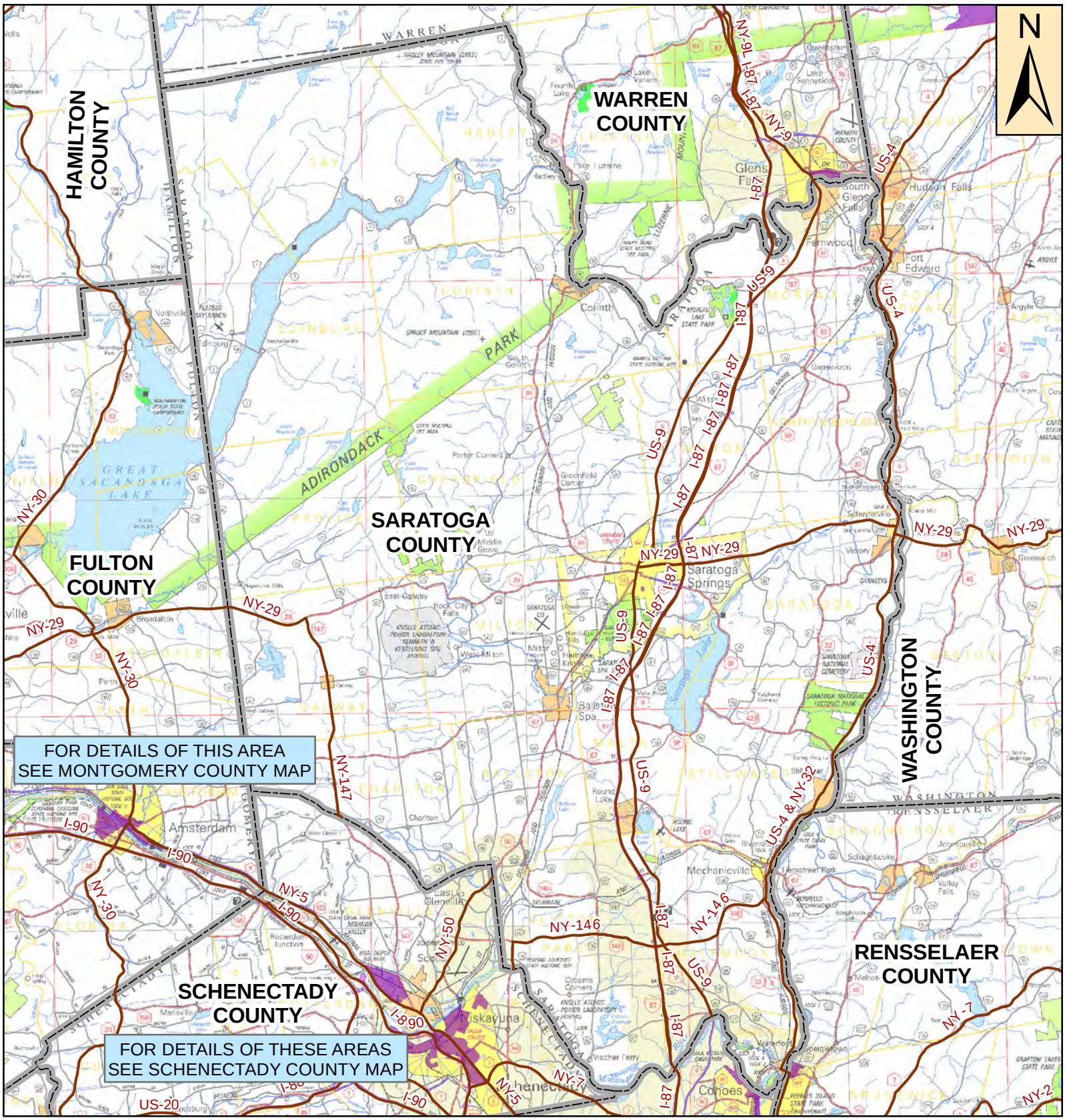
The Federal Council of Environmental quality regulations contained in 40 CFR 1508.7 defines cumulative impact as the impact on the environment which results from incremental impact of the action(s) when added to other past, present, and reasonably foreseeable future projects located in the project vicinity. In the past five years, there have been several Airport improvement projects, as detailed in Section 1.2, *History of the Airport.* None of these projects have resulted in significant impacts to the environment.

For future improvements at the Saratoga County Airport, the FAA must evaluate any Airport development action funded under the Airport Improvement Program (AIP) or subject to approval under NEPA. Thus, any project requiring NEPA compliance would require a cumulative impact analysis discussion, to assess a proposed project's direct and indirect impacts on a particular resource.

Appendix 4-A – Correspondence

Potential Environmental Justice Areas in Saratoga County, New York

Click on the Potential EJ Area outlined in blue for a detailed map



This computer representation has been compiled from supplied data or information that has not been verified by EPA or NYSDEC. The data is offered here as a general representation only and is not to be used for commercial purposes without verification by an independent professional qualified to verify such data or information.

Neither EPA nor NYSDEC guarantee the accuracy, completeness, or timeliness of the information shown and shall not be liable for any loss or injury resulting from reliance.

Data Source for Potential Environmental Justice Areas:
U.S. Census Bureau, 2000 U.S. Census

Legend

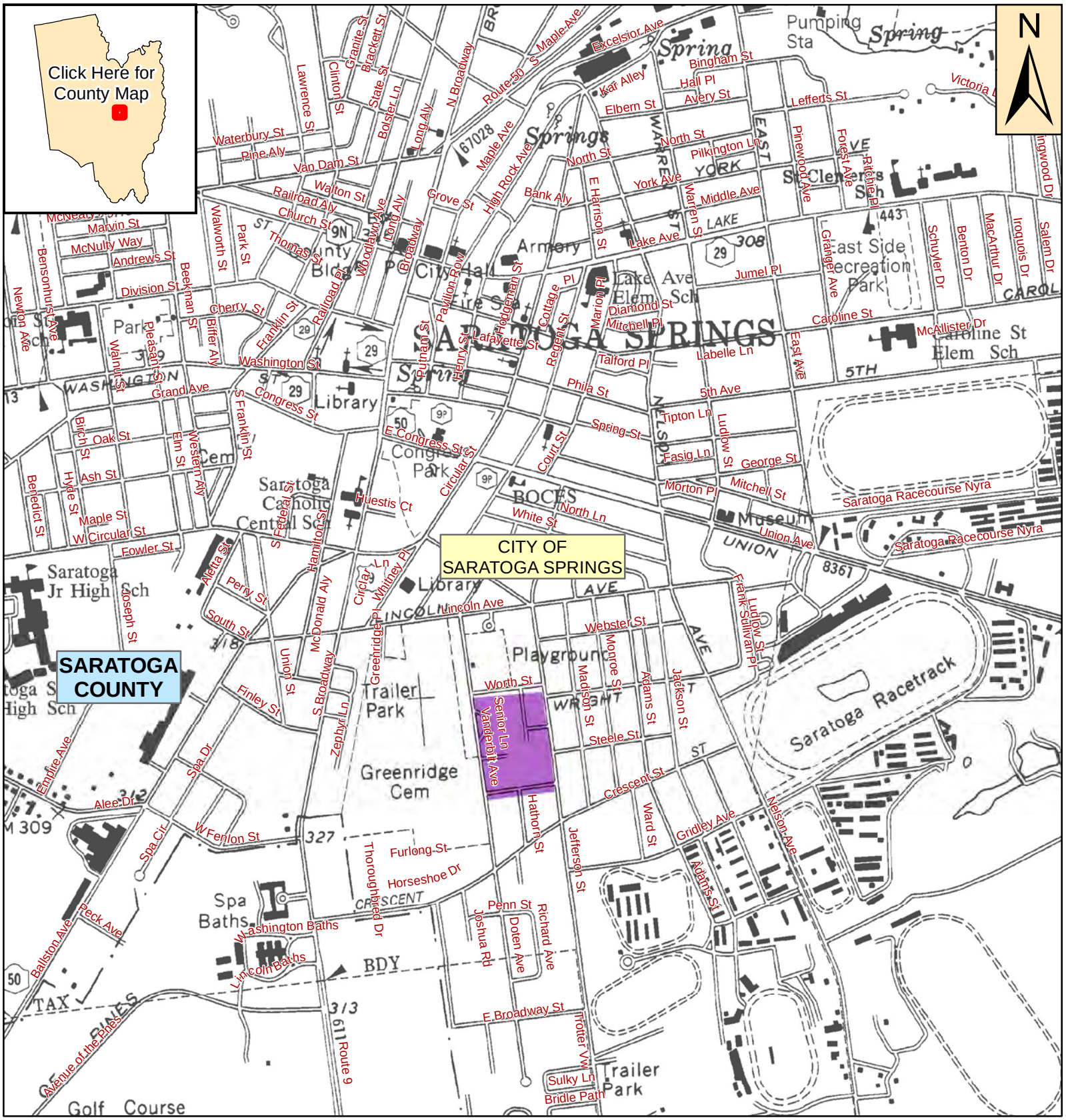
- Potential EJ Area
- County Boundary

0 2 4 6 8 10 Miles

SCALE: 1:325,000

For questions about this map contact:
New York State Department of Environmental Conservation
Office of Environmental Justice
625 Broadway, 14th Floor
Albany, New York 12233-1500
(518) 402-8556
ej@gw.dec.state.ny.us

Potential Environmental Justice Areas in the City of Saratoga Springs, Saratoga County, New York



This computer representation has been compiled from supplied data or information that has not been verified by EPA or NYSDEC. The data is offered here as a general representation only and is not to be used for commercial purposes without verification by an independent professional qualified to verify such data or information.

Neither EPA nor NYSDEC guarantee the accuracy, completeness, or timeliness of the information shown and shall not be liable for any loss or injury resulting from reliance.

Data Source for Potential Environmental Justice Areas:
U.S. Census Bureau, 2000 U.S. Census

Legend

- Potential EJ Area
- County Boundary
- Waterbodies

Miles
0 0.1 0.2 0.3 0.4 0.5

SCALE: 1:15,000

For questions about this map contact:
New York State Department of Environmental Conservation
Office of Environmental Justice
625 Broadway, 14th Floor
Albany, New York 12233-1500
(518) 402-8556
ej@gw.dec.state.ny.us

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

Joe Martens
Commissioner

August 13, 2013

Rachel Passer
McFarland Johnson
PO Box 1980
Binghamton, NY 13902

Re: Saratoga County Airport Master Plan Update
Town/City: Milton. County: Saratoga.

Dear Rachel Passer :

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, which our databases indicate 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 databases. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

Our databases are 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,

Nancy A. Davis

Nancy Davis-Ricci
Environmental Review Specialist
New York Natural Heritage Program

801

The following state-listed animals have been documented at your project site, or 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. The list may also include significant natural communities that can serve as habitat for Endangered or Threatened animals, and/or other rare animals and rare plants found at these habitats.

For information about potential impacts of your project on these populations, how to avoid, minimize, or mitigate any impacts, and any permit considerations, contact the Wildlife Manager or the Fisheries Manager at the NYSDEC Regional Office for the region where the project is located. A listing of Regional Offices is at http://www.dec.ny.gov/about/558.html.

The following species have been documented at the project site. Potential onsite and offsite impacts from the project may need to be addressed.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Butterflies				
Frosted Elfin	*Callophrys irus*	Threatened		6355
Karner Blue	*Plebejus melissa samuelis*	Endangered	Endangered	5701

This report only includes records from the NY Natural Heritage databases. 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. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

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 http://www.dec.ny.gov/animals/7494.html.

Information about many of the rare plants and animals, and natural community types, in New York are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NatureServe Explorer at http://www.natureserve.org/explorer.

New York Natural Heritage Program

Report on Rare Animals, Rare Plants, and Significant Natural Communities

The following rare plants, rare animals, and significant natural communities have been documented at your project site, or in its vicinity.

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 databases. 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. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

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 http://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 http://www.dec.ny.gov/animals/29384.html and click on Draft Ecological Communities of New York State.

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks,
Recreation and Historic Preservation

Division for Historic Preservation
P.O. Box 189, Waterford, New York 12188-0189
518-237-8643

August 21, 2013

Rachel Passer
McFarland Johnson
PO Box 1980
Binghamton, New York 13902

Re: FAA, DOT
Saratoga Airport Master Plan Update
405 Greenfield Ave
MILTON, Saratoga County
13PR03771

Dear Ms. Passer:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based upon this review, it is the SHPO's opinion that your project will have No Effect upon cultural resources in or eligible for inclusion in the National Registers of Historic Places.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Deputy Commissioner for Historic Preservation

United States Department of the Interior

FISH AND WILDLIFE SERVICE
NEW YORK ECOLOGICAL SERVICES FIELD OFFICE
3817 LUKER ROAD
CORTLAND, NY 13045
PHONE: (607)753-9334 FAX: (607)753-9699
URL: www.fws.gov/northeast/nyfo/es/section7.htm

Consultation Tracking Number: 05E1NY00-2013-SLI-0720 July 30, 2013
Project Name: Saratoga County Airport

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project.

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects

should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Saratoga County Airport

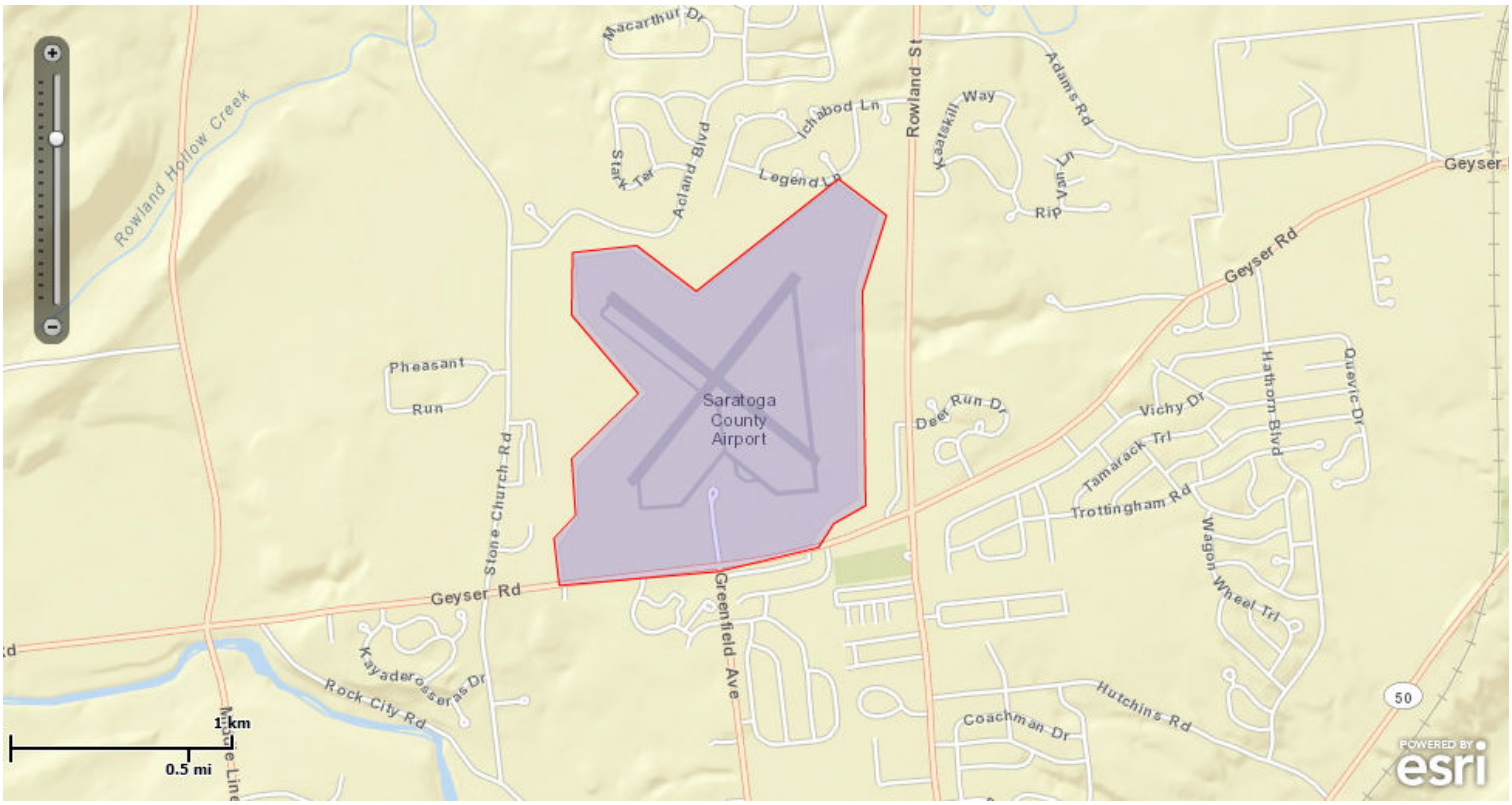
Official Species List

Provided by:

NEW YORK ECOLOGICAL SERVICES FIELD OFFICE
3817 LUKER ROAD
CORTLAND, NY 13045
(607) 753-9334
http://www.fws.gov/northeast/nyfo/es/section7.htm

Consultation Tracking Number: 05E1NY00-2013-SLI-0720
Project Type: Transportation
Project Description: Master Plan Update

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-73.8692187 43.0560707, -73.8656589 43.0563545, -73.8623544 43.054506, -73.8544579 43.0590481, -73.8517972 43.0575743, -73.8531254 43.0545028, -73.8529559 43.0458144, -73.8547154 43.045093, -73.8555737 43.0441207, -73.8611098 43.0431485, -73.8699482 43.0425855, -73.8702551 43.0444971, -73.8690535 43.045438, -73.869268 43.0477275, -73.8655773 43.0503618, -73.869268 43.0535291, -73.8692187 43.0560707)))

Project Counties: Saratoga, NY

United States Department of Interior
Fish and Wildlife Service

Project name: Saratoga County Airport

Endangered Species Act Species List

Species lists are not entirely based upon the current range of a species but may also take into consideration actions that affect a species that exists in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Please contact the designated FWS office if you have questions.

Karner Blue butterfly *(Lycaeides melissa samuelis)*

Population: Entire

Listing Status: Endangered

Appendix 4-B – Soil Report

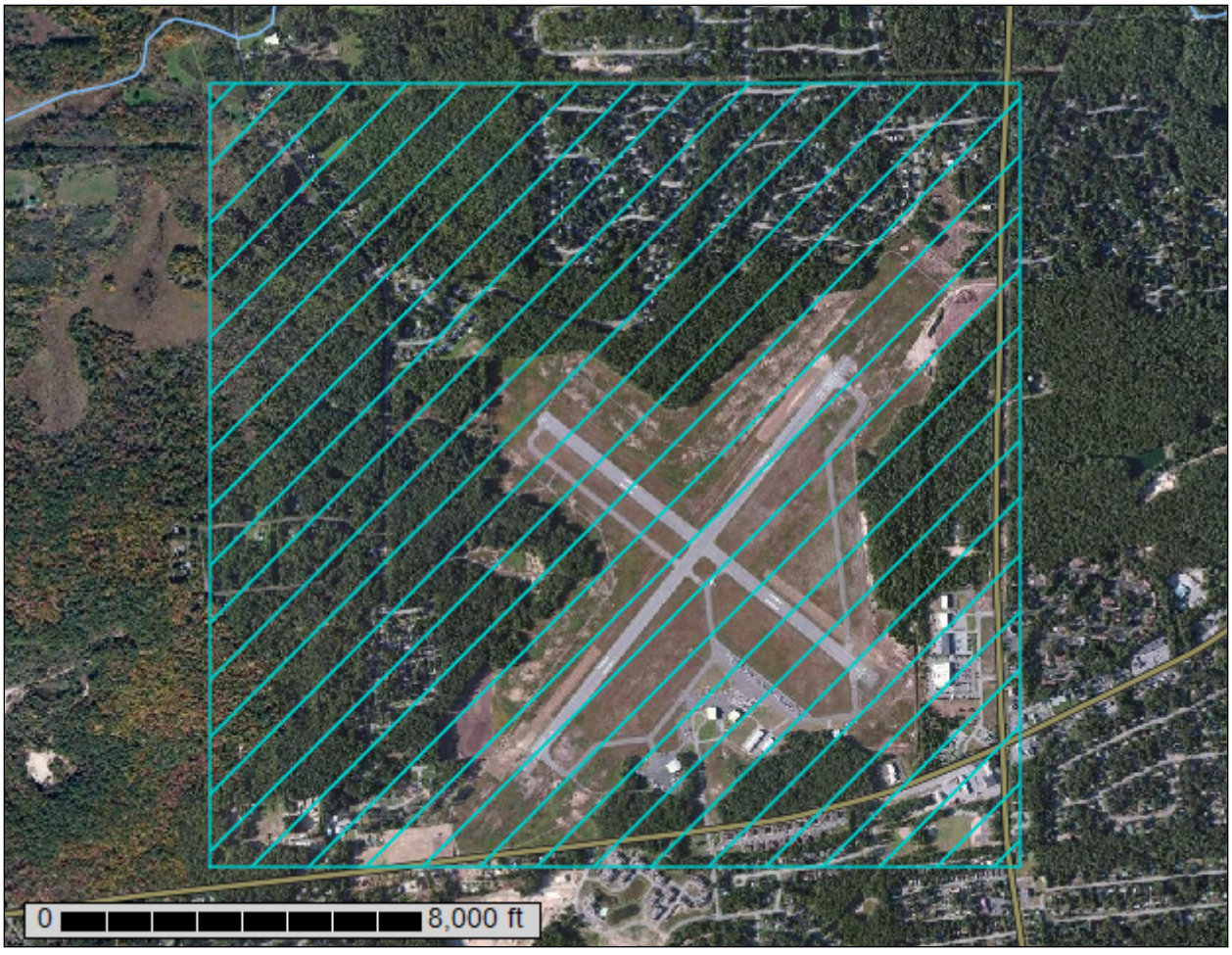
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Saratoga County, New York



August 8, 2013

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:19,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 250 500 1000 1500

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Saratoga County, New York
Survey Area Data: Version 12, Sep 21, 2012

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2010—Sep 19, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Saratoga County, New York (NY091)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
DeA	Deerfield loamy fine sand, nearly level	60.2	4.4%
DeB	Deerfield loamy fine sand, undulating	7.8	0.6%
Ra	Raynham silt loam	4.4	0.3%
SeA	Scio silt loam, 0 to 3 percent slopes	55.3	4.0%
Wa	Wareham loamy sand	0.9	0.1%
WnA	Windsor loamy sand, nearly level	710.9	52.0%
WnB	Windsor loamy sand, undulating	406.8	29.8%
WnC	Windsor loamy sand, rolling	106.9	7.8%
WnD	Windsor loamy sand, hilly	13.7	1.0%
Totals for Area of Interest		**1,367.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with

some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Saratoga County, New York

DeA—Deerfield loamy fine sand, nearly level

Map Unit Setting

Elevation: 0 to 1,000 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days

Map Unit Composition

Deerfield and similar soils: 75 percent
Minor components: 25 percent

Description of Deerfield

Setting

Landform: Deltas, outwash plains, terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Sandy glaciofluvial or deltaic deposits derived mainly from granite, gneiss, or sandstone

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.8 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability (nonirrigated): 3w
Hydrologic Soil Group: A

Typical profile

0 to 10 inches: Loamy fine sand
10 to 26 inches: Loamy fine sand
26 to 72 inches: Fine sand

Minor Components

Oakville

Percent of map unit: 10 percent

Claverack

Percent of map unit: 7 percent

Wareham

Percent of map unit: 4 percent

Wareham
Percent of map unit: 4 percent

DeB—Deerfield loamy fine sand, undulating

Map Unit Setting
Elevation: 590 to 1,000 feet
Mean annual precipitation: 35 to 50 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days

Map Unit Composition
Deerfield and similar soils: 75 percent
Minor components: 25 percent

Description of Deerfield

Setting
Landform: Deltas, outwash plains, terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread, rise
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Sandy glaciofluvial or deltaic deposits derived mainly from granite, gneiss, or sandstone

Properties and qualities
Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.8 inches)

Interpretive groups
Farmland classification: Farmland of statewide importance
Land capability (nonirrigated): 2w
Hydrologic Soil Group: A

Typical profile
0 to 10 inches: Loamy fine sand
10 to 14 inches: Loamy fine sand
14 to 26 inches: Loamy fine sand
26 to 44 inches: Fine sand
44 to 72 inches: Fine sand

Minor Components

Oakville
Percent of map unit: 10 percent

Claverack
Percent of map unit: 7 percent

Wareham
Percent of map unit: 4 percent
Landform: Depressions

Wareham
Percent of map unit: 4 percent

Ra—Raynham silt loam

Map Unit Setting
Elevation: 50 to 500 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days

Map Unit Composition
Raynham and similar soils: 60 percent
Minor components: 40 percent

Description of Raynham

Setting
Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Glaciolacustrine, eolian, or old alluvial deposits, comprised mainly of silt and very fine sand

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 3 percent
Available water capacity: High (about 11.8 inches)

Interpretive groups

Farmland classification: Prime farmland if drained
Land capability (nonirrigated): 3w
Hydrologic Soil Group: C/D

Typical profile

0 to 12 inches: Silt loam
12 to 34 inches: Very fine sandy loam
34 to 72 inches: Very fine sandy loam

Minor Components

Scio

Percent of map unit: 10 percent

Raynham

Percent of map unit: 10 percent

Rhinebeck

Percent of map unit: 10 percent

Unadilla

Percent of map unit: 5 percent

Madalin

Percent of map unit: 5 percent
Landform: Depressions

SeA—Scio silt loam, 0 to 3 percent slopes

Map Unit Setting

Elevation: 100 to 1,000 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days

Map Unit Composition

Scio and similar soils: 70 percent
Minor components: 30 percent

Description of Scio

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Glaciolacustrine deposits, eolian deposits, or old alluvium, comprised mainly of silt and very fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water capacity: Moderate (about 8.4 inches)

Interpretive groups

Farmland classification: All areas are prime farmland
Land capability (nonirrigated): 2w
Hydrologic Soil Group: B/D

Typical profile

0 to 4 inches: Silt loam
4 to 23 inches: Silt loam
23 to 72 inches: Silt loam

Minor Components

Raynham

Percent of map unit: 10 percent

Unadilla

Percent of map unit: 10 percent

Deerfield

Percent of map unit: 5 percent

Hudson

Percent of map unit: 5 percent

Wa—Wareham loamy sand

Map Unit Setting

Elevation: 100 to 1,000 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days

Map Unit Composition

Wareham, poorly drained, and similar soils: 70 percent
Minor components: 30 percent

Description of Wareham, Poorly Drained

Setting

Landform: Depressions

Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy glaciofluvial or deltaic deposits

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.1 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability (nonirrigated): 4w
Hydrologic Soil Group: A/D

Typical profile

0 to 2 inches: Slightly decomposed plant material
2 to 8 inches: Loamy sand
8 to 19 inches: Loamy sand
19 to 72 inches: Sand

Minor Components

Wareham, somewhat poorly drained

Percent of map unit: 10 percent

Deerfield

Percent of map unit: 5 percent

Raynham

Percent of map unit: 5 percent

Cheektowaga

Percent of map unit: 5 percent
Landform: Depressions

Scarboro

Percent of map unit: 5 percent
Landform: Depressions

WnA—Windsor loamy sand, nearly level

Map Unit Setting

Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days

Map Unit Composition
Windsor and similar soils: 80 percent
Minor components: 20 percent

Description of Windsor

Setting
Landform: Deltas, outwash plains, terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy glaciofluvial or deltaic deposits

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.4 inches)

Interpretive groups
Farmland classification: Farmland of statewide importance
Land capability (nonirrigated): 3s
Hydrologic Soil Group: A

Typical profile
0 to 2 inches: Moderately decomposed plant material
2 to 11 inches: Loamy sand
11 to 25 inches: Loamy sand
25 to 72 inches: Loamy sand

Minor Components

Deerfield
Percent of map unit: 10 percent

Hinckley
Percent of map unit: 5 percent

Oakville
Percent of map unit: 5 percent

WnB—Windsor loamy sand, undulating

Map Unit Setting
Mean annual precipitation: 36 to 48 inches

Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days

Map Unit Composition
Windsor and similar soils: 80 percent
Minor components: 20 percent

Description of Windsor

Setting
Landform: Deltas, outwash plains, terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy glaciofluvial or deltaic deposits

Properties and qualities
Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.4 inches)

Interpretive groups
Farmland classification: Farmland of statewide importance
Land capability (nonirrigated): 3s
Hydrologic Soil Group: A

Typical profile
0 to 2 inches: Moderately decomposed plant material
2 to 11 inches: Loamy sand
11 to 25 inches: Loamy sand
25 to 72 inches: Loamy sand

Minor Components

Deerfield
Percent of map unit: 10 percent

Oakville
Percent of map unit: 5 percent

Hinckley
Percent of map unit: 5 percent

WnC—Windsor loamy sand, rolling

Map Unit Setting

Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days

Map Unit Composition

Windsor and similar soils: 75 percent
Minor components: 25 percent

Description of Windsor

Setting

Landform: Deltas, outwash plains, terraces
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy glaciofluvial or deltaic deposits

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.4 inches)

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 4e
Hydrologic Soil Group: A

Typical profile

0 to 2 inches: Moderately decomposed plant material
2 to 11 inches: Loamy sand
11 to 25 inches: Loamy sand
25 to 72 inches: Loamy sand

Minor Components

Hinckley

Percent of map unit: 10 percent

Deerfield

Percent of map unit: 10 percent

Oakville
Percent of map unit: 5 percent

WnD—Windsor loamy sand, hilly

Map Unit Setting
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days

Map Unit Composition
Windsor and similar soils: 75 percent
Minor components: 25 percent

Description of Windsor

Setting
Landform: Deltas, outwash plains, terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy glaciofluvial or deltaic deposits

Properties and qualities
Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.4 inches)

Interpretive groups
Farmland classification: Not prime farmland
Land capability (nonirrigated): 6e
Hydrologic Soil Group: A

Typical profile
0 to 2 inches: Moderately decomposed plant material
2 to 11 inches: Loamy sand
11 to 25 inches: Loamy sand
25 to 72 inches: Loamy sand

Minor Components

Oakville
Percent of map unit: 10 percent

Hinckley

Percent of map unit: 10 percent

Deerfield

Percent of map unit: 5 percent

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://soils.usda.gov/

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://soils.usda.gov/

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://soils.usda.gov/

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://soils.usda.gov/

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.glti.nrcs.usda.gov/

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://soils.usda.gov/

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://soils.usda.gov/

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210.

Appendix 4-C – NYSDEC Draft Management Agreement

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

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

Appendix 4-D – USFWS Biological Opinion

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.

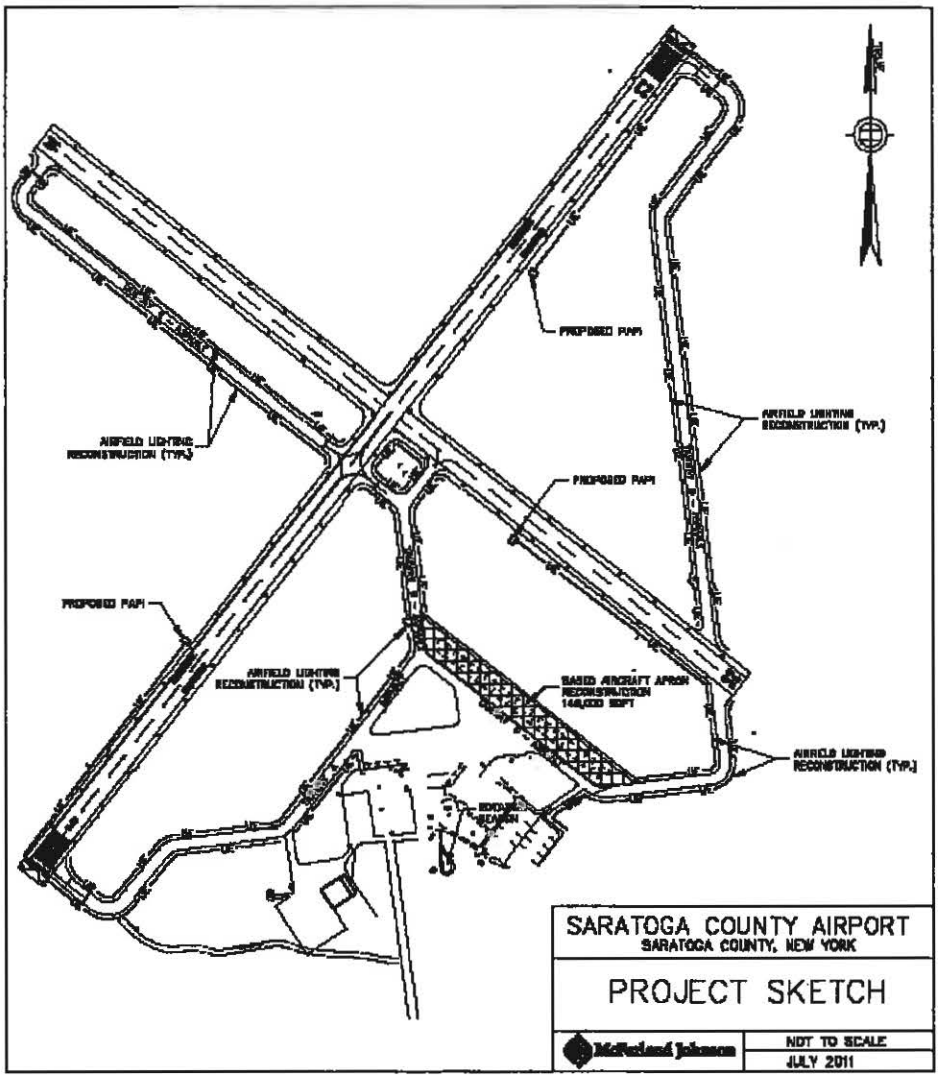
The based aircraft tie-down ramp asphalt pavement is critically deteriorated with full depth cracks throughout the surface area. Reconstruction will require a full depth reconstruction of the ramp within the current ramp footprint occupying approximately 16,500 square yards.

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 4-E – Wetland and Waterways Delineation

McFarland Johnson

WETLAND DELINEATION REPORT

MASTER PLAN UPDATE
SARATOGA COUNTY AIRPORT
BALLSTON SPA, SARATOGA COUNTY, NEW YORK

August 2013

Prepared For:

Saratoga County
Department of Public Works
3654 Galway Road
Ballston Spa, NY 12020-2517

Prepared By:

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Binghamton, NY 13902-1980

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APPENDICES

1 PROJECT BACKGROUND

1.1 INTRODUCTION

McFarland Johnson, Inc. (MJ) was contracted by Saratoga County to conduct a wetland delineation as part of the Master Plan Update (MPU) for Saratoga County Airport (Airport). The Airport is a county-owned general aviation airport located in the Town of Milton, Saratoga County, New York (Figure 1).

1.2 PROJECT DESCRIPTION

The Airport MPU is a comprehensive study that describes the short-, medium-, and long-term development plans to meet the future aviation demands of the airport. In developing the Airport MPU, consideration was given to the potential environmental impacts of potential future development at the airport. This report was prepared to assist in creating development alternatives that had the least environmental impacts to wetlands.

2 METHODS

2.1 AGENCY RESOURCE INFORMATION

Prior to the field survey of Airport, aerial photographs and various mapping resources were reviewed. The mapping resources included:

a) United States Geological Survey (USGS) Topographic Map (Saratoga Springs USGS 7.5 Minute Quadrangle), Appendix A- Figure 1.

b) New York State Department of Environmental Conservation (NYSDEC) Freshwater Wetlands Map, Appendix A - Figure 2.

c) United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Map, Appendix A- Figure 3.

d) Federal Emergency Management Agency (FEMA) Floodplain Map (FEMA Map Service Center, Appendix A- Figure 4.

e) Natural Resource Conservation Service (NRCS) Soils Map, Appendix A- Figure 5.

2.2 FIELD DATA COLLECTION

Wetland delineations were completed by MJ during site visits on April 25 and 26, 2013. The Project Study Area (PSA) covered by this wetland delineation report is the Airport property boundaries. The wetland delineation was 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). In the vicinity of those areas where NYSDEC Freshwater Wetlands were mapped, the 1995 *New York State Freshwater Wetlands Delineation Manual* (1995 NYSDEC Manual) was also consulted.

Surveyor's flags were placed along the wetland boundaries based on observations of vegetation, hydric soil indicators, and hydrology conditions. The wetland and waterway boundaries were surveyed using a hand held Trimble GPS Pathfinder ProXH receiver with H-Star technology with decimeter (10 cm/ 4 inch) post processing accuracy. USACE Wetland Determination Forms and wetland photographs were also compiled. Further descriptions on the field criteria and methods used to identify wetlands within the project study area are described in the subsequent subsections.

2.2.1 WETLANDS

The 1987 USACE and 1995 NYSDEC Wetland Delineation Manuals are generally similar in methodologies for delineating wetland boundaries, however the 1995 NYSDEC Manual is more conservative. The 1995 NYSDEC Manual states that if an area meets a set of specific hydrophytic vegetation criteria, then the area can be considered a wetland without detailed investigation of hydrology and soils.

Hydrophytes are plants that are especially adapted to survive in wet soil conditions in predominantly anaerobic conditions. The 2012 *National List of Plant Species That Occur in Wetlands* assigns individual species to specific indicator statuses based on their probability to occur in wetlands or uplands. Further information on the specific indicator statuses is provided below.

Indicator Code	Indicator Status	Comment
OBL	Obligate Wetland	Almost always is a hydrophyte, rarely in uplands
FACW	Facultative Wetland	Usually is a hydrophyte but occasionally found in uplands
FAC	Facultative	Commonly occurs as either a hydrophyte or non-hydrophyte
FACU	Facultative Upland	Occasionally is a hydrophyte but usually occurs in uplands
UPL	Obligate Upland	Rarely is a hydrophyte, almost always in uplands

A species is considered hydrophytic if it listed as FAC, FACW or OBL.

2.2.1.1 1995 NYSDEC Manual

The 1995 NYSDEC Manual considers an area to be a wetland without detailed investigation of hydrology and soils if the following hydophytic vegetation criteria are met:

(1) FACW or wetter species comprise more than 50 percent of the dominant species of the plant community and no FACU or UPL species are dominant, or;

(2) OBL perennial species collectively represent at least 10 percent aerial cover in the plant community and are evenly distributed throughout the community and not restricted to depressional microsites, or;

(3) One or more dominant plant species in the community has one or more of the following morphological adaptations: hypertrophied lenticels, buttressed stems or trunks, multiple trunks, adventitious roots, shallow root systems, or other locally applicable adaptation, or;

(4) The presence of unbroken expanses of peat mosses (*Sphagnum* spp.) and other regionally applicable species of bryophytes over persistently saturated soil.

If none of the aforementioned vegetation criteria are met, but more than 50 percent of the dominant species of all strata are FAC or some combination of FAC and wetter species; then an investigation and verification of hydrology and/or hydric soils is required to define the wetland boundary. At this point, the methodologies of the two manuals for identifying wetland boundaries are generally consistent.

2.2.1.2 1987 USACE Manual and 2012 Regional Supplement

The 2012 Regional Supplement uses several tests, as needed, to analyze the primacy of hydrophytes in data collection plots based on plant species absolute percent covers, dominance, and morphological adaptations. Further information on these tests is provided below.

- Rapid Test – Hydrophytic dominance is confirmed when all dominant species across all stratums are OBL or FACW. Dominant plant species are determined by ranking species within a stratum based on their absolute percent cover as individuals, and then selecting those species in decreasing order who as individuals, or cumulatively, immediately exceed 50% of the total absolute cover by all species in that stratum. Those species whose absolute percent cover individually exceed 20% of the total absolute cover by all species in that stratum are also considered dominants.

- Dominance Test – Hydrophytic primacy is confirmed when greater than 50% of the dominant plants across all strata are OBL, FACW or FAC. Dominant plant species are determined by ranking species within a stratum based on their absolute percent cover as individuals, and then selecting those species in decreasing order who as individuals or cumulatively immediately exceed 50% of the total absolute cover by all species in that stratum. Those species whose absolute percent cover individually exceed 20% of the total absolute cover by all species in that stratum are also considered dominants.

- Prevalence Test – Hydrophytic primacy is confirmed when the plot-based prevalence index is greater than 3.0. The prevalence index is calculated based on a weighted-average wetland indicator status of all species identified within a plot location. Dominant plant species are determined by a weighted average. Plants are given a numeric value based on the indicator status and abundance in the collection plot area. To meet the dominance category, the weighted average must be equal to or below 3.0.

- Morphological Adaptations – Hydrophytic primacy is confirmed if upon indicator status reassignment and primacy is satisfied through reevaluation via the Dominance Test or Prevalence Test. If more than 50% of a FACU species located in an area exhibit morphological adaptations such as shallow root systems, adventitious roots, hypertrophied lenticels, multi-stemmed trunks due to prolonged soil inundation or saturation, then this species is reassigned as a FAC species, and the Dominance Test and Prevalence Test are recalculated.

The 1987 USACE Manual and 2012 Regional Supplement require permanent inundation, sufficient periodic inundation, or soil saturation within 12 inches of the soil surface during the growing season to meet the criteria of wetland hydrology. Since wetland evaluations are comparatively brief, hydrology evaluations utilize primary and/ or secondary indicators that are readily visible during a site assessment. The 2012 Regional Supplement has established that a minimum of one primary indicator or two secondary indicators are required to meet the hydrology criterion. The listing primary and secondary indicators established in the 2012 Regional Supplement follows.

Primary field indicators for hydrology include:

- Surface Water
- High Water Table
- Saturations
- Water Marks
- Sediment Deposits
- Drift Deposits
- Algal Mat of Crust
- Iron Deposits
- Inundation Visible on Aerial Imagery
- Sparsely Vegetated Concave Surfaces
- Water Stained Leaves
- Aquatic Fauna
- Marl Deposits
- Hydrogen Sulfide Odor
- Oxidized Rhizospheres of Live Roots
- Reduced Iron Spots
- Recent Iron Reduction in Tilled Soils
- Thin Muck Surface
- Other (Explain)

Secondary hydrological indicators include:

- Surface Soil Cracks
- Drainage Patterns
- Moss Trim Lines
- Dry-Season Water Table
- Crayfish Burrows
- Saturation Visible on Aerial Imagery
- Stunted or Stressed Plants
- Geomorphic Position
- Shallow Aquitard
- Microtopographic Relief
- FAC-Neutral Test

The 1987 USACE Manual and 2012 Regional Supplement indicate that hydric soils are those that exhibit certain characteristic morphologies as the result from repeated periods of saturation or inundation for extended periods of time. These morphological characteristics persist during saturated and unsaturated conditions and can serve in identifying hydric soils in the field. Evidence of hydric soils was determined in the field through soil test pits dug to a depth of 16 inches below grade or to a depth as subsurface conditions allowed. The soil stratums were then described in form of texture, saturation, matrix color, and redox features. The soil descriptions were then compared to the most current version of the USDA NRCS publication *Field Indicators of Hydric Soils in the United States* for determination of the presence of a hydric soil.

3 RESULTS

3.1 AGENCY RESOURCES INFORMATION

Review of the USGS mapping did not indicate the potential presence of any wetlands or waterways at Airport (Appendix A- Figure 1).

Review of the NYSDEC Freshwater Wetlands Map indicated that NYSDEC Freshwater Wetland S-18, a Class IV Wetland, is mapped near the northwest corner of the airport (Appendix A- Figure 2).

The NWI mapping indicates potential wetland areas that were identified by the US Fish and Wildlife Service (USFWS) using aerial photography. These maps do not have any regulatory consequence, but rather indicate areas that may meet federal wetland criteria. The NWI mapping did not indicate the potential presence of any wetlands or waterways in the PSA (Appendix A- Figure 3).

Based on soils information provided by the NRCS, the PSA had two small areas mapped with soil that is considered to be partially hydric (Appendix A- Figure 4). The mapped partially hydric soil was Deerfield loamy fine sand (DeA).

3.2 WETLANDS

A total of six wetlands, hereafter referred to alphabetically as Wetland A through Wetland F, were delineated at SCA.

Based on the U.S. Fish and Wildlife Service (USFWS) 1979 publication *Classification of Wetlands and Deepwater Habitats of the United States*, all six wetlands are considered to be palustrine emergent wetlands (PEM). The Wetlands and Waterways Delineation Plan is included in Appendix B. Wetland datasheets are included in Appendix C and wetland photographs are provided in Appendix D.

Feature I.D.	Feature Type	Acreage	NYSDEC Jurisdiction	USACE Jurisdiction
Wetland A	PEM	0.07	No	No
Wetland B	PEM	0.81	No	No
Wetland C	PEM	0.18	No	No
Wetland D	PEM	0.04	No	No
Wetland E	PEM	0.05	No	No
Wetland F	PEM	0.04	No	No

3.2.1 NYSDEC JURISDICTION

As previously stated, review of the NYSDEC Freshwater Wetlands Map indicated that NYSDEC Freshwater Wetland S-18, a Class IV Wetland, is mapped near the northwest corner of Saratoga County Airport. Based on field reconnaissance of the general vicinity and offset survey data collected from airport property, it is believed that NYSDEC

Freshwater Wetland S-18 occurs off airport property. Although Wetlands D, E, and F were delineated on airport property, and within the area mapped as NYSDEC Freshwater Wetland S-18, these wetlands are small isolated wetlands. Wetlands D and F are located within 50 linear feet from what is believed to be the true boundary of NYSDEC Freshwater Wetland S-18, while Wetland E is not. It is believed that Wetlands D, E, and F do not, collectively or individually, function as a unit with, nor do they significantly contribute to the ability of NYSDEC Freshwater Wetland S-18 in providing the wetland benefits listed in paragraphs (a), (b), (c), (e), (f), and (i) of Section 0105-7 of Article 24 of the ECL. Based on this assessment, it is believed that none of the six delineated wetlands on airport property are subject to NYSDEC jurisdiction under Article 24 of the ECL.

3.2.2 USACE JURISDICTION

Wetland A

Wetland A is dominated by woolgrass (*Scirpus cyperinus*). Hydrological conditions B10- Drainage Patterns and D2- Geomorphic Position were observed in Wetland A. The soils map shows the area of Wetland A mapped as WhA- Windsor loamy sand (nearly level), a non-hydric soil. Observed soils within Wetland A consisted of 10YR 3/2 loamy fine sand to a depth of 5.5 inches overlain a 2.5Y 5/3 loamy fine sand with 2% 7.5YR 4/6 redox concentrations to a depth of 9 inches. The soil layer from 9 to 11 inches consisted of 2.5Y 5/3 loamy fine sand with 20% 10YR 3/1 organic streaking, and from 11 to 16 inches consisted of 10YR 4/3 loamy fine sand. Based on this information, the soils within Wetland A meet the 2012 Regional Supplement hydric soils indicator S6- Stripped Matrix.

No wetland or other aquatic-dependent fauna where observed in Wetland A during the site visits conducted by MJ.

Wetland A is a closed depressional wetland with no significant nexus with a traditionally navigable waterway (TNW), and therefore it is assumed that Wetland A is not subject to USACE jurisdiction under Section 404 of the Clean Water Act.

Wetland B

Wetland B is dominated by woolgrass. Hydrological conditions B7- Inundation Visible on Aerial Imagery, B10- Drainage Patterns, and D2- Geomorphic Position were observed within Wetland B. Wetland B is mapped as Deerfield loamy fine sand- nearly level (DeA), a partially hydric soil. Observed soils within the wetland consisted of 10YR 3/4 loamy fine sand to a depth of 1 inch overlain a 10YR 2/1 loamy fine sand with 7% 10YR 3/3 redox concentrations to a depth of 16 inches. Based on this information, the soils within Wetland B meet the 2012 Regional Supplement hydric soils indicator S5- Sandy Redox.

No wetland or other aquatic-dependent fauna where observed in Wetland B during the site visits conducted by MJ.

Wetland B is a closed depressional wetland with no significant nexus with a TNW, and therefore it is believed that Wetland B is not subject to USACE jurisdiction under Section 404 of the Clean Water Act.

Wetland C

Wetland C is dominated by path rush (*Juncus tenuis*). Hydrological conditions A2- High Water Table, A3- Saturation, B1- Watermarks, B7- Inundation Visible on Aerial Imagery, B10- Drainage Patterns, and D2- Geomorphic Position were observed in Wetland C. Wetland C is mapped as WhA- Windsor loamy sand (nearly level), a non-hydric soil. Observed soils within the wetland consisted of 10YR 3/2 loamy fine sand to a depth of 1 inch overlain a 2.5YR 4/2 loamy fine sand with 2% 5YR 4/6 redox concentrations to a depth of 16 inches. Based on this information, the soils within Wetland C meet the 2012 Regional Supplement hydric soils indicator S5- Sandy Redox.

Red-spotted newt (*Notophthalmus v. viridescens*) adults and eggs were where observed in Wetland C during the site visits conducted by MJ.

Wetland C is an excavated closed depressional wetland with no significant nexus with a TNW, and therefore it is assumed that Wetland C is not subject to USACE jurisdiction under Section 404 of the Clean Water Act.

Wetland D

Wetland D is dominated by sedges (*Carex* sp.), soft rush (*Juncus effusus*), and woolgrass. Hydrological conditions C9- Saturation Visible on Aerial Imagery, B10- Drainage Patterns, and D2- Geomorphic Position were observed in Wetland D. Wetland D is mapped as Scio silt loam (0-3% slopes), a non-hydric soil. Observed soils within the wetland consisted of 10YR 2/1 loamy fine sand with 2% 5YR 3/4 redox concentrations to a depth of 11 inches. The soil layer from 11 to 16 inches consisted of 10YR 5/2 loamy fine sand with 3% 7.5YR 3/4 redox concentrations. Based on this information, the soils within Wetland D meet the 2012 Regional Supplement hydric soils indicators S5- Sandy Redox and S7- Dark Surface.

No wetland or other aquatic-dependent fauna where observed in Wetland D during the site visits conducted by MJ.

Wetland D is a closed depressional wetland, with no discernible hydrological connection to a TNW. Based on this information, it is believed that Wetland D is not subject to USACE jurisdiction under Section 404 of the Clean Water Act.

Wetland E

Wetland E is dominated by woolgrass and sedges. Hydrological conditions B10- Drainage Patterns, C9- Saturation Visible on Aerial Imagery, and D2- Geomorphic Position were observed in Wetland E. Wetland E is mapped as Scio silt loam (0-3% slopes), a non-hydric soil. Observed soils within the wetland consisted of 10YR 2/1 loamy fine sand with 10% 5YR 3/4 to a depth of 11 inches overlain a 10YR 4/3 loamy fine sand with 3% 10YR 4/3 redox concentrations to a depth of 16 inches. Based on this information, the soils within Wetland E meet the 2012 Regional Supplement hydric soils indicators S5- Sandy Redox and S7- Dark Surface.

No wetland or other aquatic-dependent fauna where observed in Wetland E during the site visits conducted by McFarland Johnson.

Wetland E is a closed depressional wetland, with no discernible hydrological connection to a TNW. Based on this information, it is inferred that Wetland E is not subject to USACE jurisdiction under Section 404 of the Clean Water Act.

Wetland F

Wetland F is dominated by sedges and redtop (*Agrostis gigantea*). Hydrological conditions B10- Drainage Patterns, C9- Saturation Visible on Aerial Imagery, and D2- Geomorphic Position were observed in Wetland F. Wetland F is mapped as Scio silt loam (0-3% slopes), a non-hydric soil. Observed soils within the wetland consisted of 10YR 2/1 loamy fine sand with 5% 5YR 3/4 redox concentrations to a depth of 8.5 inches overlain a 2.5YR 4/3 loamy fine sand with 2% 10YR 4/6 redox concentrations to a depth of 16 inches. Based on this information, the soils within Wetland F meet the 2012 Regional Supplement hydric soils indicators S5- Sandy Redox and S7- Dark Surface.

No wetland or other aquatic-dependent fauna where observed in Wetland F during the site visits conducted by McFarland Johnson.

Wetland F is a closed depressional wetland, with no discernible hydrological connection to a TNW. Based on this information, it is assumed that Wetland F is not subject to USACE jurisdiction under Section 404 of the Clean Water Act.

4 SUMMARY

Based on the wetland delineations performed by McFarland-Johnson, a total of six wetlands, Wetlands A through F, were identified and delineated within the 527.06 acre PSA. All delineated six wetlands are considered to be PEM wetlands.

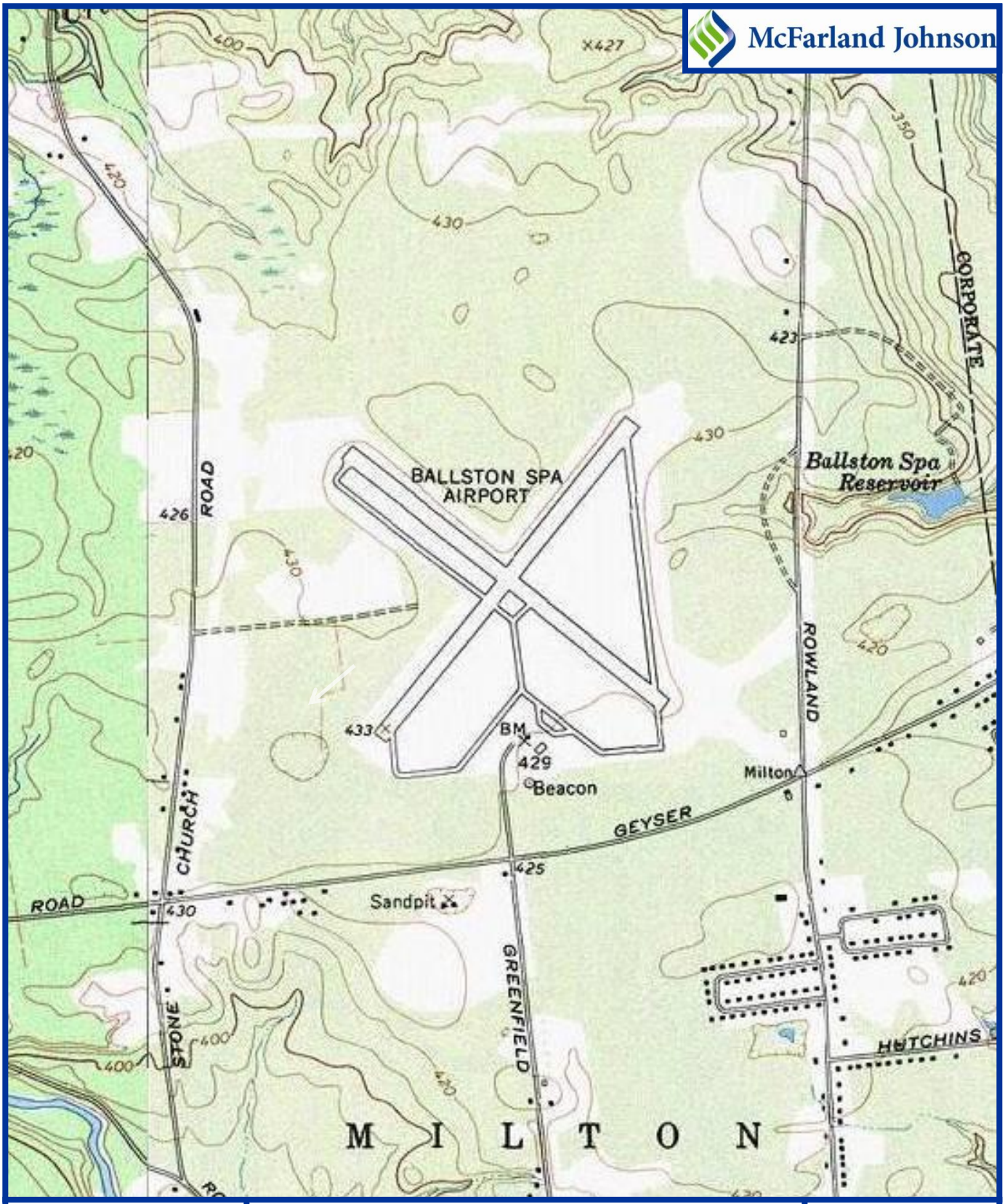
Based on a review of the New York State Freshwater Wetland mapping and site reconnaissance, it is believed that none of the delineated wetlands are regulated by the NYSDEC under Article 24 of the ECL.

It is McFarland Johnson's opinion that Wetlands A through F are closed depressional wetlands, with no discernible hydrological connections to TNWs and are not regulated by the USACE under Section 404 of the CWA.

Confirmation of the Article 24 and Section 404 jurisdictional statuses of these wetlands will need to be confirmed by the USACE and NYSDEC.

Appendix A

Figures



Source:
TOPO!® Version 2.6.9
USGS 1:24,000
Topographical Maps

USGS Topographical Map
Saratoga County Airport
Ballston Spa, Saratoga County, New York

Figure 1

Source:

NYSGIS Clearinghouse,
On-line: http://gis.ny.gov/

NYSDEC Freshwater Wetlands Map
Saratoga County Airport
Ballston Spa, Saratoga County, New York

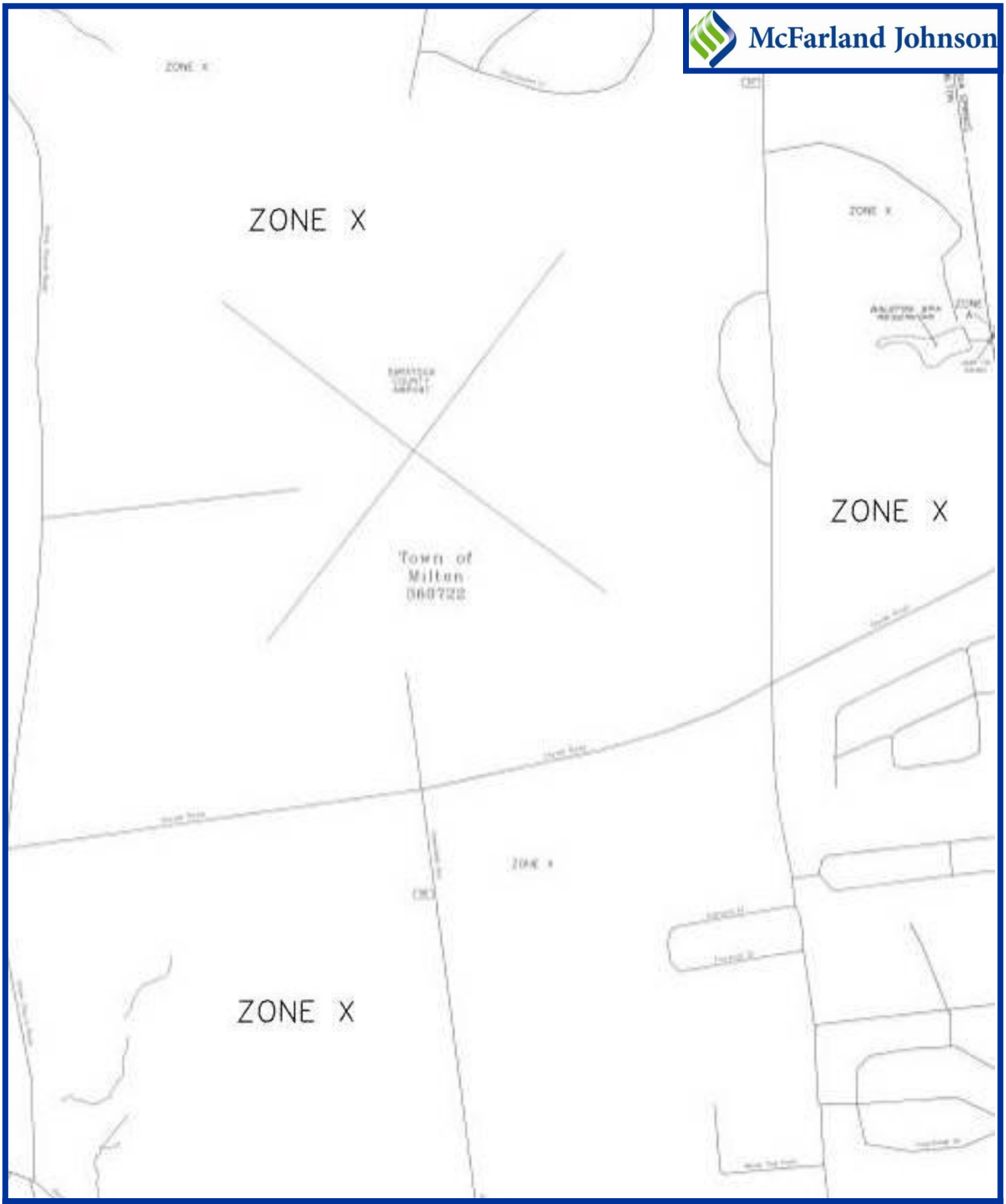
Figure 2

Source:

USFWS National Wetlands Inventory Wetlands Mapper

NWI Wetlands Map
Saratoga County Airport
Ballston Spa, Saratoga County, New York

Figure 3



Source:

FEMA Map Service Center,
On-line: https://msc.fema.gov

FEMA Floodplain Map
Saratoga County Airport
Ballston Spa, Saratoga County, New York

Figure 4

Map Unit Symbol	Map Unit Name	Hydric Rating
DeA	Deerfield loamy fine sand, nearly level	Partially Hydric
SeA	Scio silt loam, 0 to 3 percent slopes	Not Hydric
WnA	Windsor loamy sand, nearly level	Not Hydric
WnB	Windsor loamy sand, undulating	Not Hydric

Source:

NRCS Web Soil Survey, On-line:
http://websoilsurvey.nrcs.usda.gov/

NRCS Soils Map
Saratoga County Airport
Ballston Spa, Saratoga County, New York

Figure 5

Appendix B

Wetland Delineation Plans

WETLANDS AND WATERWAYS DELINEATION - OVERALL PLAN

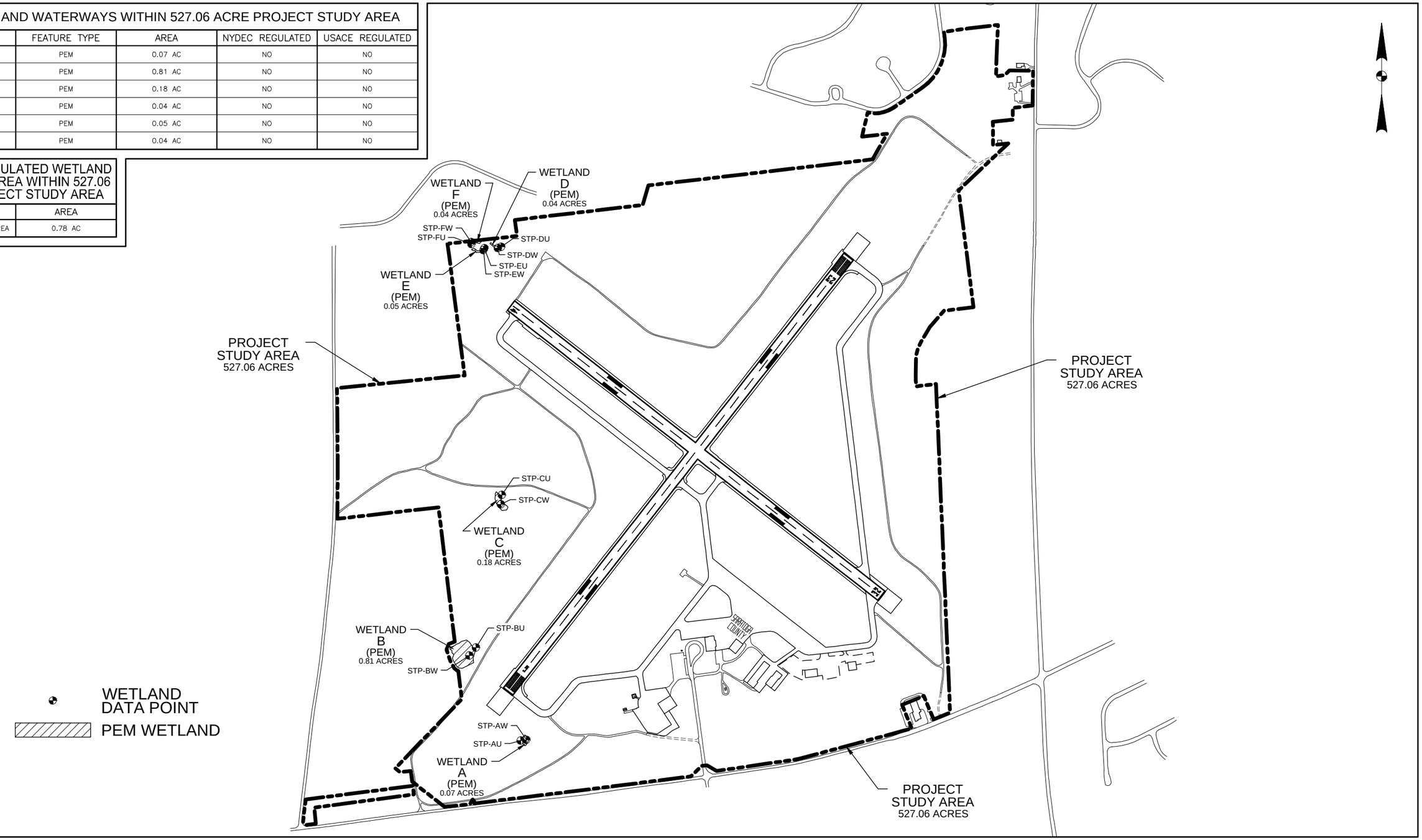
PLAN WDP-1

WETLANDS AND WATERWAYS WITHIN 527.06 ACRE PROJECT STUDY AREA

FEATURE ID	FEATURE TYPE	AREA	NYDEC REGULATED	USACE REGULATED
WETLAND A	PEM	0.07 AC	NO	NO
WETLAND B	PEM	0.81 AC	NO	NO
WETLAND C	PEM	0.18 AC	NO	NO
WETLAND D	PEM	0.04 AC	NO	NO
WETLAND E	PEM	0.05 AC	NO	NO
WETLAND F	PEM	0.04 AC	NO	NO

NYSDEC REGULATED WETLAND ADJACENT AREA WITHIN 527.06 ACRE PROJECT STUDY AREA

FEATURE ID	AREA
NYSDEC ADJACENT AREA	0.78 AC



SARATOGA COUNTY AIRPORT

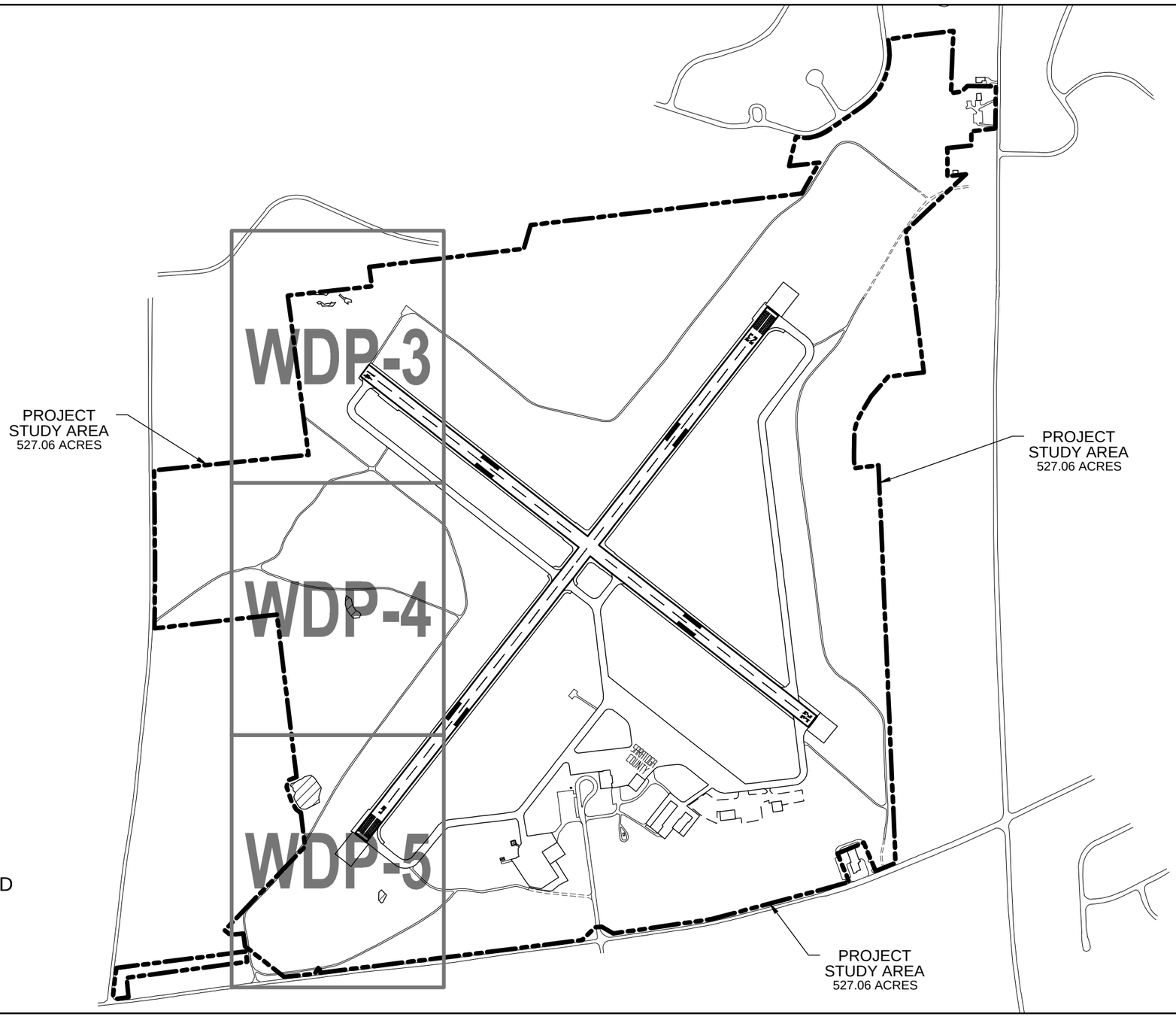
SCALE
0 800 1600
FEET

McFarland Johnson

K:\SARATOGA\T-17588.04 Saratoga AMPU\Draw\Drawings\AutoCAD\Figures\WETLAND-DELINEATION.dwg, 9/3/2013 10:09:26 AM, rtoomey

WETLANDS AND WATERWAYS DELINEATION - SUBSET LAYOUT PLAN

PLAN WDP-2



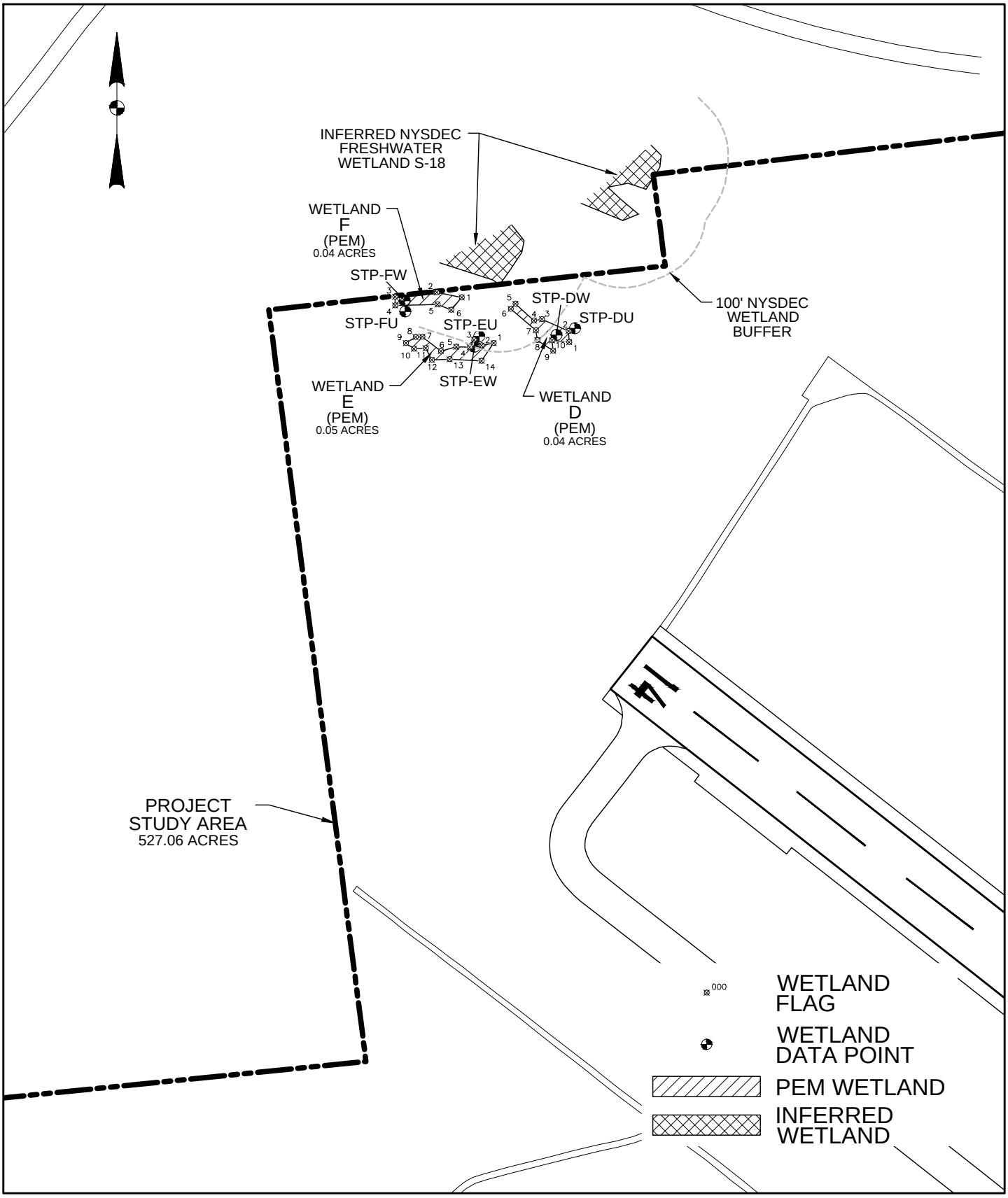
SARATOGA COUNTY AIRPORT

SCALE
0 800 1600
FEET

McFarland Johnson

WETLANDS AND WATERWAYS DELINEATION - SUBSET PLAN

PLAN WDP-3



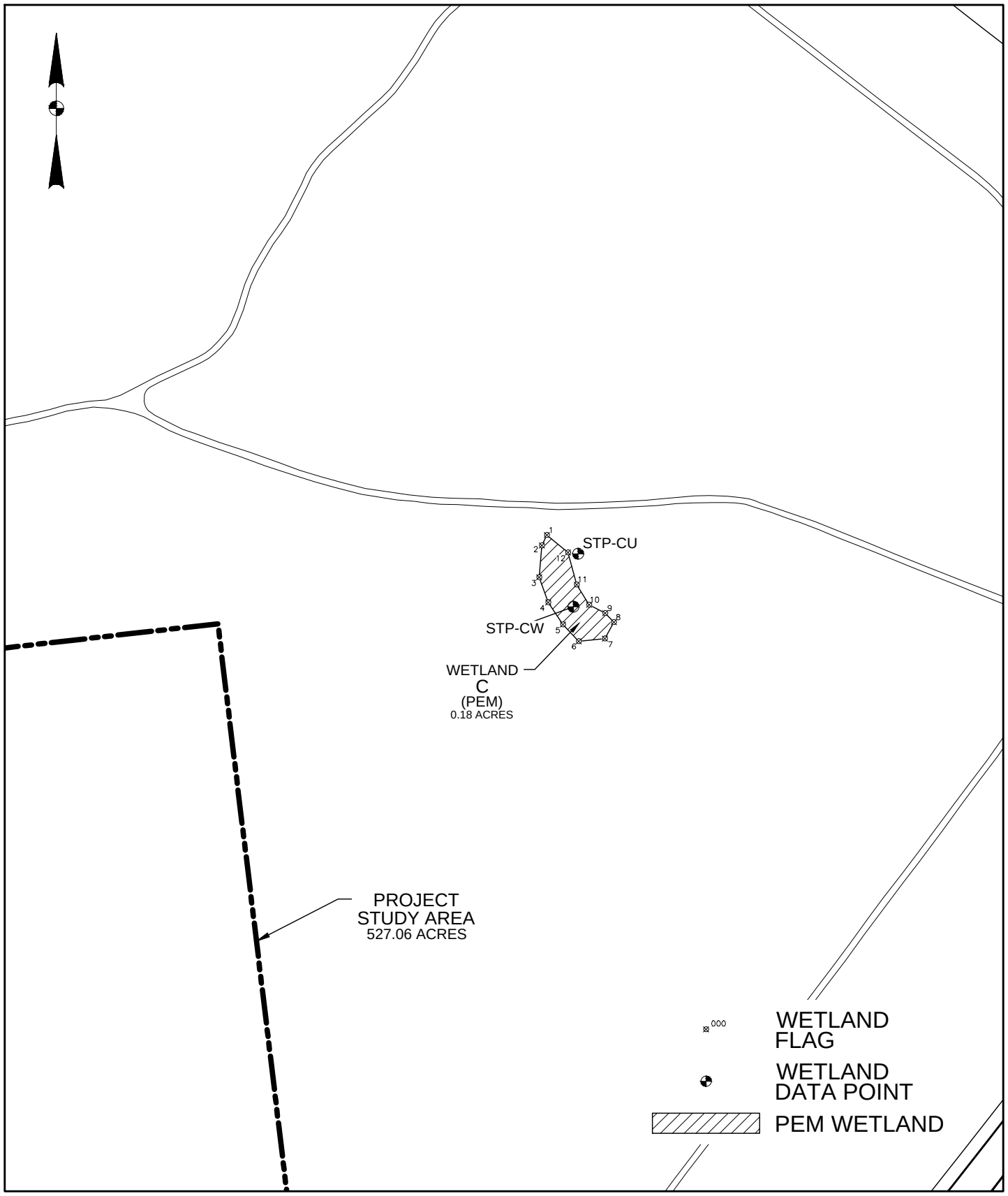
SARATOGA COUNTY AIRPORT

SCALE
0 200 400
FEET

McFarland Johnson

WETLANDS AND WATERWAYS DELINEATION - SUBSET PLAN

PLAN WDP-4



SARATOGA COUNTY AIRPORT

SCALE

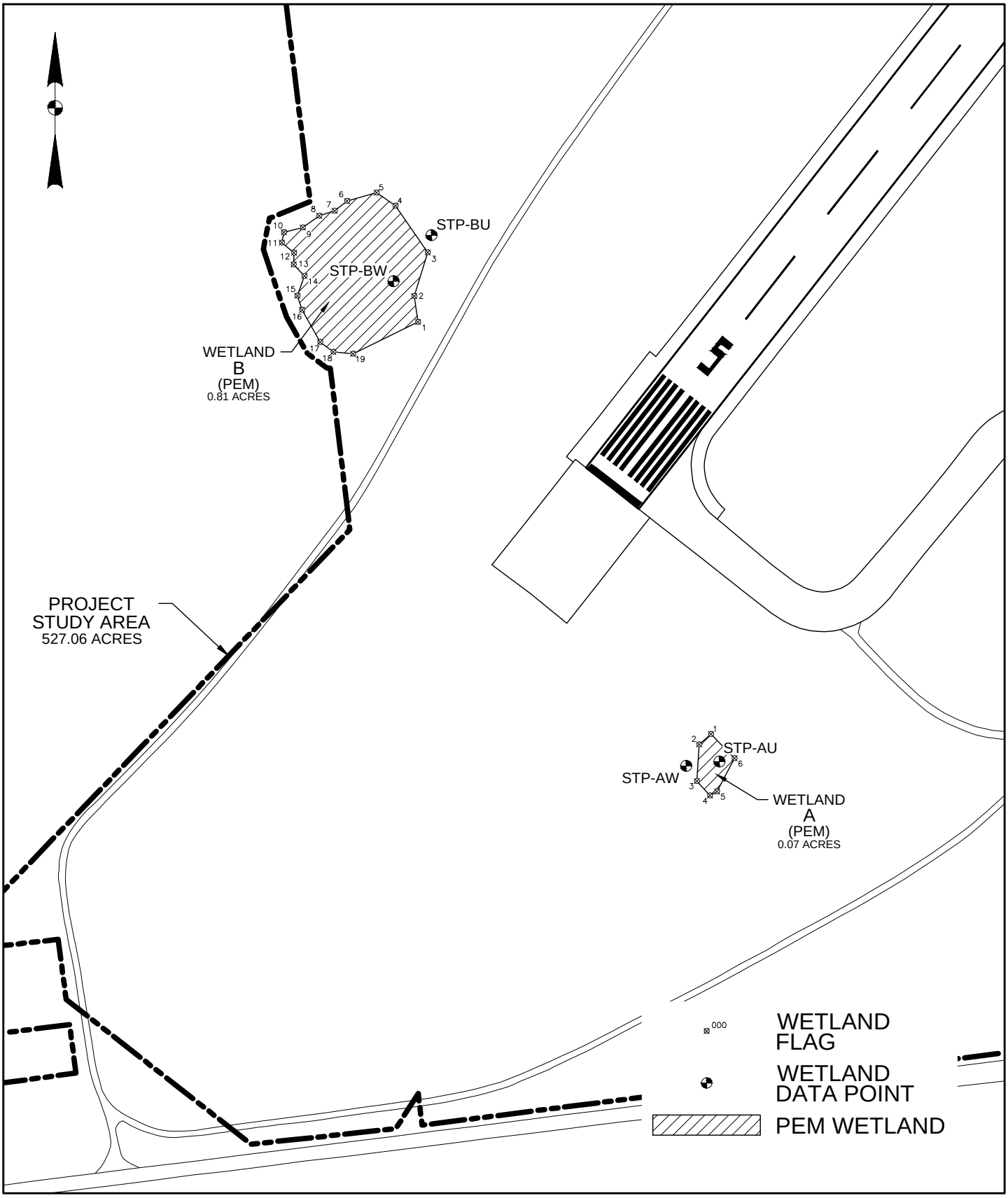
0 200 400

FEET

McFarland Johnson

WETLANDS AND WATERWAYS DELINEATION - SUBSET PLAN

PLAN WDP-5



SARATOGA COUNTY AIRPORT

SCALE

0 200 400

FEET

McFarland Johnson

Appendix C

Wetland Datasheets

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Saratoga County Airport City/County: Balston Spa, Saratoga Sampling Date: 4/25/2013

Applicant/Owner: Saratoga County State: NY Sampling Point: A-U

Investigator(s): Thomas Wirickx Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: Long: Datum:

Soil Map Unit Name: WhA- Windsor loamy sand (nearly level) NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** **No** X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: A-U

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Schizachyrium scoparium*	50	Yes	FACU
2. *Comptonia peregrina*	10	No	UPL
3. *Danthonia spicata*	10	No	UPL
4. *Lupinus perennis*	2	No	UPL
5. *Centaurea maculosa*	2	No	UPL
6. *Solidago sp.*	2	No	UPL
7.			
	76 =Total Cover		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	=Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	26	x 5 =	130
Column Totals:	76 (A)		330 (B)

Prevalence Index = B/A = 4.34

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: A-U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100					Sandy	
6-16	2.5Y 4/3	100					Sandy	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Saratoga County Airport City/County: Balston Spa, Saratoga Sampling Date: 4/25/2013

Applicant/Owner: Saratoga County State: NY Sampling Point: A-W

Investigator(s): Thomas Wirickx Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: Long: Datum:

Soil Map Unit Name: WhA- Windsor loamy sand (nearly level) NWI classification: PEM

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No	**within a Wetland?**	**Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:	Wetland A

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** X **No**

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: A-W

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Scirpus cyperinus*	50	Yes	OBL
2. *Danthonia spicata*	10	No	UPL
3. *Carex sp.*	10	No	FAC
4. *Salix sp.*	2	No	FAC
5.			
6.			
7.			
	72 =Total Cover		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	=Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	0	x 2 =	0
FAC species	12	x 3 =	36
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	72 (A)		136 (B)

Prevalence Index = B/A = 1.89

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: A-W

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5.5	10YR 3/2	100					Sandy	
5.5-9	2.5Y 5/3	98	7.5YR 4/6	2			Sandy	Prominent redox concentrations
9-11	2.5Y 5/3	80	10YR 3/1	20			Sandy	Distinct redox concentrations
11-16	10YR 4/3	100					Sandy	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- X Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Saratoga County Airport City/County: Balston Spa, Saratoga Sampling Date: 4/25/2013

Applicant/Owner: Saratoga County State: NY Sampling Point: B-U

Investigator(s): Thomas Wirickx Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: Long: Datum:

Soil Map Unit Name: WhA- Windsor loamy sand (nearly level) NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** **No** X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: B-U

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Danthonia spicata*	100	Yes	UPL
2. *Comptonia peregrina*	10	No	UPL
3.			
4.			
5.			
6.			
7.			
	110 =Total Cover		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	=Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	110	x 5 =	550
Column Totals:	110 (A)		550 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: B-U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/4	100					Sandy	
11-16	10YR 2/1	100					Sandy	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Saratoga County Airport City/County: Balston Spa, Saratoga Sampling Date: 4/25/2013

Applicant/Owner: Saratoga County State: NY Sampling Point: B-W

Investigator(s): Thomas Wirickx Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: Long: Datum:

Soil Map Unit Name: DeA- Deerfield loamy fine sand (nearly level) NWI classification: PEM

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No	**within a Wetland?**	**Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:	Wetland B

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** X **No**

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: B-W

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Scirpus cyperinus*	90	Yes	OBL
2. *Carex sp.*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
	100 =Total Cover		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	=Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		120 (B)

Prevalence Index = B/A = 1.20

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: B-W

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/4	100					Sandy	
1-16	10YR 2/1	93	10YR 3/3	7			Sandy	Distinct redox concentrations

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Saratoga County Airport City/County: Balston Spa, Saratoga Sampling Date: 4/25/2013

Applicant/Owner: Saratoga County State: NY Sampling Point: C-U

Investigator(s): Thomas Wirickx Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: Long: Datum:

Soil Map Unit Name: WhA- Windsor loamy sand (nearly level) NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** **No** X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: C-U

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Danthonia spicata*	2	Yes	UPL
2. *Comptonia peregrina*	2	Yes	UPL
3. *Centaurea maculosa*	2	Yes	UPL
4. *Schizachyrium scoparium*	2	Yes	UPL
5. *Salix sp*	2	Yes	FAC
6.			
7.			
	10 =Total Cover		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	=Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	8	x 5 =	40
Column Totals:	10 (A)		46 (B)

Prevalence Index = B/A = 4.60

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: C-U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 5/6	100					Sandy	
11-16	10YR 4/3	100					Sandy	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Saratoga County Airport City/County: Balston Spa, Saratoga Sampling Date: 4/25/2013

Applicant/Owner: Saratoga County State: NY Sampling Point: C-W

Investigator(s): Thomas Wirickx Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: Long: Datum:

Soil Map Unit Name: WhA- Windsor loamy sand (nearly level) NWI classification: PEM

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No	**within a Wetland?**	**Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:	Wetland C

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

Surface Water (A1)	Water-Stained Leaves (B9)	
X High Water Table (A2)	Aquatic Fauna (B13)	
X Saturation (A3)	Marl Deposits (B15)	
X Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
Drift Deposits (B3)	Presence of Reduced Iron (C4)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
Iron Deposits (B5)	Thin Muck Surface (C7)	
X Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	
Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):	
Water Table Present?	Yes X	No	Depth (inches):	5"
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):	4"

Wetland Hydrology Present? **Yes** X **No**

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: C-W

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Juncus tenius*	80	Yes	FAC
2. *Scirpus cyperinus*	5	No	OBL
3. *Juncus effusus*	2	No	OBL
4.			
5.			
6.			
7.			
	87 =Total Cover		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	=Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	7	x 1 =	7
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	87 (A)		247 (B)

Prevalence Index = B/A = 2.84

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: C-W

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100					Sandy	
1-16	2.5Y 4/2	98	5YR 4/6	2			Sandy	Prominent redox concentrations

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Saratoga County Airport City/County: Balston Spa, Saratoga Sampling Date: 4/25/2013

Applicant/Owner: Saratoga County State: NY Sampling Point: D-U

Investigator(s): Thomas Wirickx Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: Long: Datum:

Soil Map Unit Name: SeA- Scio silt loam, 0 to 3 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes	No X	**within a Wetland?**	**Yes**	**No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** **No** X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: D-U

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Danthonia spicata*	2	Yes	UPL
2. *Comptonia peregrina*	2	Yes	UPL
3. *Centaurea maculosa*	2	Yes	UPL
4. *Schizachyrium scoparium*	2	Yes	UPL
5. *Salix sp*	2	Yes	FAC
6.			
7.			
	10 =Total Cover		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	=Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	8	x 5 =	40
Column Totals:	10 (A)		46 (B)

Prevalence Index = B/A = 4.60

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: D-U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 5/6	100					Sandy	
11-16	10YR 4/3	100					Sandy	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Saratoga County Airport City/County: Balston Spa, Saratoga Sampling Date: 4/26/2013

Applicant/Owner: Saratoga County State: NY Sampling Point: D-W

Investigator(s): Thomas Wirickx Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: Long: Datum:

Soil Map Unit Name: SeA- Scio silt loam, 0 to 3 percent slopes NWI classification: PEM

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No	**within a Wetland?**	**Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:	Wetland D

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** X **No**

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: D-W

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Carex sp.*	50	Yes	FAC
2. *Scirpus cyperinus*	30	Yes	OBL
3. *Juncus effusus*	30	Yes	OBL
4.			
5.			
6.			
7.			
	110 =Total Cover		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	=Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		210 (B)

Prevalence Index = B/A = 1.91

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: D-W

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 2/1	98	5YR 3/4	2			Sandy	Prominent redox concentrations
11-16	10YR 5/2	97	7.5YR 3/4	3			Sandy	Prominent redox concentrations

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- X Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Saratoga County Airport City/County: Balston Spa, Saratoga Sampling Date: 4/26/2013

Applicant/Owner: Saratoga County State: NY Sampling Point: E-U

Investigator(s): Thomas Wirickx Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: Long: Datum:

Soil Map Unit Name: SeA- Scio silt loam, 0 to 3 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** **No** X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: E-U

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Schizachyrium scoparium*	30	Yes	UPL
2. *Lycopodium clavatum*	30	Yes	FAC
3. *Gaultheria procumbens*	30	Yes	FACU
4. *Comptonia peregrina*	10	No	FACU
5. *Kalmia angustifolia*	5	No	FAC
6.			
7.			
	105 =Total Cover		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	=Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	40	x 4 =	160
UPL species	30	x 5 =	150
Column Totals:	105 (A)		415 (B)

Prevalence Index = B/A = 3.95

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: E-U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					Sandy	
2-16	10YR 4/4	98	10YR 4/6	2			Sandy	Distinct redox concentrations

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Saratoga County Airport City/County: Balston Spa, Saratoga Sampling Date: 4/26/2013

Applicant/Owner: Saratoga County State: NY Sampling Point: E-W

Investigator(s): Thomas Wirickx Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: Long: Datum:

Soil Map Unit Name: SeA- Scio silt loam, 0 to 3 percent slopes NWI classification: PEM

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No	**within a Wetland?**	**Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:	Wetland E

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** X **No**

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: E-W

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Scirpus cyperinus*	50	Yes	OBL
2. *Carex sp.*	40	Yes	FAC
3. *Juncus effusus*	20	No	OBL
4.			
5.			
6.			
7.			
	110 =Total Cover		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	=Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		190 (B)

Prevalence Index = B/A = 1.73

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: E-W

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 2/1	90	5YR 3/4	10			Sandy	Prominent redox concentrations
11-16	10YR 4/3	97	10YR 4/6	3			Sandy	Distinct redox concentrations

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- X Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Saratoga County Airport City/County: Balston Spa, Saratoga Sampling Date: 4/26/2013

Applicant/Owner: Saratoga County State: NY Sampling Point: F-U

Investigator(s): Thomas Wirickx Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: Long: Datum:

Soil Map Unit Name: SeA- Scio silt loam, 0 to 3 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes	No X	**within a Wetland?**	**Yes**	**No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** **No** X

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: F-U

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size:)			
1. *Lycopodium clavatum*	40	Yes	FAC
2. *Gaultheria procumbens*	20	Yes	FACU
3. *Poa pratensis*	20	Yes	FACU
4. *Vaccinium angustifolium*	20	Yes	FACU
5. *Potentilla canadensis*	20	Yes	FACU
6. *Comptonia peregrina*	10	No	FACU
7. *Solidago rugosa*	2	No	FAC
8.			
9.			
10.			
11.			
12.			
	132	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	42	x 3 =	126
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	132 (A)		486 (B)
Prevalence Index = B/A =			3.68

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: F-U

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/3	100					Sandy	
8-16	10YR 4/6	100					Sandy	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Saratoga County Airport City/County: Balston Spa, Saratoga Sampling Date: 4/26/2013

Applicant/Owner: Saratoga County State: NY Sampling Point: F-W

Investigator(s): Thomas Wirickx Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: Long: Datum:

Soil Map Unit Name: SeA- Scio silt loam, 0 to 3 percent slopes NWI classification: PEM

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No	**within a Wetland?**	**Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:	Wetland F

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** X **No**

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: F-W

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Carex sp.*	50	Yes	UNK
2. *Agrostis gigantea*	20	Yes	FAC
3. *Scirpus cyperinus*	10	No	OBL
4. *Juncus effusus*	2	No	OBL
5.			
6.			
7.			
	82 =Total Cover		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	=Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	12	x 1 =	12
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	32 (A)		72 (B)

Prevalence Index = B/A = 2.25

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

___ Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: F-W

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8.5	10YR 2/1	95	5YR 3/4	5			Sandy	Prominent redox concentrations
8.5-16	2.5YR 4/3	98	10YR 4/6	2			Sandy	Prominent redox concentrations

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- X Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Appendix D

Wetland Photographs

WETLAND DELINEATION REPORT
SARATOGA COUNTY AIRPORT
BALLSTON SPA, SARATOGA COUNTY, NEW YORK

Representative Photograph of Wetland A

Representative Photograph of Wetland B

WETLAND DELINEATION REPORT
SARATOGA COUNTY AIRPORT
BALLSTON SPA, SARATOGA COUNTY, NEW YORK

Representative Photograph of Wetland C

Representative Photograph of Wetland D

Representative Photograph of Wetland E

Representative Photograph of Wetland F

McFarland Johnson