FINAL
ENVIRONMENTAL ASSESSMENT

FOR

RUNWAY/TAXIWAY EXTENSION AND TERMINAL AREA DEVELOPMENT
WATERTOWN INTERNATIONAL AIRPORT (ART)
TOWN OF HOUNSFIELD, JEFFERSON COUNTY, NEW YORK

Source: Google Earth

JULY 2015

PREPARED FOR:
JEFFERSON COUNTY
195 ARSENAL STREET - 2nd FLOOR
WATERTOWN, N.Y. 13601

PREPARED BY:
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This Environmental Assessment becomes a Federal document when evaluated, signed and dated by the Responsible FAA official.

_____ _____

Responsible FAA Official Date

EXECUTIVE SUMMARY

Location
Watertown International Airport (ART)
Jefferson County, New York

Proposed Action
Jefferson County, owner and operator of ART, requests federal approval for a runway/taxiway extension and associated markings, lighting, drainage, and obstruction removal improvements; and terminal area development.

- Construct 1,000 foot extension to Runway 28 and Parallel Taxiway "A" Extension with associated markings, edge lighting and drainage improvements
- Construct Taxiway "A" connector (400' x 50'), approximately 2,800 feet from the existing Runway 28 end (or 3,800 feet from the proposed runway end), prior to the intersection of Runway 10-28 and Runway 7-25
- Upgrade Runway 10-28 runway lights to high intensity runway lights (HIRL)
- Relocation of Runway 28 PAPI and REILs 1,000' to the east on previously disturbed airport property. PAPI will be located on left side of Runway 28, approximately 909 feet from the proposed runway end; while REILs will be located off new Runway 28 end.
- Install an ILS and MALSR Approach Lighting System (2,400' in length) to Runway 28
- Remove tree obstructions:
  - Clearing Grubbing: 0.4 +/- acres of trees at the Runway 10 end Object Free Area (OFA); and 1.8 +/- acres trees at the Runway 28 end OFA
  - Obstruction Removal: 28.4 +/- acres to Runway 10 end Runway Protection Zones (RPZ) for Runway 10 approach end, and 28.6 +/- acres to the Runway 28 end RPZ for the Runway 28 approach end
- Fee acquisition of 0.4+/- acres to the Runway end 10 OFA, and 8.0 +/- acres to the Runway 28 end OFA and relocation of the perimeter access road. Easement acquisition of 49.8+/- acres to the Runway 10 RPZ for the Runway 10 approach end, and 62.7 +/- acres to the Runway 28 RPZ. Remove 1,000 linear feet (LF) of existing 8' fence, and install 1,800 LF of new 8' fence, with 3 rows of barbed wire, around proposed runway 28 end
- Construct perimeter access road around Runway 28 extension (2,500 LF x 15 LF)
- Expand terminal building approximately 20,000 square feet, including installation of a self contained (packaged) sanitary treatment plant on airport property in northwest corner along Route 12F
- Expand paved parking for approximately 300 vehicle parking spaces (passengers, car rental and employee) from existing 155 vehicle parking spaces
- Construct airport access road (3,000 LF x 24 LF) from Route 12F
- Expand general aviation apron 358,000 square feet
- Construct 75' x 60' snow removal equipment (SRE) building
- Construct (2) 60' x 60' conventional hangar
- Construct 10-bay T-hangar with taxilane
- Install above ground 100 LL fuel tank
- Improve Runway 10-28 Runway Safety Area (RSA) including grading 409,000 square feet (SF) and upgrading drainage

- Redesign and publication of new approach procedures to the Runway 28 end (<3/4-mile visibility minimum)

Purpose and Need

The purpose of the Proposed Action is to provide additional runway length and support facilities to accommodate the existing needs of Air Wisconsin, the commercial air carrier flying the existing route between Watertown and Philadelphia airports. Air Wisconsin operates the CRJ200 through their agreement with American Airlines Group, Inc, (hereinafter referred to as Air Wisconsin) on the existing Watertown/Philadelphia route. The Proposed Action includes: extending Runway 10-28 and parallel taxiway, including associated marking and lighting improvements; improving approach to Runway 28, and expanding the terminal building to accommodate the scheduled air carrier needs. Proposed Action also improves the general aviation development area to support business jet and private pilot aircraft users.
A runway length analysis was performed by Air Wisconsin, the operator of the CRJ200 for the Watertown/Philadelphia route. Multiple scenarios were analyzed by varying temperatures and runway pavement surface conditions. Air Wisconsin's flight dispatch office conducted the analysis using their Aerodata operating software, based on the existing 6,000 foot runway length, with both summer and winter temperature conditions, and wet and dry pavement to determine the aircraft limitations. The 6,000 foot runway length is adequate for the aircraft to operate with a full load of 50 passengers during various temperature conditions on both wet and dry pavement, but not during winter operations when braking action is reduced, herein referred to as poor braking action. Calculations reveal a 7,000 foot runway is required to accommodate 50 passengers on the Watertown/Philadelphia route during winter conditions with poor braking action.

The short-term forecasts project air carrier operations will continue at a level of 1,456 annual operations, and the total number of available seats for future enplanements will increase from 27,852, in 2013, to 36,400. General aviation based aircraft and operations are also anticipated to increase over the planning horizon. This increase influences the need for additional terminal area facilities to support general aviation by expanding apron space and providing additional hangars.

The extended runway will meet the year-round operations for the CRJ200 regional jet aircraft providing non-stop service to PHL under all weather conditions, without having to incur penalties or switch aircraft fleet. The Proposed Action will also provide the necessary terminal facilities to address passenger loads and security requirements. The purpose of the Proposed Action is to provide airport facilities for safe air carrier operations, and adequately address airport needs for general aviation users.

Background

Watertown International Airport (ART) is a public use facility, owned and operated by Jefferson County. Originally constructed of two 5,000 foot bi-directional, intersecting runways, designated as Runway 7-25 and Runway 10-28, the airport today continues to maintain two intersecting runways with different dimensions: Runway 10-28 has overall dimensions of 6,000 feet by 150 feet, with a parallel taxiway on the north side of the runway, while Runway 7-25 has overall dimensions of 4,999 feet by 150 feet, with a full-length paved parallel taxiway on the northwest side of the runway. Runway 7-25 is equipped with an instrument landing system (ILS) and a medium intensity approach lighting system (MALSR) to Runway 7, as well as a GPS-based and VOR-based non-precision approach to Runway 7. Runway 25 is a visual runway. Both Runway 10 and 28 have non-precision GPS-based instrument approaches.

In 2007 a runway length analysis was completed for the business jet aircraft users of the airport, concluding that the 5,000 foot runway was inadequate to meet the aircraft needs, and recommended a 1,000 foot runway extension. In 2009 an Environmental Assessment (EA) was completed to extend Runway 10-28 to

6,000 feet to accommodate existing business jet aircraft operations. Improvements were constructed in 2010 to meet airport reference code (ARC) B-II standards. An airport reference code refers to the approach speed and wingspan on an aircraft, in this case a B-II means an aircraft with an approach speed between 91 knots and less than 121 knots with a wing span between 49 feet and less than 79 feet. ARC is used for planning and design only and does not limit the aircraft that may be able to operate safely at the airport. The 2009 EA also included land acquisition for the RPZ for Runway ends 10 and 28 for non-precision instrument approaches, and additional Runway 7 RPZ lands for the existing precision approach. The airport sponsor maintains an easement over the RPZ lands off Runway 25. Additional land acquisition for the Runway OFA, and expansion of the general aviation apron by 155,000 square feet were also evaluated. Since the completion of the 2009 EA, the airport sponsor has completed the 1,000 foot runway/taxiway extension to Runway 28, and fee acquisition of 3.07 +/- acres for the Runway 28 runway OFA.

When the runway extension was completed in October 2010 Cape Air was providing Essential Air Service (EAS) using a 9-seat Cessna 402. In 2010, the US Department of Transportation (USDOT) solicited new EAS proposals for Watertown International Airport. In March 2011, American Eagle Airlines (hereinafter referred to as American Eagle) was awarded a two-year EAS contract, Docket DOT-OST-1997-2842 utilizing a 44-seat ERJ 140 regional jet aircraft. In November 2011 an Environmental Assessment (EA) was completed for American Eagle to operate from Watertown International Airport, including an expansion to the terminal building.

Commencing in November 2011, American Eagle, using 44-seat ERJ140 regional jet aircraft, provided two non-stop, round-trip flights per day, Monday through Friday, and one round-trip flight on Saturday and Sunday between ART and Chicago O'Hare International Airport (ORD) under the above mentioned EAS agreement. This aircraft change resulted in substantial enplanement increase exceeding 300%. American Eagle operated using primarily Runway 10-28.

Meanwhile in 2012, a 1,600 square foot terminal expansion was undertaken to address the need for additional secured seating, a larger Transportation Security Administration (TSA) passenger screening area, and a larger baggage area to accommodate the new American Eagle service with the 44-seat regional jet aircraft. This terminal expansion was included in the 2011 Environmental Assessment.

In November 2013 American Airlines (American) reached an agreement with the USDOT to continue service between ART and ORD under EAS contract, Docket DOT-OST-2013-0188, providing service through January 31, 2016 using the ERJ 140, 44-seat regional jet, and introducing an additional departure on Sunday evenings that was not part of the EAS contract, for a total of 13 non-stop round trips per week to ORD. In January 2014, after the merger between American Airlines, and US Airways, route structure changes were proposed. This merger created American Airlines Group, Inc. In February 2014, Jefferson County Board of Legislator's General Service Committee consented to the route change. Cited from Docket DOT-OST-2013-0188, dated 22nd day of April, 2014, "*American* [Airlines Group, Inc.] *petitioned the US Department of Transportation to approve alternate service pattern. American informed the Department [of Transportation] that the ERJ140 will be retired from its fleet in the very near future. Due to Watertown's runway length and Federal Aviation Administration (FAA) regulations, this is the only aircraft that can serve the Watertown-Chicago O'Hare route without weight penalties. Therefore, American has requested to alter Watertown's current service pattern from Chicago O'Hare to Philadelphia International Airport (Philadelphia). American will operate this route with increased frequency (14 weekly non-stop round trips) at no increase in annual subsidy. American will provide service with 50-passenger Canadair CRJ200 aircraft, operated by Air Wisconsin, and 37-passenger DH8-100 aircraft, operated by Piedmont.*" On May 8, 2014 Air Wisconsin commenced service, providing 14 flights per week, using a Bombardier Canadair Regional Jet (CRJ200). The larger 50-seat CRJ200 increased available seats by 5,000 annually because of the 10 percent increase in capacity over the current 44-seat regional jet. However, when runway snow and ice

contamination is possible at ART the fleet would shift to a smaller 37-seat Bombardier Dash 8-100, given the limited runway length, and operational limitations for landing the CRJ200 under these conditions. American Airlines in a letter dated March 3, 2014, continues to support the need for a longer runway to provide service. It is the intention of the airline and the County to use jet service year round, as it would be more cost effective and capable of accommodating more passengers, but the limiting factor is the runway length.

Most recently, Jefferson County has entered into eminent domain proceedings, as required, including properties identified in the 2009 Environmental Assessment.

Alternatives
Four alternatives evaluated in the Environmental Assessment report were:

1. No Build
2. A 1,000 foot runway and taxiway extension to Runway 10, including terminal development
3. A 1,000 foot runway and taxiway extension to Runway 28, including terminal development
4. A 1,000 foot runway and taxiway extension split among both runway ends, including terminal development

Only the No Build and 1,000 Runway/Taxiway Extension to Runway 28 were environmentally evaluated. The other two alternatives were dismissed due to inability to access property to assess environmental impacts.

Discussion
The Environmental Assessment (EA) and appendices address the effect of the Proposed Action on the quality of human and natural environment. The following impact findings summarize the more thorough analysis presented in the EA.

Air Quality
Jefferson County is in non-attainment for ozone and in attainment for all other criteria pollutants. Air quality analysis concluded that neither the No Build nor Alternative Action plan will have a significant regional air quality impact.

Compatible Land Use
A portion of the Runway 28 RSA/ROFA, installation of airport access road and fence, and installation of approach lighting system and ILS component, will extend onto lands that are currently undeveloped lands that are zoned Agricultural-Residential, but are not active agriculture lands, and do not lie within an agricultural district. The lands are controlled by the airport sponsor. A rezoning or special use permit may be required from the Town of Hounsfield.

U.S. Department of Transportation: Section 4(f)
Conklin Farm on Evans Road, and the Dexter Marsh Wildlife Management Area (WMA) will not be impacted by the Proposed Action.

Fish, Wildlife and Plants
Several species were identified by various agencies. No species or active habitats were found in the Proposed Action area.

Historical, Architectural, Archaeological, and Cultural Resources
Field analysis of undeveloped lands for the runway extension, approach lighting corridor and terminal development area did not find any artifacts. There is one area listed in the National Register of Historic Places, the Conklin Farm on Evans Road that is outside the Proposed Action limits and will not be disturbed. SHPO issued a "No Effect" letter on March 4, 2013.

Noise
A detailed noise analysis was completed for the existing and Proposed Action. An area less than 0.1 +/- acres lies within the 65 dB DNL that is off airport property, near the terminal area, and undeveloped, for both the existing and Proposed Action. The remaining 65 DNL is on airport property.

Wetland Impacts

Initial wetland impacts of 1.1+/- acres for the grading of Runway 28 safety and object free area, to meet standards, construction of the airport perimeter road and installation of the fence; and the approach lighting corridor were minimized to 0.62+/- acres through redesign. The Army Corps of Engineers issued a preliminary Jurisdictional Determination on September 6, 2013. The Runway 28 perimeter road was realigned to avoid a wetland, and the approach lighting access road was also realigned to minimize the wetland impact. Proposed wetland disturbance is 0.62 +/- acres.

Impact Categories

The impacts of the proposed Federal Action on coastal resources, construction impacts, farmlands, floodplains, hazardous materials, light emissions and visual impacts, natural resources and energy supply, secondary impacts, socioeconomic impacts, environmental justice, water quality, and wild and scenic rivers, and cumulative impacts were also evaluated in the EA. The Proposed Action will not have any significant adverse environmental impacts on any of the above noted categories.

Public Involvement

Meetings were held in October 2012, January 2013 and December 2013. A Notice of Availability of the DEA was published in the Watertown Daily Times on August 1, 2014 for review and comment by the public. The document was available at the Watertown International Airport and Flower Memorial Library. Comment period expired on August 31, 2014. Only one comment was received from the USEPA and is included in Appendix J of the Environmental Assessment.

Mitigation Measures

1. Compatible Land Use: a rezoning or special use permit may be required from the Town of Hounsfield for the construction of the approach lighting towers and the access road to support the approach lights.
2. Wetland Impacts: avoidance through redesign of the perimeter road and access road to the approach lights, and mitigation for the remaining wetlands will be coordinated with Ducks Unlimited, leader in wetland conservation, through the Army Corp of Engineers permitting process.
3. Solid Waste: contract specifications will consider recycling of construction or deconstruction materials, including fencing material.
4. Water Quality:
    - Construction documents will consider green building features for terminal expansion
    - Porous pavement in the parking areas will be considered during future design of the parking areas and access road based on geotechnical reports conducted during the design phase. However, the high bedrock elevations and soil types may not support porous pavement design. At minimum, appropriate stormwater treatment measures will be included to meet Clean Water Act statutes.
    - Continuance of non-stormwater discharge permit (Multi-Sector General Permit) for aircraft deicing activities
    - NYS Department of Health Permit, and NYSDEC approval for construction of sewer treatment or sewage conveyance facility, if necessary
5. Natural Resources and Energy Supply:
    - Update the existing NYSDEC Bulk Petroleum Storage for installation of new above ground facility
    - Construction documents will consider green building features for terminal expansion

6. Construction Impacts:
    - Best Management Practices will be incorporated into construction documents for the contractor, including:
        - FAA AC 150/5370-10B, Standards for Specifying Construction of Airports
        - Item P-156, Temporary Air & Water Pollution, Soil Erosion & Siltation Control Measures
        - FAA AC 150/5320-5B, Airport Drainage
        - Contract documents will address dust control and noise during construction
    - NYSDEC General Permit for Stormwater Discharge (SWPPP) & Notice of Intent (activities disturbing more than one acre)
    - Pursuant to EPA letter dated August 26, 2014 a tree inventory will be considered to determine if an offset is required for loss of carbon sink from removal of trees considered to be obstructions

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CHAPTER ONE
PURPOSE AND NEED

1.1 Introduction

FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures on Protecting the Environment* (March 20, 2006), Section 401 requires an Environmental Assessment for "(k)(3) Federal financial participation in, or unconditional airport layout plan approval of a major runway extension". The EA will evaluate potential environmental impacts of the Proposed Action in accordance with the National Environmental Policy Act (NEPA), FAA Order 1050.1E, FAA Order 5050.4B, and FAA Environmental Desk Reference.

1.2 Background

Watertown International Airport (ART) is a public use facility, owned and operated by Jefferson County. Originally constructed with two 5,000 foot bi-directional, intersecting runways, designated as Runway 7-25 and Runway 10-28, the airport today continues to maintain two intersecting runways with different dimensions: Runway 10-28, the primary runway, has overall dimensions of 6,000 feet by 150 feet, with a parallel taxiway on the north side of the runway, while Runway 7-25 has overall dimensions of 4,999 feet by 150 feet, with a full-length paved parallel taxiway on the northwest side of the runway. Runway 7-25 is equipped with an instrument landing system (ILS) and a medium intensity approach lighting system (MALSR) to Runway 7; as well as a GPS-based and VOR-based non-precision approaches to Runway 7. Runway 25 is a visual runway. Both Runway 10 and 28 have GPS-based non-precision instrument approaches.

In 2007 a runway length analysis[1] was completed for the business jet aircraft users of the airport concluding that the 5,000 foot runway length was inadequate to meet the aircraft needs, and recommended a 1,000 foot extension. Subsequently, in 2009 an Environmental Assessment (EA)[2] was completed to extend Runway 10-28 to 6,000 feet to accommodate existing business jet aircraft operations. Improvements were constructed in 2010 to meet airport reference code (ARC) B-II standards. An airport reference code refers to the approach speed and wingspan on an aircraft, in this case a B-II means an aircraft with an approach speed between 91 knots and less than 121 knots with a wing span between 49 feet and less than 79 feet. ARC is used for planning and design only and does not limit the aircraft that may be able to operate safely at the airport. The 2009 EA also included land acquisition for the runway protection zones (RPZ) for Runway ends 10 and 28 for non-precision instrument approaches, and additional Runway 7 RPZ lands for the existing precision approach. The airport sponsor maintains an easement over the RPZ lands off Runway 25. Additional land acquisition for the Runway Object Free Area (OFA), and expansion of the general aviation apron by 155,000 square feet were also evaluated. Since the completion of the 2009 EA, the airport sponsor has completed the 1,000 foot runway/taxiway extension to Runway 28, and fee acquisition of 3.07 +/- acres for the Runway 28 runway OFA.

When the runway extension was completed in October 2010 Cape Air was providing Essential Air Service (EAS) using a 9-seat Cessna 402. In 2010, the US Department of Transportation (USDOT) solicited new EAS proposals for Watertown International Airport. In March 2011, American Eagle Airlines, (hereinafter referred to as American Eagle) was awarded a two-year EAS contract, Docket DOT-OST-1997-2842 utilizing a 44-seat ERJ 140 regional jet aircraft (see Appendix C for copy of agreement). Then in November

[1] Runway Length Analysis, 2007, Passero Associates

[2] Environmental Assessment for Runway/Taxiway Extension, Watertown International Airport, July 2009, Passero Associates

2011 an Environmental Assessment[3] was completed for American Eagle to operate from Watertown International Airport including an expansion to the terminal building.

Commencing in November 2011, American Eagle, using 44-seat ERJ 140 regional jet aircraft, provided two weekday and weekend nonstop roundtrips (12 flights a week) between ART and Chicago O'Hare International Airport (ORD) under the above mentioned EAS agreement. This change in aircraft resulted in a substantial increase to enplanement exceeding 300%. American Eagle operated primarily using Runway 10-28.[4]

Meanwhile in 2012 a 1,600 square foot terminal expansion was completed to address the need for additional secured seating, a larger Transportation Security Administration (TSA) passenger screening area, and a larger baggage claim area to accommodate the new American Eagle service with the 44-seat regional jet aircraft. This terminal expansion was included in the 2011 Environmental Assessment determination (for American Eagle).

In November 2013, American Airlines (American) reached an agreement with the USDOT to continue service between ART and ORD (see Appendix C – Docket DOT-OST-2013-0188) continuing with service as identified in the original EAS contract, utilizing the ERJ 140 regional jet, and introducing an additional departure on Sunday evening, that was not part of the EAS contract, resulting in 13 flights per week. This contract is valid through January 31, 2016. On November 19, 2013, American Airlines provided a letter stating they plan to follow industry norms and phase out the 44-seat aircraft (ERJ 140) for the 50-seat aircraft (ERJ 145). American Airlines stated this aircraft would continue to operate with similar weight limitations as the ERJ 140, given the current 6,000 foot Runway 10-28, and continued to support the need for a longer runway to provide better service (See Appendix C, American Airlines letter dated November 19, 2013.)

In January 2014 American Airlines merged with US Airways, and approached Jefferson County proposing route changes. In February 2014, Jefferson County Board of Legislator's General Service Committee, after meetings with local representatives and businesses, consented to the route change, to provide non-stop service from Watertown International Airport (ART) to Philadelphia International Airport (PHL), instead of Chicago (ORD). The merger between American Airlines and US Airways formed American Airlines Group, Inc. Cited from Docket DOT-OST-2013-0188, dated 22nd of April, 2014, states "*American petitioned the US Department of Transportation to approve alternate service pattern. American informed the Department [of Transportation] that the ERJ 140 will be retired from its fleet in the very near future. Due to Watertown's runway length and Federal Aviation Administration (FAA) regulations, this is the only aircraft that can serve the Watertown-Chicago O'Hare route without weight penalties. Therefore, American has requested to alter Watertown's current service pattern from Chicago O'Hare to Philadelphia International Airport (Philadelphia). American will operate this route with increased frequency (14 weekly non-stop round trips) at no increase in annual subsidy. American will provide the service with 50-passenger Canadair CRJ200 aircraft, operated by Air Wisconsin, and 37-passenger DH8-100 aircraft, operated by Piedmont.*" (Refer to EAS Agreement in Appendix C). On May 8, 2014 Air Wisconsin commenced service, providing 14 flights per week, using a Bombardier Canadair Regional Jet (CRJ200). Hereinafter reference will be made to Air Wisconsin as the provider of services at Watertown International Airport. The larger 50-seat CRJ200 increased available seats by 5,000 annually because of the 10 percent increase in capacity over the current 44-seat regional jet. However, when runway snow and ice contamination is possible at ART the fleet would

[3] Environmental Assessment Proposed Amendment of American Eagle Airlines Operations Specifications to Allow Scheduled Passenger Jet Service and Expansion of Existing Passenger Terminal Building at Watertown International Airport (ART), Jefferson County, NY, Landrum & Brown, November 2011

[4] American Eagle email, October 18, 2012

shift to a smaller 37-seat Bombardier Dash 8-100, given the limited runway length, and operational limitations for landing the CRJ200 under these conditions. American Airlines continues to support the need for a longer runway to provide service (See Appendix C, American Airlines letters dated March 3, 2014.) It is the intention of the airline and the County to use jet service year round, as it would be more cost effective and capable of accommodating more passengers, but the limiting factor is the runway length.

Most recently, Jefferson County has entered into eminent domain proceedings, as required, including properties identified in the 2009 Environmental Assessment.

1.3 Proposed Action

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- Improve Runway 10-28 Runway Safety Area (RSA) including grading 409,000 square feet (SF) and upgrading drainage
- Redesign and publication of new approach procedures to the Runway 28 end (<3/4-mile visibility minimum)

1.4 Purpose and Need

The purpose of the Proposed Action is to provide additional runway length and support facilities to accommodate the existing needs of Air Wisconsin, the commercial air carrier[5] flying the existing route between Watertown and Philadelphia. Air Wisconsin, through their agreement with American Airlines Group, Inc. operates the CRJ200 on the existing route. The Proposed Action includes: extending Runway 10-28 and parallel taxiway, including associated marking and lighting improvements; improving approach to Runway 28, and expanding the terminal building to accommodate the scheduled air carrier needs. Proposed Action also improves the general aviation[6] development area to support business jet and private pilot aircraft users.

Tied to the runway length is a parallel taxiway that provides the necessary safe operational environment while meeting the design standards for a runway/taxiway system. Installing new runway/taxiway lighting and relocation of the PAPI and REILs for Runway 28 are included in the runway/taxiway extension. The PAPI and REILs will be relocated from their current position approximately 1,000 feet east onto previously disturbed airport property. The relocated PAPI will be approximately 909 feet from the proposed Runway 28 end, while the REILs will be installed off the proposed Runway 28 end. The Taxiway "A" connector is provided for exiting the active Runway more expediently. In addition to runway length, Runway 10-28 offers only non-precision instrument approaches to either runway end, with visibility minimums of one mile or greater. The proposed action includes improving instrument approach procedures to Runway 28 to operating visibilities to less than ¾ mile under an Instrument Landing System (ILS) approach, which will allow Air Wisconsin to conduct adequate approaches to Watertown International Airport's Runway 28 during low visibility conditions, instead of being diverted to an alternate airport, which they must currently do with the existing non-precision (RNAV) instrument approach with visibilities of 1 mile.[7] A lower minimum approach requires high intensity runway lights (HIRL), upgraded markings and installation of an ILS and Medium Intensity Approach Lighting System (MALSR) for Runway 28. The ILS would include the localizer and glideslope antennae, along with upgraded markings. Localizer antennae is situated on the far end of the runway, in this case off Runway 10 end, and provides horizontal guidance. The associated glideslope antennae, which provides vertical guidance, is located about 1,000 feet from the Runway 28 threshold, offset about 400-600 feet from the runway centerline. The MALSR, which assists the pilot in transitioning from instrument flight to visual flight in preparation for landing, is anticipated to extend 2,400 feet out from the proposed runway extension. A planned improved precision instrument approach results in larger Runway Protection Zones (RPZ). Within the RPZ tree obstructions will be trimmed or removed to provide for clear approaches to the runway end. In the 2009 Environmental Assessment land acquisition was approved for 2.1+/- acres of land in the Runway 28 RPZ and 18.3+/- acres of land in the Runway 10 RPZ. At the time the commercial service carrier was not flying the regional jet aircraft. After the runway was extended, resulting from the 2009 Environmental Assessment, the critical aircraft changed to the regional jet, and hence the need for a precision approach was introduced, which changed from the 2009 planned non-precision instrument approach. A non-precision approach is an instrument approach that does

[5] Air carrier as defined by 14 Code of Federal Regulations Part 1, section 1.1, is person who undertakes directly by lease, or other arrangement, to engage in air transportation

[6] FAA General Aviation Airports, A National Asset, May 2016 defines general aviation as the operation of civilian aircraft for purposes other than commercial passenger or freight transport, including personal, business and instructional flying.

[7] American Eagle email dated January 29, 2013

not provide vertical guidance and is limited in visibility to no less than ¾ mile, while a precision approach provides vertical guidance and can have visibilities less than ¾ mile. A precision approach allows for aircraft to use the airport in most weather conditions. This equipment will improve the usability of Runway 10-28 and significantly reduce diversions of flights occurring under the existing condition.

The relocation of the airport security perimeter road and airport fence are directly related to the runway extension. These projects need to be outside the runway object free area to meet FAA standards.

The proposed 20,000 square foot terminal building expansion[8] is necessary to better support the commercial service passenger circulation, ticket counter queuing area, additional secured seating, additional bathrooms in the secured area, a larger TSA queuing and screening area, office and concession space consistent with the enplanement projections. Also tied to projected enplanements is the need to improve the parking and landside access to provide sufficient parking for passengers, car rental and employees. A new internal circulation road off Route 12F is proposed, including a cell phone lot, so greeters do not have to leave airport property while waiting to pick up passenger. Route 12F has sufficient capacity to accommodate the increased automobile traffic, and maintain a high level of service, with the level of service unchanged.[9]

The proposed terminal building expansion results in additional sanitary waste, which is not capable of being handled by the existing septic tanks. To address this issue a self contained sanitary treatment plant, capable of handling 100,000 gallons a day, is part of the Proposed Action. This sanitary treatment system is proposed at the westerly airport boundary along Route 12F frontage. The site is the low elevation area of the terminal development area. The location will support gravity flow sewage conveyance from the terminal area.

Between the existing business jet and private pilot aircraft, there is insufficient existing apron to support general aviation operations. In the 2009 Environmental Assessment determination a 155,000 square foot expansion to the general aviation apron was included and projected to meet demand and design standards. This project has not been completed, but is still needed.

This environmental assessment examines a total of 358,000 square feet of apron space, inclusive of the 155,000 square feet identified in the 2009 Environmental Assessment, to address the further increase in business jet activity resulting from the 2010 completed Runway 10-28 extension. This increased activity has placed an operational constraint in the general aviation apron area, as well as not providing sufficient aircraft parking spaces. The design standards for these business jet aircraft require larger taxilane clearances and parking space requirements beyond the original general aviation apron space identified in the 2009 EA. The total apron expansion of 358,000 square feet will relieve existing congestion, between the buildings on the existing general aviation apron, and meet projected parking demands for transient business jets, and other general aviation activity. The additional apron will also maintain separation between commercial air carrier operations and general aviation operations. Furthermore it will separate the larger business jet aircraft from the smaller general aviation aircraft, keeping business jet aircraft closer to the required support facilities already on the airport.

Within the general aviation area the following projects are anticipated:

[8] Airport Master Plan Update, Final: July 2015, Passero Associates (see Appendix B1)
[9] Refer to Section 4.14.1 of this report and Appendix I.

- Construction of 75' x 60' Snow Removal Equipment Building, to provide proper shelter for storage and maintenance of snow removal equipment. Currently, some equipment, which was purchased with federal or state funds, is stored outside and exposed to the weather elements, thereby shortening their life expectancy.
- Construction of two 60' x 60' conventional hangars, to meet demands of interested parties, as there is insufficient heated indoor space for these aircraft in the existing facilities. Airport management maintains a list of interested parties wishing to store their aircraft in conventional hangars.[10]
- Construction of 10-bay T-hangar, to provide indoor storage for the smaller general aviation aircraft to address the desires of interested parties. The existing T-hangar are all full, and airport management maintains a list of interested parties wishing to store their aircraft in T- hangars.
- Installation of a 100LL self contained, self service fuel tank, to provide better service to the smaller general aviation aircraft users. The existing fuel farm service is dispensed via truck, and there is no self-service for GA. The fuel needs of commercial carrier and business jet aircraft are serviced prior to general aviation. This self serve facility would alleviate the drain on personnel who provide truck fuel service to the commercial and business jet aircraft.

Jefferson County requests federal approval for a runway/taxiway extension and associated marking, lighting, drainage, land acquisition and obstruction removal improvements; and terminal area development. The extended runway will more safely accommodate Air Wisconsin's non-stop service to Philadelphia International Airport (PHL) under all weather conditions, without having to incur penalties, or change fleet during snow and ice contamination; and provide the necessary terminal facilities to address passenger loads and security requirements. The improved instrument approach will also allow Air Wisconsin to provide an increased level of service and satisfaction to its clients. Lastly, the improvements to the general aviation area will provide additional space to better serve the transient business aircraft. This Proposed Action will continue to provide a high level of service for the Jefferson County community.

[10] Refer to Appendix I for list of aircraft types

1.5 Forecasts

During the preparation of the July 2015 Airport Master Plan Update, forecasts were prepared for the air carrier enplanements, and operations based on historic information, with a base year of 2012 (refer to Appendix B1 for forecasts and FAA TAF data). Since inception, American's enplanements have increased substantially over previous EAS providers to ART. Table 1-1 provides a synopsis of enplanements at ART from 2000-2013. Years 2000-2011 data is based on FAA Terminal Area Forecast (TAF) data, while 2012-2013 data is based on airport management records. FAA TAF is the official forecast of aviation activity for US Airports prepared by the FAA. It contains airports within the National Airspace System, and provides forecasts for air carrier, air taxi/commuter, general aviation and military. Airport management records were used for 2012-2013 to reflect the most accurate enplanements at the airport in the last two reporting years. Table 1-1 also contains a forecasted increase in passenger seats available and enplanements for the short term, denoted as 2017.

Table 1-1
Historic EAS Provider and Enplanements

Year	Carrier	Type of Aircraft	Maximum # Passenger Seats	Passenger Seats Available	Actual Enplanements
2000-2007	Air Midwest	Beech 1900	19	-	27,649[1]
2007-2008	Big Sky	Beech 1900	19	-	1,466[1]
2008-Nov 2011	Cape Air	Cessna 402	9	-	6,907[1]
2012	American Eagle	Embraer 140	44	27,588	17,050[1]
2013	American Eagle	Embraer 140	44	27,852	18,920[1]
2017 (F)	Air Wisconsin	CRJ200	50	36,400[2]	22,604[2]

Source: [1]FAA TAF referenced for years 2000-2011. Years 2012 and 2013 from airport management
[2]2017 (F) Forecasts based on 50 seat aircraft operating 14 flights per week, for 52 weeks, with 62.1% load factor (average of enplaned % passenger load for last 3 years)

Table 1-2 summarizes passenger loads for American Eagle at ART since initiating service in November 2011, accounting for both enplanements and deplanements. The aircraft at the time was the ERJ 140 44-seat regional jet.

Table 1-2
American Eagle Passenger Loads

Year	Total Seats Available	Actual Enplanements	% Passenger Load	Actual Deplanements	% Passenger Load
2011*	3,388	1,942	57.3%	2,811	83.0%
2012	27,588	17,050	61.8%	18,099	65.6%
2013	27,852	18,920	67.9%	20,172	72.4%

Source: Airport Management records as received from American Eagle. Average % Passenger Load for Enplanements is 62.1%, used for forecasting)
*2011 data is for American Eagle only, as the year was split between American Eagle and Cape Air.

Commuter Operations

Since American Eagle's inception of service the enplanements have increased along with the number of operations performed by the air carrier. A commuter air carrier is an air carrier that carrier passengers on at

least five round trips per week on at least one route between two or more points according to its published flight schedule that specifies the times, days of the week and places which those flights are performed[11]. A commuter operation is defined as a take-off or landing from a commuter air carrier. In 2012 scheduled service consisted of 24 operations per week (12 take-off and 12 landings). In 2014 that service increased to 28 operations per week (14 take-off and 14 landings). The Airport Master Plan Update consisted of two scenarios for future operations. The forecasts were approved on June 22, 2015 for the constant growth scenario, which maintains 28 operations per week (refer to Appendix B1 for approval letter). The FAA Terminal Area Forecast (TAF) estimates 1,688 total annual operations for commuter and air taxi throughout the planning period. The results are in Table 1-3.

Table 1-3
Commuter Operational Forecasts

Year	Constant Growth Operations	TAF Operations
2012	1,248 [1]	1,688
2017	1,456 [1]	1,688
2022	1,456[1]	1,688

Source: [1] Assumes: 2012: 24 flights per week x 52 weeks (12 arrivals and 12 departures), 2017-2022: 28 flights per week x 52 weeks (14 arrivals and 14 departures)

Similar to the commuter air carrier operations, the Airport Master Plan Update also forecast operations for General Aviation. A based aircraft is an aircraft that is permanently stored at an airport. An operation is a takeoff or landing of an aircraft. Local operations are those takeoffs and landings conducted by based aircraft; while itinerant operations are those takeoffs and landings conducted by visiting aircraft that are permanently stored at another airport, but conduct operations at Watertown International Airport. The Airport Master Plan Update also forecast an increase in general aviation aircraft and operations through the planning period, as shown in Table 1-4. This increase influences the need for additional facilities to support general aviation, specifically the need for additional hangars and apron space in the general aviation terminal area.

Table 1-4
Based Aircraft and General Aviation Operations Forecasts

Year	2012	2017	2022
Based Aircraft	35*	37	39
Local Operations (54%)	22,750	24,050	25,350
Itinerant Operations (46%)	19,380	20,487	21,594
Total Operations	**42,130**	**44,537**	**46,944**

Source: Airport Master Plan Update: Final July 2015 (See Appendix B1 for detailed forecasts)

[11] 14 Code Federal Regulations Part 298.3(b)

1.6 Runway Length Analysis

Air Wisconsin operates the CRJ200 primarily using Runway 10-28. The length of Runway 10-28 is not adequate to accommodate CRJ200 operations under all weather conditions, with a full passenger load, especially during the winter condition. Dating back to March 2012, American Airlines has indicated a need for a longer runway, with the most recent correspondence on March 3, 2014 to support the current route between Watertown International Airport and Philadelphia International Airport.

Advisory Circular 150/5325-4B, *Runway Length Requirements for Airport*, was referenced for the runway length analysis. This Advisory Circular states that either the Airport Planning Manual or air carrier specific data can be used to determine runway length, and that "*Both takeoff and landing length requirements must be determined with applicable length-adjustments in order to determine the recommended runway length. The longest of the takeoff and landing length requirements for the critical design airplanes under evaluation becomes the recommended runway length.*" As the Airport Planning Manual did not contain the appropriate temperature charts for the airport, a runway length analysis for the Canadair Regional Jet (CRJ200LR) was performed based on carrier specific data from Air Wisconsin. The CRJ200 flies the short-haul route, of 288 statute miles[12], from Watertown International Airport (ART) to Philadelphia (PHL).

Airline Operator Analysis

Air Wisconsin, operator of the CRJ200 at ART, provided airline specific data for winter operating conditions. Air Wisconsin confirmed they operate the CRJ200LR (hereinafter referred to as CRJ200) in the months from May through end of September. The dispatch office uses poor braking action, defined when braking action is reduced due to an accumulation of snow greater than 1/8th of an inch, to calculate winter operational characteristics which significantly impact operating weighs of the CRJ200. Due to the diminished performance during poor braking action conditions, the CRJ200 demonstrates diminished capabilities with the existing 6,000 foot runway.

Air Wisconsin calculates the maximum allowable take-off weight for departure and maximum landing weight for arrival based on the conditions at flight time. The given inputs are fuel load, operating empty weight, current meteorological conditions and airport/runway characteristics. Airport runway characteristics are elevation, runway length, obstacle clearance requirements and runway surface condition. The resultant calculation provides the allowable take-off and landing weights. The variable, controlled at departure, is the number of passengers that can be accommodated on that specific flight. The number of passengers and checked bags is the simplest way to maintain safe operational aircraft weight. When conditions are such that either the maximum take-off weight or the maximum landing weight are exceeded, penalties are incurred and passengers and their bags are removed from the flight.

Multiple scenarios were developed by varying temperatures and airport runway surface conditions. Air Wisconsin's flight dispatch office conducted an analysis using their Aerodata operating software, based on the existing 6,000 foot runway length, with both summer and winter temperature conditions, and wet and dry pavement to determine the aircraft limitations. These calculations also included the fuel requirements by the airline, obstacle clearance requirements and accelerate/stop distance requirements.

The CRJ200 aircraft maximum gross take-off weight is 53,000 pounds, with a full 50 seat passenger load and fuel. Maximum landing weight is 47,000 pounds, refer to Appendix B2 for data table for the CRJ200. The maximum takeoff weight would be restricted by maximum landing weight plus fuel burn to a destination.

[12] http://flightaware.com/live/findflight?origin=art&destination=KPHL

Air Wisconsin provided data to fly the short-haul route to PHL the maximum takeoff weight for the CRJ200 is 49,500 pounds (47,000 pound landing weight + 2,500 pounds fuel). Table 1-5 provides data obtained from Air Wisconsin under varying temperature and runway conditions. The 6,000 foot runway length is adequate for the aircraft to operate with a full load of 50 passengers during various temperature conditions on wet and dry pavements, but not during winter operations with poor braking action. With the existing 6,000 foot runway length, and poor braking action during winter conditions, allowable passenger numbers can be reduced by as much as 40 percent. The aircraft operating weight limitations are directly related to accelerate/stop distance, obstacle clearance requirements, and runway condition.

Table 1-5
CRJ200 when Runway Length = 6000'

Takeoff with Dry Pavement			
Temp	**Allowable Weight Runway 10**	**Allowable Weight Runway 28**	**Penalty**
27ºC	48,520	48,830	None: can carry 50 passengers
0ºC	51,080	51,360	None: can carry 50 passengers
-5ºC	51,370	51,620	None: can carry 50 passengers
-10ºC	51,670	51,900	None: can carry 50 passengers

Landing with Dry Pavement			
Temp	**Allowable Weight Runway 10**	**Allowable Weight Runway 28**	**Penalty**
27ºC	55,100	55,100	None: can carry 50 passengers
0ºC	55,100	55,100	None: can carry 50 passengers
-5ºC	55,100	55,100	None: can carry 50 passengers
-10ºC	55,100	55,100	None: can carry 50 passengers

Takeoff with Wet Pavement			
Temp	**Allowable Weight Runway 10**	**Allowable Weight Runway 28**	**Penalty**
27ºC	48,520	48,830	None: can carry 50 passengers
0ºC	49,100	49,200	None: can carry 50 passengers
-5ºC	49,940	50,050	None: can carry 50 passengers
-10ºC	50,470	50,660	None: can carry 50 passengers

Landing with Wet Pavement			
Temp	Allowable Weight Runway 10	Allowable Weight Runway 28	Penalty
27ºC	48,520	51,100	None: can carry 50 passengers
0ºC	49,100	51,100	None: can carry 50 passengers
-5ºC	49,940	51,100	None: can carry 50 passengers
-10ºC	50,470	51,100	None: can carry 50 passengers

Takeoff with Poor Braking Action (Winter condition)			
Temp	Allowable Weight Runway 10	Allowable Weight Runway 28	Penalty
27ºC	N/A	N/A	N/A
0ºC	44,760	45,150	Reduced to 35 passengers for Runway 10 Departures/ Reduced to 37 passengers for Runway 28 Departures
-5ºC	45,480	45,890	Reduced to 38 passengers for Runway 10 Departures/ Reduced to 40 passengers for Runway 28 Departures
-10ºC	45,970	46,380	Reduced to 40 passengers for Runway 10 Departures/ Reduced to 42 passengers for Runway 28 Departures

Landing with Poor Braking Action (Winter condition)			
Temp	Allowable Weight Runway 10	Allowable Weight Runway 28	Penalty
27ºC	N/A	N/A	
0ºC	39,600	39,600	Reduced to 30 passengers
-5ºC	39,600	39,600	Reduced to 30 passengers
-10ºC	39,600	39,600	Reduced to 30 passengers

Source: Air Wisconsin Flight Dispatch for the CRJ200LR, for ART to PHL at various temperatures, with required fuel, balanced field, obstacle clearance climb, utilizing Aerodata Software. The passenger reductions are from a possible 50 total passengers

Air Wisconsin modeled a winter situation, with poor braking action, to account for the contaminated runway, and allow the CRJ200 to operate from ART to PHL with full 50 seat passenger load. The results are shown in Table 1-6.

Table 1-6
CRJ200 Runway Length Requirement
for Winter Condition/Poor Braking Action

Temp Winter Condition/ Poor Braking	Landing	# Passengers	Runway Length Required
-10ºC	47,500	50	7,000'

A 7,000 foot runway length would allow the CRJ200 to carry 50 passengers on the ART to PHL route, thereby maximizing the passengers and usability of the aircraft.

Currently the Dash 8-100 flies from October through May with the existing 6,000 foot runway length because it has better capabilities and reduced penalties on this length. The Dash 8-100 aircraft has had to take weight penalties too, in the form of reduced passenger loads, to operate on the existing runway length during the winter months. Extending the runway by 1,000 feet, to a total length of 7,000 feet, would increase performance capabilities of the CRJ200 to operate year round. At 7,000 feet, it is more economical to operate the CRJ200 than the Dash 8-100 (refer to Appendix B2, Runway Length). Changing to a CRJ200 during winter months could increase the number of passengers by an additional 13 passengers per flight, or an additional 5,800 passengers annually. The increase in passengers would have a positive economic effect on both the airline business as well as the local community.

1.7 Airport Design Standards

Operations of the CRJ200 has changed the airport design standards for the airport. Prior to American Eagle's operations, Watertown International Airport was designed to accommodate aircraft approach speeds greater than 91 knots but less than 121 knots, and wingspans between 49 feet but less than 79 feet, also referred to as Airport Reference Code (ARC) B-II. However, when American Eagle commenced operations with the ERJ 140 regional jet the airport design standards increased to an ARC C-II. When Air Wisconsin started operating the CRJ200, the ARC changed to D-II. These design standards accommodate aircraft approach speeds greater than 141 knots but less than 166 knots, and wingspans greater than 49 feet but less than 79 feet. This increase in design standards results in larger design surface dimensions. Tables 1-7 and 1-8 outline the design standards for Runway 10-28 and Runway 7-25, which are depicted on the ALP.

Specifically, the runway safety area, object free area and runway protection zones increase in size. These larger surfaces result in additional land acquisition to ensure these surfaces are controlled by the airport sponsor, along with the removal of trees that would be located within these surfaces. Similarly, as the runway safety area increases in width, parts of Runway 10-28 runway safety area do not meet the design grading standards, and as such need to be improved to meet the standards.

Table 1-7
Airport Design Standards[13]
Runway 10-28

Item	Existing Design Standards C-II >3/4 mi visibility	Proposed Design Standards D-II <3/4 mi visibility Runway 28	Existing Field Conditions Runway 28	Existing Design Standards C-II >3/4 mi visibility	Proposed Design Standards D-II <3/4 mi visibility Runway 10	Existing Field Conditions Runway 10	Proposed Action
Runway/Taxiway Separation	300’	400	400’	300’	400’	400’	Meets standard
Runway Width	100’	100’	150’	100’	100’	150’	Exceeds standard
Runway Safety Area -Length -Width	 1,000’ 500’	 1,000’ 500’	 1,775’ 1,090’	 1,000’ 500’	 1,000’ 500’	 1,275’ 715’	Acquire land for increased ROFA with runway extension
Runway Object Free Area -Length -Width	 1,000’ 800’	 1,000’ 800’	 1,775’ 1,090’	 1,000’ 800’	 1,000’ 800’	 1,275’ 715’	Acquire land for increased ROFA with runway extension
Runway Protection Zone -Inner Width -Outer Width -Length -Acreage (owned/easement)	 1,000’ 1,510’ 1,700’ 48.9 +/-	 1,000’ 1,750’ 2,500’ 78.9 +/-	 1,000’ 1,510’ 1,700’ 46.2 +/-	 1,000’ 1,510’ 1,700’ 48.9 +/-	 1,000’ 1,750’ 2,500’ 78.9+/-	 1,000’ 1,510’ 1,700’ 12.6 +/-	Acquire land for increased RPZ

Note: Runway Safety Area, Object Free Area and Runway Protection Zone lengths are measured from existing pavement edge, and do not include proposed runway extensions.

[13] FAA AC 150/5300-13A, Appendix 7

Table 1-8
Airport Design Standards[14]
Runway 7-25

Item	Existing Design Standards C-II <3/4 mi visibility Runway 7	Proposed Design Standards D-II <3/4 mi visibility Runway 7	Existing Field Conditions Runway 7	Existing Design Standards C-II >1 mi visibility Runway 25	Proposed Design Standards D-II >3/4 mi visibility Runway 25	Existing Field Conditions Runway 25	Proposed Action
Runway/Taxiway Separation	400’	400	400’	250’	400’	400’	Meets standard
Runway Width	100’	100’	150’	100’	100’	150’	Exceed standard
Runway Safety Area							
-Length	1,000’	1,000’	1,000’	1,000’	1,000’	600’	Declared distances applied
-Width	500’	500’	500’	500’	500’	500’	
Runway Object Free Area							
-Length	1,000’	1,000’	1,000’	1,000’	1,000’	600’	Declared distances applied
-Width	800’	800’	800’	800’	800’	500’	
Runway Protection Zone							
-Inner Width	1,000’	1,000’	1,000’	500’	1,000’	1,000’	Acquire additional land Runway 7 RPZ
-Outer Width	1,750’	1,750’	1,750’	1,010’	1,510’	1,510’	
-Length	2,500’	2,500’	2,500’	1,700’	1,700’	1,700’	
-Acreage (owned/easement)	78.9+/-	78.9+/-	70.3+/-	29.5 +/-	48.9+/-	48.9+/-	
Declared Distances							
TORA	4,999’	4,999’	4,999’	4,999’	4,999’	4,999’	Declared distances applied to meet RSA and ROFA standards
TODA	4,999’	4,999’	4,999’	4,999’	4,999’	4,999’	
ASDA	4,999’	4,599’	4,599’	4,999’	4,999’	4,999’	
LDA	4,999’	4,599’	4,599’	4,999’	4,999’	4,999’	

[14] FAA AC 150/5300-13A, Appendix 7

CHAPTER TWO
PROPOSED ACTION AND ALTERNATIVES

This document is prepared to determine whether the Proposed Action or its alternatives have potential to significantly affect the environment. The EA provides detailed description of the alternatives to aid decision makers to choose a development option that meets the needs of the Proposed Action. This chapter describes the Proposed Action alternatives and the No Build alternative, and evaluates them on their ability to meet the Purpose and Need. The EA will consider the No Build alternatives so decision makers have a baseline for comparing the impacts of the Proposed Action.

2.1 NO BUILD ALTERNATIVE

The No Build alternative (Figure 2-1) is provided as a baseline to compare the potential environmental impacts from the Proposed Action. It assumes no runway extension, nor changes to the existing NAVAIDs; terminal/automobile parking expansion, or improvements to the general aviation area. It also assumes the existing non-precision instrument approaches would not be improved. This alternative does not meet future facility needs. Runway 7-25 will remain 4,999 feet long, and Runway 10-28 will remain 6,000 feet long. No additional landside development will occur and the existing demands will not be met.

Projects included in the no build alternative relate to the increased design standards and Runway Protection Zone. The FAA recommends ownership control of these surfaces. The following areas are identified for fee simple or easement acquisition:

- Fee acquisition of Runway 10 OFA (0.4+/- acres), and fee or easement acquisition of Runway 10 RPZ (18.3+/- acres) and Runway 28 RPZ (2.1 +/- acres)

Lands within the existing Runway Protection Zones (Runway 10: 18.7+/- total (0.4+/- acres for OFA inside the RPZ), and Runway 28: 2.1 +/- total) for both runway ends were previously reviewed in the Environmental Assessment (2009).

Jefferson County has entered into eminent domain proceedings, as required, including properties identified in the 2009 Environmental Assessment.

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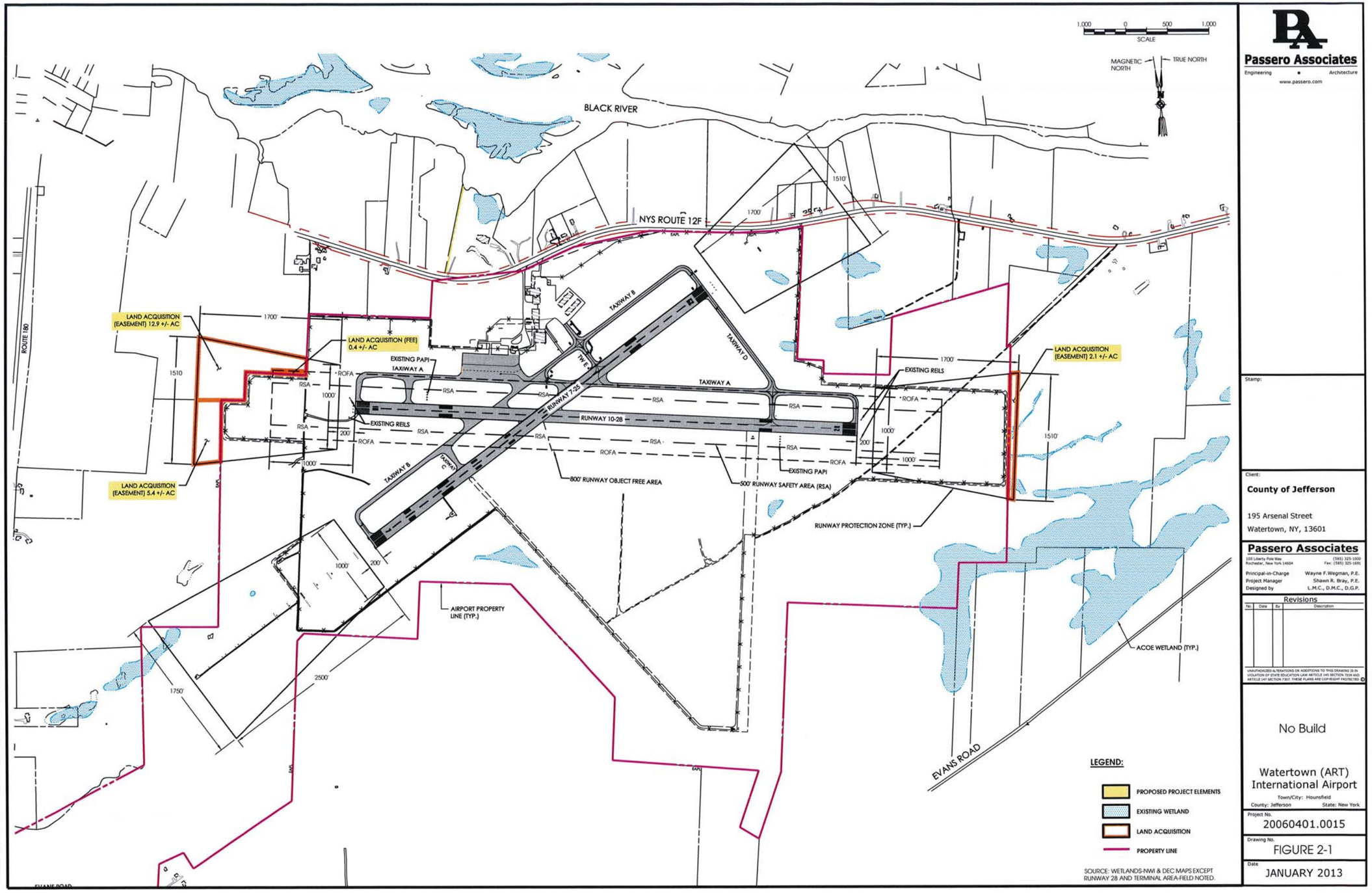

Z:\2006\20060401\20060401.0015\Drawings\Airport\X-Refs\FIG 2-1 No Build (no land).dwg, 7/28/2015 3:18:03 PM, wzian

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Revisions

No.	Date	By	Description

No Build

Watertown (ART) International Airport
Town/City: Hounsfield
County: Jefferson State: New York

Project No.
20060401.0015

Drawing No.
FIGURE 2-1

Date
JANUARY 2013

2.2 ALTERNATIVES

Three runway length and airside alternatives were evaluated. Each runway alternative includes the same landside and terminal area development:

1. 1,000 foot Runway/Taxiway Extension to Runway 10
2. 1,000 foot Runway/Taxiway Extension to Runway 28
3. 1,000 foot Runway/Taxiway Extension Split among both ends of Runway 10-28

Lands within the Runway Protection Zones, Runway 10 RPZ (18.7+/- acres) and Runway 28 RPZ (2.1 +/- acres), were previously reviewed in the Environmental Assessment (2009), under design standards of ARC B-II. The three alternatives meet the larger design standards of ARC D-II, as previously discussed in section 1.7, which result in larger RPZ's, based on lower visibilities.

2.2.1 1,000 Foot Extension to Runway 10

This alternative is depicted in Figure 2-2, and extends Runway 10 only. The physical runway extension occurs on airport property, and the taxiway extension will require property acquisition to construct. Following is a list of improvements included in the alternative:

- Construct 1,000 foot extension to Runway 10 end and Parallel Taxiway "A" Extension with associated markings, edge lighting and drainage improvements
- Construct Taxiway "A" connector (400' x 50'), approximately 2,800 feet from the existing Runway 28 end, prior to the intersection of Runway 10-28 and Runway 7-25
- Upgrade Runway 10-28 runway lights to high intensity runway lights (HIRL)
- Relocate Runway 10 PAPI and REILs 1,000 feet west of existing location on previously disturbed airport property. The PAPI would be located on the left side of Runway 10 and the REILs would be located off Runway 10 end.
- Install an ILS and MALSR Approach Lighting System (2,400' in length) to Runway 28
  - Remove tree obstructions:
    - Clearing Grubbing: 2.3 +/- acres trees at the Runway 10 end object free area (OFA); and
    - Obstruction Removal: 32.4 +/- acres to Runway 10 end Runway Protection Zones (RPZ) for Runway 10 approach end, and 15.4 +/- acres to the Runway 28 end RPZ for the Runway 28 approach end
- Fee acquisition of 12.3+/- acres to the Runway end 10 OFA; and fee or easement acquisition of 62.8+/- acres to the Runway 10 RPZ for the Runway 10 approach end, and 32.7 +/- acres to the Runway 28 RPZ for the Runway 28 approach end.
- Remove 1,900 LF of existing 8' fence, and install 4,100 LF of new 8' fence, with 3 rows of barbed wire, around proposed runway 10 end
- Construct perimeter access road around Runway 10 extension (4,100 LF x 15 LF)
- Expand terminal building approximately 20,000 square feet, including installation of a self contained (packaged) sanitary treatment plant
- Expand paved parking for approximately 300 vehicle parking spaces (passengers, car rental and employee), from existing 155 vehicle parking spaces
- Construct airport access road (3,000 LF x 24 LF) from Route 12F
- Expand general aviation apron 358,000 square feet
- Construct 75' x 60' snow removal equipment Building

- Construct (2) 60’ x 60’ conventional hangar
- Construct 10-bay T-hangar with taxilane
- Install above ground 100 LL fuel tank
- Improve Runway 10-28 RSA including grading 409,000 SF and upgrading drainage
- Redesign and publication of new approach procedures to the Runway 28 end (<3/4-mile visibility minimum)

Jefferson County has entered into eminent domain proceedings, as required, including properties identified in the 2009 Environmental Assessment.

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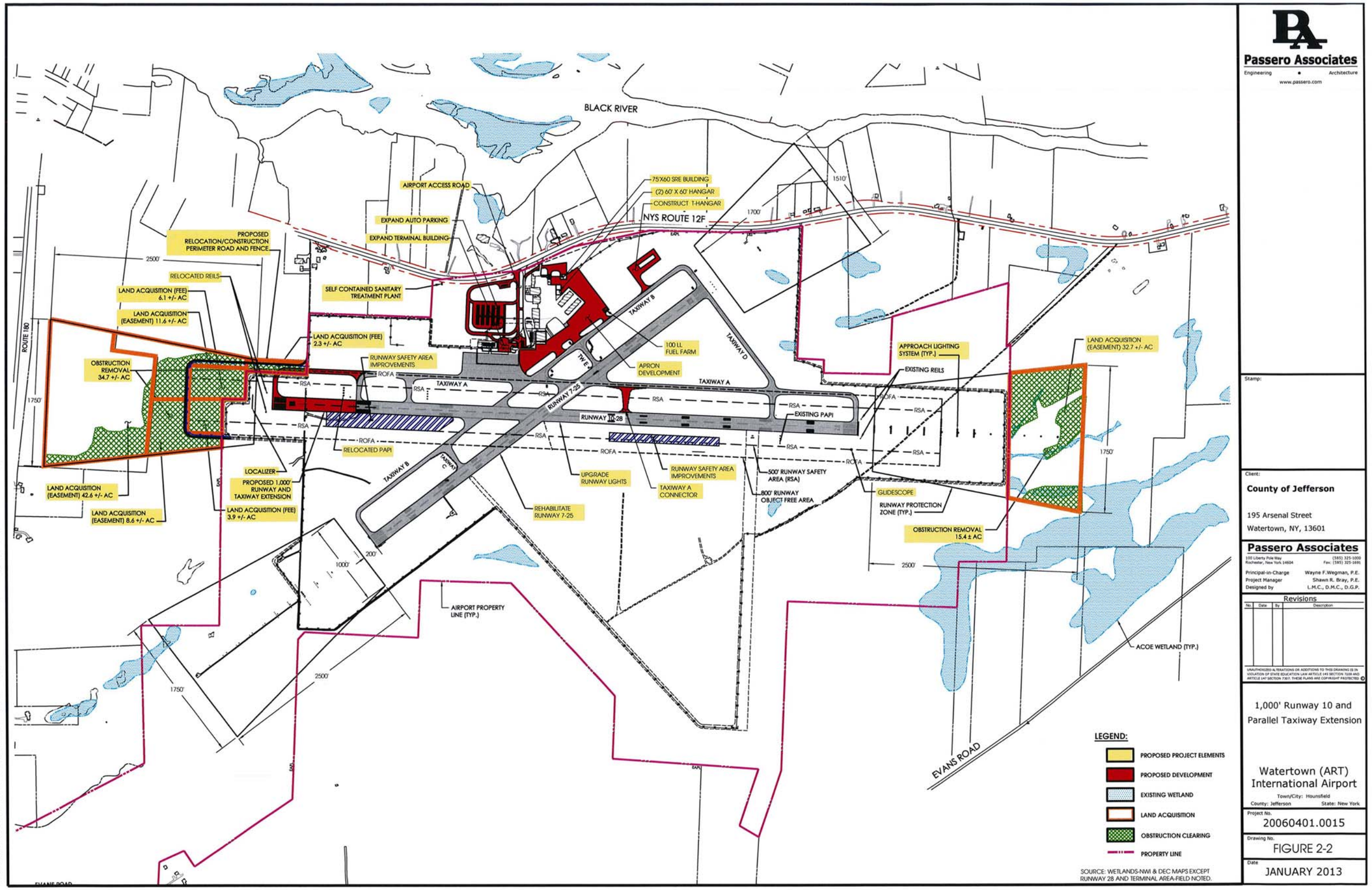

Z:\2006\20060401\20060401.0015\Drawings\Airport\X-Refs\FIG 2-2 RW 10 Ext (no land).dwg, 7/28/2015 3:20:53 PM, wzian

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Designed by	L.M.C., D.M.C., D.G.P.

Revisions

No.	Date	By	Description

1,000' Runway 10 and Parallel Taxiway Extension

Watertown (ART) International Airport
Town/City: Hounsfield
County: Jefferson State: New York

Project No.
20060401.0015

Drawing No.
FIGURE 2-2

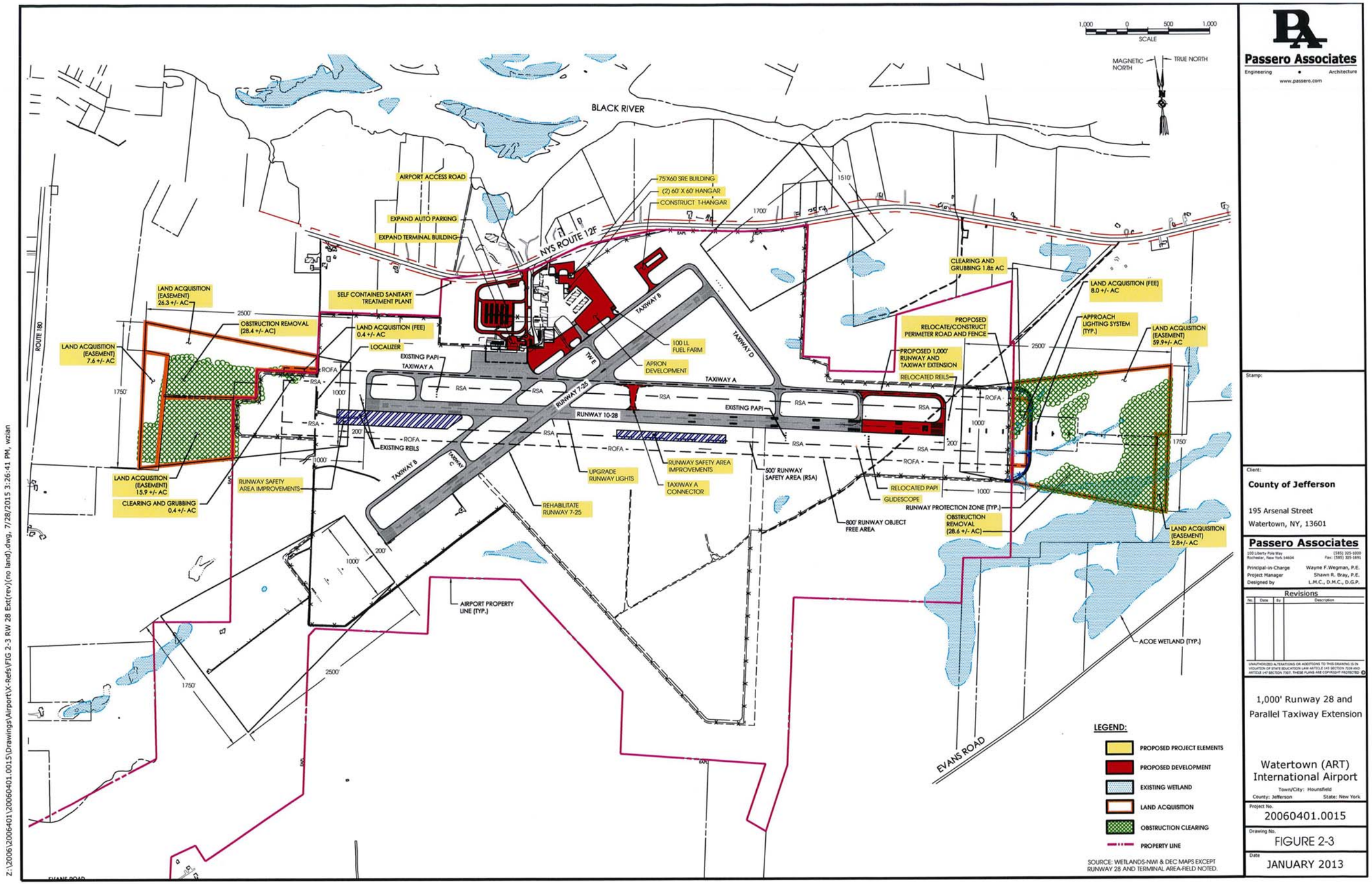
Date
JANUARY 2013

2.2.2 1,000 Foot Extension to Runway 28

This alternative is depicted in Figure 2-3 and extends Runway/Taxiway to Runway 28 1,000 feet. The individual projects include:

- Construct 1,000 foot extension to Runway 28 and Parallel Taxiway "A" Extension with associated markings, edge lighting and drainage improvements
- Construct Taxiway "A" connector (400' x 50'), approximately 2,800 feet from the existing Runway 28 end (or 3,800 feet from the proposed runway end), prior to the intersection of Runway 10-28 and Runway 7-25
- Upgrade Runway 10-28 runway lights to high intensity runway lights (HIRL)
- Relocate Runway 28 PAPI and REILs 1,000 feet east of existing location on previously disturbed airport property. The PAPI will be located approximately 909 feet from the proposed Runway 28 end, and the REILs will be located off Runway 28 end.
- Install an ILS and MALSR Approach Lighting System (2,400' in length) to Runway 28
- Remove tree obstructions:
  - Clearing Grubbing: 0.4 +/- acres of trees at the Runway 10 end OFA; and 1.8 +/- acres trees at the Runway 28 end object free area (OFA)
  - Obstruction Removal: 28.4 +/- acres to Runway 10 end Runway Protection Zones (RPZ) for Runway 10 approach end, and 28.6 +/- acres to the Runway 28 end RPZ for the Runway 28 approach end
- Fee acquisition of 0.4+/- acres to the Runway end 10 OFA and 8.0 +/- acres to the Runway 28 end OFA and relocation of the perimeter access road. Easement acquisition of 49.8+/- acres to the Runway 10 RPZ, and 62.7 +/- acres to the Runway 28 RPZ.
- Remove 1,000 LF of existing 8' fence, and install 1,800 LF of new 8' fence, with 3 rows of barbed wire, around proposed runway 28 end
- Construct perimeter access road around Runway 28 extension (2,500 LF x 15 LF)
- Expand terminal building approximately 20,000 square feet, including installation of a self contained (packaged) sanitary treatment plant
- Expand paved parking for approximately 300 vehicle parking spaces (passengers, car rental and employee), from existing 155 vehicle parking spaces
- Construct airport access road (3,000 LF x 24 LF) from Route 12F
- Expand general aviation apron 358,000 square feet
- Construct 75' x 60' snow removal equipment building
- Construct (2) 60' x 60' conventional hangar
- Construct 10-bay T-hangar with taxilane
- Install above ground 100 LL fuel tank
- Improve Runway 10-28 Runway safety area including grading 409,000 SF and upgrading drainage
- Redesign and publication of new approach procedures to the Runway 28 end (<3/4-mile visibility minimum)

Jefferson County has entered into eminent domain proceedings, as required, including properties identified in the 2009 Environmental Assessment.



Z:\2006\2006401\20060401.0015\Drawings\Airport\X-Refs\FIG 2-3 RW 28 Ext(rev)(no land).dwg, 7/28/2015 3:26:41 PM, wzian

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Project Manager: Shawn R. Bray, P.E.
Designed by: L.M.C., D.M.C., D.G.P.

Revisions

No.	Date	By	Description

1,000' Runway 28 and Parallel Taxiway Extension

Watertown (ART) International Airport
Town/City: Hounsfield
County: Jefferson State: New York

Project No.
20060401.0015

Drawing No.
FIGURE 2-3

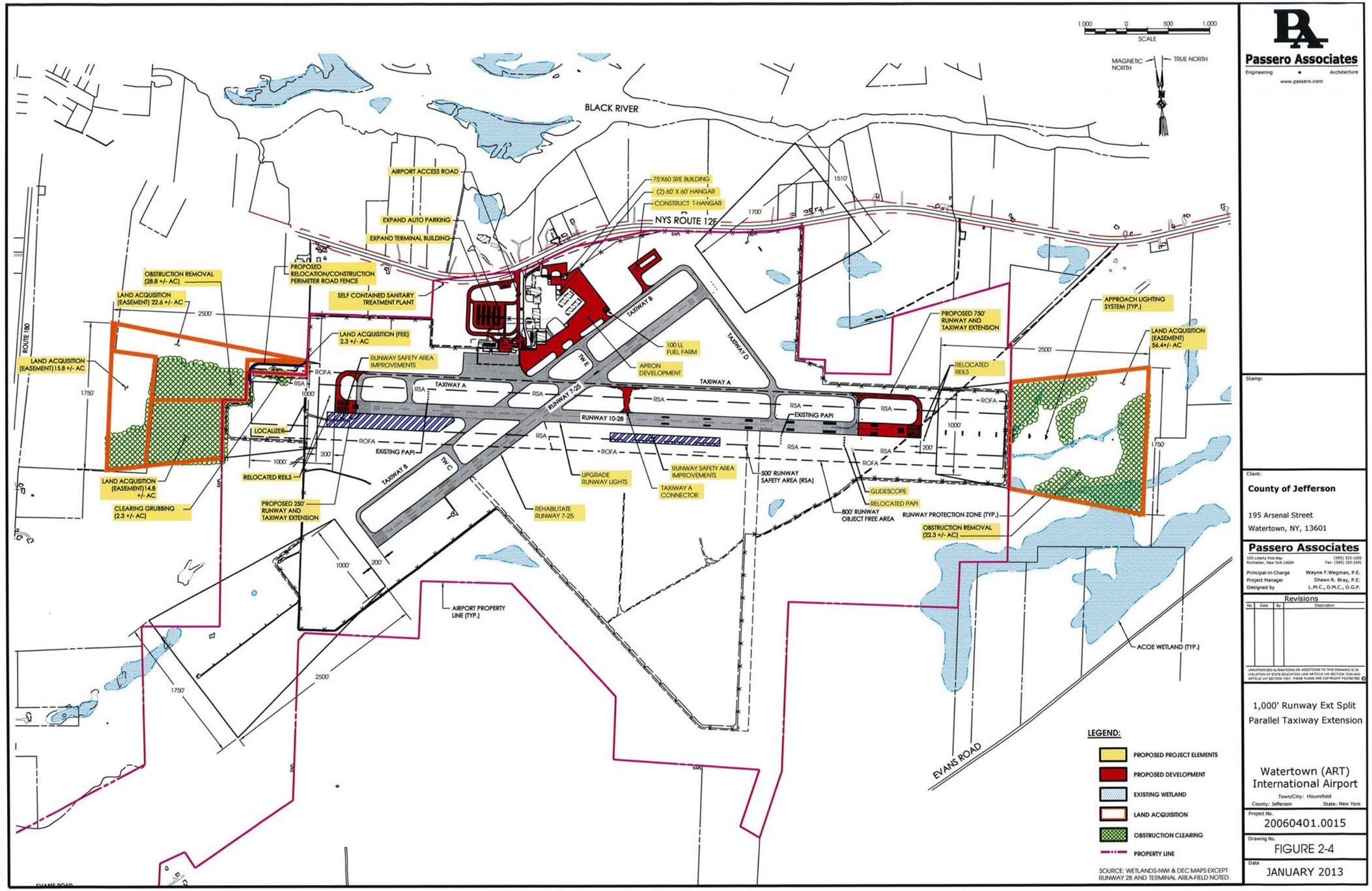
Date
JANUARY 2013

2.2.3 1,000 Foot Extension Split between Runway 10 and 28

This alternative is depicted in Figure 2-4. The runway/taxiway extension will be split between 250 foot extension to Runway 10 and 750 foot extension to Runway 28, to accommodate the runway length on airport property while minimizing land acquisition. Following is a bulleted list of projects included in the alternative:

- Construct 250 foot extension to Runway 10 and 750 foot extension to Runway 28, with associated parallel Taxiway "A" Extension and markings, edge lighting and drainage improvements
- Construct Taxiway "A" connector (400' x 50'), approximately 2,800 feet from the existing Runway 28 end (or 3,550 feet from the proposed runway end), prior to the intersection of Runway 10-28 and Runway 7-25
- Upgrade Runway 10-28 runway lights to high intensity runway lights (HIRL)
- Relocate Runway 10 REILS, 250 feet west of existing location and Runway 28 PAPI and REILs, relocated 750 feet east of the existing location. Relocations would occur on previously disturbed airport property. Runway 28 PAPI would be on the left side of Runway 28, while the respective REILs would be located off the extended runway
- Install an ILS and MALSR Approach Lighting System (2,400' in length) to Runway 28
- Remove tree obstructions:
  - Clearing Grubbing: 2.3 +/- acres trees at the Runway 10 end object free area (OFA); and
  - Obstruction Removal: 28.8 +/- acres to Runway 10 end Runway Protection Zones (RPZ) for Runway 10 approach end, and 22.3 +/- acres to the Runway 28 end RPZ for the Runway 28 approach end
- Fee acquisition of 2.3+/- acres to the Runway end 10 OFA; and fee or easement acquisition of 53.2+/- acres to the Runway 10 RPZ for the Runway 10 approach end, and 56.4 +/- acres to the Runway 28 RPZ for the Runway 28 approach end
- Remove 855 LF of existing 8' fence, and install 1,000 LF of new 8' fence, with 3 rows barbed wire, around proposed runway 10 end
- Construct perimeter access road around Runway 10 extension (1,000 LF x 15 LF)
- Expand terminal building approximately 20,000 square feet, including installation of a self contained (packaged) sanitary treatment plant
- Expand paved parking for approximately 300 vehicle parking spaces (passengers, car rental and employee), from existing 155 vehicle parking spaces
- Construct airport access road (3,000 LF x 24 LF) from Route 12F
- Expand General Aviation Apron 358,000 square feet
- Construct 75' x 60' snow removal equipment building
- Construct (2) 60' x 60' conventional hangar
- Construct 10-bay T-hangar with taxilane
- Install above ground 100LL fuel tank
- Improve Runway 10-28 RSA including grading 409,000 SF and upgrading drainage
- Redesign and publication of new approach procedures to the Runway 28 end (<3/4-mile visibility minimum)

Jefferson County has entered into eminent domain proceedings, as required, including properties identified in the 2009 Environmental Assessment.



Z:\2006\20060401\20060401.0015\Drawings\Airport\X-Refs\FIG 2-4 Split RW Ext (no land).dwg, 7/28/2015 3:30:31 PM, wzian

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Designed by: L.M.C., D.M.C., D.G.P.

Revisions

No.	Date	By	Description

1,000' Runway Ext Split Parallel Taxiway Extension

Watertown (ART) International Airport
Town/City: Hounsfield
County: Jefferson State: New York

Project No.
20060401.0015

Drawing No.
FIGURE 2-4

Date
JANUARY 2013

2.3 ALTERNATIVE EVALUATION CRITERIA

The feasibility of each runway length alternative was measured against a series of criteria consistent with the proposed purpose and need. The categories include:

- **Design Standards**: Ability to meet the FAA AC 150/5300-13A "Airport Design" requirements for ARC D-II
- **Environmental Impacts**: Review of potential environmental impact categories
- **Facility requirements**: Ability to meet the existing and projected demand
- **Obstruction analysis**: Quantify obstructions to be removed, and estimate impacts to aircraft approaches and operating minimums
- **Land/easement acquisition**: Identify land to be acquired
- **Development Costs**: Quantifies project implementation costs
- **Implementation feasibility**: Summarized and identifies barriers to timely completion of improvements.

The comparison analysis is summarized in Table 2-1. The results of this analysis will identify alternatives to be considered for further environmental analysis.

Table 2-1
Alternative Evaluation Criteria

ALTERNATIVES				
	NO BUILD (FIG. 2-1)	**RUNWAY 10 EXT (FIG. 2-2)**	**RUNWAY 28 EXT (FIG. 2-3)**	**SPLIT EXT (FIG. 2-4)**
MEET AIRPORT DESIGN STANDARDS FOR ARC D-II	No. Standard ROFA, RSA and RPZ not met	Yes	Yes	Yes
ENVIRONMENTAL IMPACTS	• Water Quality: Deicing fluid not contained	• Noise: additional analysis • Air Quality additional analysis • Land Use: Rezoning land off Runway 10 • Construction: fill material needed to develop Runway 10 • Wetlands: for Runway 28 RPZ and MALSR • Water Quality permit to contain deicing fluid	• Noise: additional analysis • Air Quality additional analysis • Land Use: Rezoning or special use permit land off Runway 28 • Wetlands: for Runway 28 RPZ and MALSR • Water Quality permit to contain deicing fluid	• Noise: additional analysis • Air Quality additional analysis • Land Use: Rezoning land off Runway 10 • Construction: fill material needed to develop Runway 10 • Wetlands: for Runway 28 RPZ and MALSR • Water Quality permit to contain deicing fluid
FACILITY REQUIREMENTS:				
7,000' RUNWAY LENGTH	No: Maximum Length remains 6,000'	Yes	Yes	Yes
FULL PARALLEL TAXIWAY	Yes	Yes, requires land acquisition to construct	Yes	Yes
ILS/MALSR	No	Yes	Yes	Yes
IMPROVED APPROACHES	No. Maintains existing Non-precision approach minimums	Yes, aims to provide precision approach <3/4 mi	Yes, aims to provide precision approach <3/4 mi	Yes, aims to provide precision approach <3/4 mi
RELOCATED NAVAIDS	No relocation of the PAPI and REILs	Relocation of PAPI and REILs approximately 1,000 feet west of existing location	Relocation of PAPI and REILs approximately 1,000 feet east of existing location	Relocation of PAPI and REIL for Runway 28, approximately 750 feet east of existing location, REIL for Runway 10 approximately 250 feet west of existing location
IMPROVED LANDSIDE FACILITIES	No	Yes	Yes	Yes

ALTERNATIVES				
	NO BUILD (FIG. 2-1)	**RUNWAY 10 EXT (FIG. 2-2)**	**RUNWAY 28 EXT (FIG. 2-3)**	**SPLIT EXT (FIG. 2-4)**
OBSTRUCTION REMOVAL (ON & OFF AIRPORT)	*Runway 10:* None *Runway 28:* None Total = None, obstructions remain	*Runway 10*: Trees: 34.7 +/- ac *Runway 28*: Trees: 15.4 +/- ac Total: 50.1 +/- acres	*Runway 10:* Trees: 28.8 +/- ac *Runway 28:* Trees*:* 30.4 +/- ac Total: 59.2 +/- acres	*Runway 10:* Trees: 31.1 +/- ac *Runway 28:* Trees: 22.3 +/- ac Total : 53.4 +/- acres
LAND ACQUISITION **RSA/ROFA** **RPZ** **# IMPACTED PARCELS** **RSA/ROFA** **RPZ** **# IMPACTED PARCELS**	*Runway 10:* 0.4+/- acres 18.2 +/-acres *2 parcels* *Runway 28:* None 3.3 +/- acres *1 parcel* Total: 21.9 +/- acres	*Runway 10:* 12.3 +/-acres 62.8 +/- acres *3 parcels* *Runway 28 :* None 32.7 +/- acres *1 parcel* Total: 107.8 +/- acres	*Runway 10:* 0.4 +/- acres 48.2 +/-acres *3 parcels* *Runway 28:* 8 +/- acres 55.8 +/- acres *2 parcels* Total: 112.0 +/- acres	*Runway 10:* 2.3 +/-acres 53.2 +/- acres *3 parcels* *Runway 28 :* None 56.4 +/- acres *1 parcel* Total: 111.9 +/- acres
DEVELOPMENT COSTS	$130,000	$7,100,000	$5,600,000	$6,500,000
IMPLEMENTATION FEASIBILITY	*Does not meet needs.* *Does not improve safety.* *Limits operations of commercial airline.*	*Meets needs.* *Improved safety.* *Requires land to construct parallel taxiway. Relocation of PAPI and REILS would occur on airport property* *Unable to access property off Runway 10 to assess environmental impacts.*	*Meets needs.* *Improved safety.* *All physical improvements on airport property including the relocation of the PAPI and REILs for Runway 28.*	*Meets needs.* *Improved safety.* *All physical improvements on airport property, including the relocation of PAPI and REILs* *Limits commercial airline operations for a longer durations for construction.* *Unable to access property off Runway 10 to assess environmental impacts.*

2.4 ALTERNATIVES CARRIED FORWARD FOR DETAILED EVALUATION

Two alternatives were carried forward for detailed evaluation: the No Build alternative and proposed 1,000 foot extension to the Runway 28 end. The No Build alternative is carried forward for baseline comparison purposes only, as required by NEPA.

The Runway 10 extension alternative (to the Runway 10 end) was not progressed because resource field analysis was incomplete. Based on reference documentation it appears wetlands may be present in the area; substantial fill would be required to construct this alternative; archeological clearance would be required to satisfy the State Historic Preservation Office; and the lands requiring rezoning, were issues that were

identified. A good faith effort to obtain land-owner permission was sought, but not received, resulting in the inability to access the land and evaluate potential environmental impacts. These issues factored into dismissing this alternative from further consideration. Similarly, the split runway extension was dismissed from evaluation based on the aforementioned points, and the constructability impacts of splitting the runway operations that would significantly impact operations to the commercial airline operator, who primarily use Runway 10-28.

CHAPTER THREE
AFFECTED ENVIRONMENT

This chapter provides an overview of the existing environmental resources within the Proposed Action impacted area.

3.1 REGIONAL SETTING

Jefferson County is located in the northwest portion of New York bordering the Saint Lawrence River and Lake Ontario in the Town of Hounsfield. The Airport is located approximately five miles west of the City of Watertown central business district (see Figure 3-1, *Airport Location Map*). The nearest community to the Airport is the Village of Dexter, about a mile northwest of the Airport. Jefferson County encompasses approximately 1,857 square miles with a population of 116,229. Watertown International Airport is located approximately 18 miles west of Fort Drum, home to the 10th Mountain Division of the U.S. Army. Additionally it is situated approximately 20 miles south of the Canadian border. Both Fort Drum personnel and Canadian citizens utilize commercial airline flights from Watertown International Airport.

3.1.1 WATERTOWN INTERNATIONAL AIRPORT

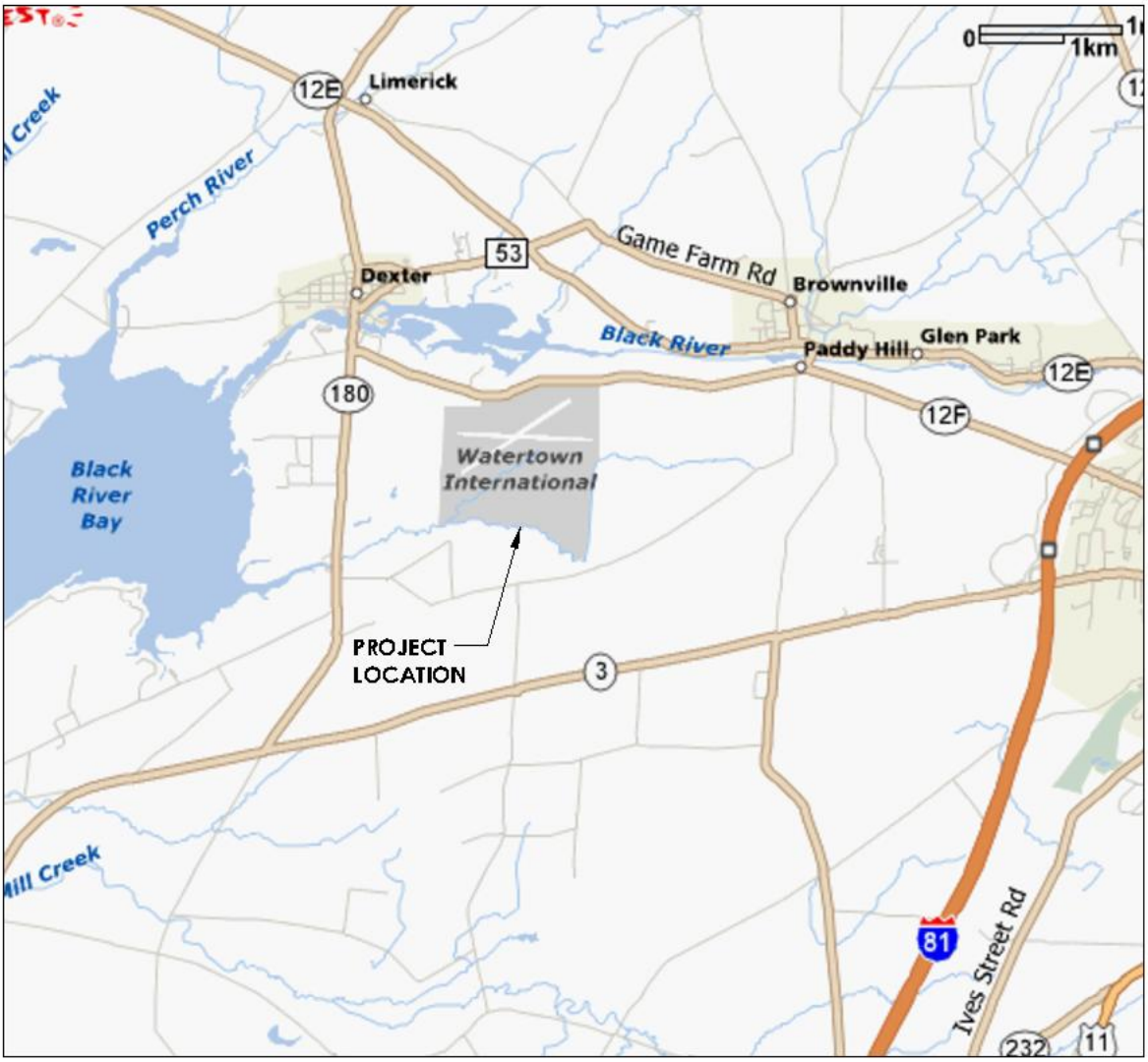
Watertown International Airport (ART) is a public use facility, owned and operated by Jefferson County. Originally opened and named Watertown Municipal Airport in 1928, the facility became an International Airport in the 1970's when it became a port of entry for private aircraft. The Airport covers 1,060 acres and features two intersecting asphalt runways, taxiways, and two aircraft parking aprons. Runway 10-28 is 6,000 feet long, with a partial parallel taxiway on the north side of the runway. Both Runway 10 and Runway 28 have Area Navigation (RNAV) (GPS) non-precision instrument approach procedures.

Runway 7-25 measures 4,999 feet long and has a full length parallel taxiway on the northwest side of the runway. Runway 7 has published instrument approach procedures consisting of an Instrument Landing System or Localizer (ILS or LOC) approach, with a medium intensity approach lighting system with runway alignment lights (MALSR); a VHF omnidirectional radio range (VOR) approach, and a RNAV (GPS) approach. Runway 25 has no published instrument approach procedures.

The airport terminal measures 4,900 square feet, on the lower level, and has 42 seats available in the secured area. The TSA equipment is dated with a scheduled upgrade. Presently there is an insufficient number of secured seats to meet the passenger seats available on the aircraft. There is also only one usable bathroom in the secured area, which does not meet current building code requirements.

3.2 STUDY AREA

The Study Area for this Environmental Assessment (EA) extends five nautical miles out from runway end for Runway 10 and 28. Figure 3-1, *Airport Location Map,* graphically depicts the location of ART. The Proposed Action would occur within one political jurisdiction, the Town of Hounsfield.



LOCATION MAP	PASSERO ASSOCIATES engineering architecture 224 West Main Street, Suite 100 Rochester, NY 14614	WATERTOWN INTERNATIONAL AIRPORT FIGURE 3–1

3.2.1 AIR QUALITY

The Clean Air Act (CAA) established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants. The U.S. Environmental Protection Agency (USEPA) has agency oversight for the CAA. Jefferson County was determined to be in compliance with all criteria pollutants except the Federal eight hour standard for ozone, by 1997 standards, wherein the County is determined to be moderate nonattainment. Non-attainment area is any geographic area of the United States that experiences a violation of one or more NAAQS. The General Conformity Rule, section 176(c) of the CAA, applies to those projects located within a nonattainment or maintenance area. FAA actions are subject to the General Conformity Rule. The General Conformity Rule establishes the procedures and criteria to determine whether a Federal action conforms to air quality plans. . When General Conformity determination is required, an air quality emissions review is prepared to determine conformance with air quality implementation plans. Under General Conformity, only the proposed action must be addressed, and must consider reasonably foreseeable emissions. As such, a General Conformity evaluation is required for the Proposed Action. An air emissions review will be included in Chapter 4.0, *Environmental Consequences, section 4.1*.

3.2.2 EXISTING LAND USE AND NOISE SENSITIVE FACILITIES

The existing land use within the Study Area consists of residential, vacant and agricultural lands as shown on Figure 3-2, *Existing Land Use* below. In addition to land use is zoning, which is determined by local jurisdictions and stipulates permitted uses within a given land area. Figure 3-3 depicts the zoning for the airport and its vicinity. The airport is appropriately zoned Industrial, while adjacent lands to the west are zoned multi-use, and to the east are zoned agricultural and residential. Development off airport property, in either direction, will impact zoning, and be examined in Chapter 4.0, *Environmental Consequences, section 4.3*.

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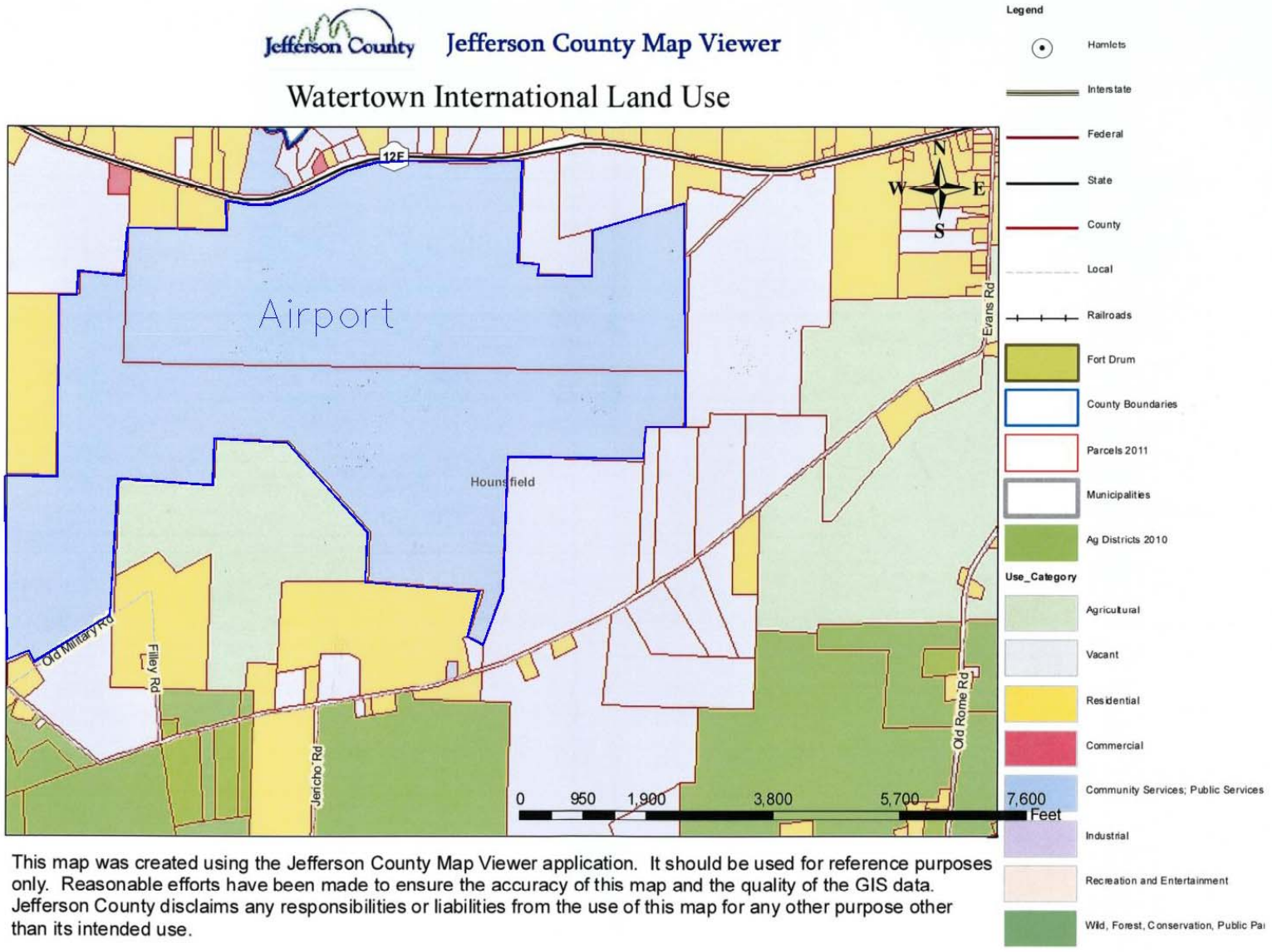
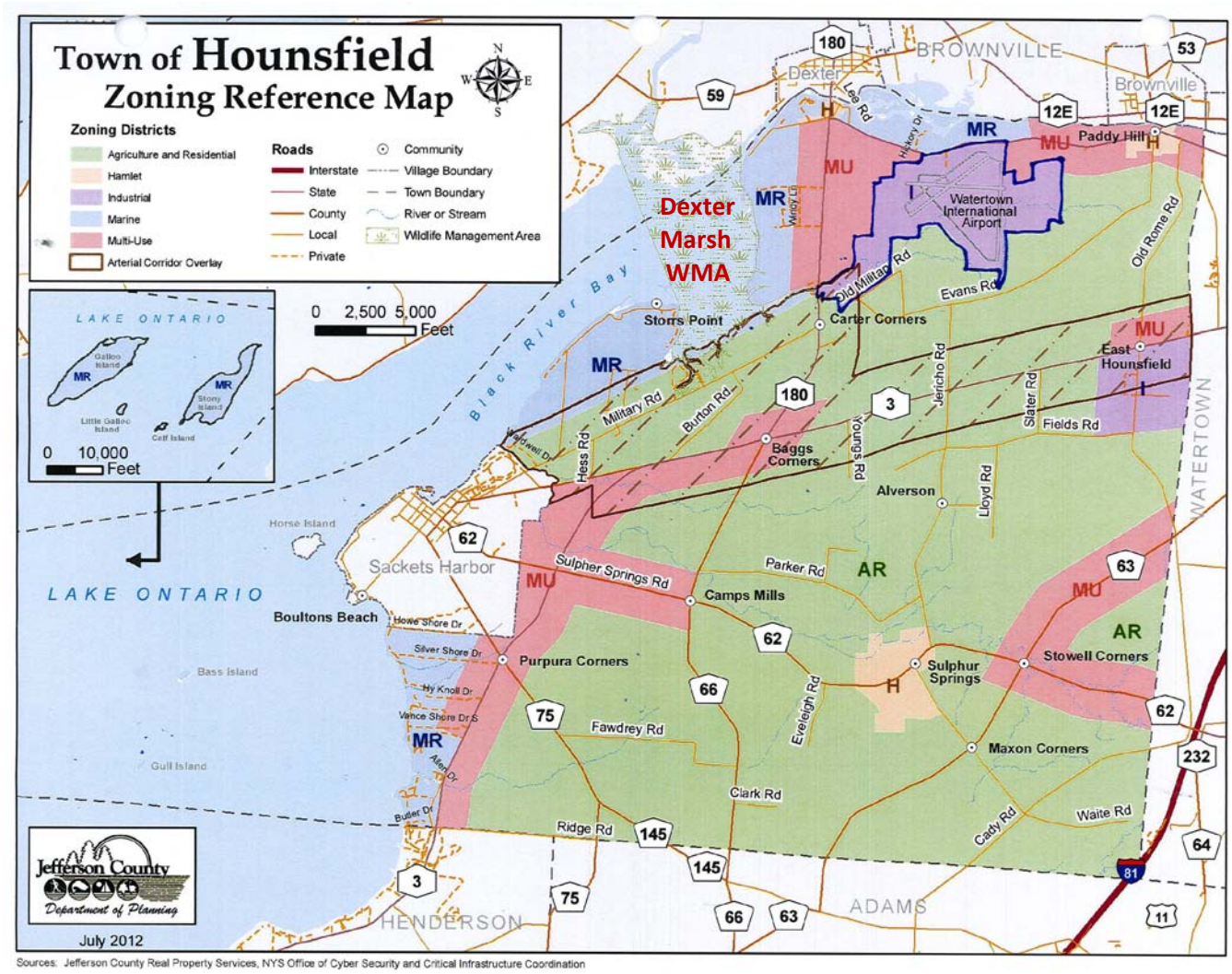
Figure 3-2
Existing Land Use



This map was created using the Jefferson County Map Viewer application. It should be used for reference purposes only. Reasonable efforts have been made to ensure the accuracy of this map and the quality of the GIS data. Jefferson County disclaims any responsibilities or liabilities from the use of this map for any other purpose other than its intended use.

Figure 3-3
Existing Zoning



MR: Marine, **MU**: Multi-Use; **AR**: Agriculture and Residential; **I**: Industrial

Noise-sensitive public land uses are defined by the FAA, and include hospitals, nursing homes, public libraries, schools, and places of worship. Table 3-1, *Noise Sensitive Public Facilities Located Within the Study Area*, contains noise sensitive land uses identified in the Environmental Assessment prepared for American Eagle Operations (2011), as denoted with an *. Additional noise-sensitive facilities, that may be affected by over-flights were added to the list (those not denoted with an *). Chapter 4.0, *Environmental Consequences, section 4.13* will address the noise impacts, if any, on these sites.

Table 3-1
Noise Sensitive Public Facilities Located Within the Study Area

Map ID	Name	Distance from Airport
	Places of Worship	(in miles)
W1	Living Waters Fellowship	6.0 East
W2	Rutland Congregational Church	4.3 East
W3	Life Church of the Nazarene	5.9 Southeast
W4	Emmanuel Congregational Church	5.8 Southeast
W5	Maranatha Bible Baptist Church	5.5 Southeast
W6	First Presbyterian Church	5.8 Southeast
W7	First United Methodist Church	4.7 Southeast
W8	Trinity Episcopal Church	4.8 Southeast
W9	Asbury United Methodist Church	5.2 Southeast
W10	Holy Family Church	5.4 Southeast
W11	First Baptist Church	5.1 Southeast
W12	St Patrick's Church	4.7 East
W13	Cornerstone Assembly of God Church	4.6 Southeast
W14	Concordia Lutheran Church	4.1 East
W15	United Presbyterian Church	5.8 Southwest
W16	Fellowship Baptist Church	2.2 Southeast
W17*	Brownville United Methodist	1.6 Northeast
W18*	Airport Christian Fellowship Church	0.9 North
W19*	Faith Fellowship of Dexter	1.6 Northwest
W20*	Dexter Presbyterian Church	1.2 Southwest
W21*	Dexter United Methodist Church	1.6 Northwest
W22*	New Hope Baptist Church	2.2 Southeast
W23*	New Life Christian Church	3.4 East
W24*	St Paul's Episcopal Church	5.2 Southeast
W25*	Watertown Seventh-Day Adventist	2.2 Southeast
	Schools	
S1	Dexter Elementary School	1.5 North
S2	Sackets Harbor Central SD	6.0 Southwest
S3*	Boon Street Public School	4.1 East
S4	Our Lady of Sacred Heart	4.9 East
S5	Jefferson Lewis Boces	2.3 Southeast
S6	Immaculate Heart Central HS	5.0 Southeast
S7	Watertown High School	5.3 Southeast
S8*	General Brown High School	1.8 North
S9*	Saint Anthony's Parochial School	4.0 East
S10	Jefferson Community College	3.5 East
Map ID	Nursing Home/Hospital	
H1	Mercy of Northern NY	4.7 Southeast
H2	Angels Inn	4.3 Southeast
H3	Samaritan Medical Center	4.9 Southeast
H4	Jefferson County Home – The Aged	3.6 East

	Libraries	
L1*	Brownville-Glen Park Library	1.5 Northeast
L2*	Dexter Free Library	1.6 Northwest
L3*	Flower Memorial Library	5.0 Southeast
L4*	Melvil Dewet Library at JCC	3.6 East
L5*	North Country Library	3.9 East
L6	Hay Memorial Library	5.8 Southwest
	Wildlife Management Area	
WMA	Dexter Marsh	2.0 West

Source: Google Earth Search,

**Sites identified in the Environmental Assessment Proposed Amendment of American Eagle Airlines Operations Specifications to Allow Scheduled Passenger Jet Service and Expansion of Existing Passenger Terminal Building at Watertown International Airport (ART), Jefferson County, NY, Landrum & Brown, November 2011*

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Watertown (ART)
International Airport

Project No.
2006401.21

Drawing No.
FIG. 3-4

Sheet No.

Scale

Date
February 2013

3.2.3 DEPARTMENT OF TRANSPORTATION ACT: SECTION 4(f) PROPERTIES

Section 4(f) of the *Department of Transportation Act of 1966* (DOT Act) provides that *"…the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance or land from an historic site of national, state, or local significance as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such program, and the project includes all possible planning to minimize harm resulting from the use.*"

There is a single potential Section 4(f) resource located within the Study Area, the Dexter Marsh Wildlife Management Area (Dexter Marsh WMA). Figure 3-3, Zoning Map shows the location of the Dexter Marsh WMA in relationship to the Airport, which is two miles west of the Airport. The Dexter Marsh WMA provides hiking trails, bird watching facilities, hunting areas, fishing and camping. While no physical development from the Proposed Action will impact the Dexter Marsh WMA, noise impacts relative to the WMA will be discussed in Chapter 4.0, *Environmental Consequences, section 4.13*. There are no other Federal, state, or local parks are located within the Study Area.

3.2.4 HISTORIC AND CURRENT POPULATION

The Proposed Action study area contains portions of the City of Watertown, Village of Dexter, Village of Brownville and unincorporated portions of Jefferson County. Table 3-2, *Population Comparison for Study Area, 1990-2010*, shows the historic populations of the communities. Fort Drum CDP (Census Designated Place) was also included as members of this community are large users of the airport. Additionally the table shows the populations of Jefferson County, the State of New York and the U.S. as a whole during the same time span. As shown, the only population decreases are occurring in the City of Watertown and Village of Brownville.

According to the most recent U.S. Census data, the study area comprises approximately ten percent minority populations.

Table 3-2 Population Comparison for Study Area, 1990-2010
Watertown International Airport

Population Area	Census 1990	Census 2000	Census 2010	Percent Change 1990-2010
United States	248,709,873	281,421,906	308,745,388	24.1%
State of New York	17,990,445	18,976,457	19,378,102	7.7%
Jefferson County, New York	110,943	111,738	116,229	4.8%
City of Watertown	29,429	26,705	27,023	-8.2%
Village of Dexter	1,030	1,120	1,052	2.1%
Village of Brownville	1,138	1,022	1,119	-1.7%
Fort Drum CDP	11,578	12,723	12,955	11.9%

3.2.5 HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

3.2.5.1 National Historic Preservation Act

There are four primary Acts to consider when evaluating potential impacts to Historical, Architectural, Archaeological, and Cultural Resources.

- The National Historic Preservation Act (NHPA) of 1966, as amended, establishes the Advisory Council on historic Preservation and the National Register of Historic Places (NRHP) within the National Park Service. Section 110 governs Federal agencies' responsibilities to preserve and use historic buildings. Section 106 requires Federal agencies to consider the effect of their undertaking on properties on or eligible for inclusion in the NRHP.

- The Archeological and Historic Preservation Act of 1974 provides for the preservation of historic American sites, buildings, objects and antiquities of national significance.

- The Archeological Resources Protection Act prohibits unauthorized excavation of archeological resources on Federal or Indian land, establishing standards for permissible excavation by permit.

- The Native American Graves Protection and Repatriation Act deals with the disposition of cultural items, including human remains, by a federally funded repository.

The Area of Potential Effect (APE) is the geographic area within which the Proposed Action may cause changes in the character or use of the historic properties that make it eligible for inclusion in the NRHP. Rochester Museum and Science Center conducted a Phase 1A Archaeological Assessment for the terminal and general aviation expansion areas and concluded that additional study was warranted for these areas. Chapter 4.0, *Environmental Consequences, section 4.10* will document the findings of the supplemental field analysis for the Proposed Actions.

Extending the runway will adjust the noise level contours. The FAA's Land Use Compatibility Guidelines found in 14 CFR Part 150 provides a tool for evaluating land uses against various noise levels expressed in the Day-Night Average Sound Level (DNL). These guidelines indicate all land uses experiencing aircraft noise levels below 65 DNL are considered compatible. Land uses exposed to aircraft noise levels above 65 DNL may be non-compatible depending on the specific uses. Chapter 4.0, *Environmental Consequences, section 4.13* will document the findings from the noise analysis.

3.2.5.2 Identification of Historic Properties

The National Register of Historic Places for Jefferson County was reviewed.[15] There are 13 historic places on the National Register in Hounsfield, NY. Only one, the Conklin Farm on Evans Road is near the airport, but outside the Proposed Action, approximately one mile southeast of the airport, across the road from the airport.

3.2.5.3 Tribal Resources

While the Onondaga Nation and the Oneida Indian Nation do not have land holdings in the APE,

[15] National Register of Historic Places, http:// historicdistricts.com/NY/Jefferson/state3.html

the FAA contacted these Nations on November 15, 2012 (see Appendix D for correspondence). No return correspondence was received from either Nation.

3.2.6 WETLANDS

The National Wetland Inventory (NWI) Database and the New York State Department of Conservation (DEC) wetland mapping databases identify potential federal and state regulated wetlands east of the airport. Fieldwork was performed to verify wetland locations to better identify potential impacts from the Proposed Action, and can be found in Chapter 4.0, *Environmental Consequences, section 4.17*.

3.2.7 FISH, WILDLIFE AND PLANTS

Correspondence from various agencies indicates plant and animals species potential. Fieldwork was performed to verify species and their habitat, and can be found in Chapter 4.0, *Environmental Consequences, section 4.7*.

CHAPTER FOUR
ENVIRONMENTAL CONSEQUENCES

This chapter identifies potential environmental impacts of the alternatives evaluated in this Environmental Assessment (EA).

ENVIRONMENTAL CATEGORIES

As required by Council on Environmental Quality (CEQ), 40 CFR Part 1500-1508), Federal Aviation Administration (FAA) Order 1050.1E, *Environmental Impacts: Policies and Procedures*, and Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, and *Environmental Desk Reference for Airport Actions*, the environmental categories listed below are addressed in this EA.

- Air Quality
- Coastal Resources
- Compatible Land Use
- Construction Impacts
- Department of Transportation: Section 4(f)
- Farmlands
- Fish, Wildlife and Plants
- Floodplains
- Hazardous Materials, Pollution Prevention and Solid Waste
- Historical, Architectural, Archaeological and Cultural Resources
- Light Emissions and Visual Impacts
- Natural Resources & Energy Supply
- Noise
- Secondary (Induced) Impacts
- Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks
- Water Quality
- Wetlands
- Wild and Scenic Rivers
- Other Considerations
- Cumulative Impacts

SUMMARY OF NO BUILD ALTERNATIVE IMPACTS

The analysis of the No Build alternative is required by Council on Environmental Quality (CEQ), 40 CFR Part 1500-1508)FAA Order 1050.1E and Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, and *Environmental Desk Reference for Airport Actions.* For this EA, the No Build does not include a runway/taxiway extension, installation of an ILS or approach lighting to Runway 28 end; nor does it include any changes to the terminal area, surface parking and access roadways, or to the general aviation apron area, nor to existing NAVAIDs. Therefore, for all impact categories, the No Build would have no significant adverse impact to the environmental categories.

SUMMARY OF PROPOSED ACTION IMPACTS

4.1 AIR QUALITY

Two primary laws apply to air quality: Clean Air Act (CAA) and National Environmental Policy Act (NEPA). The CAA establishes National Ambient Air Quality Standards (NAAQS) for six criteria pollutants and designates attainment or nonattainment areas based on those NAAQS within a state. The Act requires compliance with General Conformity rules. The USEPA has agency oversight for the CAA.

NAAQS Regulated pollutants include carbon monoxide (CO), Sulfur Dioxide (SO_2), nitrogen oxides (NO_x), Ozone (O_3: 8-Hr) and particulate matter (PM-10 and PM-2.5) and lead (Pb). The inventory also includes

emissions of volatile organic compounds (VOC), a precursor pollutant to ozone development. The *de minimis* thresholds are defined as the thresholds of significance relative to compliance of net emissions under Federal and local air quality regulations, and in determining the potential for significant air quality impacts caused by a Proposed Action. *De minimis* is defined by the USEPA as "*emissions that are insignificant and negligible, with no potential to cause significant adverse air quality impacts.*" The applicable rates depend on the severity of the nonattainment designation and whether the project is located within the ozone transport region.[16]

ART is located in Jefferson County, New York, and based on EPA standards set in 2007, does not meet the eight-hour standards for healthful levels of ozone, and the USEPA has designated Jefferson County as a moderate non-attainment area for ozone (0_3).[17] Jefferson County is considered to be in attainment (compliant) with all other federally regulated air pollutants. As such, the General Conformity Rule applies and a General Conformity evaluation is required for the Proposed Action.

The Proposed Action includes an increase in direct aircraft emissions from additional flights, ground support equipment, auxiliary power units; additional parking facilities, roadways and stationary sources were also evaluated. During the previous American Eagle Environmental Assessment, prepared in 2011[18], the air quality analysis was conducted for the proposed commercial service jet aircraft service (12 flights per week) and support equipment to service those aircraft, with a 7.70 ton increase to NO_x and 1.54 ton increase to VOC.[19] Table 4-1 contains the results of the air quality analysis for the current Proposed Action, using the FAA Emissions and Dispersion Modeling System, compared to the applicable *de minimus* levels for the forecasted increased operations (14 flights per week), or an additional 208 annual operations (see Chapter 1, Table 1-3 for constant growth operations), additional vehicles and additional terminal space.

[16] The Ozone Transport Region is a single transport region for ozone, comprised of the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the Consolidated Metropolitan Statistical Area that includes the District of Columbia, as given at Section 184 of the Clean Air Act. ART is located in Jefferson County in the state of New York and is referred to by the USEPA as being located within the Ozone Transport Region.

[17] USEPA website, http://www.epa.gov/airquality/greenbook/ancl3.html, accessed December 2012

[18] Environmental Assessment Proposed Amendment of American Eagle Airlines Operations Specifications to Allow Scheduled Passenger Jet Service and Expansion of Existing Passenger Terminal Building at Watertown International Airport (ART), Jefferson County, NY, Landrum & Brown, November 2011

[19] Ibid

Table 4-1
Increase in Emissions – Proposed Action

EMISSIONS SOURCE	INCREASE IN ANNUAL EMISSIONS (tons per year)					
	CO	**VOC**	**NO_x**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
De Minimus Threshold	100	50	100	100	100	100
Aircraft	2.795	0.426	1.718	0.242	0.027	0.027
Ground Support Equipment (GSE)	0.027	0.009	0.099	0.00	0.006	0.006
Auxillary Power Unit (APU)	0.130	0.014	0.092	0.02	0.018	0.018
Parking Facilities	0.015	0.001	0.00	0.00	0.000	0.000
Roadways	0.051	0.001	0.00	0.00	0.000	0.000
Stationary Sources	0.150	0.038	1.022	0.204	0.029	0.029
Total Increase	**3.167**	**0.489**	**2.932**	**0.466**	**0.081**	**0.081**

Source: Passero Associates analysis, 2013. Federal Aviation Administration Emissions and Dispersion Modeling System, version 5.1.3 , Released November 2010.

The results of the emissions inventory show the net increase due to the Proposed Action will be below the applicable *de minimus* thresholds. Therefore a Conformity Determination is not necessary and the requirements of the General Conformity Rule are met.[20]

As a Federal agency, the FAA is required under NEPA to prepare an environmental document for major Federal actions that may affect the air quality of the human environment. Under NEPA a detailed air quality analysis for proposed projects and reasonable alternatives whose air quality emissions have the potential to cause violations of the National Ambient Air Quality Standards criteria pollutants. The screening techniques and methodologies are discussed in Chapter 2 and Figures 1 and 2 of the *Air Quality Procedures for Civilian Airport and Air Force Bases,* see Appendix I for figures, which require a NAAQS Assessment element and a Conformity Assessment element. For the NAAQS assessment, the general aviation and air taxi operations levels of 49,948, and enplanement levels of 18,818[21] are below the thresholds of 180,000 general aviation operations, and 1.3 million enplanements. Therefore a NAAQS assessment is not required. For the Conformity Assessment element a Conformity Determination is not required because the emissions do not exceed *De minimus* thresholds and are not regionally significant, defined as *"…a Federal action's direct and indirect emissions exceed 10% total emissions inventory for a particular criteria pollutant in a non-attainment or maintenance area*". [22] VOC and NO_x, the precursors to ozone are below the 10% threshold. Additionally, according to *Air Quality Procedures for Civilian Airport and Air Force Bases "it is unlikely an airport that does not exceed the threshold emission levels would qualify as regionally significant."*

Potential Impact: Analysis concluded that the Proposed Action does not have the potential to cause significant adverse air quality impacts.

[20] FAA Order 1050.1E Environmental Impacts: Policies and Procedures Paragraph 2.1c, March 20, 2006.
[21] Airport Master Record, dated 6/2012 for operations and CY2013 ACAIS for enplanements, dated June 20, 2014, see Appendix I
[22] *Air Quality Procedures for Civilian Airport and Air Force Bases,* Figures 1 and 2, see Appendix I

4.2 COASTAL RESOURCES

FAA Order 1050.1E, Appendix A, Section 3, Coastal Resources, states Federal activities involving or affecting coastal resources are governed by the Coastal Barriers Resources Act (CBRA), the Coastal Zone Management Act (CZMA) and Executive Order 13089, Coral Reef Protection. The CBRA prohibits Federal financial assistance for development within the Coastal Barrier Resources System that contains undeveloped coastal barriers along the Atlantic and Gulf coasts and Great Lakes. The CZMA and the National Oceanic and Atmospheric Administration (NOAA) regulations provide procedures for ensuring a Proposed Action is consistent with approached coastal zone management programs. E.O. 13089 requires Federal agencies to ensure that any action they authorize, fund, or carry out will not degrade the conditions of coral reef ecosystems.

According to the Department of State Office of Planning and Development NYS Coastal Boundary website, the proposed action lies 6,600 feet east of the limits of the landward coastal boundary. [23] The proposed action also lies outside the Dexter Marsh WMA, which is approximately two miles west of the airport, and Black River protection areas, which is approximately one mile northwest of the project area. The proposed project does not have a direct impact on the Dexter Marsh WMA (see Appendix I for graphic of coastal management area.)

Potential Impacts: ART is located outside the Coastal Management Zone, and there are no coastal barriers near the airport; therefore there will be no impact from the Proposed Action.

4.3 COMPATIBLE LAND USE

The compatibility of existing and planned land uses near an airport are usually associated with the extent of the airport's noise impacts. Typically, if the noise analysis concludes there is no impact then a similar conclusion can be drawn with respect to compatible land use.

The noise analysis described in section 4.13, *Noise*, includes the change in noise levels due to the increase in operations as well as the shift in noise contours on a runway extension. The analysis concludes no significant adverse impacts from noise would result from the No Build or Proposed Action. The study also analyzed the noise levels at sensitive land use sites around the airport, and found none of the noise-sensitive sites exceeded threshold criteria identified in 14 CFR Part 150 (see Appendix E). Extending the runway 1,000 feet east did not exceed threshold levels of disclosure criterion (see section 4.13 and Appendix E), and retains the majority of 65 DNL contour on airport property, with the exception of less than 0.1+/- acres north of the terminal area that is undeveloped. This noise at this level remains unchanged from the existing condition. Therefore the noise analysis indicates that the noise is compatible with existing land use.

Construction associated with physical runway and taxiway extension, including lighting and relocation of NAVAIDs (PAPI and REILs), and general aviation and terminal development of the Proposed Action would occur entirely on airport property that is properly zoned industrial. However, the runway extension object free area, construction of a perimeter road, and installation of approach lighting system and service road, would extend onto Agricultural-Residential zoned land, that are sought for fee or easement control through the eminent domain process. The Proposed Action may require a modification to zoning, or a special use permit from the Town of Hounsfield for the construction of the approach lighting and service road. The affected lands are currently undeveloped. Tree clearing in the RPZ will occur on lands that are controlled by the airport through ownership or easement.

[23] New York State Coastal Resources website, http://appext20.dos.ny.gov/coastal_map_public/map.aspx

Potential Impacts: Based on the analysis the Proposed Action would not result in adverse land use impacts from noise, however the Proposed Action would likely require a rezoning or special use permit for lands currently zoned Agricultural and Residential to accommodate the runway object free area, construction of a perimeter road, installation of the ILS components and the approach lighting system. This rezoning will not significantly alter the use of the undeveloped lands from its existing state and thus is not likely to cause adverse impacts.

4.4 CONSTRUCTION IMPACTS

Specific operations during construction that could create adverse environmental impacts include equipment noise, dust, and air and water pollution from erosion. It is anticipated the construction of a runway/taxiway extension and associated markings, lighting, along with the relocation of Runway 28 PAPI and REILs would occur over a period of six to nine months. Construction of terminal building and parking lot improvements likely will occur after the runway/taxiway extension and is likely to take 12-15 months. Construction of the ILS/MALSR is proposed to occur after the runway extension and likely occur over a nine to twelve month period. General aviation development will occur on an as-needed basis and likely would occur during a single construction season.

The runway/taxiway extension with associated lighting and relocation of the Runway 28 PAPI and REILs will all occur on previously disturbed airport property. Relocation of the PAPI and REILs will be coordinated with the applicable FAA offices. A Reimbursable Agreement (RA) will be established for the relocation of the REILs and coordination of flight checks for the REILs and PAPI. Relocation of the PAPI will be conducted outside the RA.

An access road for the Runway 28 MASLR would be constructed with the runway extension. The proposed access for Runway 28 MALSR would be constructed of gravel with small drainage swales along approximately 1/3 of its length. The proposed access road would avoid a wetland area with a culvert to maintain connectivity with a drainage tributary, and will be designed to sit 12" above existing grade. The access road would extend the full length of the MALSR installation.

Construction of the MALSR will require installation of electrical conduits and foundations for each light station. Existing bedrock is close to the surface throughout. Lightweight light stands on concrete foundations are envisioned. Geometrics of the light stations will be in accordance with FAA Order 6850.2B. The layout specifications precludes placement of any light station in a wetland, and the proposed layout meets this requirement. Each light unit will have a gravel pad placed around it for connection to the access road and to control vegetation. Electrical conduits are expected to fit within the overburden, negating the need for rock excavation.

The proposed ILS system will be Category I system suitable for RVR 2400 or more. Marker beacons are not required or proposed. Construction activity associated with the ILS will be on airport controlled property. The ILS localizer array will require embankment construction to properly site the unit. The localizer array will be very close to the end of the runway safety area and may end up inside the RSA depending on final design and site specific engineering studies that are outside the scope of this work. However, localizer siting will be in conformance with FAA Order 6750.16E. Glideslope antennae construction will be on turf areas offset from the runway per applicable standards. No impacts from construction are anticipated. Power and communication connections to each element of the ILS system will be hardwire installed in an underground conduit. No construction impacts from conduit installation are anticipated.

Potential construction impacts are usually limited to short term duration, utilizing diesel powered equipment, occur during normal daytime working hours for the duration of a construction project. The normal construction operations associated with the Proposed Action are consistent with historic projects, with no significant impacts.

Soil erosion impacts are controlled by requiring the contractor to comply with FAA AC 150/5370-10B, *Standards for Specifying Construction of Airports*; Item P-156, *Temporary Air &Water Pollution, Soil Erosion and Siltation Control Measures*, and FAA AC 150/5320-5B, *Airport Drainage*. Erosion control measures in compliance with the NYS Standards and Specifications for Erosion and Sediment Control (August 2005), issued by the NYSDEC, Division of Water, will also be incorporated into contract documents. A State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharge and Notice of Intent will be filed with the NYSDEC prior to any construction disturbing greater than one acre. A Storm Water Pollution Prevention Program (SWPPP) will be prepared and kept on file with the airport and NYSDEC during the construction phases. Construction general conditions also address dust control and noise. No long term impacts are anticipated to result from the construction of the Proposed Action.

Any impact to air during construction, most probably from construction equipment emissions, will be limited to small amounts of emissions and for a short duration and were included in the air quality analysis in section 4.1. The contractor will be required to control dust in the work area. A tree inventory will be considered, for areas of obstruction removal, to determine if an offset is required for loss of carbon sink.

Local traffic patterns will not be adversely affected by construction. Construction vehicles will traverse State Route 12F to bring material to the airport; most construction will occur on airport property.

Potential Impacts: The use of Best Management Practices by the contractor will not increase impacts to air or water quality, thus no significant adverse impacts are expected from construction.

4.5 DEPARTMENT OF TRANSPORTATION ACT: SECTION 4(f)

Section 4(f) of the DOT Act, which was recodified and renumbered as section 303(c) of 49 USC provides that "*..the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge or national, State, or local significance or land from an historic site of national, State, or local significance as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such program, and the projects includes all possible planning to minimize harm resulting from the use.*" FAA Order 1050.1E, FAA Order 5050.4B and this EA continue to refer to Section 4(f) because it would create needless confusion to do otherwise since the policies under 4(f) are widely referred to as "Section 4(f)" matters.

The Proposed Action being considered in this EA includes construction on airport property, and land acquisition within the runway protection zones. These lands do not meet the criteria of Section 4(f), as they are privately held, undeveloped lands, and not publicly owned park, recreation area, refuge or historic sites. Therefore there is no physical taking of Section 4(f) lands.

However, in accordance with FAA Order 1050.1E and FAA Order 5050.4B, constructive use is evaluated by determining if the impacts will substantially impair a Section 4(f) resource. If there will be no substantial impairment to the 4(f) resource, the action will not constitute a constructive use and will not invoke Section 4(f) of the DOT Act. Substantial impairment occurs only when the features of the resource that contribute to its significance or enjoyment are substantially diminished. A single Section 4(f) resource is located within

the Study Area, the Dexter Marsh Wildlife Management Area (WMA). The Dexter Marsh WMA is located two miles west of the airport, and provides hiking trails, bird watching facilities, hunting areas, fishing and camping. Based on the FAA's Land Use Compatibility Guidelines (see Appendix E), the recreational uses at Dexter Marsh WMA are compatible with noise levels up to 70 DNL.

In order to determine if changes in noise levels, resulting from the Proposed Action, would result in a substantial impairment to Section 4(f) resources, a point noise analysis was completed as part of the noise analysis. Under the No Build alternative the noise level at Dexter Marsh WMA would be 55.8 dB. The Proposed Action would reduce the noise level down to 55.6 dB[24]

Potential Impacts: Based on this review, there will be no taking of Section 4(f) lands, and there will be no constructive use of Section 4(f) lands.

4.6 FARMLANDS

The Farmland Protection Policy Act (FPPA) of 1984 (7 USC Sections 4201-4209, as amended) provides statutory framework for considering important farmlands in Federal decisions. FPPA regulates actions with the potential to convert existing important farmlands to nonagricultural uses. The identification of both active farmland and areas of prime, unique and locally important agricultural soil types adjacent to the airport properly allow for an assessment of farmland impacts, as identified by 7 CFR Part 657 and 658.

Active farmlands around the airport are located in Jefferson County Agricultural District #3. This district does not include the airport property, or the lands immediately around the airport property, thus there would be no impact from the Proposed Action for any farmlands within the Agricultural District. On airport development for the terminal area will occur on udorthents soils, which are formed in cut and fill areas previously disturbed by human activities.

Potential Impact: Based on this review, the Proposed Action would not have an adverse impact on farmlands.

4.7 FISH, WILDLIFE, AND PLANTS

The Endangered Species Act of 1973, 16 USC Section 1531-1544, protects Federally-listed endangered or threatened species and their critical habitats. FAA Order 1050.1E, Appendix A, Section 8, *Fish, Wildlife, and Plants,* states that "…*Section 7 of the Endangered Species Act (ESA), as amended, applies to Federal agency actions and sets forth requirements for consultation to determine if the proposed action may affect an endangered or threatened species. If an agency determines that an action may affect a threatened or endangered species, then Section 7(a)(2) requires the lead agency, to consult with the U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS), as appropriate, to ensure that any action the agency authorizes, funds, or carries out is not likely to jeopardize the continued existence of any Federally listed endangered or threatened species or result in the destruction or adverse modification of critical habitat."*

Construction of a runway and taxiway extension on Runway 28, as well as the relocation of the PAPI and REILs for Runway 28 would be on airport lands that have been previously cleared and graded under previous projects and currently grass. Relocation of the perimeter road, fence, and installation of an approach lighting system would occur on undisturbed lands. Most landside development would occur on open, undeveloped land. An ecological evaluation of rare, threatened, and endangered species for the Proposed Action was conducted, and can be found in Appendix H.

[24] Noise Analysis, Table 11, Harris Miller, Miller & Hanson, March 2014 (see appendix E)

Correspondence with the US Fish and Wildlife Service (USFWS), and the New York State Department of Environmental Conservation (NYSDEC), Division of Fish, Wildlife and Marine Resources indicate potential endangered plant and animal species near the airport (see Appendix D for letters). The NYSDEC letter of December 6, 2012 referenced a 2009 decision that no additional survey for endangered/threatened avian species for an extension to the east is warranted. The December 2012 letter can be found in Appendix D, while the 2009 decision letter can be found in Appendix H.

The FWS identified three potential endangered species: the bald eagle, which has been delisted; the Indiana Bat, and the Piping Plover. The Indiana Bat hibernates in caves during the winter months and spends summers in wooded areas (usually associated with rivers and lakes), under exfoliating bark and in crevices of trees, while the Piping Plover's habitat is sandy areas. NYSDEC indicated there are possible rare animal species and rare plant species near the airport: Henslow's Sparrow (bird), Short-eared owl (bird), Back's Sedge (plant) and Troublesome Sedge (plant).

Field investigation, for the Runway 28 approach lighting system, and relocated perimeter security road and fence line was conducted by a wildlife biologist on November 20 and 26, 2012 and again on June 20, 2013. The report concludes the absence of suitable habitat for endangered or threatened species in the approach lighting system project area (see Appendix H for report).

Similar field investigation was conducted on September 27, 2011 for the terminal area development area. The investigation was unable to find any specimen.[25] (see Appendix H for report). The area for the runway extension including the relocation areas of the PAPI and REILs was completed as part of the 2009 EA, and no endangered or threatened species habitat were found to exist.

Potential Impact: Construction of an extension to Runway 28 and the terminal area development will not have an impact on rare, endangered and threatened species.

4.8 FLOODPLAINS

Executive Order 11988 directs Federal agencies to take action to reduce the risk of flood loss; minimize flood impacts on human safety, health and welfare; and restore and preserve the natural and beneficial values served by floodplains. Agencies are required to make a finding there is no practicable alternative before taking action that would encroach on a 100-year base floodplain.[26]

The Federal Emergency Management Agency (FEMA) map[27] for the area encompassing the Proposed Action was reviewed. There is a 100-year floodplain around Muskellunge Creek, located south of the airport, and not near the Proposed Action construction elements.

Potential Impact: The Proposed Action will not impact the 100-year floodplain.

[25] Rare, Threatened and Endangered Species Report, Environmental Resources, LLC, February 8, 2012

[26] FAA Order 1050.1E, Environmental Impacts: Policies and Procedures, Section 9.1

[27] FEMA Map 3603400015C,
http://map1.msc.fema.gov/idms/IntraView.cgi?ROT=0&O_X=2782&O_Y=1857&O_ZM=0.211360&O_SX=1176&O_SY=785&O_DPI=400&O_TH=29672891&O_EN=29687205&O_PG=1&O_MP=1&CT=0&DI=0&WD=5564&HT=3785&JX=1672&JY=845&MPT=0&MPS=0&ACT=1&KEY=29672737&ITEM=1&PICK_VIEW_CENTER.x=713&PICK_VIEW_CENTER.y=259&R1=VIN

4.9 HAZARDOUS MATERIALS, POLLUTION PREVENTION, AND SOLID WASTE

The Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) are the pertinent federal regulations reviewed for Proposed Actions. RCRA governs hazardous wastes, while CERCLA provides consultation regarding the release of hazardous substances into the environment, excluding petroleum.

Hazardous materials consist of waste and substances, as defined in 40 CFR Part 261 and Part 302 respectively. Land acquisition included an environmental due diligence audit of each property, in accordance with FAA Order 1050.19B.

There are no hazardous waste sites listed in the area of the Watertown International Airport.[28] A review of the EPA NPL website[29] indicated there are several sites in City of Watertown, but none in Town of Hounsfield. A review of the NYSDEC website for spill incidents[30] records from 2000-2012 indicated all spill records have been satisfactorily closed. There are no solid waste sites within 10,000 feet of the airport.

New fuel facilities, which is located approximately 500 feet northwest of Runway 25, abeam the aiming point markings, on the northside of the existing T-hangars, will be constructed to meet NYSDEC petroleum bulk storage secondary containment regulations. Solid waste generated from the terminal building expansion would be trucked to Development Authority of North Country Landfill, approximately 11 miles southeast of the Airport.

Construction documents will consider recycling or construction or deconstruction materials, when applicable.

Potential Impacts: Based on this review, there is no adverse impact to hazardous waste/toxic substances from the Proposed Action.

4.10 HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

The four federal Acts were considered when evaluating potential impacts to Historic, Architectural, Archeological and Cultural Resources.

- **The National Historic Preservation Act (NHPA)** of 1966, as amended, Section 106 requires Federal agencies having direct or indirect jurisdiction over proposed undertakings to consider the undertakings' effects on properties listed in or eligible for listing in the National Register of Historic Places (NRHP). Consultation with SHPO or THPO is necessary when deciding if an undertaking has the potential to affect NRHP resources. If an undertaking has the potential to do so, further consultation is needed to determine if the effects would be adverse. For Federal airport actions, FAA is responsible for meeting the requirements of Section 106. The regulations implementing Section 106 are at 36 CFR, Part 800.

[28] EPA EnviroMapper, http://www.epa.gov/myenv/myenview2.html?minx=-76.67908&miny=43.73538&maxx=-75.15472&maxy=44.23930&ve=9,43.98867,-75.91746&pSearch=13601, NY

[29] EPA NPL Website, http://www.epa.gov/region02/cleanup/sites/nytoc_sitename.htm

[30] NYSDEC Spill Incident Records, http://www.dec.ny.gov/cfmx/extapps/derexternal/index.cfm ?pageid=2, inputs: Jefferson County, Watertown, Airport Drive

Section 110(f) of NHPA requires that Federal agencies plan and impose measures necessary to minimize the direct or indirect effects of undertakings on National Historic Landmarks (NHLs). NHLs are buildings, sites, districts, or structures that the Secretary of the Interior designates as historically significant. When undertakings would adversely affect NHLs, agencies shall invite the Advisory Council on Historic Preservation (ACHP) to participate in consultation.

Section 110(k) of NHPA prevents Federal agencies from issuing grants or approving undertakings to parties who have intentionally harmed protected resources. Agencies facing such situations may approve or fund actions involving parties causing the damage *only* if the agencies, after consulting with the ACHP, determine circumstances justify the destructive actions.

- **The Archeological and Historic Preservation Act of 1974 (AHPA)** provides for the preservation of historic American sites, buildings, objects and antiquities of national significance. This Act requires the survey, recovery, and preservation of significant archaeological, historical, and scientific data when a Federally-approved or Federally-funded action may destroy or cause irreparable loss of such data.

- **The Archeological Resources Protection Act of 1979 (ARPA)** prohibits unauthorized excavation of archeological resources on Federal or Indian land, establishing standards for permissible excavation by permit. This Act requires Federal agencies to obtain a special permit to excavate or remove any archaeological resources that are located on U.S.-owned public lands or lands that Federally-recognized Native American tribes control. This Act protects all archaeological resources, including those that are not historic properties.

- **The Native American Graves Protection and Repatriation Act (NAGPRA)** is triggered at the discovery of human remains or cultural items on Federal or tribal lands. The Act provides for the inventory, protection, and return of cultural items to affiliated Native American groups.

The State Historic Preservation Office (SHPO) website indicates an archeological sensitive area near the Watertown International Airport. Cultural Resource studies have been conducted for the airport for Runway 28 and the general aviation expansion areas[31]. Additional study was completed by Rochester Museum and Science Center in 2011, for the landside elements. This Phase 1A report concluded that Phase 1B archaeological work be completed for all undisturbed areas. Subsequently portions of the general aviation area were evaluated by Hudson Mohawk in 2012, resulting in no artifacts found. Similarly in November 2012, Archaeological Consulting Experts conducted a Phase 1B for the remaining general aviation development area and Runway 28 approach lighting system, also resulting in no artifacts found. Submittal of these reports to SHPO have resulted in correspondence of March 4, 2013 stated "*No Effect*" to historic, architectural, archaeological and cultural resources from the Proposed Actions. (See Appendix F).

The Onondaga Nation and the Oneida Indian Nation were contacted by the FAA on November 15, 2012 (see Appendix D for correspondence). No return correspondence was received from either Nation. Neither of these Nations have land holdings in the Proposed Action area, thus NAGPRA is not applicable to the Proposed Action.

[31] Cultural Resource Management Report, Rochester Museum and Science Center, February 27, 2009

A previously identified historic site on the NRHP is the Conklin Farm, which is located on Evans Road, approximately one mile southeast of the airport, will not be impacted by the Proposed Action, as it is outside the project area.

Potential Impacts: Since there is no impact to the NRHP, and no resources were found the four acts governing this section will have no impact.

4.11 LIGHT EMISSIONS AND VISUAL IMPACTS

The following discusses the potential impacts from light emissions and visual impacts.

4.11.1 LIGHT EMISSIONS

In order to assess light emission impacts to people near an airport, it is important to determine the level of annoyance created from the light emissions associated with the proposed airport lighting equipment.

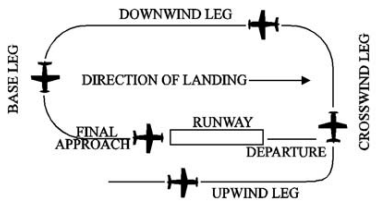
The Proposed Actions include additional runway and taxiway edge lights, relocation of the Runway 28 PAPI and REILs, and the installation of an approach lighting system (MALSR). The runway and taxiway edge lighting is new, while the PAPI and REIL replace existing lights. The runway lighting will be upgraded to high intensity runway lights (HIRL) in preparation for the future precision approach. Relocation of the PAPI and REILs will be coordinated with the appropriate FAA office. A Reimbursable Agreement (RA) between the FAA and Airport Sponsor will be entered for the relocation of REILs and coordination of flight checks of the REILs and PAPI.. There are a few residences, offset from the extended Runway 28 centerline, which would be in line with the flight path associated with the MALSR. The closest residence is approximately one mile from the proposed Runway 28 end. In between the runway end and the residence are some trees that would remain and continue to act as a natural visual screen. Additionally, the MALSR lights are angled into the approach segment and will be tied into the pilot controlled lighting system limiting the illumination duration. It is unlikely the low wattage runway and taxiway edge lights would impact areas around the airport.

The landside development will increase the ambient light around the north part of the airport. Some of these lights will be virtually unnoticeable as the surrounding area is already lit. The additional parking lot lights will be sufficient foot candles to amply light the parking facility, but not so much as to be intrusive to the neighbors to the north of the airport.

4.11.2 VISUAL IMPACTS

Visual, or aesthetic, impacts are inherently subjective. Aesthetic impacts deal more broadly with the extent that development contrasts with the existing environment and whether the jurisdictional agency considers this contrast objectionable. The visual sight of aircraft, aircraft contrails, or aircraft lights at night, particularly at a distance, is not normally intrusive, and will not constitute a significant impact.

The visual standard traffic pattern is a standard path for coordinating air traffic for air safety, especially at non-towered airports (one without a control tower), such as Watertown International Airport. The visual pattern at Watertown International Airport utilizes a standard left hand pattern, meaning an aircraft will execute left turns when in the pattern. The elements of a standard traffic pattern are departure, crosswind, downwind, base and final approach. This figure is from the FAA's Aeronautical Information Manual and depicts a standard left hand pattern. The departure leg is a flight path which begins after takeoff and continues straight ahead along the extended runway centerline. The departure climb continues



until reaching at least ½ mile beyond departure end of the runway and within 300 feet of the traffic pattern altitude. The traffic pattern altitude at Watertown International Airport is 1,000 feet above airport elevation.

This pattern will shift 1,000 feet to the east with the threshold due to the 1,000 foot runway extension, but would not change significantly. A standard left hand traffic pattern which is in use today will continue. The runway extension elevation is minimal and should not change the traffic pattern altitude. The terminal area expansion will be consistent with the existing design and culture of the airport and Thousand Islands region.

Potential Impacts: The Proposed Action will not result in significant light and visual emissions impacts.

4.12 NATURAL RESOURCES, AND ENERGY SUPPLY

Impacts to energy requirements fall into two categories: (1) increased energy demands for stationary facilities (airfield lighting and terminal buildings); and (2) comparative increase in fuel consumption related to increased aircraft and ground vehicles activity.

According to FAA Order 1050.1E, the use of natural resources other than for fuel, need to be examined only if the action involves a need for unusual materials or those in short supply.

The commercial service aircraft, as well as the business jet aircraft, burn Jet A fuel. Commercial service operations are forecast to increase by one additional flight per week; thus Jet A fuel consumption would not increase significantly. It is expected this increase will be met by existing sources. The 100 LL fuel tank will be a self contained facility, inclusive of secondary containment. A slab foundation would be in place for the tank to sit on. Proper permitting from the NYSDEC will be obtained for bulk petroleum storage. This unit will be self service, so impacts would consist of expanding telephone and electrical power to the unit. Both sources are already on airport property.

The terminal building expansion would result in a slight increase in natural resources for construction of the terminal building and parking lot, and a long term increase in energy consumption to meet the additional electrical load. National Grid is the provider of electric power to the airport, and is not expecting the increased power demand will exceed supply. Construction documents will consider green building features for the terminal expansion for interior lighting and finishes.

Potential Impacts: The Proposed Action would not have a significant adverse impact on natural resources and energy supply.

4.13 NOISE

Noise may be defined as unwanted sound. All sound comes from a sound source. The sound energy produced by a source is transmitted through the air in sound waves, creating the sound we hear. Sound pressure levels are measured in decibel (dB). Because decibels are logarithmic quantities, combining decibels is unlike common arithmetic. For example, if two sound sources each produce 100 dB operating individually and they are then operated together, they produce 103dB – not the 200 decibels we might expect. For every doubling of the number of equal sources, the sound pressure level goes up another 3 decibels. A tenfold increase in the number of sources makes the sound pressure level go up by 10 dB.

The FAA determined the cumulative exposure of individuals to noise energy resulting from aviation activities must be established in terms of yearly day/night average sound level (DNL) as the FAA's primary

metric.[32] The DNL is a noise measure used to describe the average sound level over a 24-hour period. In computing DNL, an extra weight of 10 dB is assigned to noise occurring between the hours of 10 pm to 7 am to account for increased annoyance when ambient noise levels are lower and people are trying to sleep (see Appendix E and 14 CFR Part 150). DNL may be determined for individual locations or expressed in noise contours connecting points of equal DNL levels. The DNL is used to determine compatible land use, and potential effects on other environmental resources. It is noted that DNL is an average noise level and not a single aircraft operation.

Both the Department of Housing and Urban Development (HUD) and FAA (14 CFR Part 150) define 65 dB DNL as the threshold of noise incompatibility with residential and other noise sensitive land uses. The 65 dB DNL contour defines the area of potential significant impact. The "threshold of significance" is determined when a location of incompatible land use is exposed to a project-related increase in noise level of DNL 1.5 dB or more, and that location lies within the 65 dB DNL noise contour for the "action" condition, then the location is considered to be significantly impacted by noise. The FAA Desk Reference Chapter 17, Section 3 (2) requires a noise analysis for projects that involve a new runway and serve Airplane Design Groups III and IV.

The FAA's Integrated Noise Model (INM) Version 7.0c was used to conduct all noise modeling for this analysis. The INM uses airport geometry, descriptions of aircraft operations, and an internal database of noise and performance characteristics to compute the noise of individual flights. The INM then adds the noise of the individual flights together and presents the accumulation as a set of contours and/or noise calculations at specific points. The INM operational inputs generally fall into three categories of information:

- Daily number of daytime and nighttime takeoffs and landings by specific aircraft types;
- Typical flight path and runway geometry; and
- Average statistics on usage of each runway and flight path by various aircraft groups.

Harris, Miller, Miller & Hanson, Inc (HMMH) conducted the detailed noise analysis (refer to Appendix E), along with creating the noise contours. This analysis includes fixed wing aircraft as well as civil and military helicopter operations. A Non-Standard Modeling Letter of Approval, issued by the by the FAA, approved aircraft substitutions that were used in the INM modeling (found as Appendix B-2 within Appendix E of this document). The modeling examined the base year 2012 (No Action), using general aviation and military fleet, as well as existing commercial air carrier utilizing the EMB 145 conducting 1,248 annual operations. The forecasts for 2022 (Runway 28 Ext), modeled general aviation and military fleet, as well as commercial air carrier utilizing the CL601, representing the CRJ200, conducting 1,976 forecasted annual operations (under the increasing share scenario, from Appendix B1, to estimate worse case future noise impacts). The existing operations of 1,456 lie below the limits of the future noise contour, which maintains the noise levels on airport property, thus it is reasonable to assume the existing operational level is within the noise limits set by the higher operational level. Various noise sensitive sites within a five nautical mile radius were analyzed against the existing and proposed aircraft operations to determine noise impacts that may occur, with no extension and with a 1,000 runway extension to Runway 28.

Figures 5 (No Action) and Figure 7 (Runway 28 extension), on the following pages, are excerpts from Appendix E and show the future noise contours. It is noted that the triangle parcel north of the existing Runway 28 end is airport property. The findings of the analysis follow:

[32] FAA Order 1050.1E, Environmental Impacts: Policies and Procedures, Appendix A. Analysis of Environmental Impact Categories, Section 14. Noise, June 8, 2004.

No Build
The 65 dB DNL contour remains on airport property, with the exception of a small area (less than 0.1+/- acres) north of the terminal area. This area is undeveloped and the noise increase in this area is less than 1.5 dB, below the permitted thresholds.

Runway 28 Extension Alternative
The contours change very slightly from the existing condition, with the 65 dB DNL contour remaining on airport property, with the exception of a small area (less than 0.1+/- acres) north of the terminal area. This is the same area as the no build alternative. This area is undeveloped; therefore no significant impact is anticipated from this alternative.

The noise change at the noise sensitive sites, identified earlier in Table 3-1[33] are all within 0.1 dB, and below the 65 dB DNL, thus they do not reach the "threshold of significance". Specifically the noise level at the Dexter Marsh WMA is anticipated to be 55.6 dB, a decrease from the existing 55.8 dB.

Potential Impacts: The Proposed Action will not result in adverse noise impacts.

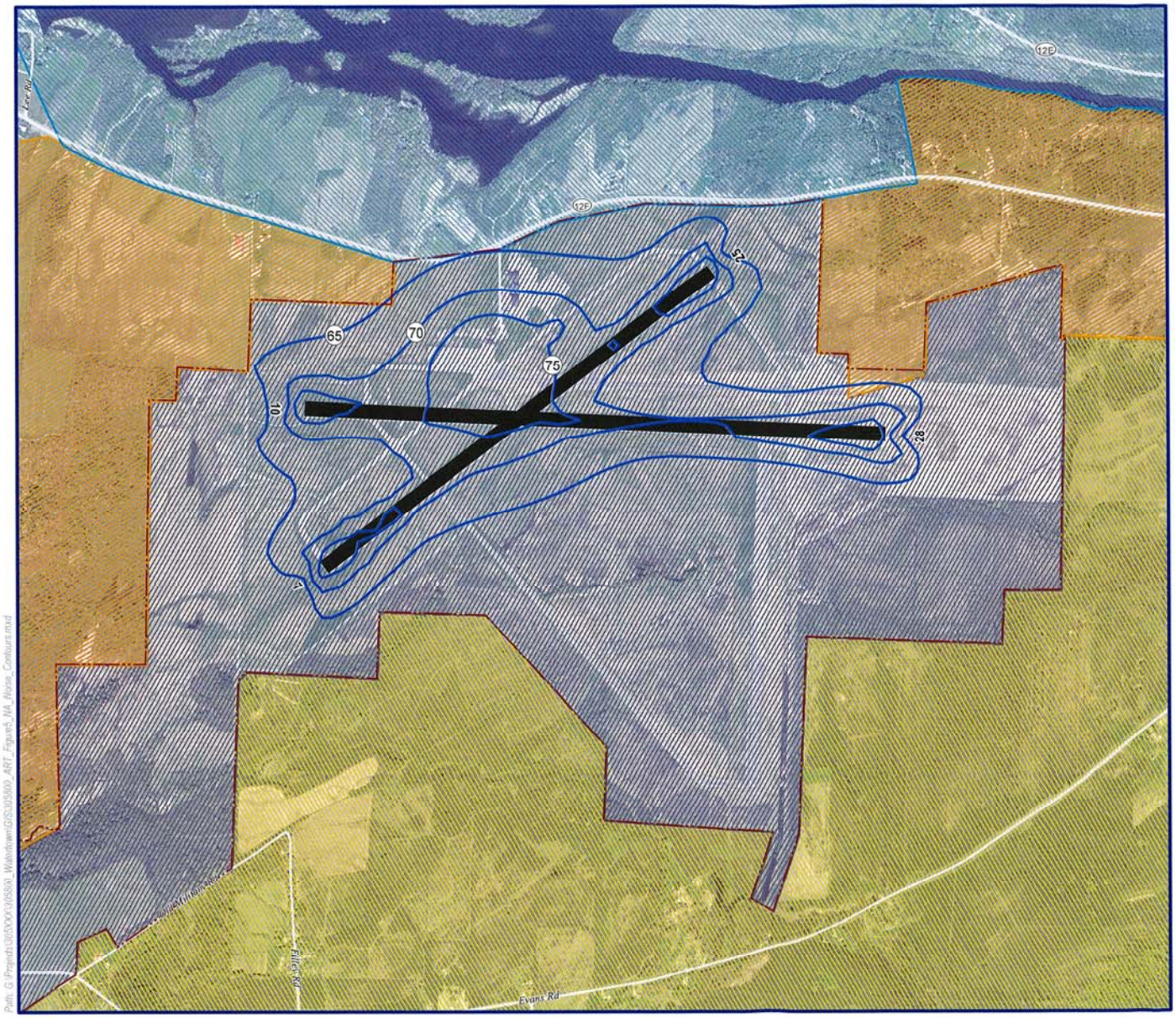
4.14 SECONDARY (INDUCED) IMPACTS

Major development proposals often involve potential for induced or secondary impacts on surrounding communities, including shifts in patterns of population movement and growth; public service demands; and changes in business and economic activity to the extent influenced by the development. Induced impacts will normally not be significant except where there are also significant impacts in multiple categories, especially noise, land use, or direct social impacts.

Based on the analysis conducted in the various sections of this chapter, the Proposed Action will not cause significant noise, land use or social/socioeconomic impacts. The potential increase in flights will not place a significant demand on public services, such as police and fire. Since the introduction of American Eagle, there has been a positive economic impact to the surrounding community, in terms of additional employees and support personnel, however the foreseeable increase is unlikely to cause significant population movement and growth.

Potential Impacts: Neither the Proposed Action nor the No Build will result in adverse secondary (induced) impacts.

[33] Noise Analysis, Table 11, Harris Miller, Miller & Hanson, March 2014 (see appendix E)



Watertown International Airport

Jefferson County - Watertown, New York

Figure 5
2022 No Action Noise Contours

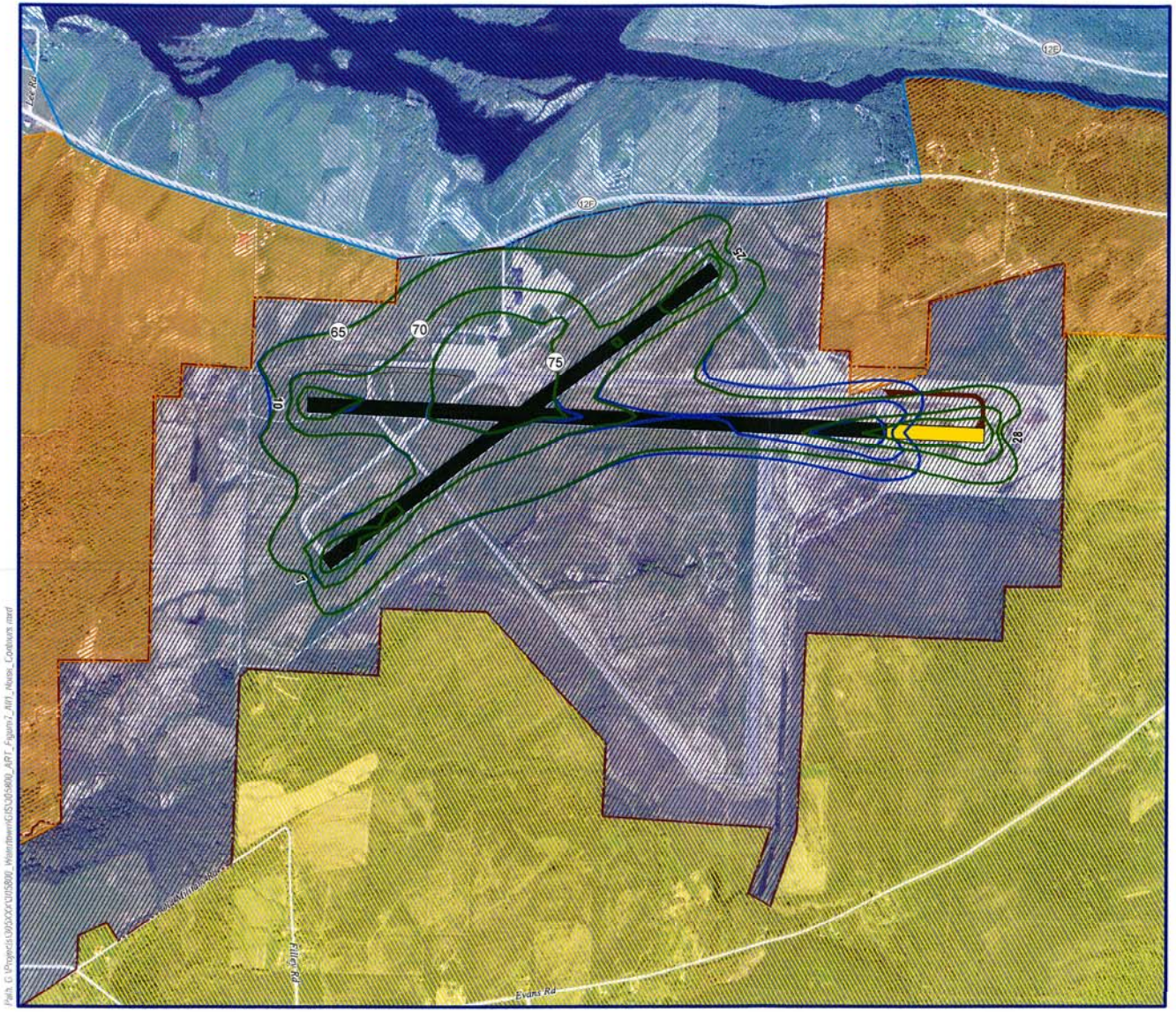
- Airport Boundary
- Airport Runway
- No Action Noise Contours (65 - 75 dB DNL)

Zoning

- Agricultural and Residential
- Industrial
- Marine
- Multi Use

0 1,000 2,000 Feet

HARRIS MILLER MILLER & HANSON INC.



Watertown International Airport

Jefferson County - Watertown, New York

Figure 7
2022 Runway 28 Ext Noise Contour

- Airport Boundary
- Airport Runway
- Alternative Runway Extension
- Alternative Taxiway Extension
- Alternative 1 Noise Contours (65 - 75 dB DNL)
- No Action Noise Contours (65 - 75 dB DNL)

Zoning

- Agricultural and Residential
- Industrial
- Marine
- Multi Use

0 1,000 2,000 Feet

HARRIS MILLER MILLER & HANSON INC.

4.14.1 SURFACE TRANSPORTATION

The Proposed Action includes establishing a more defined entrance into and out of the airport, as well as circulation roadway system to better serve the anticipated increased passengers demand. The internal roadway will be on airport property and will not affect State Route 12F, the major access feeder road to the airport. The defined entrance will improve surface transportation by providing appropriate turning lanes internally on airport property. The anticipated increase in traffic accessing the airport can be accommodated by the existing two-lane State Route 12F, which has adequate capacity, and would not alter the existing service level of this road, which will remain at a level of service of A.[34]

Potential Impacts: The Proposed Action will not result in adverse impacts to surface transportation.

4.15 SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S HEALTH AND SAFETY

FAA Order 1050.1E, Appendix A, Section 16 discusses impacts to socioeconomic, environmental justice and children's health and safety.

4.15.1 SOCIOECONOMIC IMPACTS

The four main factors influencing socioeconomic impacts relate to:

- Extensive relocation of residents without availability of sufficient replacement housing;
- Extensive relocation of community businesses that would create severe economic hardship for the affected community;
- Disruption of local traffic patterns that would substantially reduce the levels of service of roads serving the airport and its surrounding communities;
- A substantial loss in community tax base.

The Proposed Action, for the runway extension, and the installation of an approach lighting system, would not result in the relocation of residents, relocation of businesses, or disruption of local traffic patterns. Additionally, the construction of terminal expansion, automobile parking and other landside elements, will occur wholly on airport property.

Jefferson County has entered into eminent domain proceedings, as required, including properties identified in the 2009 Environmental Assessment.

Potential Impacts: The Proposed Action and will not cause an adverse socioeconomic impact to the community.

4.15.2 ENVIRONMENTAL JUSTICE

Executive Order 12898 and US DOT Order 5610.2(a) address environmental justice.

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, (59 FR 7629) requires all Federal agencies to identify and address disproportionate and adverse human health and environmental effects of their programs, policies and activities on minority and low-income populations.

[34] Lanes, Volumes and Timings, run by Passero Associates using Synchro 7 – Light, January 2013, see Appendix I

The U.S. Department of Transportation (DOT) Order 5610.2 (a), *Environmental Justice in Minority Populations and Low-Income Populations*, was issued to implement Executive Order 12898.[35] Under the DOT Order, minorities are defined as people who are Black, Hispanic, Asian American, American Indian, or Alaskan Native. Minority populations are defined as "*any readily identifiable groups of minority persons who live in geographic proximity, or if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity*." The DOT defines low-income population as "any readily identifiable group", of persons whose median household income is at or below the poverty guidelines as set forth by U.S. Department of Health and Human Services.

In determining whether a proposed project or activity is in compliance with Executive Order 12898, two factors must be considered. The first is whether the proposal is likely to have adverse effects on minority or low-income populations. The second is to determine whether the adverse impacts are disproportionately high on minority or low-income populations. The DOT Order defines "adverse effects" as *"…the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects…*". The DOT Order defines "disproportionately high and adverse effects" as that that are "*predominately borne by a minority population and/or low income population, or will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population*." The FAA also recognizes CEQ's definition of minority population as "*that: 1) the minority population of an affected area exceeds 50 percent; or 2) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate geographic analysis.*"

According to U.S. Census data[36], the Town of Hounsfield, areas adjacent to the airport, has a 1.5 percent minority population compared with Jefferson County's 11.9 percent; therefore the community would not be considered a predominately minority community. The percent of individuals below poverty level in Town of Hounsfield, for all people is7.3 percent, less than Jefferson County as a whole (15.1 percent). Therefore, the community around the airport is not considered a low-income community.

Impacts due to aircraft noise, air quality degradation, direct and induced socioeconomic effects, degraded water quality, and effects to cultural or community cohesion, traffic, and history often affect low-income or minority populations. As demonstrated in this EA, the Proposed Action will not cause significant impacts to the above mentioned environmental resources. Therefore, there should not be a disproportionate adverse impact resulting from the Proposed Action experienced by the minority and low-income communities.

Potential Impacts: No adverse environmental justice impacts should result from implementation of the Proposed Action.

4.15.3 CHILDREN'S HEALTH AND SAFETY

Executive Order 10345, Protection of Children from Environmental Health and Safety Risks, makes it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children.

[35] 62 CFR 72, Department of Transportation Order to Address Environmental Justice in Minority Populations and Low-Income Populations.

[36] US Census American Factfinder, Town of Hounsfield, Selected Economic Characteristics for 2008-2012, US Census Quickfacts, Jefferson County, 2008-2012, see Appendix I

Specific risks to children's health, for this type of project, typically relate to ozone impacts, lead and asbestos. The terminal expansion will require alterations to the existing building. An asbestos survey and abatement was completed in 2007 for the terminal building. Impacts to air quality, that could affect ozone, were reviewed previously in this chapter. The air quality impacts are below the de minims levels.

Potential Impacts: Implementation of the Proposed Action will not create environmental health risks or safety risks to children.

4.16 WATER QUALITY

The Clean Water Act of 1977 applies to both surface and subsurface waters. Impacts to water quality are not considered significant if a project meets state and federal water quality standards.

In 2012 the airport was connected to the public water supply, and abandoned the well source. This 8" public watermain increased the capacity and reliability of potable water and fire supply. The Proposed Action has the potential to minimally increase water usage at the Airport due to the increase in the number of weekly passengers (approximately 100 to 150), resulting in a demand of approximately 1,500[37] gallons per day. The existing water supply has the capacity to provide 559 gallons per minute[38], sufficient for the projected demand.

4.16.1 SURFACE WATER

A review of the Jefferson County GIS database identified the surface waters around the airport to be Black River to the north and Muskellunge Creek to the South. Only Muskellunge Creek is on airport property, and flows under an abandoned taxiway and southwesterly around the end of abandoned Runway 1-19. Ground contours indicate the water flows in a southwesterly direction following Muskellunge Creek and flowing into Lake Ontario.

4.16.2 SUBSURFACE WATER

The EPA website indicates no known sole source aquifers in the airport vicinity, subsequently there is no impact to drinking water supply.

4.16.3 STORMWATER

Airports are required to obtain discharge permits for storm water or other industrial wastewaters through the National Pollutant Discharge Elimination System (NPDES) program or equivalent state program. In New York, the New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) is applicable at airports. According to NYSDEC GP-0-12-001, SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, Table VIII-S-I, benchmark monitoring requirements are applicable to "*airports that use more than 100,000 gallons of glycol-based deicing/anti-icing chemicals and/or 100 tons or more of urea on an average annual basis shall sample their stormwater discharges for the parameters listed in Table VIII-S-I. Only those outfalls from the airport facility that collect runoff from areas where deicing/anticing activities occur must be monitored.*" [39]
Chemical deicing materials are used at the airport in limited quantities[40], composed of a mix between Type I and Type IV fluids, used only during snow conditions. The existing level of Type I and IV fluids

[37] Calculation based on 150 passengers at 5 GPD, 48 employees at 15 GPD

[38] Town of Hounsfield Water District No.5 Basis of Design Report, February 2011, as revised (see Appendix I)

[39] http://www.dec.ny.gov/docs/water_pdf/gp12001.pdf

[40] Watertown International Airport Environmental Assessment, Landrum and Brown, July 2011, section 4.16, 3,300 gallons per year

used are below the 100,000 gallon threshold. With the increase of one additional flight per week, there would be a slight increase in deicing fluid, but still remain below the monitoring level and regulated water quality thresholds. The existing deicing area runoff drains into a water quality pond sized to accommodate the projected deicing operations, by collecting the fluid and allowing it to biodegrade. Aircraft will continue to be fueled, and de-iced in the same locations as existing aircraft with the same precautionary measures as currently prescribed by ART.

A Stormwater Permit for Construction Activity is required from the NYSDEC for construction of any work disturbing more than one acre of land. Construction permits require water quality and quantity limits be complied with, per permit conditions. Construction projects requiring NYSDEC permit compliance include the proposed runway extension, taxiway extension, general aviation apron, terminal building, automobile parking, airport access road, SRE building and hangars, accounting for an increased impervious surface of 700,000 SF. Construction of these projects will include appropriately sized storm drainage systems and meet state and federal guidelines. The Proposed Action would not significantly impact storm water quality and quantity. Provisions for containing fuel spills and glycol runoff would not be modified. Proposed access roads and parking areas should consider porous pavement, if possible, to offset loss of imperious surface, based on geotechnical reports conducted during the design phase. However, the bedrock elevations may not support porous pavement design.

Currently, the Airport uses a septic system with distribution to an absorption field to handle its sanitary needs. The adsorption field is approximately 650 feet north of the existing terminal building. While the existing system can accommodate the existing enplanements, additional bathrooms in the terminal building will increase the quantity of greywater/blackwater. Therefore a self contained sanitary treatment plant is proposed. This system is proposed at the westerly airport boundary of the NYS Route 12F frontage. The site is the low elevation area of the terminal development area. The location will support gravity flow sewage conveyance from the terminal area. A NYS Department of Health permit is required for the construction of any sewage treatment or sewage conveyance facility. Permit approval requires professional engineering services for the design of these facilities. Sewage flow rates are expected to increase by about three gallons per day per passenger using the enplaned and deplaned passenger forecast activity.[41] An appropriately sized sewage treatment package plant will be installed to accommodate the long term sewage flow. This treatment plant also requires NYSDEC approval. Sewage flow affect on the environment will comply with requirements of these two agencies. No impact to water quality will result. Recent information indicates that the Town may be extending the existing sewer line past the airport property. If this is accomplished the Airport's expansion will be included in the service volume and tie into the new service, at which time a self contained system would not be required at the airport.

The construction associated with the proposed passenger terminal expansion would occur on areas that are currently paved and impervious. There would be no dredging or filling of waterways. Only the grading of the runway object free area and portion of the approach lighting system for Runway 28 would affect wetlands, refer to Section 4.17 and Figure 4-1. Future projects will continue to incorporate controls, such as swales, detention basins or infiltration chambers, during construction; and other best practice mitigation measures to avoid significant impacts to water quality.

The passenger terminal expansion will consider green building features to offset quantity of water usage.

[41] NYS Department of Health, Residential Onsite Wastewater Treatment Systems Design Handbook, 2012

Potential Impacts: The Proposed Action will not have a significant impact on drinking water, surface water resources, stormwater, sanitary wastewater, or groundwater resources.

4.17 WETLANDS

Guidance for evaluation of wetlands is defined in both Executive Order 11990, *Protection of Wetlands* and the U.S. Department of Transportation (DOT) Order 5660.1A, *Preservation of the Nation's Wetlands*. Executive Order 11990 requires Federal agencies to ensure their actions minimize the destruction, loss, or degredation of wetlands. DOT Order 5660.1A sets forth DOT policy that transportation facilities should be planned, constructed, and operated to assure protection and enhancement of wetlands.

New Construction, as identified in the FAA Desk Reference, includes "*any draining, dredging, channelizing, filling, diking, impounding, and related activities, any structures or facilities."* This term does not include routine repairs and maintenance of existing facilities. The U.S. Army Corps of Engineers (USACE) has been involved with the airport in the past. Consultation was initiated with the USACE regarding the Proposed Action in November 2012. FAA Order 1050.1E, section 18.1d "*promotes wetland banking as a mitigation tool for aviation-related projects due to aeronautical requirements. The purchase of credits from an approved bank can be used by a section 404 permittee to satisfy its permit-required mitigation obligation."*

Jurisdictional wetlands are considered to be affected by the Proposed Action if it involves development in a wetland area; a direct or indirect impact to a wetland area; or a disturbance to the wetland water table or hydrology. A review of the National Wetland Inventory Maps (NWI) indicates there are suspected wetlands east of Runway 28, near the airport that may be impacted by the Proposed Action. The NYSDEC wetland maps show a wetland southeast of the airport. NYSDEC regulates wetlands over 12.4 acres. All disturbance activities within 100 feet of a state regulated wetland is subject to permitting. The state regulated wetland is along Evans Road, and outside the impact area of the Proposed Action.

Field wetland delineation was conducted January 30, 2013 for the Proposed Action including the Runway 28 extension and area of approach lighting system, terminal development area, and landside roadway and automobile parking. The results of the field work concluded there are no wetlands in the proposed development area for the terminal/general aviation area or automobile parking area (see Appendix G). However, there are two wetlands off the Runway 28 end, approximately 2.25 +/- acres in total, that would be impacted by the grading and tree clearing of the runway object free area and grading for the access road to, and installation of, the approach lighting system, see Figure 4-1. Of the 2.25 +/- acres, approximately 0.6+/- acres will be filled for the RSA, perimeter road and fence, from Wetland H; 0.36 +/- acres will be filled for the airport perimeter road and fence, from Wetland G; and 0.14+/- acres will be filled to install an access road to the MALSR lights from Wetland H. The U.S. Army Corp of Engineers (USACE) issued a Preliminary Jurisdictional Determination (JD) on September 16, 2013 (see Appendix G). An Individual Permit will be required and obtained during the design phase, to include avoidance and other mitigation measures to offset the 1.1 +/- acres loss. Avoidance through redesign of the perimeter road and access road to the approach lights minimized this wetland impact to 0.67+/- acres. Mitigation for the remaining wetlands will occur through wetland banking using Ducks Unlimited, leader in wetland conservation. This will be done in coordination with the USACE under the permitting process (see Appendix G for permit application).

Potential Impacts: The original Proposed Action had potential wetland impacts up to 1. 1 +/- acre requiring avoidance and mitigation under and Individual USACE permit. Submittal of the USACE permit was able to minimize the impact to 0.67 /- acres through redesign of the airport perimeter road, avoiding Wetland H entirely, and realignment of the approach lighting access road to minimize the wetland impact. The

construction of the graded object free area is fixed by design standard locations, and thus there is no practicable alternative to construction in the wetlands. All practicable measures to minimize harm have been included. Wetland banking, through Ducks Unlimited, will be used to offset wetland impact.

4.18 WILD AND SCENIC RIVERS

The Wild and Scenic Rivers Act, as amended, describe those river segments designated or eligible to be included in the Wild and Scenic Rivers System.

According to National Park Service Wild and Scenic Rivers website, the only protected river body near the airport is Black River, which is outside the Proposed Action area.

Potential Impacts: There are no wild and scenic rivers adjacent to the Proposed Action, therefore there would be no adverse impact to wild and scenic rivers.

4.19 OTHER CONSIDERATIONS

This section will focus on the Proposed Action and its interaction with possible conflicts, inconsistency with approvals and laws, and means of mitigation.

4.19.1 POSSIBLE CONFLICTS

There are no identified significant conflicts between the Proposed Action and objectives of the Federal, state, regional, or local policies, or controls at Watertown International Airport. Tribal correspondence did not trigger special use laws (see section 3.2.5.3); the County and its planning department have been actively involved in the long-term planning and use of the Watertown International Airport and have not raised local concerns. The Proposed Action triggers a wetland impact (see section 4.17) that is in the permitting process with the USACE, utilizing wetland banking.

4.19.2 INCONSISTENCY WITH ANY APPROVED STATE OR LOCAL PLANS AND LAWS

The Proposed Action is consistent with plans and laws relating to the environment. Agency correspondence (see Appendix D) did not raise any concerns of inconsistency with the project. SHPO has determined the Proposed Action will not have an effect on resources (see Appendix F).

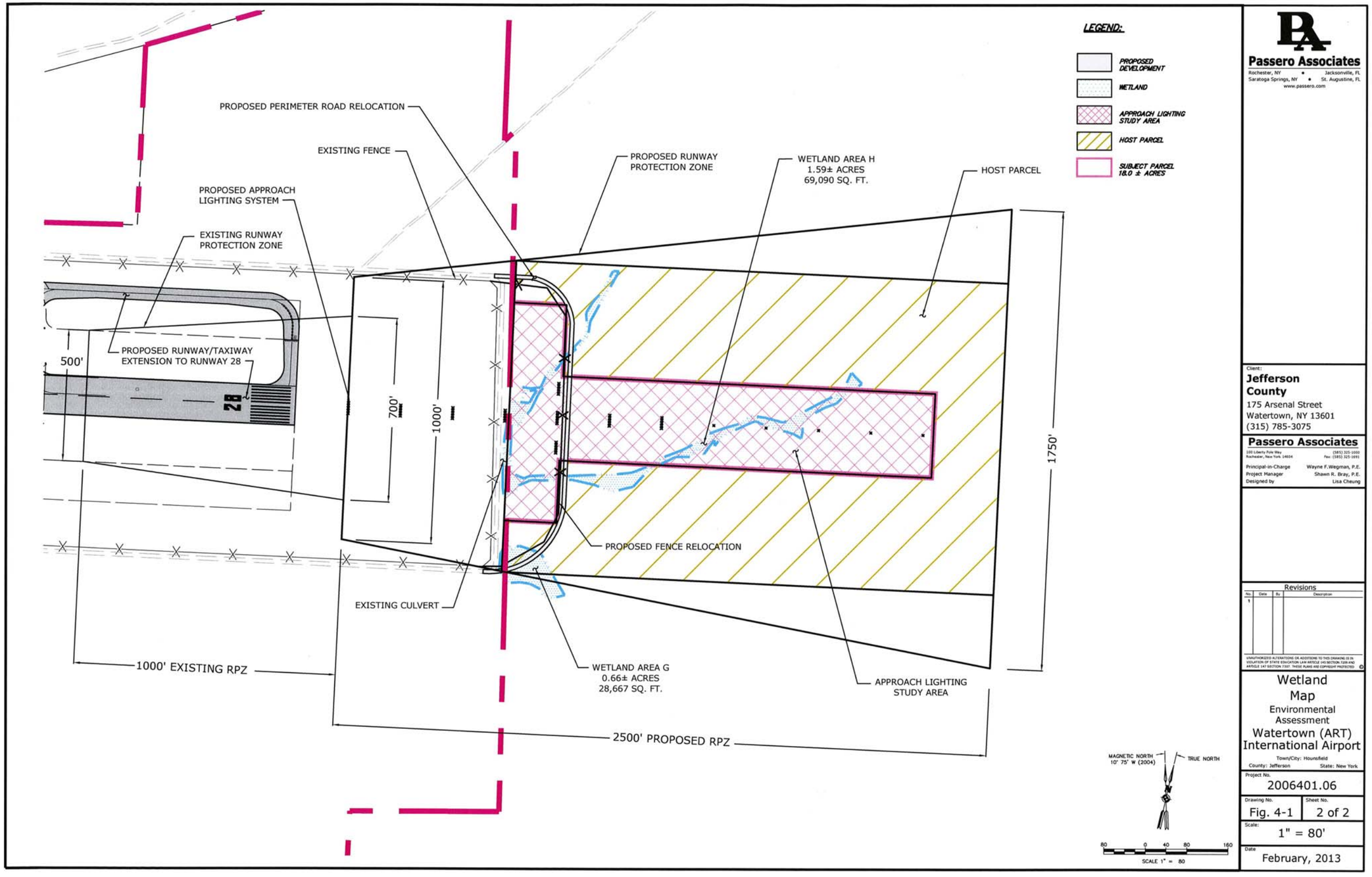
4.19.3 MEANS TO MITIGATE ADVERSE ENVIRONMENTAL IMPACTS

The Proposed Action affects wetlands that will be avoided or mitigated. The perimeter road has been realigned to avoid Wetland G, while the approach light access was realigned to minimize the impact to Wetland H (refer to USACE Permit Application in Appendix G), but the wetlands located in the ROFA will be mitigated through wetland banking coordinated with Ducks Unlimited to provide off-site mitigation through the permitting process of the US Army Corps of Engineers (USACE). The USACE will require positive drainage, of impacted Wetland H, under the perimeter road and approach light access road through the use of culverts (refer to USACE Permit Application in Appendix G).

Following is a list of mitigation measures stated throughout the document:

1. Compatible Land Use: a rezoning or special use permit may be required from the Town of Hounsfield for the construction of the approach lighting towers and the access road to support the approach lights.
2. Wetland Impacts: avoidance through redesign of the perimeter road and access road to the approach lights, and mitigation for the remaining wetlands will be coordinated with Ducks Unlimited, leader in wetland conservation, through the Army Corp of Engineers permitting process.

3. Solid Waste: contract specifications will consider recycling of construction or deconstruction materials, including fencing material.
4. Water Quality:
    - Construction documents will consider green building features for terminal expansion
    - Porous pavement in the parking areas will be considered during future design of the parking areas and access road based on geotechnical reports conducted during the design phase. However, the high bedrock elevations and soil types may not support porous pavement design. At minimum, appropriate stormwater treatment measures will be included to meet Clean Water Act statutes.
    - Continuance of non-stormwater discharge permit (Multi-Sector General Permit) for aircraft deicing activities
    - NYS Department of Health Permit, and NYSDEC approval for construction of sewer treatment or sewage conveyance facility, if necessary
5. Natural Resources and Energy Supply:
    - Update the existing NYSDEC Bulk Petroleum Storage for installation of new above ground facility
    - Construction documents will consider green building features for terminal expansion
6. Construction Impacts:
    - Best Management Practices will be incorporated into construction documents for the contractor, including:
        - FAA AC 150/5370-10B, Standards for Specifying Construction of Airports
        - Item P-156, Temporary Air & Water Pollution, Soil Erosion & Siltation Control Measures
        - FAA AC 150/5320-5B, Airport Drainage
        - Contract documents will address dust control and noise during construction
    - NYSDEC General Permit for Stormwater Discharge (SWPPP) & Notice of Intent (activities disturbing more than one acre)
    - Pursuant to EPA letter dated August 26, 2014 a tree inventory will be considered to determine if an offset is required for loss of carbon sink for removal of trees considered to be obstructions



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Revisions

No.	Date	By	Description
1			

Wetland Map
Environmental Assessment
Watertown (ART) International Airport

Town/City: Hounsfield
County: Jefferson State: New York

Project No. 2006401.06

Drawing No. Fig. 4-1

Sheet No. 2 of 2

Scale: 1" = 80'

Date: February, 2013

4.20 CUMULATIVE IMPACTS

Council on Environmental Quality (CEQ) defines cumulative impact as *"…the impact on the environment, which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency, Federal or non-Federal, or person undertaken such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.*"

Cumulative impacts examine works conducted both at the airport and within the surrounding environment going back three years and looking forward five years. Information regarding projects was obtained from airport grant histories and County highway department personnel.

Past Projects

On August 11, 2009 the FAA evaluated, dated and signed an EA and issued a FONSI (Finding of No Significant Impact)for a project entitled "*Runway/Taxiway Extension, Watertown International Airport, Hounsfield, New York*". Action included extending Runway 10-28 and taxiway 1,000 feet and construction of 155,000 square feet of general aviation apron. The conclusion of the 2009 Final Environmental Assessment determined the action had no significant impacts after mitigation measures were enacted. The mitigation measures considered:

- Socioeconomic Impacts – relocations, if any, would adhere to Uniform Relocation Assistance and Real Property Acquisition Policies. Additionally, for easement acquisition, farming would be allowed on land as long as it is outside airport design surfaces;
- Children's Safety/Construction impacts – asbestos and lead paint inspections are abatement, if found to be necessary, would be conducted prior to any demolition and in accordance with local, state and federal regulations;
- Water quality improvements would comply with local, state and federal guidelines for storm water management, and provide adequate drainage; and Construction Impacts would comply with AC 150/5370-10B and AC 150/5320-5B, and prior to construction, all necessary permits would be obtained.

Since the 2009 Environmental Assessment, work at the airport has consisted of: reconstruction of Runway 10 area west of Runway 7-25 intersection; installation of security fencing around airport perimeter; rehabilitation of the south hangar; reconstruction and extension of Runway 28, area east of Runway 7-25 intersection; terminal building renovations; reconstruction of Taxiway A and construction of Business Operations Center hangar and land acquisition. The airport has also undertaken normal facility upgrades as the airport transitions from ARC B-II to ARC D-II. The 155,000 square feet of apron space included in the 2009 EA was never constructed. Other County projects that have occurred in this time frame have included mainly construction/expansion to retail businesses and associated parking lots. Individually none of these projects had significant impacts and when viewed cumulatively it is not likely that the runway/taxiway extension and terminal building expansion will adversely affect the environment. These projects were addressed in the 2009 EA with estimated air quality increases of 0.541 tons/year for NOx and 0.597 tons/year for VOC.

On November 10, 2011 the FAA evaluated, dated and signed an EA and issued a FONSI/ROD (Finding of No Significant Impact/Record of Decision) for a project entitled "*Proposed Amendment of American Eagle Airlines, Inc. Operations Specifications to Allow Scheduled Passenger Jet Service and Expansion of the Existing Passenger Terminal Building at Watertown International Airport Jefferson County, New York.*" The conclusion of the 2011 Final Environmental Assessment determined that the action had no significant impacts from the introduction of a new air carrier service or the 1,600 square foot terminal building expansion. The 1,600 square foot terminal building expansion was completed. The introduction of the commercial service resulted in an estimated 7.70 ton increase to NO_x and 1.54 ton increase to VOC, well below the *de minimus* thresholds of significance.

The Town of Hounsfield also extended the public water supply, to service the airport in 2013. This provides increased capacity to the airport.

On June 5, 2013 the FAA evaluated and signed an Environmental Assessment and issued a FONSI for the construction of a 14,400 square foot bulk metal hangar business operating center, and a 37,000 SF expansion to the adjacent apron. No significant impacts were identified.

Present and Reasonably Foreseeable Action

Reasonably foreseeable actions for the next five years consist of; design/construction of the 1,000 foot runway and taxiway extension with associated lighting and relocation of the Runway 28 PAPI and REILs; installation of ILS components and approach lighting system; construction of the automobile parking lot and roadway; terminal building expansion and additional 358,000 square feet of apron and hangars in the general aviation area. These projects have been evaluated in this Environmental Assessment, with minor impacts to wetlands revealed. Air quality impacts are addressed within this document, with estimated increases of 2.932 tons/year for NOx and 0.489 tons/year for VOC, refer to section 4.1. These are well below the *de minimum* thresholds of significance

Other County projects include $6 million reconstruction of Factory Street in the City of Watertown and the continuation of housing developments throughout the County. These projects are not in the vicinity of the airport and there would be no impact on resources, which when considered with the proposed project exceed established thresholds of significance.

4.20.1 SUMMARY OF POTENTIAL CUMULATIVE IMPACTS

The cumulative impact of the Proposed Action, when added to the past, present and future actions, would collectively be insignificant. When considering the air quality impacts from the previous environmental assessments, coupled with the air quality analysis from the proposed action, the result is an increase of 11.173 tons for NOx, and 2.626 tons for VOC, which are below de minimus levels. Cumulatively there is no significant impact. The effects that could occur from other community projects are expected to occur with or without the Proposed Action. The Proposed Action is consistent with the long-range planning goals for Watertown International Airport.

4.21 ADVERSE IMPACTS THAT CANNOT BE AVOIDED

Mitigation measures for the wetland impacts include wetland banking with Ducks Unlimited to meet the USACE's requirements, thereby offsetting the environmental impact to wetlands. The Proposed Action would not result in any significant adverse environmental impacts that cannot be avoided.

4.22 PUBLIC PARTICIPATION

Meetings with airport, public, and County personnel were held in October 2012, January 2013 and December 2013. A Notice of Availability of the DEA was published in the Watertown Daily Times on August 1, 2014 for review and comment by the public. The document was available at the Watertown International Airport and Flower Memorial Library. Comment period expired on August 31, 2014. Only one comment was received during the comment period and is included in Appendix I of this Environmental Assessment.

CHAPTER FIVE
REFERENCES

This Environmental Assessment was prepared with reference from:

Federal Aviation Administration (FAA), Air Quality Procedures for Civilian Airports and Air Force Bases.
Federal Aviation Administration (FAA), Advisory Circular 150/5200-33B, *Hazardous Wildlife Attractants on or Near Airports*, August 28, 2007.
Federal Aviation Administration (FAA), Advisory Circular 150/5300-13A, *Airport Design*. September 28, 2012.
Federal Aviation Administration (FAA) Order 1050.1E. *Environmental Impacts: Policies and Procedures*, March 20, 2006.
Federal Aviation Administration (FAA) Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures,* January 28, 2004
Federal Aviation Administration (FAA), Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions.* April 28, 2006.
General Conformity Final Rule, 40 CFR Parts 6, 51, and 93, 30 November, 1993.
U.S. Department of Commerce. 2000. 2000 Census of Population and Housing, Public law 94-171 Data. Bureau of the Census.
The Department of Transportation Act, 49 U.S.C., § 303 (formerly Section 4(f))
49 U.S.C., §40114, as amended
49 U.S.C., §47101, et seq.
Executive Order 11990, Protection of Wetlands
Executive Order 11988, Floodplain Management
Executive Order 11593, Protection and Enhancement of the Cultural Environment
Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
Federal Aviation Act of 1958 recodified as 49 U.S.C. §40101, et seq.
The Airport and Airway Improvement Act of 1982, 49 U.S.C. §47108, as amended
National Historic Preservation Act, 16 U.S.C. §470(f), as amended
36 CFR Part 800, Advisory Council on Historic Preservation Archaeological and Historic Preservation Act, 16 U.S.C. §469(a)
Archaeological Resource Protection Act, 16 U.S.C. §470(aa)
Farmland Protection Policy Act, 7 U.S.C. §73, and implementing regulations at 7 CFR §658
Clean Air Act, 42 U.S.C. §7401, et seq., and implementing regulations at 40 CFR. Parts 51 and 93
Clean Water Act, 33 U.S.C. §121, et seq., and implementing regulations at 33 CFR §325 and 33 CFR §336
33 CFR Parts 320-330, Regulatory Programs of the Corps of Engineers
Endangered Species Act, 16 U.S.C. §661, et seq., as amended
USDOT Order 5610.C "Procedures for Considering Environmental Impacts"

Other referenced resources:

- Environmental Assessment for the Proposed Amendment of American Eagle Airlines, Inc. Operations Specifications to Allow Scheduled Passenger Jet Service and Expansion of the Existing Passenger Terminal Structure at Watertown International Airport (ART), Jefferson County, New York, July 2011.
- Final Environmental Assessment for Runway/Taxiway Extension Watertown International Airport, Hounsfield, New York, July 2009.
- Watertown International Airport Runway Length Analysis. Passero Associates, October 2007.
- Watertown International Airport Master Plan. Dufresne-Henry, October 2004.

- Watertown International Airport Master Plan Update. Passero Associated, Final July 2015.
- Cultural Resource Management Report – Phase IA Cultural Resource Reconnaissance Survey for Proposed Improvements at the Watertown International Airport, Rochester Museum and Science Center Regional Heritage Preservation Program, August 29, 2011.
- Ecological Evaluation of Rare, Threatened & Endangered Species, Watertown International Airport Terminal and General Aviation Master Plan Areas, Town of Hounsfield, Jefferson County, New York. Environmental Resources, LLC, February 8, 2012.
- Wetland Assessment, Watertown International Airport Terminal and General Aviation Master Plan Areas, Town of Hounsfield, Jefferson County, New York. Environmental Resources, LLC, February 13, 2012
- Wetland Delineation Report, Watertown International Airport Runway 10-28 Approach Lighting Study Area, Town of Hounsfield, Jefferson County, New York. Environmental Resources, LLC, January 30, 2013
- Ecological Evaluation of Rare, Threatened & Endangered Species, Watertown International Airport Runway 10-28 Approach Lighting Study Area, Town of Hounsfield, Jefferson County, New York. Environmental Resources, LLC, February 2013.
- Phase IB Cultural Resource Investigations for Areas 1-5 at the Watertown International Airport, Town of Hounsfield, Jefferson County, New York. Archaeological Consulting Experts, February 6, 2013.
- Noise Technical Report Watertown International Airport Runway Extension Environmental Assessment, Harris, Miller, Miller & Hanson, Inc., March 2014

Web Site Information:

Environmental Protection Agency (EPA) Green Book, http://www.epa.gov/airquality/greenbook/ancl3.html
EPA NPL Sites in New York, http://www.epa.gov/region02/cleanup/sites/nytoc_sitename.htm
EPA EnviroMapper, http://www.epa.gov/myenv/myenview2.html?minx=-76.67908&miny=43.73538&maxx=-75.15472&maxy=44.23930&ve=9,43.98867,-75.91746&pSearch=13601, NY
NYSDEC Environmental Resource Mapper, http://www.dec.ny.gov/imsmaps/ERM/viewer.htm, Town: Hounsfield
State Historic Preservation Office, https://cris.parks.ny.gov/
US Census Bureau, Population, Town of Hounsfield and Jefferson County Census 2000, 2010 http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF, search for Town of Hounsfield, New York and Jefferson County, NY
US Census Bureau, Poverty, http://quickfacts.census.gov/qfd/states/36/36045.html
2008 Federal Poverty Guidelines, http://aspe.hhs.gov/poverty.shtml
US Fish and Wildlife Lookup, http://ecos.fws.gov/tess_public/reports/species-by-current-range-county?fips=36045National Wetland Inventory, http://www.fws.gov/wetlands/Data/Mapper.html, search for Hounsfield, NY
National Park Service (wild/scenic rivers) http://www.nps.gov/ncrc/programs/rtca/nri/states/ny.html
Websoil Survey, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx, search for State: New York, County: Jefferson
Jefferson County GIS, http://www.jeffcountymaps.com/
Division of Coastal Waters, http://appext20.dos.ny.gov/coastal_map_public/map.aspx

CHAPTER SIX
LIST OF PREPARERS

Table 6-1 lists the preparers of this Environmental Assessment and their responsibilities.

Table 6-1
List of Preparers

Passero Associates	Title	EA Responsibility
Shawn R. Bray	Project Manager	Quality Review
Dan Cregan	Airport Engineer	Technical Review
Lisa M. Cheung	Airport Planner	Environmental Documentation
Sub consultants		
Mark Ewing	Archeological Consulting Experts	Archeology
Gene Pellett	Environmental Resources	Wetland/Ecology
Brad Nichols	Harris, Miller, Miller & Hanson	Noise

APPENDICES

TO

ENVIRONMENTAL ASSESSMENT

FOR

RUNWAY/TAXIWAY EXTENSION AND TERMINAL AREA DEVELOPMENT
WATERTOWN INTERNATIONAL AIRPORT (ART)
TOWN OF HOUNSFIELD, JEFFERSON COUNTY, NEW YORK

Source: Google Earth

2015

PREPARED FOR:
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PREPARED BY:
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ROCHESTER, NY 14614

APPENDICES TABLE OF CONTENTS

APPENDIX A

ACRONYMS

ACRONYMS

AC	Advisory Circular
ACHP	Advisory Council on Historic Preservation
AFE	Above Field Elevation
AHPA	Archeological & Historic Preservation Act 1974
ALP	Airport Layout Plan
APE	Area of Potential Effect
APU	Auxiliary Power Unit
ARC	Airport Reference Code
ARPA	Archeological Resources Protection Act 1979
ART	Watertown International Airport
ATNS	Air Traffic Noise Screening
BMP	Best Management Practices
CAA	Clean Air Act
CBRA	Coastal Barriers Resources Act
CDP	Census Designated Place
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation & Liabilities Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CRJ 200	Canadair Regional Jet 200
CZMA	Coastal Zone Management Act
dB	Decibels
DNL	Day-Night Average Sound Level
DOT	Department of Transportation
EA	Environmental Assessment
EAS	Essential Air Service
EC 135	Eurocopter 135
EDMS	Emissions & Dispersion Modeling System
EMB 140/145	Embraer Aircraft 140/145
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FICAN	Federal Interagency Committee on Noise
FICON	Federal Interagency Committee on Aviation Noise
FPPA	Farmland Protection Policy Act
FWS	Fish and Wildlife Service
GIS	Global Information Systems
GSE	Ground Support Equipment
GPM	Gallons Per Minute

GPS	Global Positioning System
HIRL	High Intensity Runway Lights
HMMH	Harris, Miller, Miller, Hanson, Inc.
HUD	Housing & Urban Development
Hz	Hertz
IFR	Instrument Flight Rules
ILS	Instrument Landing System
INM	Integrated Noise Model
JCC	Jefferson County Community College
JD	Jurisdictional Determination
Leq	Equivalent Sound Level
LOC	Localizer
MALSR	Medium Intensity Approach Lighting System with Runway Alignment Lights
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection Repatriation Act
NAVAIDS	Navigational Aids
NEPA	National Environmental Policy Act of 1969
NHL	National Historic Landmarks
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
NRHP	National Registry of Historic Places
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NWI	National Wetland Inventory
O_3	Ozone
OFA	Object Free Area
ORD	O'Hare International Airport
Pb	Lead
PHL	Philadelphia International Airport

ACRONYMS, *Continued*

PM	Particulate Matter (PM_{10} & $PM_{2.5}$)
RCRA	Resource Conservation & Recovery Act
RNAV	Area Navigation
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RWY	Runway
SD	School District
SEL	Sound Exposure Level
SHPO	State Historic Preservation Office
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxide
SPDES	State Pollutant Discharge Elimination System
SWPPP	Stormwater Pollution Prevention Program
TA	Time Above
TAF	Terminal Area Forecast (prepared by the FAA)
TFMSC	FAA Traffic Flow Management System Counts
TSA	Transportation Security Administration
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VOC	Volatile Organic Compounds
VOR	VHF Omnidirectional Radio Range
WMA	Wildlife Management Area

APPENDIX B

AIRPORT MASTER PLAN EXCERPTS:
Forecasts and Terminal Area Requirements and Runway Length Analysis

APPENDIX B1

AIRPORT MASTER PLAN EXCERPTS:
Forecasts and Terminal Area Requirements

EXCERPTS FROM WATERTOWN MASTER PLAN: 2012 (REVISED TO REFLECT CHANGES FROM 2013 TO 2015)

CHAPTER 3 –FORECASTS

3.1 GENERAL

Aviation forecasts based on historical data are the basis for future development. These forecasts were prepared following the guidelines established in "Forecasting Aviation Activity by Airport" (see Appendix for further discussion). The 20 year forecasted planning period is divided into three planning periods: short term (0-5 years), intermediate term (5-10 years), and long term (10-20 years). The base year for these forecasts is 2012. Forecasts include:

- Commercial Service Enplanements and Operations
- General Aviation based aircraft, operations, and fleet mix

3.2 NATIONAL/REGIONAL TRENDS

According to the FAA Aerospace Forecasts (2009-2025), domestic enplanements are projected to grow at 2.7% annually for all size commercial aircraft and destinations. This anticipated growth is based on airlines trying to match supply (seats) with demand (passengers), and by reducing fares and capacity, to stimulate activity against the economic downturn. Enplanements at ART are a result of service provided under the Essential Air Service (EAS) program, where the airline is subsidized by the Federal government to provide commercial service to the airport. The subsidy amount is fixed under the EAS agreement for the duration of the agreement. The American Eagle EAS agreement was last renewed in November 2013, and set to expire January 2016.

The economic downturn has affected the general aviation market, with propeller driven aircraft on the decline and business aviation demand showing signs of modest growth. The higher fuel prices may be contributing to the decline in propeller driven general aviation activity; while the ability to have direct access to airports and avoiding delays at major airports may be the driving force behind the increase in business jet aviation activity. There has been an increase in business jet aircraft activity at ART, as well enplaning passengers, since the completion of the Runway 10-28 extension in 2010 and the initiation of jet service in November 2011.

3.3 FORECASTING REFERENCES

Forecasting was based on the three published FAA forecasts, along with the New York State system plan forecasts.

FAA Aerospace Forecasts: A national level near-term forecast updated annually providing a 12-year outlook covering passenger enplanements, air carriers and regional commuter flight hours flown, cargo revenue and ton miles flown; and general aviation fleet hours flown.

FAA Long Range Aerospace Forecasts: National level forecasts extending the near term projections out from 12 years to 25years.

FAA Terminal Area Forecasts (TAF): Detailed annual forecast based on 25 years of historical data and 15 years of forecast data covering air carrier and commuter enplanements, and itinerant and local operations, including air carrier, air taxi, military and civil.

New York State Aviation System Plan (SASP): State level forecasts examining each airport that project based aircraft and operational levels for a 20-year period for both general aviation and commercial service.

Actual Historic Data: Historical data was also for based aircraft and air carrier operations and enplanements. The based aircraft database had not been updated in the recent past, and the numbers of forecasted based aircraft in the TAF were lower than actual based aircraft. Actual historic data for the air carrier were used due to the new air carrier operations increasing enplanements significantly since inception in November 2011, and to better reflect the actual usage at the airport.

3.4 FORECASTING METHODOLOGIES

There are several general methodologies used for forecasting. These methodologies use historical data to trend forward and provide forecasts. A brief description of each methodology is provided below, as obtained from the *Forecasting Aviation Activity by Airport,* prepared by GRA, Incorporated, July 2001. Appendix A contains additional information relative to forecasting preparation.

- *Socioeconomic Regression Analysis* - Socioeconomic regression analysis is a statistical methodology based upon an assumed relationship (or correlation) between socioeconomic variables such as population, income, or employment, and aviation activity. The resulting set of regression equations, coupled with independent projections of future socioeconomic data, produces forecasts of airport operations, based aircraft, or other activity. When adequate data are available to use this methodology, regression analysis is a powerful tool for forecasting. A correlation coefficient (R^2 value) can be used to gauge the significance of the trend. The R^2 values range between 0 and 1. An R^2 value that approaches 1 indicates a strong statistical correlation while an R^2 of 0 indicates no statistical correlation. Population was used for the Jefferson County as the independent variable in the regression equations and enplanements/aircraft as the dependent variable.

- *Market Share Analysis* - Used when regional forecasts are available. Historical shares are calculated and used as a basis for projecting future market shares. This methodology estimates an airport's regional market share of aviation activity against regional aviation forecasts.

- *Judgment* – Applicable in cases where inadequate or inconsistent data is available for a statistical forecast. In other cases, the region served by an airport has significantly changed, making historical trend analysis irrelevant. For these situations, professional judgment based on similar airport experience is used.

The forecasting methodology chosen was judgment for air carrier enplanements and operations, as this better reflected the recent changes at the airport with American Eagle providing jet service to a hub airport. Forecasting of general aviation activity utilized the market share analysis, as this airport is a non-towered facility and there are no actual counts of general aviation activity.

3.4.1 HISTORICAL AVIATION ACTIVITY

Commercial service has been provided at the airport since 1986. Annual enplanements have ranged from a low of 1,466 to a high of 13,528, with the annual enplanements prior to American Eagle starting averaging about 2,000 annual enplanements, under Cape Air. American Eagle commenced flying in November 2011, and from then until 2015 has averaged about 1,600 enplanements per month.

Table 3-1 summarizes historical annual aircraft operations from 1990 thru 2013 from the FAA TAF for Watertown International Airport.

TABLE 3-1
WATERTOWN INTERNATIONAL AIRPORT
HISTORIC FAA TAF AIRCRAFT OPERATIONS
1990-2013

Year	Carrier/Type of Aircraft	Enplanements	Air Taxi and Commuter Operations	Military Operations	Local General Aviation Operations	Itinerant General Aviation Operations	Total Operations (not including enplanements)
1990	Air Lift International, ANA, Brockway, Mohawk	13,528	4,750	12,000	23,000	9,000	48,750
1991	Chautauqua/	2,684	8,500	16,000	23,000	7,500	55,000
1992		8,740	4,100	16,000	20,000	6,000	46,100
1993	Chautauqua , Westates Airline/	9,248	4,100	16,000	20,000	6,000	46,100
1994	Chautauqua, MESA	5,119	2,712	10,200	30,750	4,000	47,662
1995	MESA	4,589	2,686	7,800	21,800	2,780	35,066
1996	MESA	2,630	2,686	7,800	21,800	2,780	35,066
1997	MESA	2,578	1,700	12,000	23,600	7,200	44,500
1998	MESA, North American	2,959	1,700	12,000	23,600	7,200	44,500
1999	Air Midwest, MESA	4,502	1,660	14,350	25,310	8,600	49,920
2000	Air Midwest/ Beech 1900	2,784	1,660	14,350	25,310	8,600	49,920
2001	Air Midwest/ Beech 1900	2,574	1,660	14,350	25,310	8,600	49,920
2002	Air Midwest/ Beech 1900	2,220	1,740	14,350	25,310	8,600	51,000
2003	Air Midwest/ Beech 1900	2,485	1,660	14,350	25,310	8,600	49,920
2004	Air Midwest/ Beech 1900	2,208	1,660	14,350	25,310	8,600	49,920
2005	Air Midwest/ Beech 1900	4,588	2,740	14,350	25,310	8,600	51,000
2006	Air Midwest/ Beech 1900	3,960	2,740	14,350	25,310	8,600	51,000
2007	Air Midwest & Big Sky Airways/ Beech 1900	6,830	3,756	14,350	25,310	8,600	52,016
2008	Big Sky Airways/ Beech 1900 & Cape Air/ Cessna 402	1,466	3,756	14,350	25,310	8,600	52,016
2009	Cape Air/ Cessna 402	2,020	2,190	14,350	25,310	8,600	50,450
2010	Cape Air/ Cessna 402	2,223	2,106	14,350	25,310	8,600	50,366
2011	Cape Air/ Cessna 402 (until Nov), AA/EMB 140	2,664	2,203	14,350	25,310	8,600	50,463
2012	American Eagle/EMB 140	14,855	1,688	14,350	25,310	8,600	49,948
2013	American Eagle/EMB 140/145	18,366	1,688	14,350	25,310	8,600	49,948

Source: Carrier/Type of Aircraft from airport management; enplanements and operations from FAA Terminal Area Forecast

An enplanement is defined as the boarding of a ticket holding passenger on an aircraft at an airport. The historic enplanement peaks occurred in 1990, when more than one airline operated at the airport. Only one airline has served the airport since then. In 2008 enplanement numbers dropped significantly due to reduced number of seats available because of change in aircraft from a Beech 1900 (19-seat aircraft) to a Cessna 402 (9-seat aircraft). In 2012 enplanements increased significantly, with the introduction of a larger regional jet with 44 seats, and have been increasing since.

3.5 ENPLANEMENTS AND OPERATIONS

The enplanement forecast analysis was performed by reviewing historical enplanement activity, with years 2000-2011 referencing FAA TAF, and years 2012 and 2013 supplied by airport management, to more accurately reflect the number of enplanements.

Year	Airline	Aircraft Type	Total Annual Enplanements
2000-2007	Air Midwest	Beech 1900 (19 seats)	27,649[1]
2007-2008	Big Sky Airways	Beech 1900 (19 seats)	1,466[1]
2008- Nov 2011	Cape Air	Cessna 402 (9 seats)	6,907[1]
2012	American Eagle	Embraer 140 (44 seats)	17,050[1]
2013	American Eagle	Embraer 140 (44 seats)	18,920[1]

Source: [1] FAA TAF referenced for years 2000-2011. Years 2012 and 2013 from airport management

From November 2011 through February 2014 American Eagle provided direct non-stop service between Watertown International Airport and Chicago-O'Hare International Airport with 12 total flights per week, or 24 operations. In February 2014 American requested a route change and started flying between Watertown International Airport and Philadelphia International Airport, 14 total fights per week, or 28 operations, flying a Canadair CRJ200LR (50 passenger seats) from May-October and then switching to a Dash 8-100 the remainder of the year.

3.5.1 ENPLANEMENT FORECASTS

Enplanement forecast, using the methodologies described earlier, follow:

Socioeconomic Regression Analysis

Enplanements were analyzed against population for Jefferson County as the independent variable, and enplanements as the dependent variable. This analysis produced low correlations and was dismissed from consideration in forecasting enplanements.

Market Share Analysis

Historical ART enplanements were compared as a portion of the total eastern region enplanements (NY, NJ, PA, VA, WV, MD and DE). The trend in market share is examined, and future market share is estimated. Years 2010-2013 are based on actual enplanements from airport management, while historic data is based on the FAA TAF. Table 3-2 summarizes this data.

TABLE 3-2
WATERTOWN AIRPORT
HISTORIC MARKET SHARE: ENPLANEMENTS

Year	Carrier	Enplanements	Eastern Region Enplanements	Market Share Percent
2000	Air Midwest	2,784	108,556,502	0.0026%
2001	Air Midwest	2,574	108,206,293	0.0024%
2002	Air Midwest	2,220	95,432,923	0.0023%
2003	Air Midwest	2,485	97,793,660	0.0025%
2004	Air Midwest	2,208	107,922,497	0.0021%
2005	Air Midwest	4,588	117,581,949	0.0039%
2006	Air Midwest	3,960	117,159,927	0.0034%
2007	Air Midwest/Big Sky	6,830	122,470,390	0.0056%
2008	Big Sky/Cape Air	1,466	120,978,643	0.0012%
2009	Cape Air	2,020	114,796,283	0.0018%
2010	Cape Air	2,223	114,482,682	0.0020%
2011	Cape Air/ American Eagle	5,501	118,521,829	0.0046%
2012	American Eagle	17,050	122,391,852	0.0139%
2013	American Eagle	18,920	126,181,090	0.0150%

Source: FAA TAF Enplanements: year 2000-2009; Airport Management Enplanement Records: years 2010-2013; FAA TAF: Regional Enplanements for AEA

A market share analysis is not reliable as the commercial carrier serving Watertown International Airport has not been operating long enough to provide a reliable history to compare against regional enplanement data.

Judgment Analysis
Because of the significant increase in enplanements after American Eagle commenced operations, judgment analysis is used to forecast enplanements. The enplanements are based on actual enplanements, American Eagle aircraft type and seats available, number of flights, and then coupled with the actual load factors, as obtained from the *FAA Aerospace Forecasts 2011-2031*.

In February 2014, when American Eagle changed its route from Chicago's O'Hare Airport to Philadelphia it not only increased its frequency to 14 flights per week, but it also changed its fleet from the Embraer 140/145 (44-50 seats) to the Canadair CRJ200LR (50 seat jet). In late 2014 American switched the aircraft from a Canadair CRJ200, flying from May to end of September, and

switching the aircraft to a Dash 8-100, from October to beginning of May, due to runway length limitations during winter conditions for the CRJ200.

The following enplanement scenarios were developed, using the most recent years of actual enplanements from airport management, to consider a constant growth, but changing the aircraft fleet following industry trends, as smaller jets are retired from the fleet for larger regional jets, but not changing the frequency; to an increasing growth which examines fleet change and frequency change. These two enplanement scenarios were developed based on passenger seats available and load factor, as shown in Tables 3-3 and 3-4.

- **Constant Growth**: In this scenario, ART enplanements using CRJ200 family of aircraft at 50 seats, operating May-October, and then switching to a Dash-8 with 37 passenger seats, for the remainder of the year, averaging 44 seats per flight, operating 14 flights per week is anticipated to continue in service until 2017, when it is anticipated the CRJ200 will operate year round, with 50 passenger seats. This is a conservative growth, as future aircraft are unknown at this time, thus the 50 passenger seat aircraft is held constant through the planning period. Under this scenario no additional destinations or flights are anticipated to be added.
- **Increasing Share**: This scenario assumes the change of CRJ200/Dash-8 Regional Jet to a larger regional jet aircraft of 78-90 passenger seats, using an average of 84 seats (average of the seats for the CRJ700/900, EMB170 and EMB175 as these aircraft are in the American Eagle fleet). This share also considers adding an additional destination or flight, at five additional flights per week, for a total of 19 flights per week.

TABLE 3-3
WATERTOWN INTERNATIONAL AIRPORT
CONSTANT GROWTH ENPLANEMENTS FORECASTS

Year	Load Factor	Passenger Seats Available	Passenger Enplanements
2012	62.1%[1]	27,456[2]	17,050
2017	62.1%[1]	36,400[2]	22,604
2022	62.1%[1]	36,400[2]	22,604
2027	62.1%[1]	36,400[2]	22,604
2032	62.1%[1]	36,400[2]	22,604

Source: [1] Actual Load Factor based on available seats and actual enplaned passengers
[2] Seats available: 2012 assumes 44 seats, 12 departures per week, 2017-2032 assumes 50 seats, 14 departures per week.

TABLE 3-4
WATERTOWN INTERNATIONAL AIRPORT
INCREASING SHARE ENPLANEMENTS FORECASTS

Year	Load Factor	Passenger Seats Available	Passenger Enplanements
2012	62.1%[1]	27,456[2]	17,050
2017	62.1%[1]	49,400[2]	30,677
2022	62.1%[1]	77,064[2]	47,857
2027	62.1%[1]	82,992[2]	51,538
2032	62.1%[1]	88,920[2]	55,219

Source: [1] Actual Load Factor based on available seats and actual enplaned passengers.
[2] Seats available: 2017 assumes regional jet with 50 seats for 19 departures per week; 2022 assumes regional jet with 78 seats for 19 departures per week; 2027 assumes regional jet with average 84 seats 19 departures per week; 2032 assumes regional jet with 90 seats per flight with 19 departures per week. Note: the EMB 190 aircraft was removed from the forecasting methodology

3.5.2 COMMUTER OPERATIONS

A commuter operation is defined as a take-off or landing. In this section, forecasts for commuter and air taxi operations are combined.

There is only one air carrier serving the airport presently. In 2012 scheduled service consisted of 24 operations per week (12 take-off and 12 landings). In 2014 that service increased to 28 operations per week (14 take-off and 14 landings). Following the scenarios presented above with the the constant scenario maintains the 28 operations per week; while the growth scenario adds 10 additional operations per week, for a total of 38 operations per week (19 take-off and 19 landings). FAA Terminal Area Forecast (TAF) estimates 1,688 total annual operations for commuter and air taxi throughout the planning period. The results are in Table 3-5. The preferred operations consist of maintaining the constant operations throughout the planning period.

TABLE 3-5
WATERTOWN INTERNATIONAL AIRPORT
COMMUTER AND AIR TAXI OPERATIONAL FORECASTS

Year	Constant Growth Operations	Increasing Share Operations	TAF Operations
2012	1,248 [1]	1,248 [2]	1,688
2017	1,456 [1]	1,976 [2]	1,688
2022	1,456[1]	1,976 [2]	1,688
2027	1,456 [1]	1,976 [2]	1,688
2032	1,456 [1]	1,976 [2]	1,688

Source: [1] Assumes: 2012: 24 flights per week x 52 weeks (12 arrivals and 12 departures), 2017-2032: 28 flights per week x 52 weeks (14 arrivals and 14 departures)
2 Assumes: 2012 24 flights per week x 52 weeks; 2017-2032 38 flights per week x 52 (19 arrivals and 19 departures)

3.6 GENERAL AVIATION

General Aviation (GA) encompasses operations outside of scheduled passenger service. These aircraft are used for personal and businesses purposes including charter aircraft, single-engine, multi-engine turboprop/turbojet aircraft, and helicopters.

The information and methodologies outlined in Section 3.3 and 3.4 were used in this section as well. In addition, FAA's Operations Per Based Aircraft (OPBA), presented in AC 150/5300-13, Airport Design, Appendix 5 was also utilized. The OPBA methodology defines a ratio between based aircraft and operations and applies the ratio to a forecast of based aircraft.

Commonly used forecast terminology includes:

- **Based aircraft** is an aircraft that is permanently stored at an airport and conducts all operations from that airport.
- **Itinerant aircraft** or visiting aircraft is an aircraft that is permanently stored at another airport and conducts some operations at ART.
- **Operation** is a takeoff or landing of an aircraft.

The GA activity forecasts presented in this section include the following categories:

- Based Aircraft
- Based Aircraft Fleet Mix
- Annual Aircraft Operations
- Local/Itinerant Operations
- Peak Period Operations
- Annual Instrument Approaches

3.6.1 BASED AIRCRAFT

There are no general aviation airports in Jefferson County within a 30 minute drive from ART. The two competing public use general aviation airports are Oswego County Airport (Oswego County) and Potsdam Airport (St. Lawrence County).

According to FAA records, there are 65 registered general aviation aircraft in Jefferson County, 115 in Oswego County and 64 in St. Lawrence County. The FAA TAF for Watertown International Airport shows the number of based aircraft has declined from a high of 47 to 27 since 2005.

Socioeconomic Regression Analysis
Similar to the enplanement forecasts, this methodology yielded no useful correlation.

Market Share Analysis
Table 3-6 shows the historic market share of based aircraft at ART relative to the national active general aviation aircraft fleet and total based aircraft in the Eastern Region.

TABLE 3-6
WATERTOWN INTERNATIONAL AIRPORT
HISTORIC GENERAL AVIATION MARKET ACTIVE FLEET

Year	Based Aircraft	National	Market Share	Eastern Region	Market Share
2000	43	217,533	0.019 %	17,949	0.24%
2005	47	224,350	0.020 %	18,735	0.25%
2006	44	221,939	0.020 %	18,825	0.23%
2007	26	231,606	0.011 %	19,048	0.14%
2008	30	228,668	0.013 %	17,095	0.18%
2009	30	223,920	0.013 %	16,749	0.18%
2010	38	224,172	0.017 %	16,862	0.23%

Source: National: Table 27 FAA Aerospace Forecasts: 2011-2031; Based Aircraft/Eastern Region: FAA TAF: 2000, 2005-2019; 2010 Airport Management

Table 3-7 forecasts the general aviation fleet for ART based on the average of the market shares for national and eastern region.

TABLE 3-7
WATERTOWN INTERNATIONAL AIRPORT
POTENTIAL GENERAL AVIATION MARKET SHARE ACTIVE FLEET

Year	National Forecast	Per National Percentage 0.016%	Eastern Region	Per Eastern Region Percentage 0.21%	Recommended Forecast
2017	232,205	37	17,716	37	**37**
2022	242,425	39	18,393	39	**39**
2027	256,610	41	19,065	40	**41**
2032	270,920	43	N/A	-	**43**

Source: National Forecast from *FAA Aerospace Forecasts, 2011-2031*; Eastern Region from TAF for AEA through 2030. Consultant

3.6.2 GENERAL AVIATION FLEET MIX

Fleet mix describes the based aircraft characteristics. Typical fleet categories include single-engine, multi-engine piston, multi-engine turboprop/turbine aircraft, and rotorcraft. Presently single engine aircraft account for 71.1% of the based fleet, 26.3% multi-engine aircraft, and rotorcraft accounting for 2.6%. The trend in the general aviation arena is toward increased turboprop/turbine powered aircraft, mostly to be used for business/charter purposes. The FAA Aerospace Forecasts an annual increase of 3.0 percent per year for turbine powered aircraft/rotorcraft. Applying the FAA Aerospace forecasts trends yield the projected fleet mix shown in Table 3-8.

TABLE 3-8
WATERTOWN INTERNATIONAL AIRPORT
FORECAST GENERAL AVIATION BASED AIRCRAFT FLEET MIX

Year	2017	2022	2027	2032
Single-engine	25	27	27	28
Multi-engine	9	9	9	9
Jet	1	1	2	2
Rotorcraft	2	2	3	4
Total	**37**	**39**	**41**	**43**

Source: Consultant

3.6.3 GENERAL AVIATION OPERATIONS

General Aviation aircraft operations can be conducted locally, meaning they start at the airport and operate in the area of the airport environment, or itinerant. Following is the FAA TAF summary of historic general aviation operations, for ART, **excluding** Air Taxi and Commuter itinerant operations.

TABLE 3-9
WATERTOWN INTERNATIONAL AIRPORT
HISTORIC GENERAL AVIATION OPERATIONS

Year	Operations			Operational Split	
	Itinerant	Local	Total	Itinerant %	Local %
1990	21,000	23,000	44,000	48	52
1991	23,500	23,000	46,500	51	49
1992	22,000	20,000	42,000	52	48
1993	22,000	20,000	42,000	52	48
1994	14,200	30,750	44,950	32	68
1995	10,580	21,800	32,380	33	67
1996	10,580	21,800	32,380	33	67
1997	19,200	23,600	42,800	45	55
1998	19,200	23,600	42,800	45	55
1999	22,950	25,310	48,260	48	52
2000	22,950	25,310	48,260	48	52
2001	22,950	25,310	48,260	48	52
2002	22,950	25,310	48,260	48	52
2003	22,950	25,310	48,260	48	52
2004	22,950	25,310	48,260	48	52
2005	22,950	25,310	48,260	48	52
2006	22,950	25,310	48,260	48	52
2007	22,950	25,310	48,260	48	52
2008	22,950	25,310	48,260	48	52
2009	22,950	25,310	48,260	48	52
2010	22,950	25,310	48,260	48	52
2011	22,950	25,310	48,260	48	52
2012	22,950	25,310	48,260	48	52
2013	22,950	25,310	48,260	48	52

Source: FAA TAF for all operations excluding air carrier and commuter.

Alternative General Aviation operations forecasts were developed using national growth rates and applying the Operations Per Based Aircraft (OPBA) methodology. Historically the TAF OPBA, for local operations, at ART has ranged from 489 to 974. A 24 year average results in 650 OPBA. The forecasts assume an average of 650 OPBA, with an operational split of 46% itinerant and 54% local.

TABLE 3-10
WATERTOWN INTERNATIONAL AIRPORT
POTENTIAL GENERAL AVIATION OPERATIONS

Year	2012	2017	2022	2027	2032
Based Aircraft	35*	37	39	41	43
Local Operations (54%)	22,750	24,050	25,350	26,650	27,950
Itinerant Operations (46%)	19,380	20,487	21,594	22,702	23,809
Total Operations	**42,130**	**44,537**	**46,944**	**49,352**	**51,759**

Source: Consultant
Notes: *2012 based aircraft is actual counts
Based aircraft obtained from Table 3-8 above, based on 3% growth for turbine aircraft/rotorcraft. Operations growth rate from 2017-2032 for operations approximately 1.1% annually.
Local operations are based on 650 OPBA * Based Aircraft; Total Operations are local operations divided by 54%; itinerant operations are 46% of total operations.

3.6.4 PEAK PERIOD OPERATIONS

Peak period operations are used for airport capacity calculations and future facility planning. Peak period operations are calculated for both the peak month and average day within the peak month. Summer months for this airport are the most active period at ART. Peak month operations are generated by increasing annual operations by 10% and dividing by 12. Peak daily operations are calculated by dividing peak month operations by 31 days. Table 3-10 shows the peak period operations.

TABLE 3-11
WATERTOWN INTERNATIONAL AIRPORT
FORECAST GENERAL AVIATION PEAK PERIOD OPERATIONS

Year	Annual Operations	Peak Month	Peak Day
2012	42,130	3,862	125
2017	44,537	4,083	132
2022	46,944	4,303	139
2027	49,352	4,524	146
2032	51,759	4,745	153

Source: Consultant

3.6.5 ANNUAL INSTRUMENT APPROACHES

An instrument approach is "*a series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually.*" Instrument approaches only count when conducted under instrument meteorological conditions (IMC), of visibility less than three miles and ceiling height less than 1,000 feet. Additionally the aircraft must land prior to canceling their instrument flight plan.

COMMUTER

These aircraft almost exclusively operate under a filed instrument flight plan. For planning purposes the number of instrument approaches is ½ total operations from Table 3-5, under increasing share.

GENERAL AVIATION

Since Watertown International Airport does not have a control tower, actual counts for instrument approaches are unknown. Forecasts of general aviation instrument approaches are estimated on the percentage of time there are instrument weather conditions multiplied by annual GA operations, and then divided by 2. Based on National Climatic Data Center data approximately 7.5% of the weather is instrument conditions.

TABLE 3-12
WATERTOWN INTERNATIONAL AIRPORT
POTENTIAL GENERAL AVIATION INSTRUMENT APPROACHES

YEAR	ANNUAL GA OPERATIONS	POTENTIAL GA INSTRUMENT APPROACHES	COMMUTER APPROACHES	TOTAL APPROACHES
2012	42,130	1,580	624	2,204
2017	44,537	1,671	988	2,659
2022	46,944	1,760	988	2,748
2027	49,352	1,851	988	2,839
2032	51,759	1,941	988	2,929

Source: Consultant.

3.7 SUMMARY OF RECOMMENDED FORECASTS

Table 3-13 summarized the forecasts evaluated on this project. The forecasts submitted for review and approval are the constant growth, as summarized on Tables 3-14 and 3-15.

TABLE 3-13
WATERTOWN INTERNATIONAL AIRPORT
SUMMARY OF FORECASTS EVALUATED ON THIS PROJECT

FORECAST	BASE YEAR 2012	2017	2022	2027	2032
PASSENGER ENPLANEMENTS	17,050	CONSTANT: 22,604 INCREASING: 30,677	CONSTANT: 22,604 INCREASING: 47,857	CONSTANT: 22,604 INCREASING: 51,538	CONSTANT: 22,604 INCREASING: 55,219
COMMERCIAL SERVICE OPERATIONS	1,248	CONSTANT: 1,456 INCREASING: 1,976	CONSTANT: 1,456 INCREASING: 1,976	CONSTANT: 1,456 INCREASING: 1,976	CONSTANT: 1,456 INCREASING: 1,976
GA OPERATIONS	42,130	44,537	46,944	49,352	51,759
- **ITINERANT**	19,380	20,487	21,594	22,702	23,809
- **LOCAL**	22,750	24,050	25,350	26,650	27,950
- **PEAK MONTH**	3,862	4,083	4,303	4,524	4,745
- **PEAK DAY**	125	132	139	146	153
BASED AIRCRAFT	35	37	39	41	43
- **SINGLE ENGINE**	25	25	27	27	28
- **MULTI ENGINE/JET**	10	10	10	11	11
- **ROTORCRAFT**	2	2	2	3	4
INSTRUMENT APPROACHES	2,204	2,659	2,748	2,839	2,929
- **GA**	1,580	1,671	1,760	1,851	1,941
- **COMMUTER**	624	988	988	988	988

Comparison to FAA Terminal Area Forecasts

If an airport is included in the FAA Terminal Area Forecasts, any new aviation activity forecasts needs to be reviewed and approved by the agency before they can be applied to further analysis. During this review the FAA looks to see if the based aircraft and annual operations forecast differ from the TAF by less than ten percent in the first five year period and 15 percent in the first 10-year period. However, the FAA Memorandum dated December 23, 2004 state, "*where the 5 and 10-year forecast does not exceed 100,000 total annual operations or 100 based aircraft, then it does not need headquarters review, and should be provided for use in the annual update to the TAF.*" Being the preferred forecast of annual operations does not exceed 100,000 total annual operations in the first 10 years of the forecast period, it should be validated by the FAA's airports district office in the New York region, approved for use in this planning study, and included in the next update to the FAA's TAF. To express the relationship between the FAA forecast for ART and that developed in this report, the following table compares each for passenger enplanements, commercial and total operations.

Watertown International Airport does not have a control tower so operations are estimates. Existing and constant growth commercial service operations are based on actual airline schedules. Prior to 2011 Watertown International Airport was served by a commercial service airline using 9-seat aircraft. In 2011 the

airline changed to a 44 seat jet, and then subsequently updated to a 50 seat jet, with winter service provided by a 37 seat aircraft. There has been a significant increase in enplanements since American Eagle started operating at Watertown International Airport. Since the service is still in its infancy, forecasting enplanements examined a constant growth scenario, which is very conservative but assumes the 50 seat jet will continue to operate with its existing schedule of 14 flights per week; and an increasing scenario. The increasing scenario was prepared to examine the potential enplanements that could occur if fleet changes occurred, and frequency increased. This forecast resulted in a robust increase in enplanements. Because of the near term certainty, the forecasts brought forward for review and approval consider the constant growth for enplanements and operations.

TABLE 3-14
WATERTOWN INTERNATIONAL AIRPORT
FAA TAF FORECAST VERSUS CONSTANT GROWTH FORECAST

	Year	Forecasts	TAF	Forecast/TAF (% Difference)
Passenger Enplanements				
Base Year	2012	17,050	14,855	14.78%
Base Year + 5 years	2017	22,604	23,091	-2.11%
Base Year + 10 years	2022	22,604	23,091	-2.11%
Base Year + 15 Years	2027	22,604	23,091	-2.11%
Commercial Operations				
Base Year	2012	1,248	1,688	-26.07%
Base Year + 5 years	2017	1,456	1,688	-13.74%
Base Year + 10 years	2022	1,456	1,688	-13.74%
Base Year + 15 Years	2027	1,456	1,688	-13.74%
Total Operations (inclusive of Commercial)				
Base Year	2012	43,378	49,948	-13.15%
Base Year + 5 years	2017	45,993	49,948	-7.92%
Base Year + 10 years	2022	48,920	49,948	-2.06%
Base Year + 15 Years	2027	51,328	49,948	2.76%

TAF: January 2015

TABLE 3-14
WATERTOWN INTERNATIONAL AIRPORT
AIRPORT PLANNING FORECAST BREAKDOWN

							Average Annual Compound Growth Rate			
	Base Yr Level	Base Yr +1 yr	Base Yr + 5yrs	Based Yr +10 yrs	Base Yr + 15yrs		Base Yr +1 yr	Base Yr + 5yrs	Based Yr +10 yrs	Base Yr + 15yrs
Passenger Enplanements	2012	2013	2017	2022	2027		2013	2017	2022	2027
Air Carrier	0	0	0	0	0		0.00%	0.00%	0.00%	0.00%
Commuter	17,050	18,920	22,604	22,604	22,604		10.97%	6.51%	3.26%	2.17%
TOTAL	17,050	18,920	22,604	22,604	22,604		10.97%	6.51%	3.26%	2.17%
Operations										
Itinerant										
Air Carrier	0	0	0	0	0		0.00%	0.00%	0.00%	0.00%
Commuter	1,248	1,456	1,456	1,976	1,976		16.67%	3.33%	5.83%	3.89%
Total Commercial Operations	1,248	1,456	1,456	1,976	1,976		16.67%	3.33%	5.83%	3.89%
General Aviation/Military	19,380	19,679	20,487	21,594	22,702		1.54%	1.14%	1.14%	1.14%
Local										
General Aviation/Military	22,750	23,101	24,050	25,350	26,650		1.54%	1.14%	1.14%	1.14%
TOTAL OPERATIONS										
Instrument Operations	2,339	2,363	2,659	2,748	2,839		1.03%	2.74%	1.75%	1.43%
Peak Hour Operations	13	13	14	15	15		0.00%	1.54%	1.54%	1.03%
Cargo	0	0	0	0	0		0.00%	0.00%	0.00%	0.00%
Based Aircraft										
Single Engine (Nonjet)	24	25	25	27	27		4.17%	0.83%	1.25%	0.83%
Multi Engine (Nonjet)	8	8	9	9	9		0.00%	2.50%	1.25%	0.83%
Jet Engine	1	1	1	1	2		0.00%	0.00%	0.00%	6.67%
Helicopter	2	2	2	2	3		0.00%	0.00%	0.00%	3.33%
Other	0	0	0	0	0		0.00%	0.00%	0.00%	0.00%
TOTAL	35	36	37	39	41		2.86%	1.14%	1.14%	1.14%

	Base Yr Level	Base Yr +1 yr	Base Yr + 5yrs	Based Yr +10 yrs	Base Yr + 15yrs
Average aircraft size (seat)					
Air Carrier	0	0	0	0	0
Commuter	44	50	50	50	50
Average enplaning load factor					
Air Carrier	0	0	0	0	0
Commuter	62.10%	62.10%	62.10%	62.10%	62.10%
GA OPBA	650	650	650	650	650

Guidance recommends the car rental company have a lot to accommodate a minimum of 10 vehicles. The rental company was consulted and determined the actual need to be closer to 20. Employee and car rental lots should be separate lots from the public parking lot.

Terminal curbs are usually the length of the building or appropriately sized to accommodate peak demands. The sidewalk should be adequate to accommodate the swinging of a car door plus a minimum of eight feet. A canopy extending over the curb, with minimum clearance for service vehicles, and code requirements is desirable for weather protection. This terminal curb will affect the circulation road and should be expanded to at least two lanes, one for parking while unloading and loading passengers and the other for thru traffic.

TABLE 4-7
WATERTOWN INTERNATIONAL AIRPORT
PROPOSED TERMINAL BUILDING AND PARKING REQUIREMENTS

Facility Area	Existing Space	Proposed Space
Lobby and Waiting Area	1,900 SF	1,900 SF
Ticket Counter	84 SF (14 LF with 6 foot clearance behind counter)	300 SF * (20-30 LF with 8 foot clearance behind counter
Ticket Counter Queuing Space	140 SF (10 feet in front of ticket counter)	500 SF (20 feet in front of ticket counter)
Circulation Space **(outside of the ticket counter queuing space)**	500 SF (8% gross terminal space)	2,800 SF* (20% gross terminal space recommended)
Departure Areas and Lounges	550 SF	3,200 SF* (20 SF per passenger)
Airline Space/Offices	400 SF (200 SF upstairs and 200 SF downstairs)	2,000-3,000 SF (200 SF upstairs)
Baggage Claim **(not including baggage make-up)**	16 linear feet of public display	600 SF (600-800 SF (circulating) or 20-30 linear feet of public display)
Concessions	200 SF vending machines	800-1,000 SF (smaller if vending machines only)
Car Rental Counter	48 SF (6 feet deep by 8 feet wide 1 car rental company)	960 SF (8 feet deep by 6 feet wide with 10 foot queue/car rental co.)
Security Equipment **(not including office space)**	800 SF	2,000 SF (must meet TSA guidelines)
Security Queuing	160 SF	1,440 SF* (9 SF per passenger)
Bathrooms	2 unsecured side 1 usable secured side	2 unsecured side Min. 4 secured side (Must meet NYS Code)
Total Terminal Bldg **(including upstairs office space/baggage make-up)**	6,300 SF	Allow 20,000 SF
Passenger Auto Parking	130 spaces	250 spaces (15-25% short-term)
Employee Auto Parking	15 spaces	20-40 spaces (10-20% of public parking)
Car Rental Auto Parking	10 spaces	10-20 spaces

Source: AC 150/5360-9, Chapter 6

*Proposed space est. 160 passengers

APO TERMINAL AREA FORECAST DETAIL REPORT
Forecast Issued January 2015

ART

	AIRCRAFT OPERATIONS													
	Enplanements			Itinerant Operations					Local Operations					
Fiscal Year	Air Carrier	Commuter	Total	Air Carrier	Air Taxi & Commuter	GA	Military	Total	Civil	Military	Total	Total Ops	Total Tracon Ops	Based Aircraft
REGION:AEA **STATE:**NY **LOCID:**ART														
CITY:WATERTOWN **AIRPORT:**WATERTOWN INTL														
1990	0	13,528	13,528	0	4,750	9,000	12,000	25,750	23,000	0	23,000	48,750	-	47
1991	0	2,684	2,684	0	8,500	7,500	16,000	32,000	23,000	0	23,000	55,000	-	47
1992	0	8,740	8,740	0	4,100	6,000	16,000	26,100	20,000	0	20,000	46,100	-	47
1993	0	9,248	9,248	0	4,100	6,000	16,000	26,100	20,000	0	20,000	46,100	-	47
1994	0	5,119	5,119	0	2,712	4,000	10,200	16,912	30,750	0	30,750	47,662	-	48
1995	0	4,589	4,589	0	2,686	2,780	7,800	13,266	21,800	0	21,800	35,066	-	41
1996	0	2,630	2,630	0	2,686	2,780	7,800	13,266	21,800	0	21,800	35,066	-	41
1997	0	2,578	2,578	0	1,700	7,200	12,000	20,900	23,600	0	23,600	44,500	-	42
1998	0	2,959	2,959	0	1,700	7,200	12,000	20,900	23,600	0	23,600	44,500	-	42
1999	135	4,367	4,502	1,080	580	8,600	14,350	24,610	25,310	0	25,310	49,920	-	43
2000	0	2,784	2,784	0	1,660	8,600	14,350	24,610	25,310	0	25,310	49,920	-	43
2001	0	2,574	2,574	0	1,660	8,600	14,350	24,610	25,310	0	25,310	49,920	-	8
2002	0	2,220	2,220	1,080	1,660	8,600	14,350	25,690	25,310	0	25,310	51,000	-	35
2003	0	2,485	2,485	0	1,660	8,600	14,350	24,610	25,310	0	25,310	49,920	-	35
2004	0	2,208	2,208	0	1,660	8,600	14,350	24,610	25,310	0	25,310	49,920	-	47
2005	0	4,588	4,588	0	2,740	8,600	14,350	25,690	25,310	0	25,310	51,000	-	47
2006	0	3,960	3,960	0	2,740	8,600	14,350	25,690	25,310	0	25,310	51,000	-	47
2007	0	6,830	6,830	3,756	0	8,600	14,350	26,706	25,310	0	25,310	52,016	-	26
2008	0	1,466	1,466	3,756	0	8,600	14,350	26,706	25,310	0	25,310	52,016	-	30
2009	0	2,020	2,020	2,190	0	8,600	14,350	25,140	25,310	0	25,310	50,450	-	30
2010	0	2,223	2,223	0	2,106	8,600	14,350	25,056	25,310	0	25,310	50,366	-	28
2011	0	2,664	2,664	0	2,203	8,600	14,350	25,153	25,310	0	25,310	50,463	-	27
2012	0	14,855	14,855	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33

2013	0	18,366	18,366	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2014*	0	19,223	19,223	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2015*	0	21,157	21,157	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2016*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2017*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2018*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2019*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33

APO TERMINAL AREA FORECAST DETAIL REPORT
Forecast Issued January 2015

ART

AIRCRAFT OPERATIONS

	Enplanements			Itinerant Operations					Local Operations					
Fiscal Year	**Air Carrier**	**Commuter**	**Total**	**Air Carrier**	**Air Taxi & Commuter**	**GA**	**Military**	**Total**	**Civil**	**Military**	**Total**	**Total Ops**	**Total Tracon Ops**	**Based Aircraft**
2020*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2021*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2022*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2023*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2024*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2025*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2026*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2027*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2028*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2029*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2030*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2031*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2032*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2033*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2034*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2035*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2036*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33

2037*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2038*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2039*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33
2040*	0	23,091	23,091	0	1,688	8,600	14,350	24,638	25,310	0	25,310	49,948	-	33

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

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

June 22, 2015

Mr. Grant Sussey
Airport Manager
Watertown International Airport
NYS Route 12F
22529 Airport Drive
Dexter, NY. 13634-3062

**Re: Watertown International Airport (ART), NY.
Aviation Activity Forecast**

Dear Mr. Sussey:

We have received copies of the above reference material dated June 19, 2015. We had the opportunity to review the subject document, which includes responses to our comments and questions raised during the review of the forecast chapter. The Watertown International Airport forecast covers a period from 2012 to 2032, a 20 –year period projected in five-year increments. The forecast uses current data and defendable assumptions. A Judgment Analysis Model is used to develop the airport's forecast. Two forecast scenarios were developed using this model, a Constant Growth scenario and an Increasing Share Scenario.

For the purpose of this review and approval, only the Constant Growth Scenario is being considered. This scenario is consistent with the TAF and meets the FAA criteria for less than 10 percent in the first 5-year forecast period, and 15 percent in the 10-year forecast period. For this reason the Constant Growth Scenario is approved as presented in Table 3-14 of the June 2014 document.

If you have any questions or need additional information please call me.

Sincerely,

José Moreno
Airport Planner
NYADO

Cc. NYADO
L, Cheung- Passero
S, Bray- Passero
S.Gill – NYADO
D. Carlin- NYADO

APPENDIX B2

RUNWAY LENGTH ANALYSIS

2.3. General Airplane Characteristics

Model CL–600–2B19		CRJ100/200	CRJ100 ER	CRJ100 LR	CRJ200 ER	CRJ200 LR
Engines		2 GE CF34 –3A1/–3B1	2 GE CF34 –3A1	2 GE CF34 –3A1	2 GE CF34 –3B1	2 GE CF34 –3B1
Mode		Passenger	Passenger	Passenger	Passenger	Passenger
Maximum Seating Capacity		50	50	50	50	50
Maximum Design Taxi Weight (MTW)	Pounds Kilograms	47 700 21 636	51 250 23 247	53 250 24 154	51 250 23 247	53 250 24 154
Maximum Design Landing Weight (MLW)	Pounds Kilograms	44 700 20 276	47 000 21 319	47 000 21 319	47 000 21 319	47 000 21 319
Maximum Design Take–Off Weight (MTOW)	Pounds Kilograms	47 450 21 523	51 000 23 133	53 000 24 041	51 000 23 133	53 000 24 041
Operating Empty Weight (OWE)	Pounds Kilograms	30 500 13 835	30 500 13 835	30 500 13 835	30 500 13 835	30 500 13 835
Maximum Design Zero Fuel Weight (MZFW)	Pounds Kilograms	42 200 19 142	44 000 19 958	44 000 19 958	44 000 19 958	44 000 19 958
Usable Fuel	US Gallons Liters	1400 5300	2135 8081	2135 8081	2135 8081	2135 8081
Maximum Payload[1]	Pounds Kilograms	11 700 5 307	13 500 6 124	13 500 6 124	13 500 6 124	13 500 6 124
Maximum Cargo Volume[2]						

NOTES

1 Please note that the maximum payload weight changes from flight to flight, as the OWE changes. (MZFW – OWE = Max. Payload)

2 Cargo volume varies according to cabin layout.

Advisory Circular 150/5325-4B, *Runway Length Requirements for Airport*, was referenced for the runway length analysis. This Advisory Circular states that either the Airport Planning Manual or air carrier specific data can be used to determine runway length, and that "*Both takeoff and landing lengths requirements must be determined with applicable length-adjustments in order to determine the recommended runway length. The longest of the takeoff and landing length requirements for the critical design airplanes under evaluation becomes the recommended runway length.*" As the Airport Planning Manual did not contain the appropriate temperature charts for the airport, a runway length analysis for the Canadair Regional Jet (CRJ200LR) was performed based on carrier specific data from Air Wisconsin. The CRJ200 flies the short-haul route, of 288 miles[1], from Watertown International Airport (ART) to Philadelphia (PHL).

Airline Operator Analysis

Air Wisconsin, operates the CRJ200 at ART, and provided airline specific data for winter operating conditions. Air Wisconsin confirmed they operate the CRJ200LR (hereinafter referred to as CRJ200) in the months from May through end of September. The dispatch office uses poor braking action, defined as accumulation of snow greater than 1/8th of an inch, to calculate winter operational characteristics which significantly impact operating weighs of the CRJ200. Due to the diminished performance during poor braking action conditions, the CRJ200 demonstrates diminished capabilities with the existing 6,000 foot runway.

Air Wisconsin calculates the maximum allowable take-off weight for departure and maximum landing weight for arrival based on the conditions at flight time. The given inputs are fuel load, operating empty weight, current meteorological conditions and airport/runway characteristics. Airport runway characteristics are elevation, runway length, obstacle clearance requirements and runway surface condition. The resultant calculation provides the allowable take-off and landing weights. The variable, controlled at departure, is the number of passengers that can be accommodated on that specific flight. The number of passengers and checked bags is the simplest way to maintain safe operational aircraft weight. When conditions are such that either the maximum take-off weight or the maximum landing weight are exceeded, penalties are incurred and passengers and their bags are removed from the flight.

Multiple scenarios were developed by varying temperatures and airport runway surface conditions. Air Wisconsin's flight dispatch office conducted an analysis using their Aerodata operating software, based on the existing 6,000 foot runway length, with both summer and winter temperature conditions, and wet and dry pavement to determine the aircraft limitations. These calculations also included the fuel requirements by the airline, obstacle clearance requirements and accelerate/stop distance requirements.

The CRJ200 aircraft maximum gross take-off weight is 53,000 pounds, with a full 50 seat passenger load and fuel. Maximum landing weight is 47,000 pounds. The maximum takeoff weight would be restricted by maximum landing weight plus fuel burn to a destination. Air Wisconsin provided data to fly the short-haul route to PHL the maximum takeoff weight for the CRJ200 is 49,500 pounds (47,000 pound landing weight + 2,500 pounds fuel). Table 1-3 provides data obtained from Air Wisconsin under varying temperature and runway conditions. The 6,000 foot runway length is

[1] Expedia.com

adequate for the aircraft to operate with a full load of 50 passengers during various temperature conditions on wet and dry pavements, but not during winter operations with poor braking action. With the existing 6,000 foot runway length, and poor braking action during winter conditions allowable passenger numbers are significantly reduced by 40 percent. The aircraft operating weight limitations are directly related to accelerate/stop distance, obstacle clearance requirements, and runway condition.

Table 1-3
CRJ200LR Maximum Operating Weight (lbs) when Runway Length = 6000'
Watertown International Airport

Takeoff with Dry Pavement			
Temp	**Allowable Weight Rwy 10**	**Allowable Weight Rwy 28**	**Penalty**
27°C	48,520	48,830	None: can carry 50 passengers
0°C	51,080	51,360	None: can carry 50 passengers
-5°C	51,370	51,620	None: can carry 50 passengers
-10°C	51,670	51,900	None: can carry 50 passengers

Landing with Dry Pavement			
Temp	**Allowable Weight Rwy 10**	**Allowable Weight Rwy 28**	**Penalty**
27°C	55,100	55,100	None: can carry 50 passengers
0°C	55,100	55,100	None: can carry 50 passengers
-5°C	55,100	55,100	None: can carry 50 passengers
-10°C	55,100	55,100	None: can carry 50 passengers

Takeoff with Wet Pavement			
Temp	**Allowable Weight Rwy 10**	**Allowable Weight Rwy 28**	**Penalty**
27°C	48,520	48,830	None: can carry 50 passengers
0°C	49,100	49,200	None: can carry 50 passengers
-5°C	49,940	50,050	None: can carry 50 passengers
-10°C	50,470	50,660	None: can carry 50 passengers

Landing with Wet Pavement			
Temp	**Allowable Weight Rwy 10**	**Allowable Weight Rwy 28**	**Penalty**
27°C	48,520	51,100	None: can carry 50 passengers
0°C	49,100	51,100	None: can carry 50 passengers
-5°C	49,940	51,100	None: can carry 50 passengers
-10°C	50,470	51,100	None: can carry 50 passengers

Takeoff with Poor Braking Action (Winter condition)			
Temp	**Allowable Weight Rwy 10**	**Allowable Weight Rwy 28**	**Penalty**
27°C	N/A	N/A	N/A
0°C	44,760	45,150	Reduced to 35 passengers for Runway 10 Departures/ Reduced to 37 passengers for Runway 28 Departures
-5°C	45,480	45,890	Reduced to 38 passengers for Runway 10 Departures/ Reduced to 40 passengers for Runway 28 Departures
-10°C	45,970	46,380	Reduced to 40 passengers for Runway 10 Departures/ Reduced to 42 passengers for Runway 28 Departures

Landing with Poor Braking Action (Winter condition)			
Temp	**Allowable Weight Rwy 10**	**Allowable Weight Rwy 28**	**Penalty**
27°C	N/A	N/A	
0°C	39,600	39,600	Reduced to 30 passengers
-5°C	39,600	39,600	Reduced to 30 passengers
-10°C	39,600	39,600	Reduced to 30 passengers

Source: Air Wisconsin Flight Dispatch for the CRJ200LR, for ART to PHL at various temperatures, with required fuel, balanced field, obstacle clearance climb, utilizing Aerodata Software. The passenger reductions are from a possible 50 total passengers

Air Wisconsin modeled a winter situation, with poor braking action, to account for the contaminated runway, and allow the CRJ200 to operate from ART to PHL with full 50 seat passenger load. The results are shown in Table 1-4.

Table 1-4
CRJ200LR Runway Length Requirement
for Winter Condition/Poor Braking Action

Temp Winter Condition/ Poor Braking	Landing	# Passengers	Runway Length Required
-10°C	47,500	50	7,000'

A 7,000 foot runway length would allow the CRJ200 to carry 50 passengers on the ART to PHL route, thereby maximizing the passengers and usability of the aircraft.

Currently the Dash 8-100 flies from October through May with the existing 6,000 foot runway length because it has better capabilities and reduced penalties on this length. This aircraft has had to take weight penalties, in the form of reduced passenger loads, to operate on the existing runway length during the winter months. Extending the runway by 1,000 feet, to a total length of 7,000 feet, would increase performance capabilities of the CRJ200 to operate year round. At 7,000 feet, it is more economical to operate the CRJ200 than the Dash 8-100. Changing to a CRJ200 during winter months could increase the number of passengers by an additional 13 passengers per flight, or an additional 5,800 passengers annually. Conversations with Air Wisconsin indicated they would petition American Eagle to operate the route year round if the runway was extended to 7,000 feet.

The increase in passengers would have a positive economic effect on both the airline business as well as the local community.

Lisa Cheung

From: Michael Horen [Michael.Horen@airwis.com]
Sent: Thursday, June 04, 2015 1:47 PM
To: Lisa Cheung
Cc: Grant Sussey
Subject: RE: CRJ-200 PHL-ART

Lisa,

Your summary is accurate and consistent with the data I provided.

Please let me know if you require any further information on this matter.

Thanks

Michael Horen
Air Wisconsin Airlines
Dispatch Trainer
(920) 749-7611
michael.horen@airwis.com

From: Lisa Cheung [mailto:LCheung@passero.com]
Sent: Thursday, June 04, 2015 12:41 PM
To: Michael Horen
Cc: Grant Sussey
Subject: RE: CRJ-200 PHL-ART
Importance: High

Michael,

I appreciate you taking the time to discuss your findings with me for the ART-PHL route. I would like to summarize our conversation to ensure that my understanding is consistent with the information you provided, and our conversation:

- The existing 6,000' runway length is capable of supporting the CRJ200 from ART to PHL under wet and dry pavement conditions for the hot day
- The winter condition, under poor braking conditions are not suitable to support the fully loaded aircraft on the existing 6,000' length, when the runway is contaminated, weights are restricted and load factors are reduced.
- The aircraft cannot carry full load of passengers during the winter event, because it will carry the necessary fuel required for safety first and then reduce the passengers to meet weight restriction
- Factors that play into the reduced capabilities under winter condition are balanced field, and obstacle clearance requirements
- Buffalo Airport was used as a similar airport because of location to surrounding waters, similar winter conditions, elevation and flight distance, that is how 7,000' was calculated
- If runway is extended to 7,000' it is more economical to provide service with the CRJ200LR than the Dash 8-100, which currently operates under the existing runway length because it has better capabilities, and can operate at higher load factors.

If there is any additional information you think it helpful to our cause, or I have misunderstood any elements of our conversation please let me know via email by Friday, June 5.

Regards,

Lisa M. Cheung, LEED Green Associate
Airport Planner

PASSERO ASSOCIATES
Direct: 585-760-8506
lcheung@passero.com

From: Michael Horen [mailto:Michael.Horen@airwis.com]
Sent: Thursday, June 04, 2015 9:15 AM
To: Lisa Cheung
Subject: FW: CRJ-200 PHL-ART

Michael Horen
Air Wisconsin Airlines
Dispatch Trainer
(920) 749-7611
michael.horen@airwis.com

From: Michael Horen
Sent: Tuesday, June 02, 2015 3:56 PM
To: 'David.Carlin@faa.gov'
Cc: Doug Lesh; Mark Niebauer; thomas.f.kersten@faa.gov; keith.j.duros@faa.gov; Mark Niebauer/OU=588 DISPATCH SHIFT SUPERVISOR/O=AWAC (Mark.Niebauer@airwis.com)
Subject: RE: CRJ-200 PHL-ART

David,

Here is the update data you requested.
I calculated landing data in Watertown based on Fair not Poor braking action.
Also attached is a copy of our approach category from our Flight Operations Manual.

The chart below shows maximum passengers based on the following worst case scenario.

BOW of	31700
Min Departure fuel w/ destination alternate	5400
Winter pax weight + 1 bag	219

See Buffalo data for comparison of a 7000 foot runway.

Takeoff Temp	Runway 10	Runway 28	Passengers	Landing Temp	Runway 10	Runway 28	Passengers
Dry							
27C	48,520	48,830	50	27C	55,100	55,100	50
0C	51,080	51,360	50	0C	55,100	55,100	50
-5C	51,370	51,620	50	-5C	55,100	55,100	50
-10C	51,670	51,900	50	-10C	55,100	55,100	50
Wet			Passengers				

27C	48,520	48,830	50	27C	51,100	51,100	50
0C	49,100	49,200	50	0C	51,100	51,100	50
-5C	49,940	50,050	50	-5C	51,100	51,100	50
-10C	50,470	50,660	50	-10C	51,100	51,100	50
Poor Braking			Passengers Rwy 10/ Rwy 28				Passengers
27C	n/a	n/a		27C	n/a	n/a	
0C	44,760	45,150	35/37	0C	39600	39600	30
-5C	45,480	45,890	38/40	-5C	39600	39600	30
-10C	45,970	46,380	40/42	-10C	39600	39600	30

Buffalo	7000 foot runway	
Poor Braking	Landing	Passengers
-10C	47,500	50

Thanks

Michael Horen
Air Wisconsin Airlines
Dispatch Trainer
(920) 749-7611
michael.horen@airwis.com

From: David.Carlin@faa.gov [mailto:David.Carlin@faa.gov]
Sent: Tuesday, June 02, 2015 8:39 AM
To: Michael Horen
Cc: Doug Lesh; Mark Niebauer; thomas.f.kersten@faa.gov; keith.j.duros@faa.gov
Subject: RE: CRJ-200 PHL-ART

Mike...Thanks again for the below and for taking the time to discuss this last night. When you send over the updated information, can you also include something from the op specs that illustrates that the CRJ-200 is a Category D aircraft.

Talk to you soon!

David Carlin, MPA
Community Planner
Federal Aviation Administration - NYADO
1 Aviation Plaza
Jamaica, NY 11434
Phone: (718) 995-5762
Email: david.carlin@faa.gov

From: Michael Horen [mailto:Michael.Horen@airwis.com]
Sent: Monday, June 01, 2015 2:46 PM
To: Carlin, David (FAA)

Cc: Doug Lesh; Mark Niebauer; Kersten, Thomas F (FAA); Duros, Keith J (FAA)
Subject: RE: CRJ-200 PHL-ART

David,

Keith Duros at the FAA forwarded you're your request to me.

Air Wisconsin operates CRJ-200 aircraft into Watertown only in the summer due to operating restrictions.
Runway 10/28 and the associated obstacle clearance limits are takeoff and landing weight during the winter.

The following information would apply to any CRJ-200 aircraft.

Maximum takeoff weight is 53,000 and Maximum landing weight is 47,000.
The maximum takeoff weight would be restricted by maximum landing weight plus fuel burn to a destination.
For Example, a flight from ART to PHL would burn approximately 2,500 pounds.
A structural landing weight of 47,000 + 2,500 equals a maximum takeoff weight of 49,500.
The following table shows the takeoff and landing limits based on runway conditions.

Takeoff Temp	Runway 10	Runway 28	Landing Temp	Runway 10	Runway 28
Dry					
0C	51,080	51,360	0C	55,100	55,100
-5C	51,370	51,620	-5C	55,100	55,100
-10C	51,670	51,900	-10C	55,100	55,100
Wet					
0C	49,100	49,200	0C	51,100	51,100
-5C	49,940	50,050	-5C	51,100	51,100
-10C	50,470	50,660	-10C	51,100	51,100
Poor Braking					
0C	44,760	45,150	0C	40,500	40,500
-5C	45,480	45,890	-5C	40,500	40,500
-10C	45,970	46,380	-10C	40,500	40,500

Winter operations are dramatically reduced because of the existing field length in Watertown.
Extending the runway by 1,000 feet would increase performance capabilities on a contaminated runway to limits similar to wet data.
At the majority of airports, a CRJ-200 can safely operate on a 7000 foot runway in all weather and field conditions except for a NIL braking action report.
Operations would be suspended when a NIL braking action is reported.

Let me know if you required any additional information on this matter.

Thanks

Michael Horen
Air Wisconsin Airlines
Dispatch Trainer
(920) 749-7611
michael.horen@airwis.com

From: keith.j.duros@faa.gov
Sent: Thursday, May 28, 2015 3:30 PM
To: Michael Horen
Cc: Doug Lesh; Mark Niebauer; David.Carlin@faa.gov; thomas.f.kersten@faa.gov
Subject: FW: CRJ-200 PHL-ART

Gentleman,

Hi Mike,

Thanks for your help. Per our conversation the discussion to add an additional 1000' feet of runway to ART and how that would improve operations for the CRJ 200 during various scenarios. Mr. Carlin (listed above) needs this information to justify the airport's request. When you have time please provide data/scenarios where the existing 6000' would reduce payload/performance and how the additional 1000' would help.

Regards,

Keith Duros
CMU Operations Unit Supervisor
Chicago Flight Standard District Office
2300 E. Devon Ave. Suite 261, Des Plaines, IL. 60018
Phone: 847 294 7916
Fax: 847 294 7902

The Chicago Flight Standards District Office is dedicated to Quality Service, your feedback is appreciated:

Click on this link to provide your feedback
Select: Chicago/O'Hare FSDO (GL-31)

From: Carlin, David (FAA)
Sent: Thursday, May 28, 2015 3:19 PM
To: Duros, Keith J (FAA)
Subject: CRJ-200 PHL-ART

Keith,

Thanks again for your help. Here is the punch list generated a few weeks ago needed to complete the runway length analysis for the 1,000 ft runway extension at ART. If there is anyway the airline can get us this info including some scenarios as you suggested, that would be greatly appreciated! Any questions, feel free to call.

Thanks

David Carlin, MPA, CFI, CFII, MEI, AGI, IGI, AGI
Community Planner
Federal Aviation Administration - NYADO
1 Aviation Plaza
Jamaica, NY 11434
Phone: (718) 995-5762
Email: david.carlin@faa.gov

APPENDIX C

ESSENTIAL AIR SERVICE AGREEMENT

Order 2014-4-25
Served: April 22, 2014

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY
WASHINGTON, D.C.

Issued by the Department of Transportation
on the 22nd day of April, 2014

Essential Air Service at **WATERTOWN, NEW YORK** Under 49 U.S.C. 41731 *et seq.*	**DOCKET DOT-OST-2013-0188**

ORDER APPROVING ALTERNATE SERVICE PATTERN

Summary

By this Order, the Department is approving the request of American Airlines Group, Inc. (American) to change its service pattern at Watertown, New York, from Chicago O'Hare International Airport (Chicago O'Hare) to Philadelphia International Airport (Philadelphia) effective May 8, 2014.

Background

By Order 2013-10-8, (October 21, 2013), the Department re-selected American to provide subsidized Essential Air Service (EAS) at Watertown using 44-passenger Embraer ERJ-140 (ERJ-140) aircraft for the period from November, 1, 2013, through January 31, 2016.[1] That Order established an annual subsidy rate of $3,356,349 for service consisting of 12 weekly nonstop round trips to Chicago O'Hare.

Airline Proposal

American informed the Department that the ERJ-140 will be retired from its fleet in the very near future. Due to Watertown's runway length and Federal Aviation Administration (FAA) regulations, this is the only aircraft that can serve the Watertown-Chicago O'Hare route without weight penalties. Therefore, American has requested to alter Watertown's current service pattern from Chicago O'Hare to Philadelphia International Airport (Philadelphia). American will operate this route with increased frequency (14 weekly nonstop round trips) at no increase in annual subsidy. American will provide the service with 50-passenger Canadair CRJ200

[1] While this Order tentatively selected American to continue providing EAS at Watertown, Order 2013-11-1 finalized the carrier selection.

aircraft from mid-September to mid-May, and 37-passenger DH8-100 aircraft the remaining time.[2]

Community Comments

Mr. Robert F. Hagemann, III, County Administrator for the County of Jefferson, which owns and manages Watertown International Airport, submitted comments on March 17, 2014, supporting American's request to change Watertown's service pattern from Chicago O'Hare to Philadelphia.

Decision

We will approve American's request, which meets the three conditions necessary for approval under authority assigned under 14 CFR Part 385.12(k)(3) of the Department's Regulations: (1) the alternate service pattern is equal or greater than that determined to be essential; (2) the community does not object to the alternate service pattern; and (3) the alternate service pattern will not increase American's subsidy.

Because we are simply *allowing* the alternate service pattern and not *requiring* it, American may revert to the original service pattern at any time.

This Order is issued under authority delegated in 14 CFR Part 385.12k(3).

[2] Due to operational limitations of the CRJ200 in the summer on Watertown's existing runway, American will switch service to the DH8-100, operated by Piedmont, in September, and then switch back to the CRJ200, operated by Air Wisconsin, in May.

ACCORDINGLY,

1. We hereby approve the alternate service pattern requested by American Airlines Group, Inc., to serve Watertown, New York, from Philadelphia International Airport effective May 8, 2014;

2. This docket will remain open until further order of the Department; and

3. The Department will serve a copy of this Order on the civic officials of Watertown, New York, and on American Airlines Group, Inc.

Persons entitled to petition the Department for review of this Order under the Department's Regulations, 14 CFR Part 385.31(a), must file such petitions within seven (7) days after the date of service of this Order.

This Order will be effective immediately, and the filing of a petition for review shall not preclude its effectiveness.

By:

TODD M. HOMAN
Director
Office of Aviation Analysis

(SEAL)

American Airlines Group, Inc.
Essential Air Service to be Provided at Watertown, New York

Effective Period: May 8, 2014, through January 31, 2016
Scheduled Service: 14 weekly nonstop round trips to Philadelphia
Aircraft: 50-passenger CRJ200 (May-September); 37-passenger DH8-100 (October-April)
Annual Subsidy: $3,356,349
Rate per Eligible Flight: $2,345[1]
Weekly Ceiling: $65,660[2]

Note: The carrier understands that it may forfeit its compensation for any flights that it does not operate in conformance with the terms and stipulations of the rate Order, including the service plans outlined in the Order and any other significant elements of the required service, without prior approval. The carrier understands that an aircraft take-off and landing at its scheduled destination constitutes a completed flight; absent an explanation supporting subsidy eligibility for a flight that has not been completed, such as certain weather cancellations, only completed flights are considered eligible for subsidy. In addition, if the carrier does not schedule or operate its flights in full conformance with the Order for a significant period, it may jeopardize its entire subsidy claim for the period in question. If the carrier contemplates any such changes beyond the scope of the Order during the applicable period of this rate, it must first notify the Office of Aviation Analysis in writing and receive written approval from the Department to be ensured of full compensation. Should circumstances warrant, the Department may locate and select a replacement carrier to provide service on these routes. The carrier must complete all flights that can be safely operated; flights that overfly points for lack of traffic will not be compensated. In determining whether subsidy payment for a deviating flight should be adjusted or disallowed, the Department will consider the extent to which the goals of the program are met and the extent of access to the national air transportation system provided to the community.

If the Department unilaterally, either partially or completely, terminates or reduces payments for service or changes service requirements at a specific location provided for under this Order, then, at the end of the period for which the department does make payments in the stipulated service levels, the carrier may cease to provide service to that specific location without regards to any requirement for notice of such cessation. Those adjustments in the levels of subsidy and/or service that are mutually agreed to in writing by the Department and carrier do not constitute a total or partial reduction or cessation of payment.

Subsidy contract are subject to, and incorporate by reference, relevant statutes and Department regulations, as they may be amended from time to time. However, any such statutes, regulations, or amendments thereto shall not operate to controvert the foregoing paragraph.

Funds may not be available for performance under this Order beyond September 30, 2014. The Government's obligation for performance under this Order beyond September 30, 2014, is subject to the availability of funds from which payment for services can be made. No legal liability on the part of the Government for any payment may arise for performance under this order beyond September 30, 2014, until funds are made available to the Department for performance. If sufficient funds are not made available for performance beyond September 30, 2014, the Department will provide notice in writing to the carrier.

All claims for payment, including any amended claims, must be submitted within 90 days of the last day of the month for which compensation is being claimed. For example, claims for service provided in July must be filed by October 31; August claims must be submitted by November 30, and so on.

[1] Annual compensation of $3,356,349 divided by the 1,431 annual departures (28 weekly departures x 52 weeks x 313/312 days x 98 percent completion).
[2] 28 arrivals and departures per week multiplied by $2,345 per flight.

County of Jefferson
Office of the County Administrator

Historic Courthouse
195 Arsenal Street, 2nd Floor
Watertown, NY 13601-2567
Phone: (315) 785-3075 Fax: (315) 785-5070

March 17, 2014

Kevin Adams
Essential Air Service Division
Office of Domestic Analysis
U. S. Department of Transportation
1200 New Jersey Avenue, S. E.
Washington, D. C. 20590

RE: EAS Community Response
Revised Docket DOT-OST-1997-2842

Dear Mr. Adams:

As you know, a significant number of commercial airline routing patterns are in a state of evolutionary change as the result of the recently completed merger of legacy air carriers U. S. Airways & American Airlines. Among the communities that find themselves "on the front end" of that important process is our northern New York community and the Watertown International Airport. Therefore, on behalf of the Jefferson County Board of Legislators and the entire northern NY region they represent I would like to offer a few comments relative to American Airline's proposed mid-term flight adjustments under the existing essential air service (EAS) program.

Enclosed with this correspondence you will find a copy of the letter just received from American Airlines that outlines it's proposed alternate flight service pattern. Upon close review of that proposal you will find that departure & arrival times at each end of the day remain quite similar to what is currently taking place at our airport. The airline is suggesting a change to its late afternoon arrival/departure schedule by moving that sequence to early afternoon as a way to bolster the one weak leg of the four to/from flights a day to the Watertown International Airport. Additionally, subsequent to the most recent EAS award to American Airlines last fall, the 12 federally subsidized flight schedule was increased by a Sunday evening flight at the total expense of the airline. Thus far, that move has proven to be successful. The reason for bringing that point to your attention is that under the revised flight schedule program now being offered by American Airlines it is again taking the initiative of adding a second airline sponsored flight on Saturday, bring the commercial air service coverage to a total of 14 or two flights a day to/from the Watertown International Airport.

With both of these proposed adjustments the County is very supportive of what the airline is proposing.

The most significant adjustment being proposed by American Airlines and likely critical to the continuing ridership success that we have been enjoying since this legacy air carrier began providing service to the Watertown International Airport, is that the national airport hub servicing our area is going to switch to the Philadelphia International Airport. Additional opportunity, because of the recent airline merger, to stay connected to a national air transportation network via a major hub much closer to our region.....at a time when a combination of negative factors are impacting the entire commercial airline industry.....is what is taking place with this proposed operational change by American Airlines. Along with the equally efficient but shorter travel time connectivity to Philadelphia comes the availability of an upgrade in commercial service to a 50 seat CRJ200 regional jet. Again, with the pending retirement of 44 seat RJ's in the foreseeable future, the type of jet currently servicing our airport, the timing of this hub relocation couldn't be better. Finally, understanding some of the complexities of what is happening throughout the airline industry and, in particular with our current legacy carrier, coupled with the success already demonstrated in the first three years of service to the Watertown International Airport, this modification will provide us with an opportunity to stay connected to convenient national and international travel when many other communities are facing the stark reality of simply losing their current commercial airline carrier service altogether. With this last but most significant change to our current airline service, Jefferson County remains supportive of the proposal being brought forth by American Airlines.

One important "side note" that does need to be acknowledged is the fact that our immediate plans call for one of our runways to be expanded by 1,000 feet by the end of 2015 to better accommodate the soon to be assigned to our airport CRJ200 during all four weather seasons. For the late 2014 and early 2015 winter season, however, when weather conditions are more challenging for flights coming & leaving our airport the airline intends to utilize a Dash 8 turboprop. While our preference would be otherwise, from a safety factor perspective the reason for a short term switch during this upcoming winter season is understood.

Your endorsement of the commercial flight program adjustments being proposed by "the new" American Airlines is officially being requested. The increased growth in commercial ridership at the Watertown International Airport through our successful partnership with American Airlines speaks for itself. The exciting thing that "our air transportation partner" is offering now is an opportunity for our airport to continue to grow and, in so doing, offer more economic development potential for all of northern New York to take advantage of in the years to come by helping to efficiently connect a more rural area of New York State with the entire country.

Should you have any questions or comments regarding this request I would be happy to respond. Thank you for your assistance and continuing support of all of our efforts over the past several years to provide quality commercial air service to our region and the Watertown International Airport.

Sincerely,

Robert F. Hagemann, III
County Administrator

c Kevin Schlemmer, EAS Division
Jefferson County Board of Legislators
Watertown International Airport Manager

Chuck Schubert
Vice President
American Airlines Network Planning

American Airlines

March 12th, 2014

Mr. Robert M. Hagemann, III
County Administrator
Jefferson County
195 Arsenal Street
Watertown, NY 13601

Re: Alternate Service Pattern to PHL

Dear Mr. Hagemann:

For over two years we've been providing Essential Air Service (EAS) from Watertown International Airport to Chicago O'Hare International Airport with American Eagle Airlines, Inc. We are currently serving Watertown with a 44-seat Embraer ERJ-140 jet, a fleet type that we are rapidly retiring. Due to the runway length at the Watertown airport and FAA regulations, this is the only jet aircraft in our fleet that can operate the longer Watertown to Chicago stage length without substantial weight penalties. In addition, new FAA regulations have created challenges for network carriers to recruit and retain regional pilots. Our regional partners are encountering difficulties staffing flights and some have had to park aircraft in response to the new requirements. This pilot shortage has left many EAS communities without service. We are consequently left with only two options: exercise our 120-day-out clause or use our other regional brand, US Airways Express, with service to the Philadelphia International Airport. American Airline sees value in continuing service to Watertown and that option is our preferred solution.

Our proposal for the alternate service pattern will allow Watertown to stay connected to the national transportation system through a large hub airport operated by the world's largest airline. Compared to the more distant O'Hare, the shorter stage length to Philadelphia offers enhanced connectivity. Philadelphia's shorter stage length and its superior location for Watertown passengers will offer enhanced omni-directional routing and may help to increase the number of low fares available to Watertown. We propose serving the community with twice daily service for a total of fourteen weekly roundtrips, two more than the twelve weekly round trips currently required. The service will primarily be conducted by US Airways Express operators Piedmont and Air Wisconsin, with either 37 seat Dash 8 turboprops or 50 seat CRJ200 regional jets. While any of the many American/USAir code-share partners would be eligible to provide the service, we commit to serving Watertown with either of those two aircraft. Appendix A highlights the alternate service pattern. We remain confident that this is the best option for the community and the airline.

American Airlines is committed to providing EAS at Watertown. We ask that Jefferson County support our request for an alternate service pattern to Philadelphia.

Thank you for your attention toward this matter.

Sincerely,

Chuck Schubert
Vice President
American Airlines Network Planning

American Airlines

Appendix A

Market:	**Watertown, NY to Philadelphia**
Aircraft	CRJ200 and DH8
Frequency	2x daily r/t
Mileage	287
Annual Deps (Factored)	1,431
Completion Percentage	98.0%

Proposed Schedule

Flt Desg	Freq	Dept	Dept Time	Arvl	Arrv Time
US 3779	1234567	ART	07:30	PHL	08:40
US 4028	1234567	ART	13:15	PHL	14:25
US 4028	1234567	PHL	11:30	ART	12:48
US 3922	.....6.	PHL	18:24	ART	19:58
US 3922	12345.7	PHL	20:55	ART	22:15

*** Schedule is shown for illustrative purposes only and American Airlines reserves the right to change without notice.**

Due to Watertown's runway limitations, we intend to operate the 50 seat CRJ200 regional jet from May to early September.

Dale Morris
Regional Vice President, Government Affairs
American Eagle & Regional Communities

March 3rd, 2014

Mr. Robert M. Hagemann, III
County Administrator
Jefferson County
195 Arsenal Street
Watertown, NY 13601

Re: Runway Length
Watertown International Airport (ART)

Dear Mr. Hagemann:

For over two years we've been providing Essential Air Service from Watertown International Airport to Chicago O'Hare International Airport with American Eagle Airlines Inc. Our first term of Essential Air Service operations has been successful and we are pleased with the response American Eagle has received from the community. We are currently operating out of Watertown with an Embraer ERJ-140 jet, seating capacity of 44 passengers, a fleet type that we are rapidly retiring. Due to the runway length and FAA regulations, this is the only aircraft that can operate without weight penalties. We are subsequently left with two options; exercise our 120 day out clause or use our other regional brand, US Airways Express, with service to the Philadelphia International Airport.

We understand that the community is currently pursuing all options to extend the current runway. A 7,000 foot runway or longer would be required to support larger regional jet for the alternate service pattern to Philadelphia. A longer runway would also provide us flexibility in scheduling aircraft especially during peak periods. Ultimately, the future of Essential Air Service provided to Watertown is contingent on this service swap and runway extension. Without an extension, and with the introduction of larger regional jets, the situation requiring us to block revenue producing seats could magnify. We can fly the Bombardier CRJ200 series jet with full loads if the runway is free of snow and ice contamination however we are forced to swap service to Dash 8-100 aircraft during months prone to winter weather.

American Airlines is committed to maximizing our service at Watertown. A longer runway would help us achieve this goal. We request Jefferson County petition the FAA to consider a runway extension to a minimum length of 7,000 feet in support of the next generation of regional jet passenger service.

Thank you for your attention toward this matter.

Sincerely,

Dale Morris
Regional Vice President, Government Affairs
American Eagle & Regional Communities
4333 Amon Carter Blvd
MD-5673
Fort Worth, Texas 76155

Dale Morris
Regional Vice President, Government Affairs
American Eagle & Regional Communities

February 13, 2014

Mr. Robert M. Hagemann, III
County Administrator
Jefferson County
195 Arsenal Street
Watertown, NY 13601

Re: Alternate Service Pattern to PHL

Dear Mr. Hagemann:

For over two years we've been providing Essential Air Service from Watertown International Airport to Chicago O'Hare International Airport with American Eagle Airlines Inc. Our first term of Essential Air Service operations has been successful and we are pleased with the response American Eagle has received from the community. We are currently operating out of Watertown with an Embraer ERJ-140 jet, seating capacity of 44 passengers, a fleet type that we are rapidly retiring. Due to the runway length and FAA regulations, this is the only aircraft that can operate without weight penalties. We are subsequently left with two options; exercise our 120 day out clause or use our other regional brand, US Airways Express, with service to the Philadelphia International Airport.

New FAA regulations have created challenges for network carriers to recruit and retain regional pilots. Our regional partners are encountering difficulties staffing flights and some have had to park aircraft in response to the new requirements. This pilot shortage has left many Essential Air Service communities without service. American Airlines sees value in keeping service to Watertown and we have managed to find a viable solution to retaining service in the community.

Our proposal for the alternate service pattern will allow Watertown to stay connected with the world's largest airline. Service to Philadelphia offers enhanced connectivity, omni-directional routing, and a shorter stage length to the connecting hub. We remain confident that this is the best option for the community and the airline.

American Eagle is committed to providing Essential Air Service at Watertown. We ask that Jefferson County support our request for an alternate service pattern to Philadelphia.

Thank you for your attention toward this matter.

Sincerely,

Dale Morris
Regional Vice President, Government Affairs
American Eagle & Regional Communities
4333 Amon Carter Blvd
MD-5673
Fort Worth, Texas 76155

Dale Morris
Regional Vice President, Government Affairs
American Eagle & Regional Communities

American Airlines

November 19, 2013

Mr. Robert M. Hagemann, III
County Administrator
Jefferson County
195 Arsenal Street
Watertown, NY 13601

Re: Runway Length
Watertown International Airport (ART)

Dear Mr. Hagemann:

We began non-stop service to Chicago on November 17, 2011 from Watertown International Airport. Our first two years of operations have been successful, and we are pleased with the response American Eagle has received from the community. Bookings to date have reflected the industry norms of heavy demand during traditional peak travel periods. We currently are operating out of Watertown with an Embraer (EMB) ERJ-140 jet, seating capacity of 44 passengers. We believe the Watertown market could support a larger aircraft during these periods. However, as stated in our initial letter of March 1, 2012, we continue to experience situations that require us to block revenue producing passenger seats, in order to comply with FAA regulations during certain loading and weather conditions, requiring us to carry more fuel. Therefore we are still requesting a runway extension to 7,000 feet to mitigate this situation.

The industry trend is moving from 37-44 seat regional jets to 50-90 seat regional jets. American Eagle is planning to retire older ERJ aircraft. At Watertown, a 50 seat (EMB ERJ-145) aircraft will be subject to similar restrictions as the 44 seat (EMB ERJ-140) regional operating on the current 6,000 foot runway length. A 7,000 foot runway or longer would be required to support larger regional jet for the same trip to Chicago. A longer runway would also provide us flexibility in scheduling aircraft especially during peak periods. Ultimately, flexibility for us translates to improved service for the community. Without an extension, and with the introduction of larger regional jets, the situation requiring us to block revenue producing seats could magnify.

American Eagle is committed to maximizing our service at Watertown. A longer runway would help us achieve this goal. We request Jefferson County petition the FAA to consider a runway extension to a minimum length of 7,000 feet in support of the next generation of regional jet passenger service.

Thank you for your attention toward this matter.

Sincerely,

4333 Amon Carter Blvd
MD 5673
Fort Worth, Texas
817 967 0175 Office
dale.morris@aa.com

oneworld

Order 2013-11-1
Served: November 1, 2013

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY
WASHINGTON, D.C.

Issued by the Department of Transportation
on the 1st of November, 2013

Essential Air Service (EAS) at **WATERTOWN, NEW YORK** Under 49 U.S.C. 41731 *et seq*.	**DOCKET-DOT-OST-2013-0188** **(DOCKET DOT-OST-1997-2842)**[1]

ORDER FINALIZING CARRIER SELECTION AT WATERTOWN, NEW YORK

By Order 2013-10-8, October 21, 2013, we directed American Airlines (American) to show cause within ten (10) days why we should not select it to provide Essential Air Service (EAS) at the terms and conditions specified in that Order. Furthermore, that Order delegated to the Director, Office of Aviation Analysis, authority to make the Order final if no objections were submitted.

The time provided for objections has expired. The only comment received was from American, dated October 23, 2013, indicating that it would not object to the Order. We have reproduced Appendix C of Order 2013-10-8 as Appendix C in this Order, and clarified aircraft/carrier substitutions.

This Order is issued under authority delegated in 49 CFR Part 1.25a(b).

ACCORDINGLY,

1. We make final the tentative selection of American Airlines at Watertown, New York, as described in Order 2013-10-8; and

[1] By Notice dated November 1, 2013, we created a new docket for Watertown, Docket 2013-0188, replacing the prior docket, Docket 1997-2842.

2. We will serve copies of this Order on the civic officials of Watertown, New York, and on American Airlines.

By:

TODD M. HOMAN
Director
Office of Aviation Analysis

(SEAL)

An electronic version of this document is available at
http://www.regulations.gov

Appendix A
(Per Order 2013-10-8)

Nonstop Great Circle Miles to Watertown (ART)

Syracuse, SYR	61
Albany, ALB	141
Newark, EWR	247
Boston, BOS	277
Philadelphia, PHL	287
Pittsburgh, PIT	324
Cleveland, CLE	346
Washington, DCA	359
Chicago, ORD	618

Appendix B
(Per Appendix B of Order 2013-10-8)

Essential Air Service to be Provided to Eau Claire, WI; Hancock/Houghton, Muskegon, Pellston, Sault Ste. Marie, MI; and Paducah, KY; and Watertown, NY **2/**

Carrier	American **1/**	Delta		SkyWest			
Community	Watertown	Pellston	Sault Ste. Marie	Eau Claire	Houghton	Muskegon	Paducah
Docket	1997-2842	2011-0133	2009-0303	2009-0306	2009-0302	2009-0301	2009-0299
Weekly Round Trips	12	13	13	14	14	14	14
Hub	ORD	DTW	DTW	ORD	ORD	ORD	ORD
Aircraft Type	RJs	RJs	RJs	RJs	RJs	RJs	RJs
Seats	44	50	50	50	50	50	50
Departures	1,227	1,330	1,330	1,427	1,427	1,427	1,427
Stage Length	617	293	341	268	359	118	342
Available Seat Miles	33,301,324	19,484,500	22,676,500	19,121,800	25,614,650	8,419,300	24,401,700
Revenue Passenger Miles	22,911,678	12,373,390	13,889,612	10,720,000	17,950,000	3,976,600	13,680,000
Block Time	2.12	1.17	1.25	1.13	1.20	0.77	1.30
Block Hours	2,606	1,553	1,662	1,617	1,712	1,094	1,855
Passengers	37,134	42,230	40,732	40,000	50,000	33,700	40,000
Passenger Fare	$132.00	$112.96	$108.73	$93.00	$98.00	$73.00	$97.00
Passenger Revenue	$4,918,901	$4,770,498	$4,428,872	$3,719,999	$4,900,000	$2,460,100	$3,880,001
Other Revenue	$0	$653,559	$606,756	$0	$0	$0	$0
Total Revenue	$4,918,901	$5,424,057	$5,035,628	$3,719,999	$4,900,000	$2,460,100	$3,880,001
Direct Expenses	$6,654,388	$3,767,625	$4,031,811	$3,784,086	$4,006,679	$2,559,823	$4,340,569
Indirect Expenses	$1,226,802	$2,308,515	$2,324,283	$1,231,662	$1,318,060	$1,106,893	$1,291,965
Operating Expenses	$7,881,190	$6,076,140	$6,356,094	$5,015,748	$5,324,739	$3,666,716	$5,632,534
Profit	$394,060	$425,330	$444,927	$250,787	$266,237	$183,336	$281,627
Economic Cost	$8,275,250	$6,501,470	$6,801,021	$5,266,535	$5,590,976	$3,850,052	$5,914,161
Annual Subsidy	$3,356,349	$1,077,413	$1,765,393	$1,546,536	$690,976	$1,389,952	$2,034,160

1/ Reflects an application of the factor of 12/13 to American's proposal.
2/ Only Watertown is addressed in this Order.

Appendix C
(Per Appendix C of Order 2013-10-8)

American, Essential Air Service to be Provided to
Watertown, New York Docket 1997-2842 and 2013-1088

Effective Period: December 1, 2013, through January 31, 2016;
Service: Twelve (12) nonstop round trips per week to Chicago O'Hare (ORD);
Aircraft Type: Embraer-140 Regional Jet, 44 seats[1]
Annual Subsidy: $3,356,349
Annual Flights: 1,227[2]
Subsidy per Flight: $2,735[3]
Weekly Subsidy Ceiling: $65,640[4]

The carrier understands that it may forfeit its compensation for any flights that it does not operate in conformance with the terms and stipulations of the rate order, including the service plans outlined in the order and any other significant elements of the required service, without prior approval. The carrier understands that an aircraft take-off and landing at its scheduled destination constitutes a completed flight; absent an explanation supporting subsidy eligibility for a flight that has not been completed, such as certain weather cancellations, only completed flights are considered eligible for subsidy.

In addition, if the carrier does not schedule or operate its flights in full conformance with the order for a significant period, it may jeopardize its entire subsidy claim for the period in question. If the carrier contemplates any such changes beyond the scope of the order during the applicable period of these rates, it must first notify the Office of Aviation Analysis in writing and receive written approval from the Department to be ensured of full compensation. Should circumstances warrant, the Department may locate and select a replacement carrier to provide service on these routes. The carrier must complete all flights that can be safely operated; flights that overfly points for lack of traffic will not be compensated. In determining whether subsidy payment for a deviating flight should be adjusted or disallowed, the Department will consider the extent to which the goals of the program are met and the extent of access to the national air transportation system provided to the community.

If the Department unilaterally, either partially or completely, terminates or reduces payments for service or changes service requirements at a specific location provided for under this order, then, at the end of the period for which the Department does make payments in the stipulated amounts or at the stipulated service levels, the carrier may cease to provide service to that specific location without regard to any requirement for notice of such cessation. Those adjustments in the levels of subsidy and/or service that are mutually agreed to in writing by the Department and carrier do not constitute a total or partial reduction or cessation of payment.

Subsidy contracts are subject to, and incorporate by reference, relevant statutes and Department regulations, as they may be amended from time to time. However, any such statutes, regulations, or amendments thereto shall not operate to controvert the foregoing paragraph.

Funds may not be available for performance under this Order beyond January 15, 2014. The Government's obligation for performance under this Order beyond January 15, 2014, is subject to the availability of funds from which payment for services can be made. No legal liability on the part of the Government for any payment may arise for performance under this Order beyond January 15, 2014, until funds are made available to the Department for performance. If sufficient funds are not made available for performance beyond January 15, 2014, the Department will provide notice in writing to the carrier.

All claims for payment, including any amended claims, must be submitted within 90 days of the last day of the month for which compensation is being claimed. For example, claims filed for service provided in July must be filed by October 31; August claims must be submitted by November 30, and so on.

---

[1] Flights may be operated by American Eagle, ExpressJet, Chautauqua, or other code-share partners as American deems it appropriate with comparable equipment.

[2] 12 trips per week x two directions x 52 weeks x 313/312 days x .98 completion = 1,227 flights.

[3] $3,356,349 ÷ 1,227 flights.

[4] $2,735 per flight x 24 flights per week.

AmericanAirlines®

March 1, 2012

Mr. Robert M. Hagemann, III
County Administrator
Jefferson County
195 Arsenal Street
Watertown, NY 13601

Re: Runway Length
Watertown International Airport (ART)

Dear Mr. Hagemann:

We began non-stop service to Chicago on November 17, 2011 from Watertown International Airport. Our first three months of operations have gotten off to a good start and we are pleased with the response American has received from the community. Bookings to date reflect the industry norms of heavy demand during traditional peak travel periods. We currently are operating out of Watertown with an Embraer ERJ-140 jet with a seating capacity of 44 passengers.

In our first 90 days of operation, we've experienced situations where we were unable to accommodate all booked passengers during certain loading and weather combinations when we are required to carry more fuel in accordance with FAA regulations. A longer runway and upgraded systems would alleviate this current issue.

American is committed to maximizing our service at Watertown. We request Jefferson County petition the FAA to consider a runway extension to a minimum length of 7,000 feet in support of our service.

Thank you for your attention toward this matter.

Sincerely,

Gary D. Foss
Managing Director – Network Development
American Airlines

P.O. BOX 619616, DALLAS/FORT WORTH AIRPORT, TX 75261-9616

oneworld

Order: 2011-3-34
Served: March 29, 2011

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY
WASHINGTON, D.C.

Issued by the Department of Transportation
on the 29th day of March, 2011

Essential Air Service at **WATERTOWN, NEW YORK** under 49 U.S.C. 41731 *et seq.*	**DOCKET DOT-OST-1997-2842**

ORDER SELECTING CARRIER

Summary
By this order, the Department is selecting American Eagle Airlines, a wholly owned subsidiary of AMR Corporation (American Eagle) to provide essential air service (EAS) at Watertown, New York, using 44-seat Embraer ERJ 140 aircraft for a two-year period beginning when it inaugurates full EAS, through the end of the 24th month thereafter, for an annual subsidy of $3,047,972.[1]

Background
Watertown has traditionally been packaged with Massena and Ogdensburg, New York. By Order 2008-3-15, March 14, 2008, the Department selected Cape Air to provide EAS at the three communities for the two-year period through September 30, 2010. That order established a total combined annual subsidy rate of $3,879,863 for service consisting of three daily nonstop round trips (21 a week) between each community and Albany International Airport, with 9-seat Cessna 402 aircraft.

[1] Such subsidy is calculated and distributed on a fiscal year basis, subject to the availability of appropriated funds.

As the end of the contract was approaching, we issued Order 2010-5-32, May 10, 2010, requesting proposals from carriers interested in providing replacement service at the communities, for a new two-year period beginning October 1, 2010. In response to that order, we received proposals from the incumbent, Cape Air, as well as Gulfstream International Airlines, Inc. (Gulfstream), and Charter Air Transport, Inc. (Charter Air).

The City of Ogdensburg and Ogdensburg Bridge and Port Authority supported Cape Air, while the Massena Town Council and the City of Watertown both endorsed Gulfstream. Moreover, neither Massena nor Watertown was willing at that time to waive its statutory entitlement to service with 15-seat or larger aircraft.[2] However, Cape Air's proposal was for a two-community minimum, and Gulfstream's was a three-community, all-or-nothing proposal, so no option was selectable. Therefore, by Order 2010-10-7, October 8, 2010, we again solicited proposals in an effort to obtain proposals that would satisfy the needs of all three communities at competitive subsidy levels. Again, we received proposals from Cape Air, Charter Air, and Gulfstream, all slightly different from the first round of submissions. During this round of proposals, the communities of Massena and Ogdensburg fully supported Cape Air's proposal, but Watertown maintained its preference for Gulfstream. However, Gulfstream's proposal was again a three-city, all-or-nothing package, and did not offer a Watertown-only option. In addition, Watertown did not waive its right to 15-seat or larger aircraft as was proposed by Cape Air. We therefore issued an order selecting Cape Air to serve Massena and Ogdensburg and rebid the Watertown case by Order 2001-1-6, January 7, 2011. In response, we received proposals from American Eagle, Cape Air, and Charter Air.

Each carrier's complete proposal and community comments may be accessed online at http://www.regulations.gov/ by entering Docket number DOT-OST-1997-2842 in the search block.

Proposal of American Eagle

American Eagle proposed two weekday and weekend round trips (12 round trips a week) to Chicago O'Hare International Airport (Chicago) using 44-seat Embraer ERJ 140 aircraft for an annual subsidy of $3,047,972. As a condition of its proposal, American Eagle requested that the DOT and Watertown waive the right to hold-in upon its filing of a 120-day notice to terminate service.

Proposal of Cape Air

Cape Air proposed three round trips a day (21 round trips a week) over a Watertown-Albany-Boston routing using 9-seat Cessna 402 aircraft for an annual subsidy of $1,665,889 for a two-year contract, or an annual subsidy of $1,615,912 for a four-year contract.

[2] 49 U.S.C. 41732 guarantees certain service minimums, including service with 15-seat or larger aircraft for most communities, including all three communities here.

Proposal of Charter Air
Charter Air proposed charter service that would operate as a public charter under the Alternate Essential Service program established by 49 U.S.C. 41745(a)(3)(f) in accordance with 14 CFR Part 380. The service would provide two nonstop round trips each day (12 round trips a week) except Tuesday to Washington Dulles International Airport using 30-seat Embraer EMB 120 aircraft for an annual subsidy of $1,944,152.

Community Comments
On February 11, 2011, we requested community comments regarding this carrier-selection case. In response, we received a letter from Robert F. Hagemann, III, County Administrator for the County of Jefferson, expressing support for American Eagle's proposal. Mr. Hagemann states, "American Eagle was able to provide both our military and civilian travel market with the opportunity to fly directly on a legacy carrier with a 44-seat regional jet to a major market at Chicago's O'Hare International Airport", adding, "...the ability to easily fly to almost any destination within the country, along with the accompanying national marketing program that would be available immediately to this region, were other very strong factors that weighed heavily in favor of this particular airline."

Decision
After carefully reviewing each carrier's proposal and taking into account community feedback, we have decided to select American Eagle's proposal of two weekday and weekend round trips to Chicago for an annual subsidy of $3,047,972.

Before arriving at this decision, we looked at the proposals of Charter Air and Cape Air. Charter Air's proposal to operate charter service under the Alternate Essential Air Service Program did not receive any community support. Since community support is a requirement for the Alternate Essential Air Service Program, we had no choice but to rule out Charter Air as an option.[3] As for Cape Air, the incumbent airline, the community did not waive its right to service with 15-seat or larger aircraft as Cape Air proposed, thus eliminating Cape Air.

We find both the service and subsidy levels proposed by American Eagle to be reasonable. We also recognize that a key component of American Eagle's proposal is its ability to terminate service on 120 days' notice. In supporting American Eagle's proposal, the community has effectively agreed to the carrier's 120-day termination clause. Finally, we find that American Eagle offers the best opportunity to significantly increase passenger levels and lower subsidy levels in the out years. We caution the community, however, that if these twin goals are not attained, we would be inclined to revert to subsidizing 19-seat aircraft at the end of this two-year contract. Based on all of the above, we will select American Eagle to provide EAS at Watertown for a two-year period.

[3] In fact, a community must request participation in the Alternate Essential Air Service Program for us to consider it.

Although we are selecting American Eagle to serve Watertown for a two-year period, the community is currently over the $200 subsidy cap with a per passenger subsidy of $324. The Department is prohibited from subsidizing air service at a community where the subsidy per passenger exceeds $200, unless the community is more than 210 highway miles from the nearest large or medium hub airport.[4] Watertown is 172 miles from Buffalo Niagara International Airport, a medium hub; therefore the community is subject to the cap. Moreover, based on American Eagle's prospective subsidy rate of $3,047,972 and calendar year 2010 passengers of 5,143, the subsidy per passenger will be $593. While we believe, that American Eagle's proposal to serve Chicago has the potential to increase traffic levels at Watertown, thus lowering its per passenger subsidy, we expect the community and American Eagle to work together to maximize use of the service. We will continue to monitor enplanements during the course of American Eagle's contract and will take appropriate action, including possible termination of eligibility for subsidy under the EAS program.

We shall make this selection of American Eagle at Watertown contingent upon the Department's receiving properly executed certifications from the carrier that it is in compliance with the Department's regulations regarding drug-free workplaces and nondiscrimination, as well as the regulations concerning lobbying activities.

Carrier Transition

By Order 2010-11-13, November 12, 2010, the Department set a short-term subsidy rate to compensate Cape Air to serve Watertown until a new airline selection order has been issued and the airline inaugurates full EAS. We will continue to compensate Cape Air at that subsidy rate until American Eagle inaugurates full EAS. We expect Cape Air and American Eagle to coordinate a smooth transition in service at Watertown, including setting a date to switch services from Cape Air to American Eagle. We expect Cape Air to contact all passengers holding reservations for travel after that date, to notify them of the suspension of service, and to secure alternate air transportation for such passengers or to provide a full refund of the ticket price, without penalty, if requested.

Carrier Fitness

49 U.S.C. 41737(b) requires that we find an air carrier fit, willing, and able to provide reliable service before we may subsidize it to provide essential air service. American Eagle is subject to the Department's continuing fitness requirements, and no information has come to our attention that would cause us to question the carrier's fitness at this time. We have contacted the Federal Aviation Administration, and it has raised no concerns that would negatively affect our fitness findings. We therefore conclude that the carriers remain fit to conduct the operations proposed here.

This order is issued under authority delegated in 49 CFR 1.56a(f).

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[4] Congress first established the $200 ceiling under P.L. 101-164 for fiscal year 1990, and reestablished it in fiscal years 1994-1999. The ceiling was made permanent by P.L. 106-109, the Department of Transportation and Related Agencies Appropriations Act of 2000.

ACCORDINGLY,

1. We select American Eagle Airlines to provide essential air service at Watertown, New York and establish an annual subsidy rate of $3,047,972, as described in Appendix C;

2. We direct American Eagle Airlines to retain all books, records, and other source and summary documentation to support claims for payment, and to preserve and maintain such documentation in a manner that readily permits its audit and examination by representatives of the Department. Such documentation shall be retained for seven years or until the Department indicates that the records may be destroyed, whichever comes first. Copies of flight logs for aircraft sold or disposed of must be retained. The carrier may forfeit its compensation for any claim that is not supported under the terms of this order;

3. We find that American Eagle Airlines continues to be fit, willing and able to operate as a commuter carrier, and capable of providing reliable essential air service at Watertown;

4. Under our authority in 49 U.S.C. 40109, we will allow American Eagle to cease operations at Watertown on 120 days' notice;

5. This docket will remain open pending further Department action; and

6. We will serve copies of this order on the Mayor of Watertown, the County Administrator for the County of Jefferson, American Eagle Airlines, Hyannis Air Service, Inc., and Charter Air Transport, Inc.

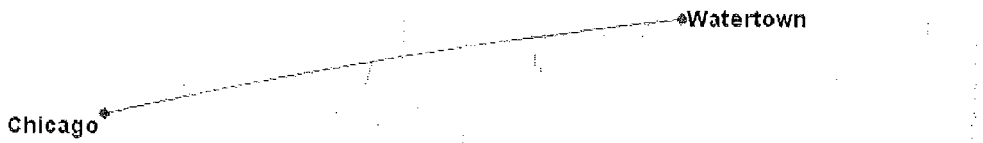
By:

SUSAN L. KURLAND
Assistant Secretary for
Aviation and International Affairs

(SEAL)

An electronic version of this document is available at
http://www.regulations.gov

AREA MAP



Market:	Watertown, NY to Chicago O'Hare		
Aircraft	EMB-135		
Mileage	617	Number of Seats per Dep	44
Annual Deps (Factored)	1,223	Annual ASMs (Factored)	33,203,090
Block per Dep	1.94	Annual RPMs (Factored)	17,730,450
Annual Block Hours (Factored)	2,375	Annual LF	53%
Completion %	98%		
Revenues			
Annual Passengers	28,737		
Avg Fare - Onboard	$142		
Total Revenues	$4,094,786		
Expenses			
Flight Operations	$1,800,230		
Fuel	$2,752,794		
Stations	$1,468,138		
Other	$781,466		
Total Expenses	$6,802,627		
Profit / (Loss)	($2,707,841)		
Profit Element (@ 5%)	$340,131		
Subsidy Required	$3,047,972		
Subsidy / Departure	$2,492		
Subsidy / Pax	$106.07		

Proposed Schedule[1]

Segment	Depart	Arrive	Frequency
ART-ORD	7:15	8:15	xSun
ORD-ART	13:05	15:55	xSun
ART-ORD	16:30	17:30	xSat
ORD-ART	18:30	21:20	xSat

[1]Schedule is shown for illustrative purposes only and American Eagle reserves the right to change without notice

American Eagle Airlines
Essential Air Service to be Provided at Watertown, New York

Effective Period: Two years beginning when American Eagle inaugurates full EAS through the end of the 24th month thereafter
Scheduled Service: 2 weekday and weekend nonstop round trips (12 a week) between Watertown and Chicago
Aircraft: 44-seat Embraer ERJ 140
Rate per Eligible Flight: $2,492;[1]
Weekly Ceiling: $59,808[2]

Note: The carrier understands that it may forfeit its compensation for any flights that it does not operate in conformance with the terms and stipulations of the rate order, including the service plans outlined in the order and any other significant elements of the required service, without prior approval. The carrier understands that an aircraft take-off and landing at its scheduled destination constitutes a completed flight; absent an explanation supporting subsidy eligibility for a flight that has not been completed, such as certain weather cancellations, only completed flights are considered eligible for subsidy. In addition, if the carrier does not schedule or operate its flights in full conformance with the order for a significant period, it may jeopardize its entire subsidy claim for the period in question. If the carrier contemplates any such changes beyond the scope of the order during the applicable period of these rates, it must first notify the Office of Aviation Analysis in writing and receive written approval from the Department to be ensured of full compensation. Should circumstances warrant, the Department may locate and select a replacement carrier to provide service on these routes. The carrier must complete all flights that can be safely operated; flights that overfly points for lack of traffic will not be compensated. In determining whether subsidy payment for a deviating flight should be adjusted or disallowed, the Department will consider the extent to which the goals of the program are met and the extent of access to the national air transportation system provided to the community.

If the Department unilaterally, either partially or completely, terminates or reduces payments for service or changes service requirements at a specific location provided for under this order, then, at the end of the period for which the Department does make payments in the stipulated amounts or at the stipulated service levels, the carrier may cease to provide service to that specific location without regard to any requirement for notice of such cessation. Those adjustments in the levels of subsidy and/or service that are mutually agreed to in writing by the Department and the carrier do not constitute a total or partial reduction or cessation of payment.

Funds are not currently available for performance under this order beyond March 18, 2011. The Department's obligation for performance under this order beyond March 18, 2011, is subject to the availability of appropriated funds from which payment for services can be made. No legal liability on the part of the Government for any payment may arise for performance under this order beyond March 18, 2011, until funds are made available to the Department for performance. If funds are not made available for performance beyond March 18, 2011, the Department will provide notice in writing to the carrier.

Subsidy contracts are subject to, and incorporate by reference, relevant statutes and Department regulations, as they may be amended from time to time. However, any such statutes, regulations, or amendments thereto shall not operate to controvert the foregoing paragraph.

All claims for payment must be submitted within 60 days of the last day of service provided under this order.

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[1] Annual compensation of $3,047,972 divided by 1,223 annual departures (24 weekly departures x 52 weeks x 98 percent completion).

[2] 24 arrivals and departures per week multiplied by $2,492 per flight.

APPENDIX D

AGENCY COORDINATION

Coordination with several Federal, state, and local agencies, was conducted throughout the preparation of this Environmental Assessment (EA). This appendix provides copies of the coordination letters that were sent out, along with responses received.

Agency Distribution List
Watertown International Airport

Name	Title	Agency	Address	Requested Copy of EA
Jeanne Shenandoah		Onondaga Indian Nation	c/o Onondaga Communications Office 102 West Conklin Avenue Nedrow, NY 13120	No response
Ray Halbritter	Oneida Nation Representative	Oneida Indian Nation	5218 Patrick Road Verona, NY 13478	No response
Judy Robinson		USACOE: Buffalo District (Auburn)	7413 County House Rd Auburn, NY 13021	Yes
Grace Musumeci		USEPA Region 2	290 Broadway New York, NY 10007	No response
Thomas Voss	Environmental Analyst I	NYSDEC Region 6	317 Washington St Watertown, NY 13601	Yes
Jean Pietrusiak	Environmental Review Specialist	New York National Heritage Program	625 Broadway, 5th Floor Albany, NY 12233-4751	Send to DEC Region 6
Philip Perazio		New York State Historic Preservation Office	Peebles Island Resource Center P.O. Box 189 Waterford, NY 12188-0189	SHPO Phase 1A only
Robyn Nivers	Endangered Species Biologist	US Fish and Wildlife Service	3817 Luker Road Cortland, NY 13045	Yes
Christopher Amato	Assistant Commissioner	NYSDEC Fish, Wildlife, and Marine Resources	625 Broadway Albany, NY 12233-1010	No response
Bob Somers		NYS Department of Agriculture & Markets	1 Winners Circle, Capital Plaza Albany, NY 12235	No response
Jeffery E. Graham	Mayor	City of Watertown	City Hall 245 Washington St, RM 302A Watertown, NY 13601	No response
Jim St. Croix		Citizen	636 Davidson Street Watertown, NY 13601	No response

U. S. Department
of Transportation

**Federal Aviation
Administration**

New York Airports District Office
600 Old Country Rd, Suite 446
Garden City, New York 11530
Telephone: 516-227-3800
Fax: 516-227-3813

November 15, 2012

Mr. Ray Halbritter
Oneida Nation Representative
Oneida Indian Nation
5218 Patrick Road
Verona, NY 13478

**Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development**

Dear Mr. Halbritter:

An Environmental Assessment (EA) will be prepared to meet National Environmental Policy Act (NEPA) requirements for a runway extension and terminal area development at Watertown International Airport (ART), located in Jefferson County, NY.

In 2011 your agency provided information for an Environmental Assessment for the Operations Specification Change for American Eagle to operate jet aircraft between Watertown International Airport and Chicago's O'Hare International Airport. In November 2011, American Eagle commenced operations at the airport resulting in increased passenger service at the airport. This service has created a situation whereby the runway length is not sufficient to accommodate the regional jet aircraft under all weather conditions, nor is the terminal sufficiently sized to accommodate the passenger throughput. This EA will analyze the Proposed Action's potential social, environmental and economic impacts.

The Proposed Action includes two distinct areas of development; namely to the airside, in the form of a 1,000 foot runway and parallel taxiway extension to Runway 10-28 and installation of approach lighting systems; and to the landside, in the form of terminal expansion, automobile parking and access road circulation, and general aviation development. The attached graphically depicts the development areas to be analyzed in the EA. The runway length is to safely and efficiently serve the aircraft that provide commercial service to ART. The EA will evaluate a 1,000 extension on Runway 10 and Runway 28; however, the proposed action will consist of only one 1,000 foot extension on either end. The Runway 28 extension would be on lands that were previously graded. The Runway 10 extension would mostly occur on treed lands that would need to be cleared and graded.

The terminal expansion is to accommodate the existing passenger and security needs, and to better accommodate additional passengers generated from proposed forecasts, and would occur to the north and west, into an existing roadway system and parking lot. The approximate 20,000 square foot terminal expansion would allow for additional secured seating, a larger Transportation Security

Administration (TSA) passenger screening areas, code required bathrooms and an expanded baggage make-up area, as well as circulation space. Additional passengers translate into additional automobile parking facilities, and improved airport access road circulation.

The general aviation area is treated separate from commercial service, and as such requires a separate access road and development of apron and hangars to meet the forecasted needs. The general aviation area will include paving 338,000 square feet of apron and construction of one (1) 120 foot by 120 foot building; two (2) 60 foot by 60 foot buildings; construction of one (1) 75 foot by 60 foot maintenance and storage building; expansion of the above ground jet A fuel farm; and installation of above-ground, self-serve AVGAS fuel farm. Construction of access road and parking to the GA area will also be included. General aviation apron and building development would occur on undeveloped lands.

A preliminary wetland reconnaissance indicated there are no wetlands in the proposed runway extension, terminal, automobile parking lot expansion or the general aviation expanded area. Similarly an endangered/threatened field analysis was completed to observe habitat for species listed by the NY Natural Heritage Program and US Fish and Wildlife Service concluding the continuous airport activity discourages nesting avian species and no species habitat were found. A Phase 1A Cultural Resource Study was conducted suggesting that a Phase 1B field study be conducted for the proposed automobile parking area and general aviation areas. This work will be completed as part of the EA efforts.

This letter is sent to you for the following reasons:

(1) Inform you of the proposed Environmental Assessment;
(2) To request any background information that your agency may have regarding the location and the Proposed Action;
(3) To obtain understanding of any issues, concerns, policies or regulations that your agency may have regarding the analysis that will be undertaken in this EA; and
(4) To solicit your agency's comments regarding unknown environmental resources and potential impacts associated with the Proposed Action.

Kindly forward any information your agency has pertaining to the Proposed Action. Also please indicate the contact person and whether you wish to receive a copy of the Environmental Assessment. Please submit any information by January 1, 2013.

If you have any questions or concerns, please don't hesitate to contact me at 516-227-3815.

Sincerely,

Sukhbir Gill

Ms. Sukhbir Gill, Environmental Specialist
New York Airports District Office

Enclosure

Cc: Lisa Cheung, Passero Associates

U. S. Department
of Transportation

**Federal Aviation
Administration**

New York Airports District Office
600 Old Country Rd, Suite 446
Garden City, New York 11530
Telephone: 516-227-3800
Fax: 516-227-3813

November 15, 2012

Ms. Jeanne Shenandoah
Onondaga Indian Nation
c/o Onondaga Communications Office
102 West Conklin Ave
Nedrow, NY 13120

**Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development**

Dear Ms. Shenandoah:

An Environmental Assessment (EA) will be prepared to meet National Environmental Policy Act (NEPA) requirements for a runway extension and terminal area development at Watertown International Airport (ART), located in Jefferson County, NY.

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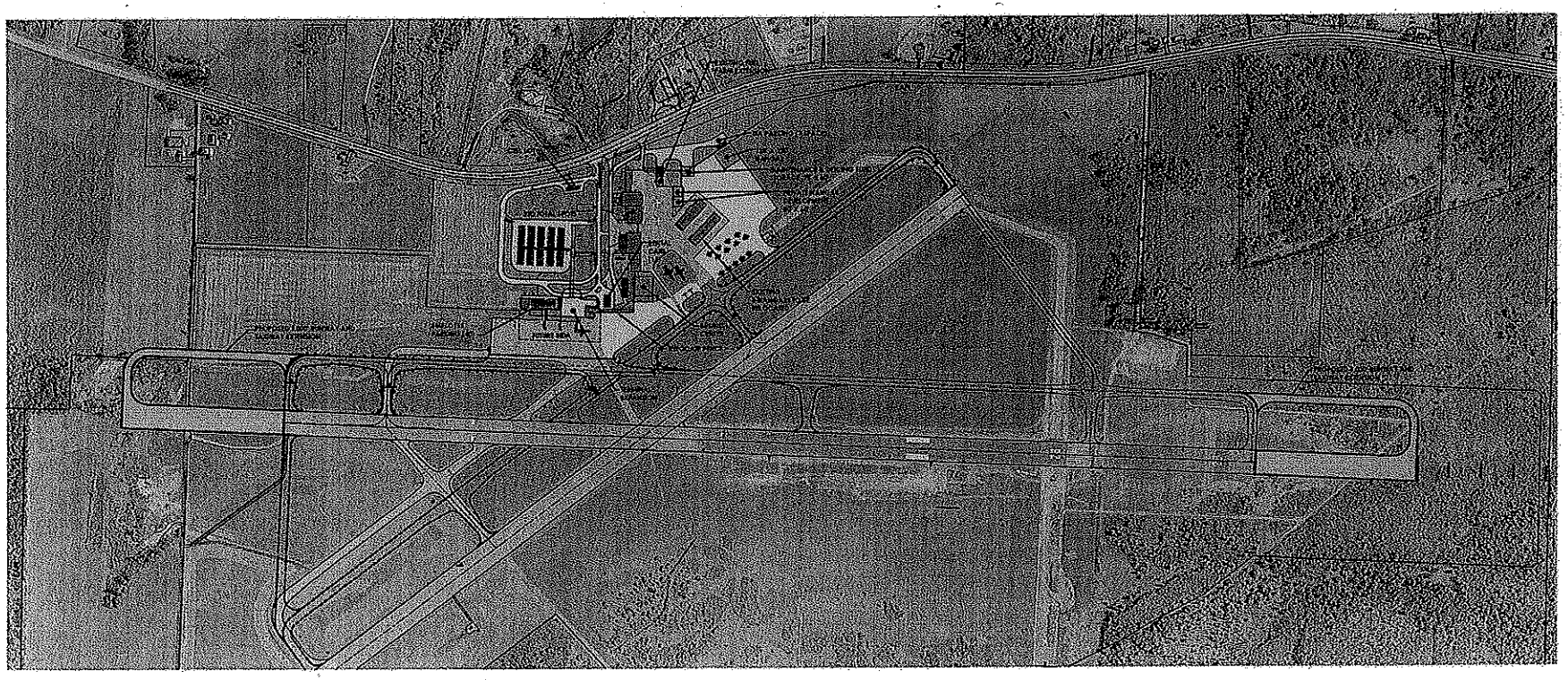
Sincerely,

Sukhbir Gill

Ms. Sukhbir Gill, Environmental Specialist
New York Airports District Office

Enclosure

Cc: Lisa Cheung, Passero Associates



Runway Extension is either 1400' Rwy 10 or 1100' Rwy 28.

Passero Associates

Engineering + Architecture

www.passero.com

Stamps:

Client:
County of Jefferson

195 Arsenal Street
Watertown, NY, 13601

Passero Associates
Principal-in-Charge: Wayne F. Wegman, P.E.
Project Manager: Steven R. Riley, P.E.
Designed by: LMC., D.M.C., D.G.P.

Environmental Assessment

Watertown (ART) International Airport
Town/City: Watertown
County: Jefferson State: New York

Project No.
20060401.0021

Drawing No.
FIGURE 1

Date
NOVEMBER 2012

Passero Associates

Engineering Architecture

100 Liberty Pole Way
Rochester, NY 14604

www.passero.com

585-325-1000
585-325-1691 Fax

November 8, 2012

Ms Diane Kozlowski
US Army Corp of Engineers
Buffalo District
1776 Niagara St
Buffalo, NY 14207

Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development

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Kindly forward any information your agency has pertaining to the Proposed Action. Also please indicate the contact person and whether you wish to receive a copy of the Environmental Assessment. Please submit any information by December 10, 2012 to:

Lisa M. Cheung
Airport Planner
Passero Associates
100 Liberty Pole Way
Rochester, NY 14604

If you have any questions please call me at 585-325-1523 x201 or email me at lcheung@passero.com.

Your prompt response is greatly appreciated.

Regards,

Lisa M. Cheung
Airport Planner

Att.

Passero Associates

Engineering Architecture

100 Liberty Pole Way
Rochester, NY 14604

www.passero.com

585-325-1000
585-325-1691 Fax

November 8, 2012

Mr Lawrence Ambeau
NYSDEC, Region 6
317 Washington St
Watertown, NY 13601

Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development

Dear Mr Ambeau:

An Environmental Assessment (EA) will be prepared to meet National Environmental Policy Act (NEPA) requirements for a runway extension and terminal area development at Watertown International Airport (ART), located in Jefferson County, NY.

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The Proposed Action includes two distinct areas of development; namely to the airside, in the form of a 1,000 foot runway and parallel taxiway extension to Runway 10-28 and installation of approach lighting systems; and to the landside, in the form of terminal expansion, automobile parking and access road circulation, and general aviation development. The attached graphically depicts the development areas to be analyzed in the EA. The runway length is to safely and efficiently serve the aircraft that provide commercial service to ART. The EA will evaluate a 1,000 extension on Runway 10 and Runway 28, however the proposed action will consist of only one 1,000 foot extension on either end. The runway 28 extension would be on lands that were previously graded. The Runway 10 extension would mostly occur on treed lands that would need to be cleared and graded.

The terminal expansion is to accommodate the existing passenger and security needs, and to better accommodate additional passengers generated from proposed forecasts, and would occur to the north and west, into an existing roadway system and parking lot. The approximate 20,000 square foot terminal expansion would allow for additional secured seating, a larger Transportation Security Administration (TSA) passenger screening areas, code required bathrooms and an expanded baggage make-up area, as well as circulation space. Additional passengers translate into additional automobile parking facilities, and improved airport access road circulation.

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to the GA area will also be included. General aviation apron and building development would occur on undeveloped lands.

A preliminary wetland reconnaissance indicated there are no wetlands in the proposed runway extension, terminal, automobile parking lot expansion or the general aviation expanded area. Similarly an endangered/threatened field analysis was completed to observe habitat for species listed by the NY Natural Heritage Program and US Fish and Wildlife Service concluding the continuous airport activity discourages nesting avian species and no species habitat were found. A Phase 1A Cultural Resource Study was conducted suggesting that a Phase 1B field study be conducted for the proposed automobile parking area and general aviation areas. This work will be completed as part of the EA efforts.

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Kindly forward any information your agency has pertaining to the Proposed Action. Also please indicate the contact person and whether you wish to receive a copy of the Environmental Assessment. Please submit any information by December 10, 2012 to:

Lisa M. Cheung
Airport Planner
Passero Associates
100 Liberty Pole Way
Rochester, NY 14604

If you have any questions please call me at 585-325-1523 x201 or email me at lcheung@passero.com.

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Regards,

Lisa M. Cheung
Airport Planner

Att.

Passero Associates

Engineering Architecture

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Rochester, NY 14604

www.passero.com

585-325-1000
585-325-1691 Fax

November 8, 2012

Ms. Grace Musumeci
USEAP Region 2
290 Broadway
New York, NY 10007

Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development

Dear Ms. Musumeci:

An Environmental Assessment (EA) will be prepared to meet National Environmental Policy Act (NEPA) requirements for a runway extension and terminal area development at Watertown International Airport (ART), located in Jefferson County, NY.

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100 Liberty Pole Way
Rochester, NY 14604

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Airport Planner

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November 8, 2012

Ms. Tara Salerno
Environmental Review Specialist
New York Natural Heritage Program
625 Broadway, 5th Fl
Albany, NY 12233-4751

Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development

Dear Ms. Salerno:

An Environmental Assessment (EA) will be prepared to meet National Environmental Policy Act (NEPA) requirements for a runway extension and terminal area development at Watertown International Airport (ART), located in Jefferson County, NY.

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November 8, 2012

Ms. Ruth Pierpont
New York State Historic Preservation Office
Peebles Island Resource Center
PO Box 189
Watertford, NY 12188-0189

Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development

Dear Ms. Pierpont:

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585-325-1000
585-325-1691 Fax

November 8, 2012

Mr. Carl Schwartz
Us Fish and Wildlife Service
3817 Luker Road
Cortland, NY 13045

Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development

Dear Mr. Schwartz:

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Rochester, NY 14604

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585-325-1000
585-325-1691 Fax

November 8, 2012

Mr. Christopher Amato
Assistant Commissioner
NYSDEC Fish, Wildlife and Marine Resources
625 Broadway
Albany, NY 12233-1010

Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development

Dear Mr. Amato:

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November 8, 2012

Mr. Bob Somers
NYS Department of Agriculture and Markets
10B Airline Drive
Albany, NY 12235

Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development

Dear Mr. Somers:

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November 8, 2012

Mr. Jeffrey Graham
City of Watertown Mayor
City Hall
245 Washington St, Rm 302A
Watertown, NY 13601

Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development

Dear Mr. Graham:

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The general aviation area is treated separate from commercial service, and as such requires a separate access road and development of apron and hangars to meet the forecasted needs. The general aviation area will include paving 338,000 square feet of apron and construction of one (1) 120 foot by 120 foot building; two (2) 60 foot by 60 foot buildings; construction of one (1) 75 foot by 60 foot maintenance and storage building; expansion of the above ground jet A fuel farm; and

installation of above-ground, self-serve AVGAS fuel farm. Construction of access road and parking to the GA area will also be included. General aviation apron and building development would occur on undeveloped lands.

A preliminary wetland reconnaissance indicated there are no wetlands in the proposed runway extension, terminal, automobile parking lot expansion or the general aviation expanded area. Similarly an endangered/threatened field analysis was completed to observe habitat for species listed by the NY Natural Heritage Program and US Fish and Wildlife Service concluding the continuous airport activity discourages nesting avian species and no species habitat were found. A Phase 1A Cultural Resource Study was conducted suggesting that a Phase 1B field study be conducted for the proposed automobile parking area and general aviation areas. This work will be completed as part of the EA efforts.

This letter is sent to you for the following reasons:

(1) Inform you of the proposed Environmental Assessment;
(2) To request any background information that your agency may have regarding the location and the Proposed Action;
(3) To obtain understanding of any issues, concerns, policies or regulations that your agency may have regarding the analysis that will be undertaken in this EA; and
(4) To solicit your agency's comments regarding unknown environmental resources and potential impacts associated with the Proposed Action.

Kindly forward any information your agency has pertaining to the Proposed Action. Also please indicate the contact person and whether you wish to receive a copy of the Environmental Assessment. Please submit any information by December 10, 2012 to:

Lisa M. Cheung
Airport Planner
Passero Associates
100 Liberty Pole Way
Rochester, NY 14604

If you have any questions please call me at 585-325-1523 x201 or email me at lcheung@passero.com.

Your prompt response is greatly appreciated.

Regards,

Lisa M Cheung

Lisa M. Cheung
Airport Planner

Att.

Passero Associates

Engineering Architecture

100 Liberty Pole Way
Rochester, NY 14604

www.passero.com

585-325-1000
585-325-1691 Fax

November 8, 2012

Jim St. Croix
636 Davidson St
Watertown, NY 13601

Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development

Dear Mr. St. Croix:

An Environmental Assessment (EA) will be prepared to meet National Environmental Policy Act (NEPA) requirements for a runway extension and terminal area development at Watertown International Airport (ART), located in Jefferson County, NY.

In 2011 your agency provided information for an Environmental Assessment for the Operations Specification Change for American Eagle to operate jet aircraft between Watertown International Airport and Chicago's O'Hare International Airport. In November 2011 American Eagle commenced operations at the airport resulting in increased passenger service at the airport. This service has created a situation whereby the runway length is not sufficient to accommodate the regional jet aircraft under all weather conditions, nor is the terminal sufficiently sized to accommodate the passenger throughput. This EA will analyze the Proposed Action's potential social, environmental and economic impacts.

The Proposed Action includes two distinct areas of development; namely to the airside, in the form of a 1,000 foot runway and parallel taxiway extension to Runway 10-28 and installation of approach lighting systems; and to the landside, in the form of terminal expansion, automobile parking and access road circulation, and general aviation development. The attached graphically depicts the development areas to be analyzed in the EA. The runway length is to safely and efficiently serve the aircraft that provide commercial service to ART. The EA will evaluate a 1,000 extension on Runway 10 and Runway 28, however the proposed action will consist of only one 1,000 foot extension on either end. The runway 28 extension would be on lands that were previously graded. The Runway 10 extension would mostly occur on treed lands that would need to be cleared and graded.

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A preliminary wetland reconnaissance indicated there are no wetlands in the proposed runway extension, terminal, automobile parking lot expansion or the general aviation expanded area. Similarly an endangered/threatened field analysis was completed to observe habitat for species listed by the NY Natural Heritage Program and US Fish and Wildlife Service concluding the continuous airport activity discourages nesting avian species and no species habitat were found. A Phase 1A Cultural Resource Study was conducted suggesting that a Phase 1B field study be conducted for the proposed automobile parking area and general aviation areas. This work will be completed as part of the EA efforts.

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Lisa M. Cheung
Airport Planner
Passero Associates
100 Liberty Pole Way
Rochester, NY 14604

If you have any questions please call me at 585-325-1523 x201 or email me at lcheung@passero.com.

Your prompt response is greatly appreciated.

Regards,

Lisa M. Cheung
Airport Planner

U. S. Department
of Transportation

**Federal Aviation
Administration**

New York Airports District Office
600 Old Country Rd, Suite 446
Garden City, New York 11530
Telephone: 516-227-3800
Fax: 516-227-3813

November 15, 2012

Mr. Ray Halbritter
Oneida Nation Representative
Oneida Indian Nation
5218 Patrick Road
Verona, NY 13478

**Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development**

Dear Mr. Halbritter:

An Environmental Assessment (EA) will be prepared to meet National Environmental Policy Act (NEPA) requirements for a runway extension and terminal area development at Watertown International Airport (ART), located in Jefferson County, NY.

In 2011 your agency provided information for an Environmental Assessment for the Operations Specification Change for American Eagle to operate jet aircraft between Watertown International Airport and Chicago's O'Hare International Airport. In November 2011, American Eagle commenced operations at the airport resulting in increased passenger service at the airport. This service has created a situation whereby the runway length is not sufficient to accommodate the regional jet aircraft under all weather conditions, nor is the terminal sufficiently sized to accommodate the passenger throughput. This EA will analyze the Proposed Action's potential social, environmental and economic impacts.

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Kindly forward any information your agency has pertaining to the Proposed Action. Also please indicate the contact person and whether you wish to receive a copy of the Environmental Assessment. Please submit any information by January 1, 2013.

If you have any questions or concerns, please don't hesitate to contact me at 516-227-3815.

Sincerely,

Sukhbir Gill

Ms. Sukhbir Gill, Environmental Specialist
New York Airports District Office

Enclosure

Cc: Lisa Cheung, Passero Associates

U. S. Department
of Transportation

**Federal Aviation
Administration**

New York Airports District Office
600 Old Country Rd, Suite 446
Garden City, New York 11530
Telephone: 516-227-3800
Fax: 516-227-3813

November 15, 2012

Ms. Jeanne Shenandoah
Onondaga Indian Nation
c/o Onondaga Communications Office
102 West Conklin Ave
Nedrow, NY 13120

**Re: Watertown International Airport (ART)
Notice of Intent to Prepare Environmental Assessment for Runway Extension and Terminal Area Development**

Dear Ms. Shenandoah:

An Environmental Assessment (EA) will be prepared to meet National Environmental Policy Act (NEPA) requirements for a runway extension and terminal area development at Watertown International Airport (ART), located in Jefferson County, NY.

In 2011 your agency provided information for an Environmental Assessment for the Operations Specification Change for American Eagle to operate jet aircraft between Watertown International Airport and Chicago's O'Hare International Airport. In November 2011, American Eagle commenced operations at the airport resulting in increased passenger service at the airport. This service has created a situation whereby the runway length is not sufficient to accommodate the regional jet aircraft under all weather conditions, nor is the terminal sufficiently sized to accommodate the passenger throughput. This EA will analyze the Proposed Action's potential social, environmental and economic impacts.

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If you have any questions or concerns, please don't hesitate to contact me at 516-227-3815.

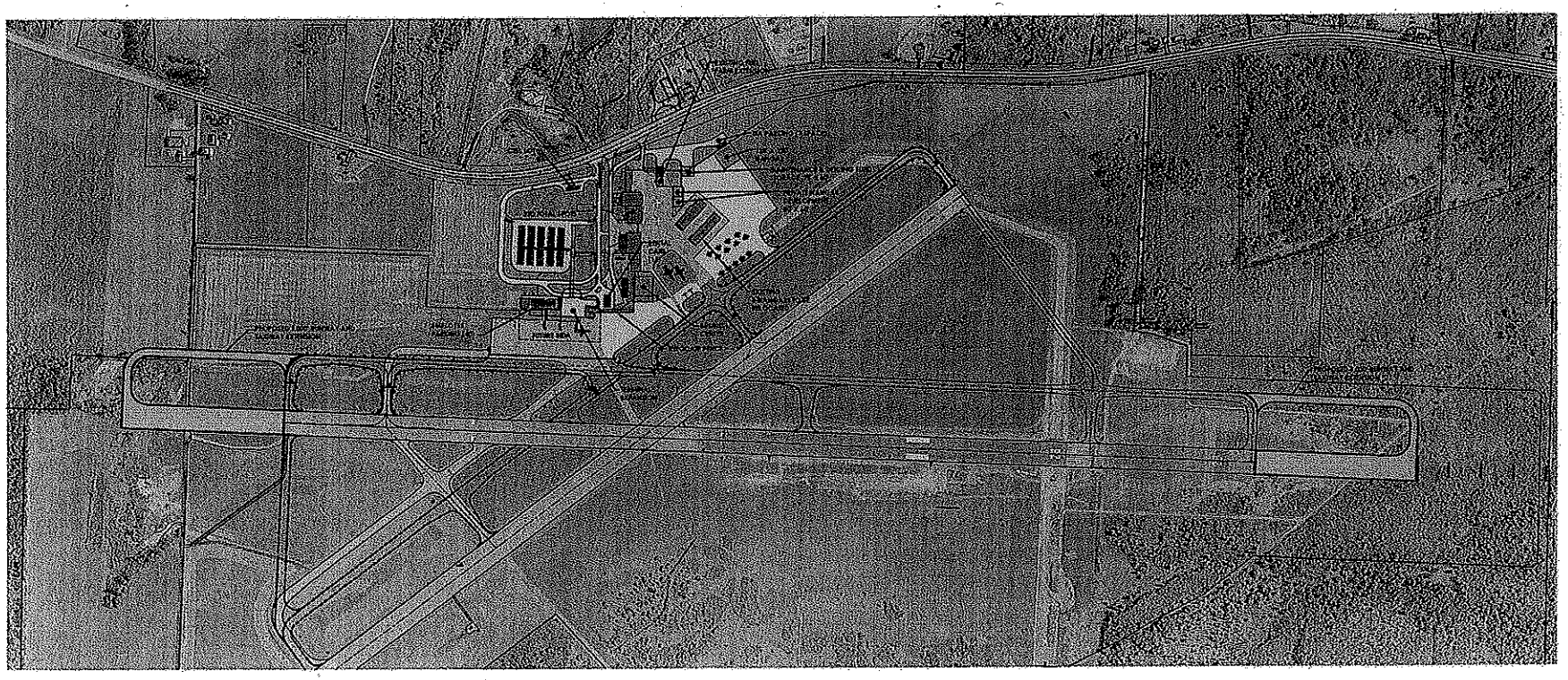
Sincerely,

Sukhbir Gill

Ms. Sukhbir Gill, Environmental Specialist
New York Airports District Office

Enclosure

Cc: Lisa Cheung, Passero Associates



Runway Extension is either 1400' Rwy 10 or 1100' Rwy 28.

Passero Associates

Engineering + Architecture

www.passero.com

Stamps:

Client:
County of Jefferson

195 Arsenal Street
Watertown, NY, 13601

Passero Associates
Principal-in-Charge: Wayne F. Wegman, P.E.
Project Manager: Steven R. Riley, P.E.
Designed by: LMC., D.M.C., D.G.P.

Environmental Assessment

Watertown (ART) International Airport
Town/City: Watertown
County: Jefferson State: New York

Project No.
20060401.0021

Drawing No.
FIGURE 1

Date
NOVEMBER 2012

Lisa Cheung

From: Niver, Robyn [robyn_niver@fws.gov]
Sent: Wednesday, November 21, 2012 11:27 AM
To: Lisa Cheung
Cc: Tim R Sullivan
Subject: Watertown Intl Airport Runway Extension

Hi Lisa,

We received your letter informing us that an EA will be prepared for the subject project. We have no new information on listed species for the site - you are already aware of the need to address the Indiana bat in the document.

Yes, we are interested in receiving a copy of the EA. You can send it to my attention at the address below.

Thank you,
Robyn
--
****
Robyn A. Niver
Endangered Species Biologist
U.S. Fish & Wildlife Service
New York Field Office
3817 Luker Rd.
Cortland, NY 13045
(607) 753-9334 (voice)
(607) 753-9699 (fax)

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

11 December 2012

Ms. Lisa M. Cheung
Passero Associates
100 Liberty Pole Way
Rochester, NY 14604

Re: FAA
Watertown Airport Runway Extension
and Terminal Area Development
Town of Hounsfield, Jefferson County
12PR05168

Dear Ms. Cheung:

The State Historic Preservation Office (SHPO) has reviewed the information submitted for this project (letter dated 8 November 2012 and accompanying material). Our review has been in accordance with Section 106 of the National Historic Preservation Act and relevant implementing regulations.

Thank you for this preliminary information. Please submit the Phase IA report referred to in your letter so that we may review its data and recommendations.

If you have any questions please don't hesitate to contact me.

Sincerely,

Philip A. Perazio

Philip A. Perazio, OPRHP
Phone: 518-237-8643 x3276; FAX: 518-233-9049
Email: Philip.Perazio@parks.ny.gov

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

November 26, 2012

Lisa Cheung
Passero Associates
100 Liberty Pole Way
Rochester, NY 14604

Dear Ms. Cheung:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the Proposed Runway Extension and Terminal Area Development at the Watertown Airport, site as indicated on the map you enclosed, located in the Town of Hounsfield, Jefferson County.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities, which our database indicates occur, or may occur, on your site or in the immediate vicinity of your site. For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our 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.

The enclosed report may be included in documents that will be available to the public. However, any enclosed maps displaying locations of rare species are considered sensitive information, and are intended only for the internal use of the recipient; they should not be included in any document that will be made available to the public, without permission from the New York Natural Heritage Program.

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.

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.

Sincerely,

Jean Pietrusiak, Information Services
NYS Department Environmental Conservation

Enc. # 1102
Cc: Reg. 6, Wildlife Mgr.

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 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			
Back's Sedge	*Carex backii*	Threatened	Imperiled in NYS

Brownville: Site 1: East and south of the bridge over Black River in Brownville. The area is flat and on the rim of a large gorge about 10-15 meters from the edge of the rim. The bedrock is limestone. The area is very weedy. The tree canopy is sparse with Prunus serotina and Robinia pseudo-acacia dominant. The shrub layer is dense in most places with Lonicera morrowii. Rhamnus cathartica is also present. The herb layer is fairly dense with Carex blanda quite abundant. The soil is silty or perhaps a silty sand. Thesite 2: This area is also on the rim of the Black River Gorge. It is an open forest with a 0-5 degree south-facing slope with young Quercus rubra and Populus tremuloides dominant. Other trees present include Thuja occidentalis, Populus grandidentata, and 11839

Troublesome Sedge	*Carex molesta*	Threatened	Imperiled in NYS

Brownville: Site 1: South of the Black River and just east of the bridge over the Black River in Brownville. The Carex molesta occurs here in a short "path" through dense Lonicera. There is a thin/sparse tree canopy with Prunus serotina and Robinia pseudo-acacia dominant. In the path, the shrub layer has been kept clear, but adjacent to the path the shrubs are thick mostly with just Lonicera morrowii. The herb layer is fairly dense with many low herbs and carices. The soil is silty or perhaps a sandy silt and the soils are thin over limestone. This site is also adjacent to the rim of a large gorge of the Black River. The site 2: On the north side of the Black River just west of Brownville. The Carex molesta occurs here in the open area of an old powerline or railr 11834

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.

New York Natural Heritage Program  Report on State-Listed Animals

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 and habitats have been documented at or near the project site, generally within 0.5 mile. Potential onsite and offsite impacts from the project may need to be addressed.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Birds				
Henslow's Sparrow *Breeding*	*Ammodramus henslowii*	Threatened		2823
Short-eared Owl *Breeding*	*Asio flammeus*	Endangered		7280

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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.

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 State Department of Environmental Conservation
Division of Environmental Permits, Region 6
Dulles State Office Building
317 Washington Street, Watertown, New York 13601-3787
Phone: (315) 785-2245 • **Fax:** (315) 785-2242
Website: www.dec.ny.gov

Joe Martens
Commissioner

December 6, 2012

Lisa M. Cheung, Airport Planner
Passero Associates
100 Liberty Pole Way
Rochester, NY 14604

RE: Watertown International Airport (ART)
Proposed Runway and Terminal Expansion
Town of Hounsfield, Jefferson County

Dear Ms Cheung:

We have received your letter dated November 8, 2012 regarding scoping for an Environmental Assessment (EA) you are preparing for a proposed airport expansion project. We have reviewed the map depicting the development areas and other information you provided. We understand the proposed 1000' runway and taxiway expansion would be to either 10 or 28 but that both directions will be evaluated. We offer the following areas of DEC concern and jurisdiction regarding the proposed action.

In 2009, the eastward expansion was evaluated by our wildlife biologist. We will continue with our recommendation that eastward expansion of runway 10-28 would require no additional studies for threatened or endangered avian species. Expansion of the runway/taxiway 10-28 westward would likely result in a request for studies in the expansion area. A one year grassland bird breeding bird survey and a winter use study. This should include the Short Eared Owl (*Asio flammeus*) Northern Harrier (*Circus cyaneus*) as this last species was identified during the 2009 site visit. You may chose to conduct the study as part of the assessment effort, should you have any questions regarding these studies, please contact our office. We also disagree with the statements made in your letter suggesting continuous airport activity discourage avian nesting. Animals may acclimate to the activity despite its repetitive nature and may continue to use or expand into the habitat, if it continues to be present.

Our databases identify the area as habitat for the rare vascular plant Purple Rock Cress (*Boechera grahamii).*

The facility is subject to SPDES Multi-Sector General Permit for Stormwater Discharges Associated from Industrial Activities GP-0-12-001. The primary activity is covered under Sector S, however, co-located industrial activities may be subject to the requirements of other sectors. You should be reviewing the use of de-icing materials and the thresholds for benchmark monitoring requirements.

The expansion of the jet A and AVGAS fuel farms will require modification of the facility's existing Petroleum Bulk Storage registration. The SWPPP for industrial activities will need to be updated to reflect these areas also.

The project will be required to obtain coverage under the SPDES General Permit for Stormwater Discharges Associated from Construction Activities GP 0-10-001. Written permission from the Regional Water Engineer is required if the project proposes to have more than 5 acres of soil exposed at any one time. You may wish to evaluate post-construction storm water management practices as they relate to site-specific conditions.

The proposed action is not expected to have an impact to the facilities current Depredation License.

No NYS regulated freshwater wetlands or protected streams were identified within the project boundaries as depicted on the provided map.

We have reviewed a November 6, 2009 letter from Judy Robinson, US Army Corp of Engineers regarding their jurisdictional determination of the wetland boundaries (File No. 2009-00441). The EA should confirm that the areas currently proposed for development were areas previously reviewed by the Army Corps.

We look forward to working with you on this project. I will be your point of contact for the agency on this project. Please direct all correspondence to my attention. If you have any questions regarding this letter, please do not hesitate to contact me.

Sincerely,

Thomas Voss
Environmental Analyst 1
Region 6
tgvoss@gw.dec.state.ny.us

Cc: James Lawrence, Jefferson Co. Airport Manager

Ecc: Judy Robinson, ACOE - Auburn
Steven Botsford, P.E. RWE
James Farquhar, RWM
Erik Latremore, BOH
Irene Mazzochi, BOW
Ron F. Novak, RBSE
Adam Weller, BOW

DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

REPLY TO

November 23, 2012

Regulatory Branch

SUBJECT: Department of the Army File No. 2009-00441; Jefferson County (Watertown Airport)

Passero Associates
100 Liberty Pole Way
Rochester, New York 14604
Attn: Lisa Cheung

Dear Ms. Cheung:

This letter is in response to your Environmental Assessment Notification in which you requested relevant background information for work proposed on the Watertown International Airport Property located on 22592 Airport Drive, Dexter, New York.

Your letter states that a preliminary wetland reconnaissance indicated that there are no wetlands within the proposed project area. However, you did not mention the Approved Jurisdictional Determination (JD) that was issued on November 6, 2009 that verified boundaries of aquatic resources identified by Gene Pellett. Several wetlands were determined as non-jurisdictional and, therefore, would not require a Department of the Army permit if you planned to place fill in those areas. A copy of the November 6, 2009 letter was sent to Mr. James Lawrence and should be in his files.

I spoke with Mr. Lawrence and he indicated that Mr. Pellett is currently conducting additional delineation activities on the airport property.

Your letter indicated that the Runway 10 extension would occur on treed lands that would need to be cleared and graded. We would need to know if the area proposed for clearing contains forested wetland areas.

The project area is within the range of the Indiana bat (*Myotis sodalis*), a federally listed endangered species. Therefore, it would appear that you would need to coordinate with the U.S. Fish and Wildlife Service under either Section 7 or Section 10 of the Endangered Species Act with regard to removal of potential habitat for this species.

In order to confirm that no aquatic resources will be impacted by the proposed work, I will need a map showing the delineated wetlands (both those identified in 2009 and any identified during the current delineation) used as a basemap with the proposed project layer over the basemap. The map that you sent is not readable when photocopied in black and white. All map sheets need to be

clear at 8 ½ x 11 scale with legible-sized font – photocopy in-house to see how they appear in black and white, including color-coded legends that cannot be referenced in black and white. Please revise the current map so that the wetlands and plan design are shown on a basic black and white engineering sheet. The larger sheets are very useful for in-house review, but they must be accompanied by a set of 8 ½ x 11 black and white useable version.

A copy of this letter has been sent to James Lawrence (Jefferson County).

Questions pertaining to this matter should be directed to me at (315) 704-0255, by writing to the following address: U.S. Army Corps of Engineers, 7413 County House Road, Auburn, New York 13021, or by e-mail at: judy.a.robinson@usace.army.mil

Sincerely,

Judy A. Robinson

Judy A. Robinson
Biologist

Enclosures

PASSERO ASSOCIATES
engineering architecture

July 31, 2014

Mr Thomas Voss
NYSDEC, Region 6
317 Washington St
Watertown, NY 13601

Re: Watertown International Airport (ART)
Draft Environmental Assessment for Runway Extension and Terminal Area Development

Dear Mr Voss:

This Environmental Assessment (EA) was prepared to meet National Environmental Policy Act (NEPA) requirements for a runway extension and terminal area development at Watertown International Airport (ART), located in Jefferson County, NY.

In November 2012 a notice of intent to prepare this document was sent to your agency, and you subsequently requested a copy. Enclosed is a CD that contains the draft Environmental Assessment and Appendices. Kindly review and provide comments to my attention by **August 31, 2014**.

Lisa M. Cheung
Airport Planner
Passero Associates
242 West Main Street, Suite 100
Rochester, NY 14614

If you have any questions please call me at 585-325-1523 x201 or email me at lcheung@passero.com.

Regards,

Lisa M Cheung

Lisa M. Cheung
Airport Planner

Enc.

PASSERO ASSOCIATES
engineering architecture

July 31, 2014

Ms. Robyn Nivers
US Fish and Wildlife Services
3817 Luker Road
Cortland, NY 13045

Re: Watertown International Airport (ART)
Draft Environmental Assessment for Runway Extension and Terminal Area Development

Dear Ms Nivers:

This Environmental Assessment (EA) was prepared to meet National Environmental Policy Act (NEPA) requirements for a runway extension and terminal area development at Watertown International Airport (ART), located in Jefferson County, NY.

In November 2012 a notice of intent to prepare this document was sent to your agency, and you subsequently requested a copy. Enclosed is a CD that contains the draft Environmental Assessment and Appendices. Kindly review and provide comments to my attention by **August 31, 2014**.

Lisa M. Cheung
Airport Planner
Passero Associates
242 West Main Street, Suite 100
Rochester, NY 14614

If you have any questions please call me at 585-325-1523 x201 or email me at lcheung@passero.com.

Regards,

Lisa M Cheung

Lisa M. Cheung
Airport Planner

Enc.

PASSERO ASSOCIATES
engineering architecture

July 31, 2014

Ms. Grace Musumeci
USEPA, Region 2
290 Broadway
New York, NY 10007

Re: Watertown International Airport (ART)
Draft Environmental Assessment for Runway Extension and Terminal Area Development

Dear Ms. Musumeci:

This Environmental Assessment (EA) was prepared to meet National Environmental Policy Act (NEPA) requirements for a runway extension and terminal area development at Watertown International Airport (ART), located in Jefferson County, NY.

Enclosed is a CD that contains the draft Environmental Assessment and Appendices. Kindly review and provide comments to my attention by **August 31, 2014**.

Lisa M. Cheung
Airport Planner
Passero Associates
242 West Main Street, Suite 100
Rochester, NY 14614

If you have any questions please call me at 585-325-1523 x201 or email me at lcheung@passero.com.

Regards,

Lisa M Cheung

Lisa M. Cheung
Airport Planner

Enc.

APPENDIX E

NOISE

Noise Technical Report
Watertown International Airport
Runway Extension
Environmental Assessment

HMMH Report No. 305800
March 2014

Prepared for:

Passero Associates
Rochester, NY

Noise Technical Report
Watertown International Airport
Runway Extension
Environmental Assessment

HMMH Report No. 305800
March 2014

Prepared for:

Passero Associates
242 West Main Street, Suite 100
Rochester, NY 14614

Prepared by:

Brad Nicholas

HARRIS MILLER MILLER & HANSON INC.
77 South Bedford Street
Burlington, MA 01803

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This Noise Technical Report provides the results of the noise analyses completed by Harris Miller Miller & Hanson Inc. (HMMH) under contract to Passero Associates for the Watertown International Airport (ART) Runway Extension Environmental Assessment (EA). The information contained within this report will support the noise impact category environmental documentation in the EA required by the Federal Aviation Administration (FAA) to show compliance with the National Environmental Protection Act (NEPA).

1 BACKGROUND AND METHODOLOGY

Watertown International Airport is located in, owned by, and operated by Jefferson County, NY. The airport lies west of Watertown, NY and Fort Drum, near the shores of Lake Ontario. The airport has two runways: Runway 7/25 at 4,999 ft and Runway 10/28 at 5,999 ft. The EA examines the environmental impacts associated with the proposed extension of Runway 10/28. The EA noise analysis included three scenarios: Existing Conditions, a future year No Action, and a future year Alternative 1 (Runway 10/28 extension to the east). Table 1 summarizes the three noise modeling scenarios for the EA.

Table 1 Environmental Assessment Noise Modeling Scenarios

Year	Existing/ No Action	Alternative 1
2012	X	
2022	X	X

1.1 REGULATORY CONTEXT

Airports in the United States operate according to Federal Aviation Administration (FAA) regulations. The FAA is under the U.S. Department of Transportation (DOT) with regulatory responsibility for civil aviation. Since the FAA has the responsibility to approve the Project, compliance with NEPA is required.

The noise analysis for this EA was conducted in accordance with the FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, and the National Environmental Policy Act as specified in the Council on Environmental Quality's (CEQ) *Regulations for Implementing the National Environmental Policy Act* (40 CFR 1500-1508).[1,2]

FAA Order 1050.1E CHG 1, effective March 20, 2006, specifies a number of requirements for the noise analyses, including which noise models are acceptable under various circumstances, what constitutes significant impact, and when supplemental noise analyses are needed. The Integrated

1 FAA Order 1050.1E CHG 1, Environmental Impacts: Policies and Procedures, 20 March 2006.

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

Noise Model (INM), the Helicopter Noise Model (HNM), or the Noise Integrated Routing System (NIRS) must be used to determine the significance of changes in exposure; and the INM or HNM must be used to produce DNL 75 dB, DNL 70 dB, and DNL 65 dB contours and others as needed. Since the issuance of this Order, the FAA has integrated the HNM with the INM in the version 7.0 release in 2007 and issued guidance with the release that INM is to be used for helicopter noise analyses, thus eliminating the use and support of the HNM.

1.1.1 Thresholds of Significance

Both Orders identify the threshold of "significant impact" based on the yearly day-night average sound level (DNL). If a location of incompatible land use is exposed to a project-related increase in noise level of DNL 1.5 dB or more, and that location lies within the 65 dB DNL noise contour for the "with action" condition, then the location is considered to be significantly impacted by noise and must be identified as such in environmental evaluations.

In 1992, the Federal Interagency Committee on Noise (FICON)[3] recommended that in addition to significant impacts, less-than-significant noise level changes be identified for noise-sensitive locations exposed to Project-related increases. FICON recommended reporting any changes in DNL of 3 dB or more between 60 and 65 dB DNL, and increases of 5 dB or more between 45 and 60 dB DNL. The FAA's subsequent Air Traffic Noise Screening (ATNS) procedure[4] further emphasized the importance of these changes in DNL, so that they, also, are now included in FAA Order 1050.1E. These recommendations only apply to cases where the significant threshold (increase of 1.5 dB or more within the 65 dB DNL contour) is met or exceeded. Levels of significance for noise sensitive locations are summarized below.

Significant noise impact:

- DNL increase of 1.5 dB or more in areas of 65 dB DNL and higher

Less than significant impact:

- DNL increase of 3 dB or more in areas between 60 and 65 dB DNL
- DNL increase of 5 dB or more in areas between 45 and 60 dB DNL

1.1.2 Methodologies

The INM (version 7.0c) was used to conduct all noise modeling for this analysis to maintain consistency of results across all noise levels and meet the requirements of FAA Order 1050.1E. This noise study provides an evaluation of project-related increases in noise of 1.5 dB within the 65 dB DNL contour pursuant to this Order, as well as an evaluation of increases in project-related noise of 3 dB at noise-sensitive locations between 60 and 65 dB DNL. Finally, this noise analysis also evaluates the potential for a 5 dB change in noise exposure level at noise-sensitive locations that would be exposed to a baseline noise exposure between 45 and 60 dB DNL.

---

3 Federal Agency Review of Selected Airport Noise Analysis Issues, Federal Interagency Committee on Noise, Washington, D.C., August 1992.

4 Air Traffic Noise Screening Model, Version 2.0 User Manual, January 1999.

To evaluate changes in DNL between the Proposed Action alternative and the No Action alternative, this analysis utilized a grid of equally spaced points. The full grid of points was spaced at 250 feet and included the full extents of the 45 dB DNL contour for all scenarios.

FAA Order 1050.1E incorporates FICON's 1992 recommendations on noise metrics for airport noise analysis. In summarizing FICON's recommendations, FAA Order 1050.1E states that "[The FICON report] concluded that the Day-Night Average Sound Level (DNL) is the recommended metric and should continue to be used as the primary metric for aircraft noise exposure. However, DNL analysis may optionally be supplemented on a case-by-case basis to characterize specific noise effects." For aviation noise analysis, the FAA has determined that the cumulative noise energy exposure of individuals to noise resulting from aviation activities must be established in terms of yearly DNL as FAA's primary metric[5]. No additional metrics were computed for this EA.

The reader's comprehension of the noise analysis in the EA will depend heavily on his or her understanding of the primary metric used to describe and evaluate aircraft noise, DNL. Definitions of DNL and many of the other metrics are given in Appendix A of this report, "Aircraft Noise Terminology".

1.1.3 Study Area Definition

Under the National Environmental Policy Act (NEPA), the Airport must analyze the environmental effects of the proposed Project as well as alternative runway configurations. To capture those effects, the Study Area must include not only the immediate airport environs where aircraft flight paths are aligned with the runways, it also must include other potentially affected areas beyond that, over which aircraft will fly as they follow flight corridors that join the surrounding airspace. For noise analysis purposes, the study area includes all locations with a noise exposure of 45 dB DNL or greater. Although potential impacts outside of 65 dB DNL are only considered if there are impacts to noise-sensitive receptors within the 65 dB DNL, the FAA's Air Traffic Office will eventually review the EA documentation and, in our past experiences, have required the analysis out to 45 dB DNL. Therefore, it is HMMH protocol to extend the study area to include computation points out to 45 dB DNL at the outset of environmental projects.

1.2 FAA'S INTEGRATED NOISE MODEL

The basic tool used to model aircraft flight operations is the INM, developed by the FAA. The INM uses airport geometry, descriptions of aircraft operations, and an internal database of noise and performance characteristics to compute the noise of individual flights. The INM then adds the noise of the individual flights together and presents the accumulation as a set of contours and/or noise calculations at specific points.

Detailed operational inputs to the INM fall generally into three categories of information including:

- Daily numbers of daytime and nighttime takeoffs and landings by specific aircraft types;
- Typical flight path and runway geometry; and
- Average statistics on usage of each runway and flight path by various aircraft groups.

[5] Federal Aviation Administration Order 1050.1E, Environmental Impacts: Policies and Procedures, Appendix A. Analysis of Environmental Impact Categories, Section 14. Noise, June 8, 2004.

Historical data traceable to sources, such as FAA flight plan records, are used to develop descriptions of past noise environments. Predicted aspects of an airport's operations are used to evaluate alternative assumptions regarding growth, future aircraft fleets, shifting of flight paths, new runway and taxiway configurations, delay, noise mitigation measures, and other critical planning efforts.

The most recent release of the INM, Version 7.0c, was used for all noise exposure computations and specific point analyses for the Project; several enhancements and new capabilities of Version 7.0c include:

- Additional aircraft noise types, including several general aviation jets
- Modification of profiles for some aircraft types
- Correction of various bugs

The INM includes a database of noise and performance data for a broad range of representative aircraft types. Noise data cover a range of distances (from 200 feet to 25,000 feet) for specific thrust levels. Performance data include thrust, speed, and altitude profiles for takeoff and landing operations. The INM database contains standard noise and performance data for more than one hundred different fixed-wing civilian aircraft types. The program automatically accesses the applicable noise and performance data for departure and approach operations by those aircraft. For aircraft not included in the database, the FAA maintains a list of acceptable substitutes.

INM users do not normally alter the model's internal noise and performance databases as a part of the modeling process. However, when there is an identifiable need such as a frequently-used non-standard thrust setting or climb profile, the FAA requires that any changes to these databases be approved by the Office of Environment and Energy Noise Division (AEE-100) prior to use on any FAA-sponsored project. No such changes were requested for this study. FAA also requires approval for substitutions of aircraft types that operate at the study airport, but are not represented on the FAA's list of acceptable substitutions. See Appendix B for the INM substitutions and FAA letter of approval used for this study.

1.3 DEVELOPMENT OF MODEL INPUT FOR INM NOISE ANALYSIS

The following sub-sections summarize the operational inputs used to model aircraft noise exposure such as fleet mix and operations, runway layout, runway use, flight tracks, and average weather conditions.

1.3.1 Fleet Mix and Operations

Passero Associates provided the operations by aircraft group for both Existing and Future conditions at ART. HMMH developed a detailed fleet mix for each civil aircraft group using data from the FAA's Traffic Flow Management System Counts (TFMSC). The TFMSC data contains records for arrivals and departures at ART which were handled by the FAA, such as aircraft which filed flight plans. The 12-month sample of TFMSC data for ART contained 3,222 arrivals and departures from November of 2011 to October of 2012. HMMH applied the percentage breakdown of specific aircraft types and assigned the appropriate representative INM aircraft type. The two exceptions to the use of TFMSC data for the detailed civil fleet mix are the Eurocopter EC-135 group, which contains a single aircraft type, and the other civil helicopters group. The TFMSC data contained insufficient helicopter data to assign these operations to specific types, so aircraft fuel sales records

for the month of July, 2012 were used instead. The military helicopters were assigned to INM helicopter types based on the percentage of each helicopter type in the 10th Combat Aviation Brigade[6] at nearby Fort Drum.

The split of operations between daytime and nighttime periods is a critical noise model input due to the 10 decibel nighttime weighting in the DNL metric. HMMH used the percentage of day and night operations from the TFMSC data for most aircraft groups in the study. Air Methods / Lifenet of NY provided the percentage of nighttime operations for the Eurocopter EC-135 as did the 10th Combat Aviation Brigade for the military helicopters.

In the INM, stagelength is defined by the distance from the departure airport to the destination for a particular take-off. Distances up to 500 nautical miles are stagelength 1, 501 to 1,000 nautical miles is stagelength 2, and longer distances are higher stagelengths. The INM uses trip distance as a surrogate for aircraft weight and thus aircraft performance. Most small aircraft types in the INM only have a single departure stagelength; several types in this study however did have more than one. Where possible, HMMH assigned stagelengths to departure operations based on the distances to the destination airports in the TFMSC data.

Table 2 presents a summary of the data sources for the aircraft operations data. The operations for each noise modeling scenario in the EA are presented in the Existing Conditions and Environmental Consequences sections below.

Table 2 Aircraft Operations Data Sources

Aircraft Group	Total Operations	Fleet Mix %	Day/Night %	Stagelength %
Scheduled Service	Passero Associates	FAA TFMSC	FAA TFMSC	FAA TFMSC
Jet	Passero Associates	FAA TFMSC	FAA TFMSC	FAA TFMSC
Multi-engine Propeller	Passero Associates	FAA TFMSC	FAA TFMSC	FAA TFMSC
Single-engine Propeller	Passero Associates	FAA TFMSC	FAA TFMSC	FAA TFMSC
EC135	Passero Associates	Air Methods / LifeNet of NY	Air Methods / LifeNet of NY	N/A
Other Civil Helicopter	Passero Associates	Fuel Sales	Passero Associates	N/A
Military Helicopter	Passero Associates	10th CAB website	10th CAB via email	N/A

1.3.2 Runway Layout

Table 3 presents the runway layout at ART for the noise modeling of the 2012 Existing Conditions and the 2022 No Action scenarios.

[6] http://www.drum.army.mil/10thAB/Pages/index.aspx; downloaded 12/3/2012.

Table 3 Existing Runway Geometry

Runway	Latitude (deg)	Longitude (deg)	Elevation (ft)	Length (ft)	Threshold Crossing Height (ft)	Displaced Arrival Threshold (ft)
7	43.987841	-76.029943	310	4,999	46	0
25	43.996006	-76.014683	324		54	0
10	43.992265	-76.030651	309	5,999	47	0
28	43.991415	-76.007887	328		45	0

Source: FAA[7]

Table 4 presents the runway geometry for the noise modeling in the 2022 Alternative 1 scenario. Note that the extended runway is also designated as 10/28 in the table and that Runway 7/25 remains the same as shown in Table 3.

Table 4 Future Runway Geometry – 2022 Alternative 1

Runway	Latitude (deg)	Longitude (deg)	Elevation (ft)	Length (ft)	Threshold Crossing Height (ft)	Displaced Arrival Threshold (ft)
10	43.992265	-76.030651	309	7,000	47	0
28	43.991269	-76.004092	331		40	0

Source: Passero Associates

Note: Runway end 28 extended by 1,000 feet to the east relative to the existing location

1.3.3 Runway Use

Runway use refers to the frequency with which aircraft utilize each runway during the course of a year, as dictated or permitted by wind, weather, aircraft weight, air traffic control conditions, and noise considerations. Table 5 presents the runway use rates provided by Passero Associates. The INM scenarios for the EA used these rates for all time periods for both arrivals and departures.

Table 5 Runway Use Rates – All Scenarios

Group	7	10	25	28
Scheduled Service	0.0%	43.0%	0.0%	57.0%
Jet	20.0%	23.0%	30.0%	27.0%
Propeller	28.4%	32.4%	0.0%	39.2%

Source: Passero Associates

[7] http://www.faa.gov/airports/airport_safety/airportdata_5010/ downloaded 11/28/2012.

1.3.4 Flight Track Geometry

The INM models aircraft flight corridors with a system of primary flight tracks (or "backbone" tracks) and additional "dispersed" tracks. The backbone track lies at the center of the corridor, flanked by one or more dispersed tracks on each side. The INM distributes the operations assigned to a track among the backbone and dispersed tracks using a normal distribution or a user-defined distribution based on the observed flight track density. This dispersion more accurately models each flight corridor by accounting for variability attributed to weather, aircraft type, traffic, pilot technique and other factors.

HMMH created separate departure flight tracks for jet and propeller aircraft for each runway. These nominal flight tracks were based on aircraft performance for each group with turns initiated at or above 500 feet Above Field Elevation (AFE). The percentage of traffic turning left, turning right, or remaining straight was assigned based on an analysis of destination airports in the TFMSC data. All arrivals were represented using straight-in approaches. For the 2022 Alternative 1 noise modeling scenario, the flight tracks were moved as needed to align with the extended runway end. The turn angles, distance to turns, and dispersion remain the same relative to the runway end. All local operations by propeller aircraft were modeled on left-hand pattern tracks developed using standard pattern procedures and the performance characteristics of piston and turboprop aircraft.

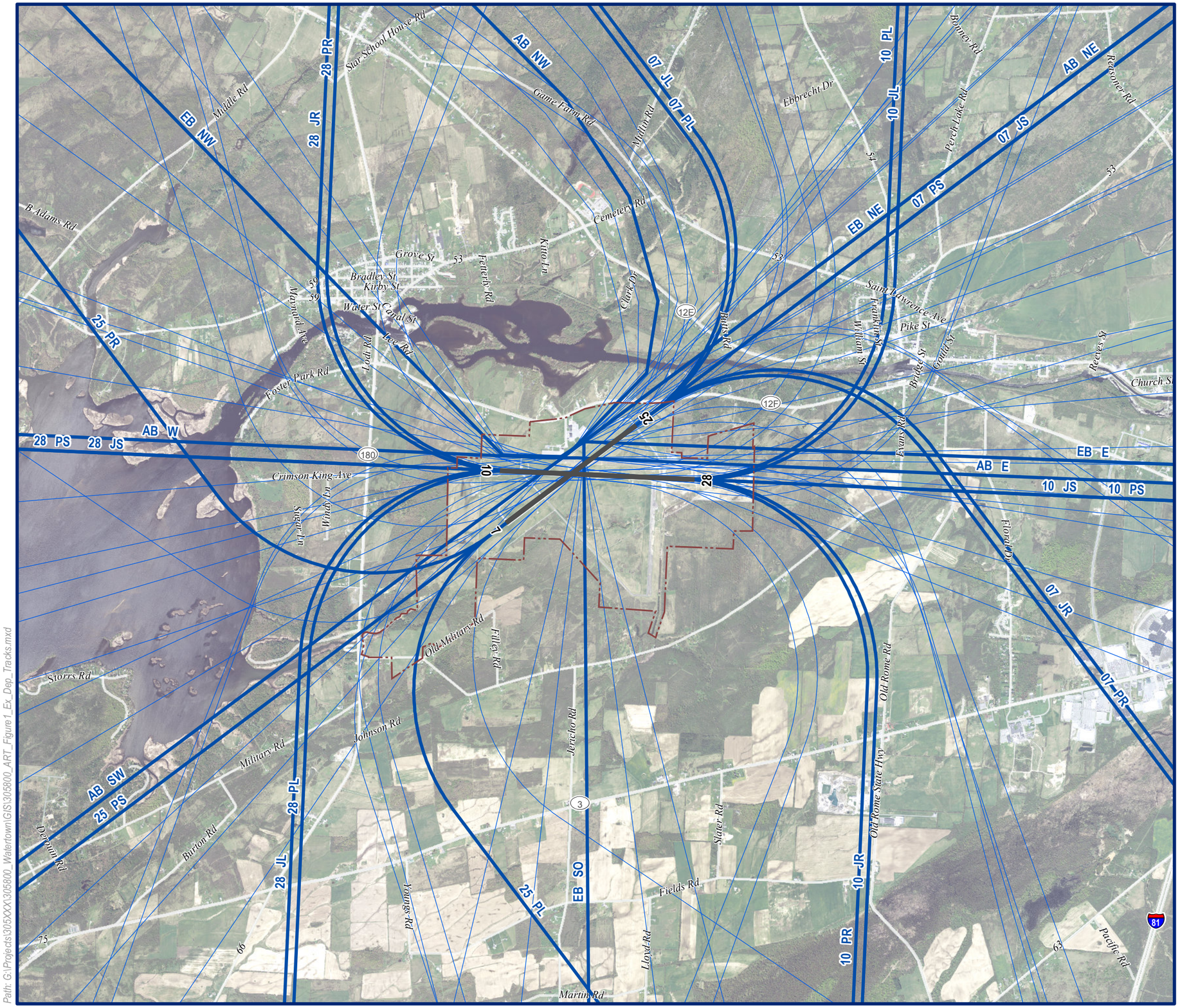
Civil helicopters originate and terminate their operations at the intersection of taxiways E and B and follow flight paths described by Air Methods / LifeNet of NY. Military helicopters follow runway headings and fly parallel to the runways over the taxiways. Operations originate and terminate near the center of the airfield at the intersection of taxiways A and B. Personnel from Fort Drum reviewed and approved the military helicopter flight tracks and provided the percentage utilization. All helicopter flight paths and utilization rates remain the same for all noise modeling scenarios.

Figure 1, Figure 2, and Figure 3 depict the departure, arrival, and circuit flight tracks used for modeling in the 2012 Existing Conditions and 2022 No Action EA scenarios. Table 6, Table 7, and Table 8 presents the track utilization rates for departures, arrivals, and circuits for all noise modeling scenarios.

Watertown International Airport

Jefferson County - Watertown, New York

Figure 1
2012 Existing Conditions INM Departure Tracks



Airport Boundary

Airport Runway

Departure Backbone Track

Departure Dispersed Track

0 3,000 6,000 Feet

N W E S

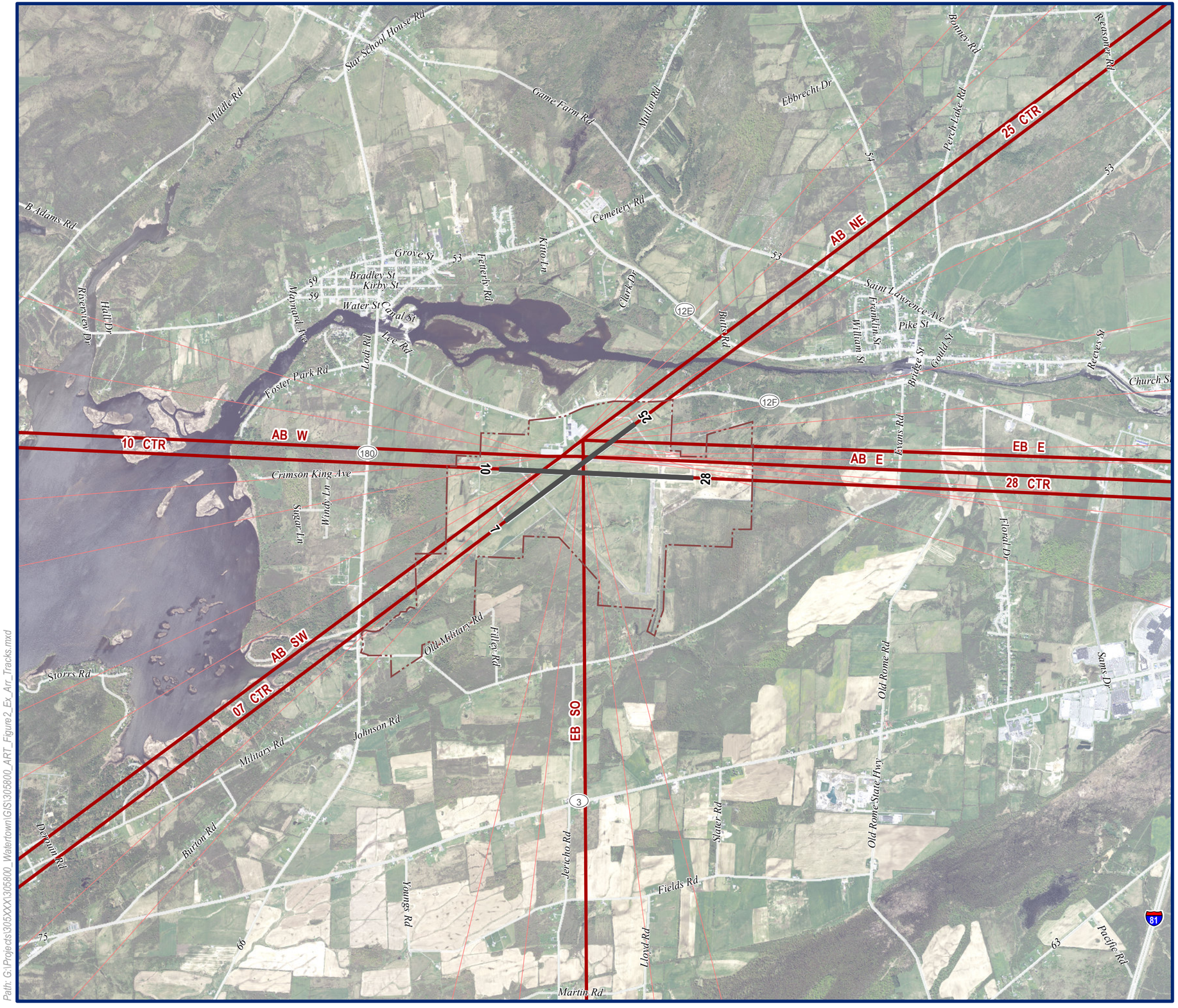
HARRIS MILLER MILLER & HANSON INC.

Path: G:\Projects\305XXX\305800_Watertown\GIS\305800_ART_Figure1_Ex_Dep_Tracks.mxd

Watertown International Airport

Jefferson County - Watertown, New York

Figure 2
2012 Existing Conditions INM Arrival Tracks



Airport Boundary

Airport Runway

Arrival Backbone Track

Arrival Dispersed Track

0 3,000 6,000 Feet

N W E S

HARRIS MILLER MILLER & HANSON INC.

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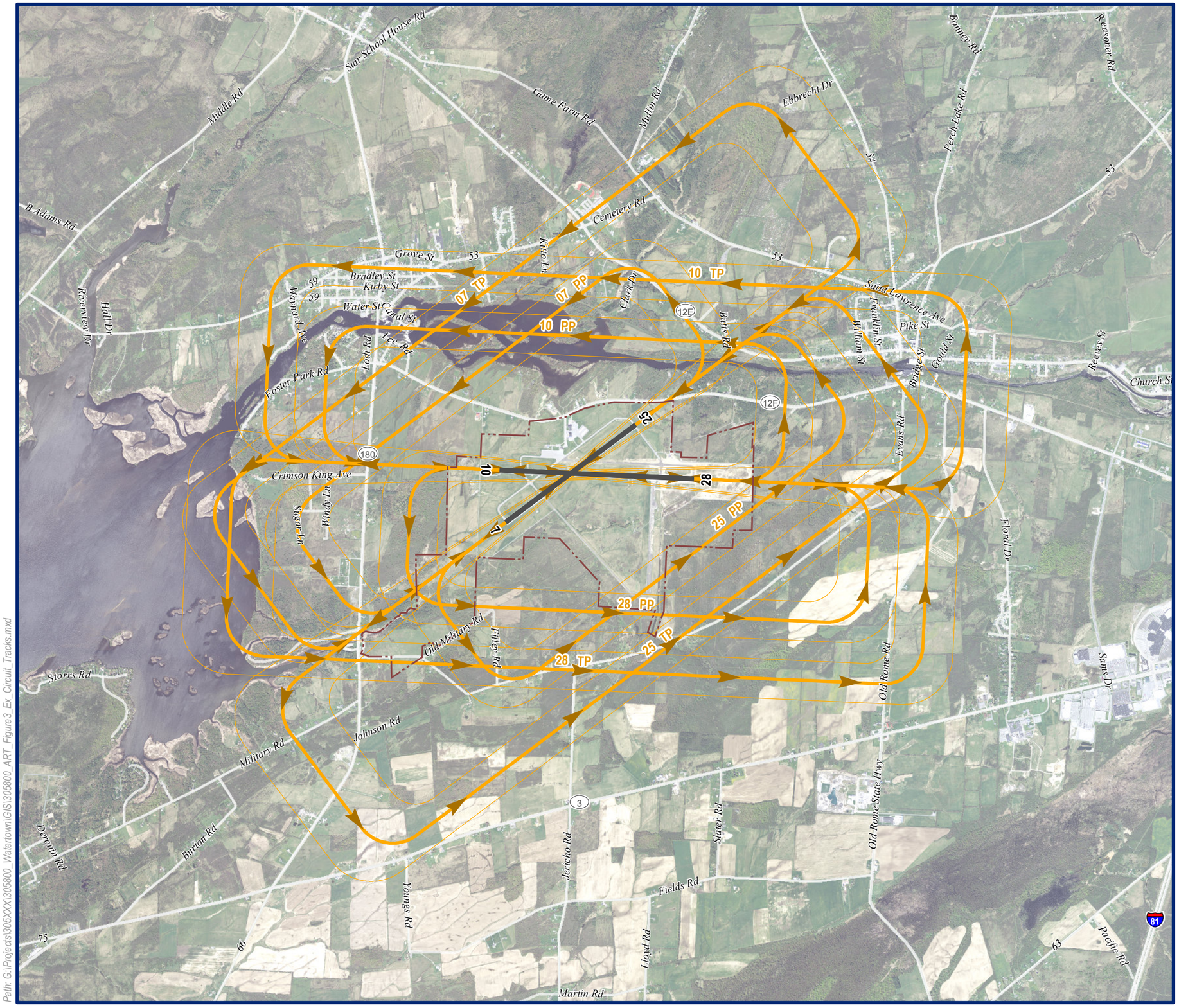
Watertown International Airport

Jefferson County - Watertown, New York

Figure 3
2012 Existing Conditions INM Circuit Tracks



0 3,000 6,000 Feet

Airport Boundary

Airport Runway

Circuit Backbone Track (Showing Directional Flow)

Circuit Dispersed Track

HARRIS MILLER MILLER & HANSON INC.

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Table 6 Departure Track Utilization

Group	Operation	Runway	Track	Percentage Use
Scheduled	Departure	10	JR	100%
		28	JS	100%
Jet	Departure	7	JL	20%
			JR	75%
			JS	5%
		10	JL	5%
			JR	80%
			JS	15%
		28	JL	60%
			JR	5%
			JS	35%
Piston	Departure	7	PL	20%
			PR	70%
			PS	10%
		10	PL	5%
			PR	70%
			PS	25%
		25	PL	60%
			PR	5%
			PS	35%
		28	PL	65%
			PR	10%
			PS	25%
Turboprop	Departure	7	PL	20%
			PR	70%
			PS	10%
		10	PL	5%
			PR	70%
			PS	25%
		25	PL	60%
			PR	5%
			PS	35%
		28	PL	65%
			PR	10%
			PS	25%
Civil Helicopter	Departures	EB	NE	45%
			E	45%
			SO	5%

Table 6 Departure Track Utilization

Group	Operation	Runway	Track	Percentage Use
			NW	5%
Military Helicopter	Departures	AB	NE	35%
			E	40%
			SW	10%
			W	10%
			NW	5%

Source: HMMH, Air Methods / Lifenet of NY, Fort Drum 10th Combat Aviation Brigade

Table 7 Arrival Track Utilization

Group	Operation	Runway	Track	Percentage Use
All Fixed Wing Aircraft	Arrival	7	CTR	100%
		10	CTR	100%
		25	CTR	100%
		28	CTR	100%
Civil Helicopters	Arrival	EB	E	25%
			SO	75%
Military Helicopters	Arrival	AB	NE	10%
			E	10%
			SW	40%
			W	40%

Source: HMMH, Air Methods / Lifenet of NY, Fort Drum 10th Combat Aviation Brigade

Table 8 Circuit Track Utilization

Group	Runway	Track	Percentage Use
Piston	7	PP	100%
	10	PP	100%
	25	PP	100%
	28	PP	100%
Turboprop	07	TP	100%
	10	TP	100%
	25	TP	100%
	28	TP	100%

Source: HMMH

1.3.5 Average Weather Conditions

INM version 7.0c accounts for the effects that airfield elevation and the average annual meteorological conditions have on aircraft performance. Aircraft departing an airport with a high temperature and/or a high elevation must use more thrust than at lower temperatures and elevations. The performance data used by the model define the length of the takeoff roll (based on aircraft takeoff weight), the climb rate, and speeds for each flight segment.

The EA noise modeling utilized the following weather conditions:

- Average temperature of 48.1 degrees F
- Average sea-level pressure of 29.97 in. Hg
- Average relative humidity of 74.8 percent
- Average headwind of 8.0 knots

The temperature, pressure, and humidity values are averages of the available data for 2011 from the National Climatic Data Center (NCDC). The headwind value is the INM's default setting. These values were used in the INM for the 2012 Existing Conditions and also for each of the three scenarios for 2022.

2 EXISTING CONDITIONS

Table 9 presents the annual average daily operations for the 2012 Existing Conditions noise modeling.

Table 9 2012 Existing Conditions Annual Average Daily INM Operations								
Aircraft Group	**INM Type**	**Description**	**Daytime Arrivals**	**Nighttime Arrivals**	**Departure Stagelength**	**Daytime Departures**	**Nighttime Departures**	**Total**
Scheduled Service	EMB145		1.63	0.07	2	1.68	0.03	3.41
Jet	CIT3		0.04	0.00	1	0.04	0.00	0.08
	CL600		0.24	0.01	1	0.25	0.01	0.50
	CL601		0.07	0.00	1	0.07	0.00	0.14
	CNA500		0.16	0.01	1	0.16	0.00	0.34
	CNA510		0.08	0.00	1	0.08	0.00	0.17
	CNA525C		0.18	0.01	1	0.18	0.00	0.36
	CNA55B		0.14	0.00	1	0.14	0.00	0.28
	CNA560E		0.04	0.00	1	0.04	0.00	0.08
	CNA560U		0.28	0.01	1	0.29	0.01	0.59
	CNA560XL		0.17	0.01	1	0.17	0.00	0.35
	CNA680		0.19	0.01	1	0.19	0.00	0.39
	CNA750		0.07	0.00	1	0.08	0.00	0.15
	ECLIPSE500		0.07	0.00	1	0.07	0.00	0.14
	F10062		0.12	0.00	3	0.12	0.00	0.25
	GIV		0.39	0.01	1	0.39	0.01	0.80
	GV		0.08	0.00	1	0.08	0.00	0.17
	LEAR35		0.58	0.02	1	0.59	0.01	1.20
	MU3001		0.47	0.02	1	0.47	0.01	0.97
Prop Multi	BEC58P		3.16	0.09	1	2.99	0.26	6.50
	CNA441		1.90	0.05	1	1.79	0.16	3.90
	DO228		0.17	0.00	1	0.16	0.01	0.34
	PA31		0.96	0.03	1	0.91	0.08	1.98
	SD330		0.16	0.00	1	0.15	0.01	0.32
Prop Single	CNA172		3.71	0.04	1	3.67	0.08	7.49
	CNA182		2.67	0.03	1	2.64	0.06	5.40
	CNA206		8.02	0.08	1	7.93	0.17	16.20
	CNA208		2.46	0.02	1	2.43	0.05	4.97
	GASEPF		0.29	0.00	1	0.28	0.01	0.58
	GASEPV		12.55	0.13	1	12.41	0.27	25.35
	PA28		1.96	0.02	1	1.94	0.04	3.96
Civil Helicopter	B206L		0.02	0.00	1	0.02	0.00	0.04
	B407		0.02	0.00	1	0.02	0.00	0.04
	B429		0.06	0.00	1	0.06	0.00	0.13
	EC130		0.51	0.23	1	0.51	0.23	1.48
	H500D		0.09	0.00	1	0.09	0.00	0.19
	R44		0.07	0.00	1	0.07	0.00	0.15
Military Helicopter	B206L		2.03	3.04	1	2.03	3.04	10.14
	CH47D		0.81	1.22	1	0.81	1.22	4.06
	S70		5.00	7.50	1	5.00	7.50	25.01
Total			**51.63**	**12.67**	**-**	**51.01**	**13.30**	**128.61**

Source: Passero Associates, HMMH

DNL contours show the cumulative noise exposure in the airport environment for an average-annual day for a particular scenario. Comparing DNL contours from different years or different forecast scenarios provides valuable information for noise abatement programs or proposed airport development projects.

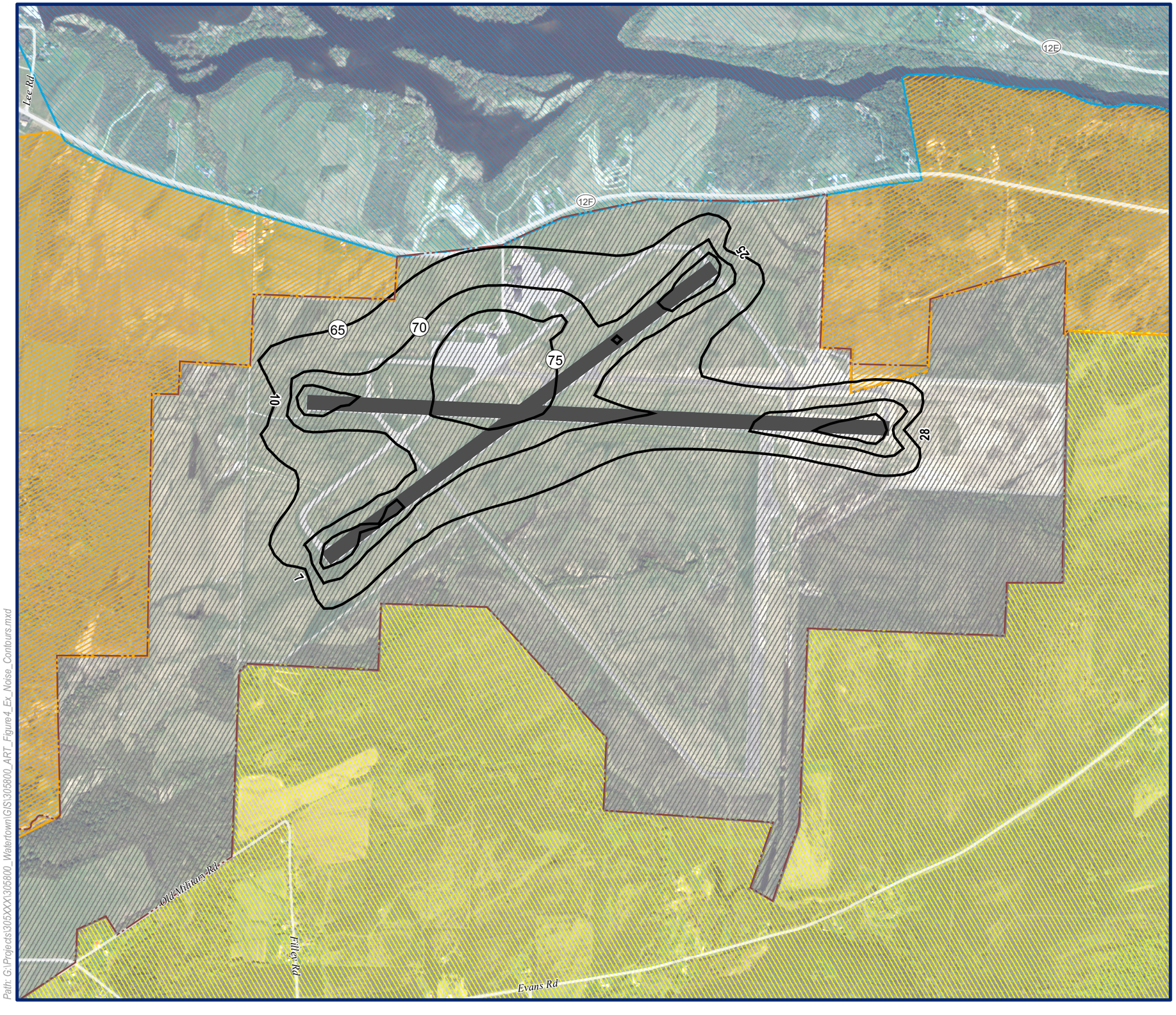
Both the Department of Housing and Urban Development (HUD) and the FAA define 65 dB DNL as the threshold of noise incompatibility with residential and other noise sensitive land uses. Thus, the 65 dB DNL contour is important for population impact assessments. The 65 dB DNL contour defines the area of potential significant impact.

Figure 4 shows the DNL contours for the 2012 Existing Conditions scenario. The 65 dB DNL contour remains on airport property except for in one location where the contour extends slightly into multi-use zoned land to the northwest of the terminal area towards Route 12F.

Watertown International Airport

Jefferson County - Watertown, New York

Figure 4
2012 Existing Conditions Noise Contours



Airport Boundary

Airport Runway

Existing Conditions Noise Contours (65 - 75 dB DNL)

Zoning

Agricultural and Residential

Industrial

Marine

Multi Use

0 1,000 2,000 Feet

N W E S

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3 ENVIRONMENTAL CONSEQUENCES

This section describes the proposed build scenario, Alternative 1, and the potential noise impacts associated with the No Action and Alternative 1 scenarios. The evaluation of the alternative will include a single future year, 2022. Table 10 presents the average daily operations for 2022. Note that the modeled operations will not change in Alternative 1 as compared to the No Action scenario.

Table 10 2022 Annual Average Daily INM Operations

Aircraft Group	INM Type	Description	Daytime Arrivals	Nighttime Arrivals	Departure Stagelength	Daytime Departures	Nighttime Departures	Total
Scheduled Service	CL601		2.59	0.12	2	2.66	0.05	5.41
Jet	CIT3		0.04	0.00	1	0.04	0.00	0.09
	CL600		0.26	0.01	1	0.27	0.01	0.54
	CL601		0.07	0.00	1	0.07	0.00	0.15
	CNA500		0.18	0.01	1	0.18	0.00	0.36
	CNA510		0.09	0.00	1	0.09	0.00	0.18
	CNA525C		0.19	0.01	1	0.19	0.00	0.39
	CNA55B		0.15	0.00	1	0.15	0.00	0.30
	CNA560E		0.04	0.00	1	0.04	0.00	0.09
	CNA560U		0.31	0.01	1	0.31	0.01	0.63
	CNA560XL		0.18	0.01	1	0.18	0.00	0.38
	CNA680		0.20	0.01	1	0.21	0.01	0.42
	CNA750		0.08	0.00	1	0.08	0.00	0.17
	ECLIPSE500		0.07	0.00	1	0.07	0.00	0.15
	F10062		0.13	0.00	3	0.13	0.00	0.27
	GIV		0.42	0.01	1	0.42	0.01	0.86
	GV		0.09	0.00	1	0.09	0.00	0.18
	LEAR35		0.63	0.02	1	0.63	0.02	1.30
	MU3001		0.50	0.02	1	0.51	0.01	1.04
Prop Multi	BEC58P		3.29	0.09	1	3.11	0.27	6.76
	CNA441		1.97	0.05	1	1.87	0.16	4.05
	DO228		0.17	0.00	1	0.16	0.01	0.35
	PA31		1.00	0.03	1	0.95	0.08	2.06
	SD330		0.16	0.00	1	0.15	0.01	0.33
Prop Single	CNA172		3.85	0.04	1	3.81	0.08	7.78
	CNA182		2.78	0.03	1	2.75	0.06	5.61
	CNA206		8.34	0.08	1	8.24	0.18	16.84
	CNA208		2.56	0.03	1	2.53	0.05	5.16
	GASEPF		0.30	0.00	1	0.29	0.01	0.60
	GASEPV		13.04	0.13	1	12.90	0.28	26.34
	PA28		2.04	0.02	1	2.01	0.04	4.12
Civil Helicopter	B206L		0.02	0.00	1	0.02	0.00	0.04
	B407		0.02	0.00	1	0.02	0.00	0.04
	B429		0.06	0.00	1	0.06	0.00	0.13
	EC130		0.51	0.23	1	0.51	0.23	1.48
	H500D		0.09	0.00	1	0.09	0.00	0.19
	R44		0.07	0.00	1	0.07	0.00	0.15
Military Helicopter	B206L		2.03	3.05	1	2.03	3.05	10.17
	CH47D		0.81	1.22	1	0.81	1.22	4.07
	S70		5.02	7.52	1	5.02	7.52	25.08
Total			**54.37**	**12.78**		**53.74**	**13.40**	**134.29**

Source: Passero Associates, HMMH

3.1 NO ACTION

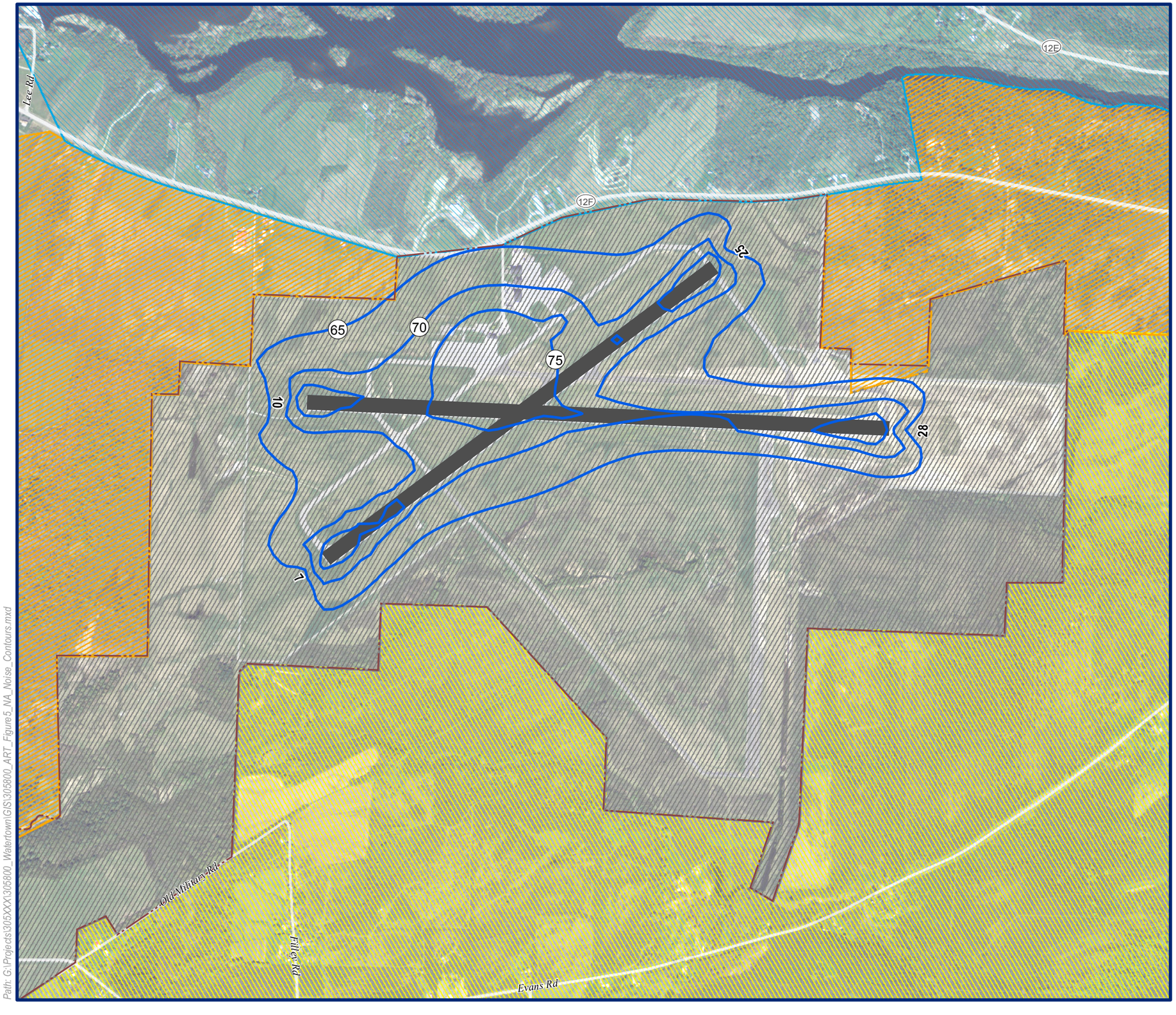
The No Action Alternative is the baseline for determining the potential impacts from the project. The No Action scenario for 2022 utilizes the existing runway geometry, flight tracks, and flight track utilization. The No Action Alternative contours for 2022 are shown in Figure 5.

The contours have a similar size and shape compared to the existing conditions contours.

Watertown International Airport

Jefferson County - Watertown, New York

Figure 5
2022 No Action Noise Contours



Airport Boundary

Airport Runway

No Action Noise Contours (65 - 75 dB DNL)

Zoning

Agricultural and Residential

Industrial

Marine

Multi Use

0 1,000 2,000 Feet

N W E S

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3.2 ALTERNATIVE 1

Alternative 1 includes a 1,000 foot extension of Runway 10/28 to the east. The Alternative 1 scenario for 2022 utilizes the same flight tracks as the 2012 Existing Conditions scenario, with the arrival, departure, and circuit tracks on Runway 28 shifted 1,000 ft to the east. These noise modeling flight tracks have the same names, geometry, and utilization rates as the tracks on the existing Runway 28. Figure 6 presents the INM flight tracks for Runway 28 in Alternative 1. All other flight tracks remain the same as in the Existing Conditions as shown in Figure 1, Figure 2, and Figure 3.

The average daily aircraft operations for the Alternative 1 scenario remain unchanged from the No Action scenario. The arrival and departure runway and track utilization for all aircraft remain the same as the 2012 Existing Conditions scenario. See Table 10 for the 2022 aircraft operations, Table 5 for the runway use rates, and Table 6, Table 7, and Table 8 for the track utilization rates.

Figure 7 shows the 65, 70, and 75 dB DNL contours for the 2022 Alternative 1 scenario. The 2022 No Action contours are included for reference. The growth in the 65 dB DNL contour occurs entirely on airport property; therefore there are no significant impacts due to Alternative1.

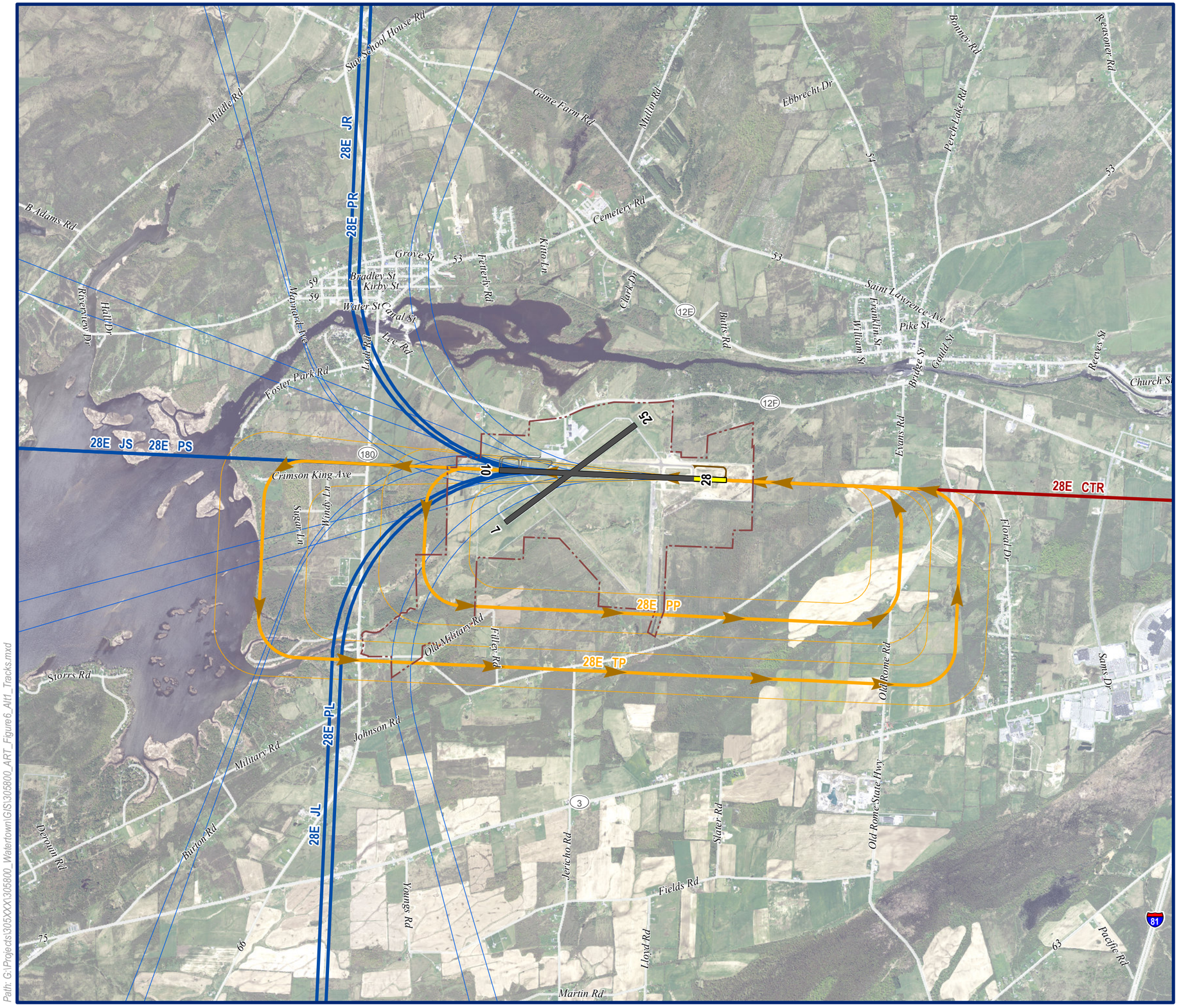
Table 11 presents noise levels at nearby noise sensitive locations for 2012 Existing Conditions, 2022 No Action, and 2022 Alternative 1. Additionally, the table notes the change in noise levels from the 2022 No Action Alternative to Alternative 1. Note that none of the locations meet any impact or disclosure criterion.

Although there were no significant impacts, a grid analysis was conducted to look at changes in the DNL due to Alternative 1 over the wider area encompassed by the extents of the No Action and Alternative 1 45 dB DNL contours for comparison to the thresholds of significance listed in section 1.1.1. The grid had a spacing of 250 ft. Figure 8 displays the impact grid results for the 2022 Alternative 1 scenario. The graphic displays locations with increases in noise level as described in section 1.1.1 as well as locations with decreases in noise levels. Table 12 lists all grid points meeting any NEPA impact or disclosure criterion. Although Alternative 1 caused large increases in noise levels at multiple grid points, these points were located on airport property and not at sensitive land uses.

Watertown International Airport

Jefferson County - Watertown, New York

Figure 6
2022 Alternative 1 INM Flight Tracks - Runway 28



Airport Boundary
Airport Runway
Alternative Runway Extension
Alternative Taxiway Extension

Arrival Backbone Track
Departure Backbone Track
Circuit Backbone Track (Showing Directional Flow)
Arrival Dispersed Track
Departure Dispersed Track
Circuit Dispersed Track

0 3,000 6,000 Feet

N W E S

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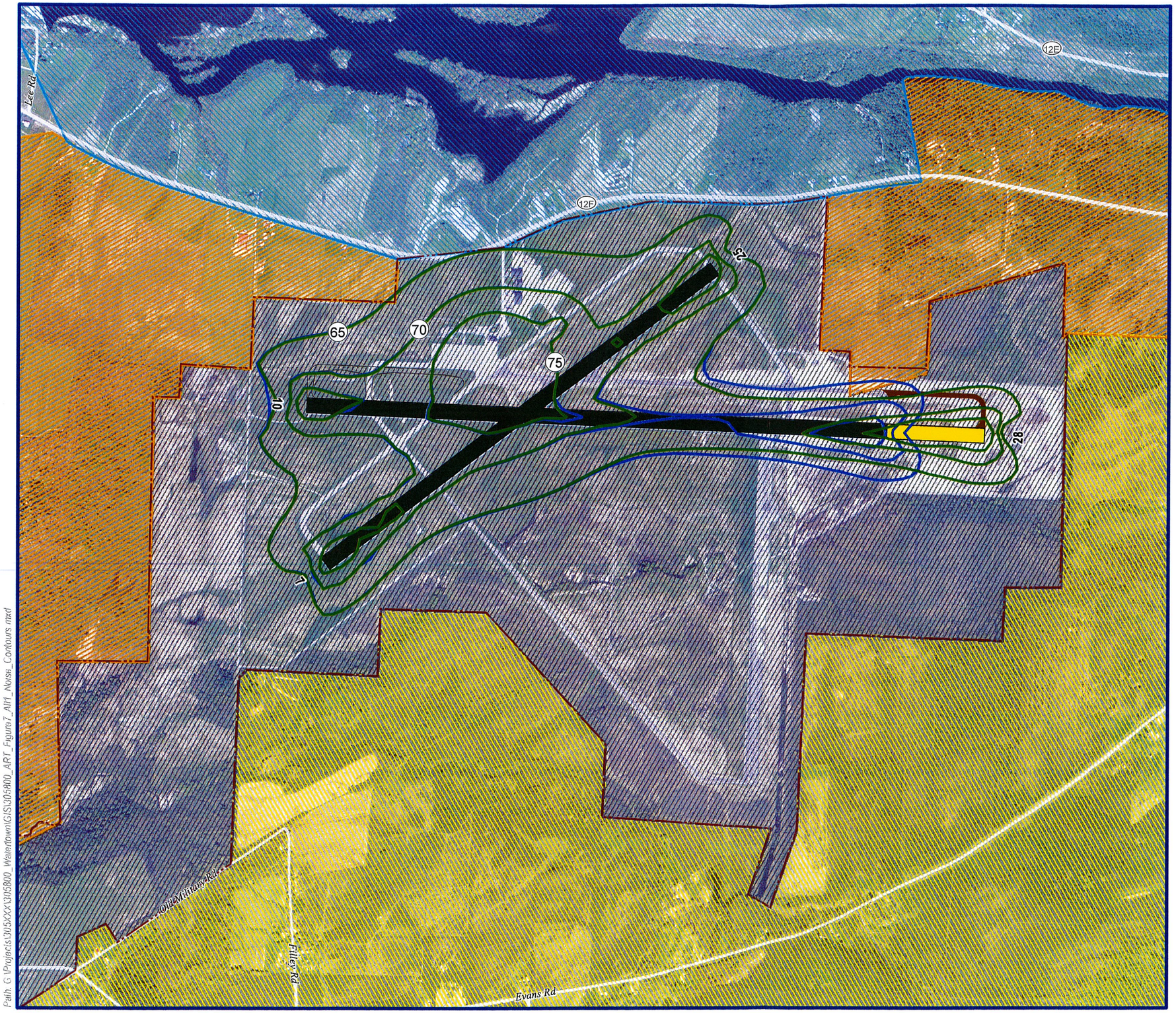
Watertown International Airport

Jefferson County - Watertown, New York

Figure 7
2022 Runway 28 Ext Noise Contour



- Airport Boundary
- Airport Runway
- Alternative Runway Extension
- Alternative Taxiway Extension
- Alternative 1 Noise Contours (65 - 75 dB DNL)
- No Action Noise Contours (65 - 75 dB DNL)

Zoning

- Agricultural and Residential
- Industrial
- Marine
- Multi Use

0 1,000 2,000 Feet

N W E S

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Table 11 Noise Levels at Sensitive Receptors – Alternative 1: Rwy 28 Ext

Description	Latitude	Longitude	2012 Existing Conditions DNL (dB)	2022 No Action DNL (dB)	2022 Alternative 1 DNL (dB)	2022 Alternative 1 Change (dB)
Places of Worship						
Living Waters Fellowship	43.987092	-75.888279	55.8	55.8	55.8	0.0
Rutland Congregational Church	43.989020	-75.922160	56.3	56.2	56.2	0.0
Life Church of the Nazarene	43.964483	-75.894934	37.8	37.6	37.6	0.0
Emmanuel Congregational Church	43.969870	-75.895019	40.8	40.5	40.5	0.0
Maranatha Bible Baptist Church	43.970878	-75.901061	41.3	41.0	41.0	0.0
First Presbyterian Church	43.971050	-75.910837	41.2	40.9	40.9	0.0
First United Methodist Church	43.971448	-75.917772	41.4	41.1	41.1	0.0
Trinity Episcopal Church	43.973181	-75.915175	42.6	42.3	42.3	0.0
Asbury United Methodist Church	43.971767	-75.906218	41.8	41.5	41.5	0.0
Holy Family Church	43.972019	-75.903166	42.1	41.7	41.7	0.0
First Baptist Church	43.974133	-75.907247	43.5	43.2	43.2	0.0
St Patrick's Church	43.975559	-75.916713	44.4	44.1	44.1	0.0
Cornerstone Assembly of God Church	43.973667	-75.917955	42.9	42.6	42.6	0.0
Concordia Lutheran Church	43.976752	-75.928327	45.0	44.7	44.7	0.0
United Presbyterian Church	43.946072	-76.118941	53.4	53.5	53.5	0.0
Fellowship Baptist Church	43.970744	-75.973431	42.3	42.4	42.5	0.1
Brownville United Methodist	44.006419	-75.984626	52.5	52.5	52.5	0.0
Airport Christian Fellowship Church	43.997728	-76.024525	61.1	61.0	60.9	-0.1
Faith Fellowship of Dexter	44.008441	-76.044802	46.4	46.5	46.5	0.0
Dexter Presbyterian Church	44.007926	-76.044786	46.7	46.7	46.7	0.0
Dexter United Methodist Church	44.008042	-76.046622	46.4	46.5	46.5	0.0
New Hope Baptist Church	43.972237	-75.971413	42.6	42.7	42.7	0.0
New Life Christian Church	43.976901	-75.941841	44.8	44.5	44.5	0.0
St Paul's Episcopal Church	43.971413	-75.907620	41.5	41.2	41.2	0.0
Watertown Seventh-Day Adventist	43.971981	-75.973386	42.7	42.8	42.9	0.1
Schools						
Dexter Elementary School	44.010184	-76.037556	46.5	46.6	46.6	0.0
Sackets Harbor Central SD	43.943911	-76.121307	53.5	53.7	53.7	0.0
Boon Street Public School	43.977500	-75.926918	45.7	45.4	45.4	0.0
Our Lady of Sacred Heart	43.982031	-75.909899	51.5	51.2	51.2	0.0

Table 11 Noise Levels at Sensitive Receptors – Alternative 1

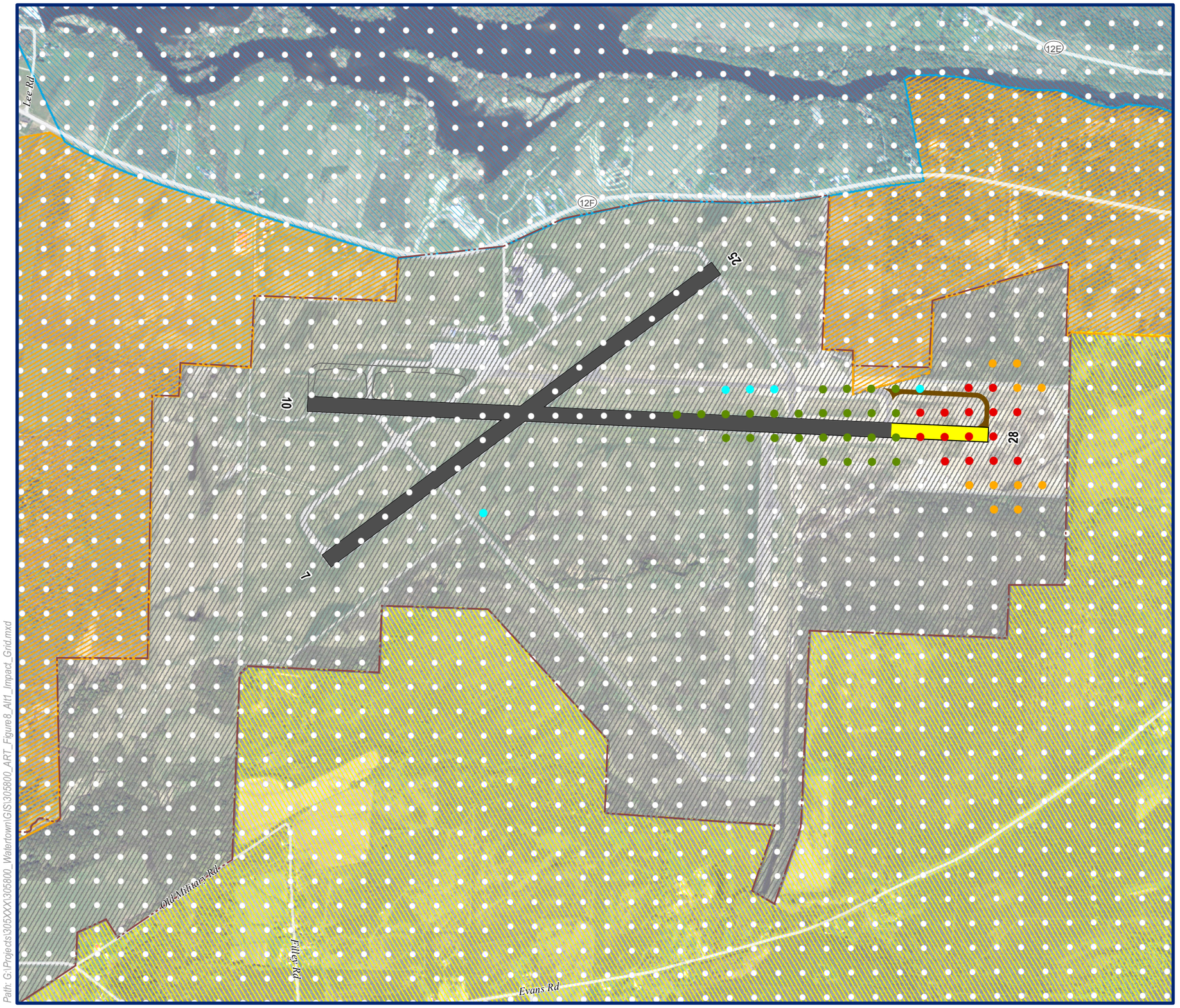
Description	Latitude	Longitude	2012 Existing Conditions DNL (dB)	2022 No Action DNL (dB)	2022 Alternative 1 DNL (dB)	2022 Alternative 1 Change (dB)
Jefferson Lewis Boces	43.970245	-75.970512	41.8	41.9	41.9	0.0
Immaculate Heart Central HS	43.957472	-75.934465	37.0	36.9	36.9	0.0
Watertown High School	43.957202	-75.912732	35.7	35.5	35.5	0.0
General Brown High School	44.014359	-76.020004	46.8	49.3	49.3	0.0
Saint Anthony's Parochial School	43.977327	-75.930644	45.4	45.1	45.1	0.0
Jefferson Community College	43.987091	-75.937148	55.4	55.2	55.2	0.0
Nursing Homes/ Hospitals						
Mercy of Northern NY	43.975120	-75.916222	44.0	43.7	43.7	0.0
Angels Inn	43.970340	-75.925526	40.7	40.4	40.4	0.0
Samaritan Medical Center	43.965163	-75.915124	38.2	37.9	37.9	0.0
Jefferson County Home – The Aged	43.991178	-75.936065	56.4	56.6	56.6	0.0
Libraries						
Brownville-Glen Park Library	44.005162	-75.982844	51.3	51.3	51.4	0.1
Dexter Free Library	44.007744	-76.044483	46.8	46.9	46.9	0.0
Flower Memorial Library	43.972928	-75.910250	42.5	42.2	42.2	0.0
Melvil Dewet Library at JCC	43.991317	-75.934931	56.4	56.5	56.5	0.0
North Country Library	43.993808	-75.930346	54.9	55.1	55.1	0.0
Hay Memorial Library	43.963442	-76.114350	48.2	48.4	48.4	0.0
Wildlife Management Area						
Dexter Marsh	43.993462	-76.062221	55.8	55.6	55.6	0.0

Source: HMMH

Watertown International Airport

Jefferson County - Watertown, New York

Figure 8
2022 Alternative 1 Impact Grid Results



- Airport Boundary
- Airport Runway
- Alternative Runway Extension
- Alternative Taxiway Extension

- Increase of 1.5 dB or greater for sites with a DNL >= 65 dB
- Increase of 3.0 dB or greater for sites with a DNL >= 60 dB and < 65 dB
- Increase of 5.0 dB or greater for sites with a DNL >= 45 dB and < 60 dB
- Decrease of 1.5 dB for sites with a DNL >= 65 dB
- Decrease of 3.0 dB for sites with a DNL >= 60 dB and < 65 dB
- Decrease of 5.0 dB for sites with a DNL >= 45 dB and < 60 dB
- New to 65 dB, but no 1.5 dB increase
- Removed from 65 dB, but no 1.5 dB decrease
- All others

Zoning

- Agricultural and Residential
- Industrial
- Marine
- Multi Use

0 1,000 2,000 Feet

N W E S

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Table 12 2022 Alternative 1 Grid Analysis Points Meeting any NEPA Criterion

Latitude (deg)	Longitude (deg)	No Action DNL (dB)	Alternative 1 DNL (dB)	Change in DNL (dB)
43.991893	-76.006741	66.8	69.8	3.0
43.993263	-76.003894	58.3	61.4	3.1
43.993263	-76.002945	57.5	61.0	3.5
43.989153	-76.003895	56.7	60.4	3.7
43.992578	-76.001996	57.3	61.5	4.2
43.989837	-76.001997	56.3	60.6	4.3
43.989152	-76.002946	55.7	60.1	4.4
43.989838	-76.004843	58.4	63.9	5.5
43.992578	-76.004843	59.2	65.1	5.9
43.992578	-76.002945	57.5	64.1	6.6
43.989837	-76.002946	56.4	63.3	6.9
43.992578	-76.003894	57.9	65.2	7.3
43.989838	-76.003895	56.7	64.2	7.5
43.990523	-76.005792	59.8	67.8	8.0
43.990523	-76.002946	57.7	66.3	8.6
43.991893	-76.002945	57.9	67.0	9.1
43.991893	-76.005792	59.6	70.4	10.8
43.990523	-76.004843	58.2	69.5	11.3
43.990523	-76.003894	57.9	70.1	12.2
43.991208	-76.003894	59.5	71.8	12.3
43.991893	-76.004843	58.7	71.4	12.7
43.991893	-76.003894	58.3	71.4	13.1
43.991208	-76.006741	61.5	75.8	14.3
43.991208	-76.005792	60.5	78.5	18.0
43.991208	-76.004843	60.0	82.5	22.5

Source: HMMH

Note: These are all on Airport Property.

REFERENCES

40 Code of Federal Regulations 1508.7 (Council for Environmental Quality [CEQ] Regulations for Implementing NEPA).

40 Code of Federal Regulations 1508.25(a)(2) (Council for Environmental Quality [CEQ] Regulations for Implementing NEPA).

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Federal Aviation Administration Order 1050.1E, Environmental Impacts: Policies and Procedures. 8 June 2004.

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APPENDIX A AIRCRAFT NOISE TERMINOLOGY

To assist reviewers in interpreting the complex noise terminology used in evaluating airport noise, we present below an introduction to relevant fundamentals of acoustics and noise terminology.

A.1 INTRODUCTION TO ACOUSTICS AND AIRCRAFT NOISE TERMINOLOGY

Five acoustical descriptors of noise are introduced here in increasing degree of complexity:

- Decibel, dB
- A-weighted decibel
- Maximum Sound Level, Lmax
- Time Above, TA
- Sound Exposure Level, SEL
- Equivalent Sound Level, Leq
- Day-Night Average Sound Level, DNL

These descriptors form the basis for the majority of noise analysis conducted at most airports throughout the U.S.

A.1.1 Decibel, dB

All sounds come from a sound source -- a musical instrument, a voice speaking, an airplane passing overhead. It takes energy to produce sound. The sound energy produced by any sound source is transmitted through the air in sound waves -- tiny, quick oscillations of pressure just above and just below atmospheric pressure. These oscillations, or sound pressures, impinge on the ear, creating the sound we hear.

Our ears are sensitive to a wide range of sound pressures. Although the loudest sounds that we hear without pain have about one million times more energy than the quietest sounds we hear, our ears are incapable of detecting small differences in these pressures. Thus, to better match how we hear this sound energy, we compress the total range of sound pressures to a more meaningful range by introducing the concept of sound pressure level.

Sound pressure levels are measured in decibels (or dB). Decibels are logarithmic quantities reflecting the ratio of the two pressures, the numerator being the pressure of the sound source of interest, and the denominator being a reference pressure (the quietest sound we can hear).

The logarithmic conversion of sound pressure to sound pressure *level* (SPL) means that the quietest sound that we can hear (the reference pressure) has a sound pressure level of about 0 dB, while the loudest sounds that we hear without pain have sound pressure levels of about 120 dB. Most sounds in our day-to-day environment have sound pressure levels on the order of 30 to 100 dB.

Because decibels are logarithmic quantities, combining decibels is unlike common arithmetic. For example, if two sound sources each produce 100 dB operating individually and they are then operated together, they produce 103 dB -- not the 200 decibels we might expect. Four equal sources operating simultaneously produce another three decibels of noise, resulting in a total sound pressure level of 106 dB. For every doubling of the number of equal sources, the sound pressure level goes up

another three decibels. A tenfold increase in the number of sources makes the sound pressure level go up 10 dB. A hundredfold increase makes the level go up 20 dB, and it takes a thousand equal sources to increase the level 30 dB.

If one noise source is much louder than another, the two sources operating together will produce virtually the same sound pressure level (and sound to our ears) that the louder source would produce alone. For example, a 100 dB source plus an 80 dB source produce approximately 100 dB of noise when operating together (actually, 100.04 dB). The louder source "masks" the quieter one. But if the quieter source gets louder, it will have an increasing effect on the total sound pressure level such that, when the two sources are equal, as described above, they produce a level three decibels above the sound of either one by itself.

Conveniently, people also hear in a logarithmic fashion. Two useful rules of thumb to remember when comparing sound levels are: (1) a 6 to 10 dB increase in the sound pressure level is perceived by individuals as being a doubling of loudness, and (2) changes in sound pressure level of less than about three decibels are not readily detectable outside of a laboratory environment.

A.1.2 A-Weighted dB

Another important characteristic of sound is its frequency, or "pitch." This is the rate of repetition of the sound pressure oscillations as they reach our ear. When analyzing the total noise of any source, acousticians often break the noise into frequency components (or bands) to determine how much is low-frequency noise, how much is middle-frequency noise, and how much is high-frequency noise. This breakdown is important for two reasons:

- People react differently to low-, mid-, and high-frequency noise levels. This is because our ear is better equipped to hear mid and high frequencies but is quite insensitive to lower frequencies. Thus, we find mid- and high-frequency noise to be more annoying.
- Engineering solutions to a noise problem are different for different frequency ranges. Low-frequency noise is generally harder to control.

The normal frequency range of hearing for most people extends from a low frequency of about 20 Hz to a high frequency of about 10,000 to 15,000 Hz. People respond to sound most readily when the predominant frequency is in the range of normal conversation, typically around 1,000 to 2,000 Hz. Psycho-acousticians have developed several filters which roughly match this sensitivity of our ear and thus help us to judge the relative loudness of various sounds made up of many different frequencies. The so-called A-weighting network does this best for most environmental noise sources. Sound pressure levels measured through this filter are referred to as A-weighted sound levels (measured in A-weighted decibels, or dBA).

The A-weighting network significantly discounts those parts of the total noise that occur at lower frequencies (those below about 500 Hz) and also at very high frequencies (above 10,000 Hz) where we do not hear as well. The network has very little effect, or is nearly "flat," in the middle range of frequencies between 500 and 10,000 Hz where our hearing is most sensitive. Because this network generally matches our ears' sensitivity, sounds having higher A-weighted sound levels are judged to be louder than those with lower A-weighted sound levels, a relationship which otherwise might not be true. It is for this reason that A-weighted sound levels are normally used to evaluate environmental noise sources. Figure A1 presents typical A-weighted sound levels of several common environmental sources.

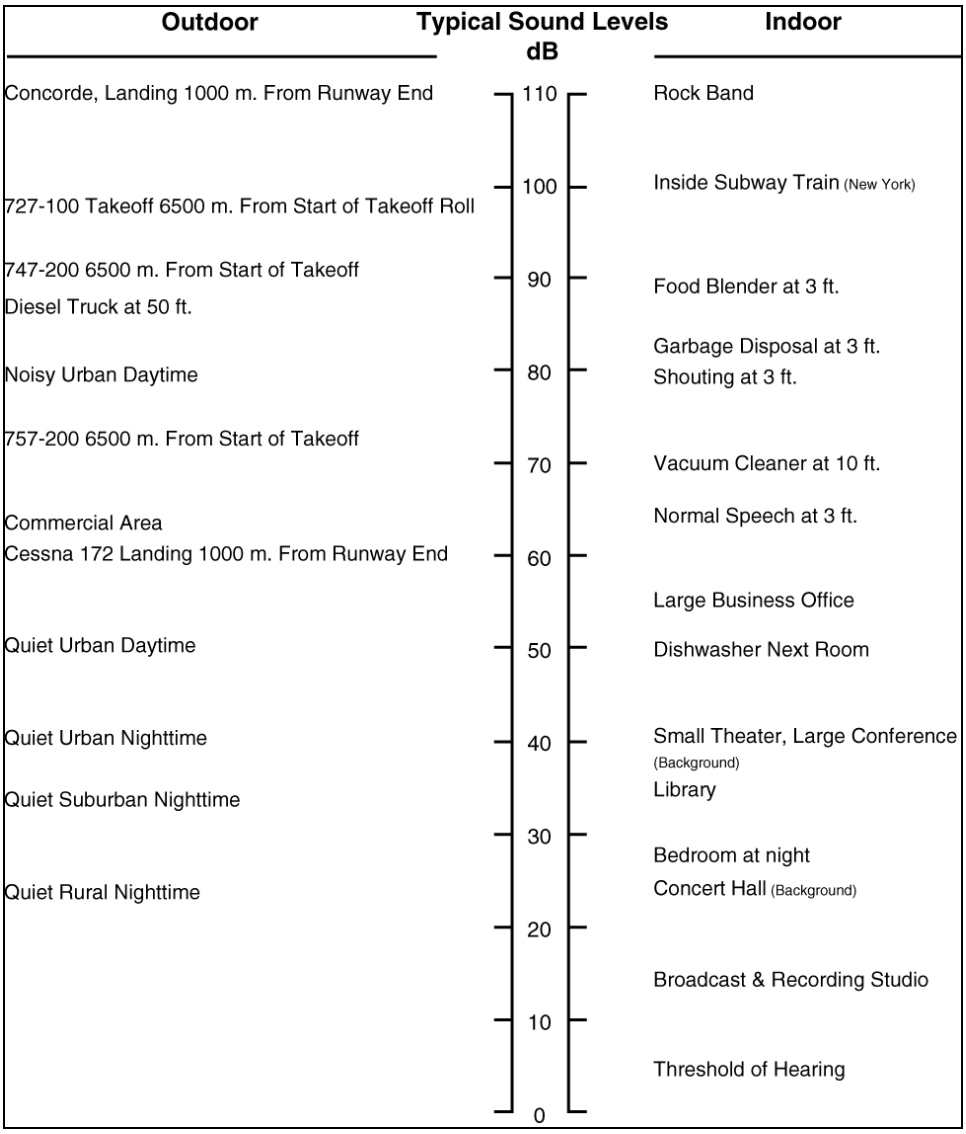

Figure A1 Common A-weighted environmental sound levels

An additional dimension to environmental noise is that A-weighted levels vary with time. For example, the sound level increases as an aircraft approaches, then falls and blends into the background as the aircraft recedes into the distance (even though the background varies as birds chirp, the wind blows, or a vehicle passes by). This is illustrated in Figure A2.

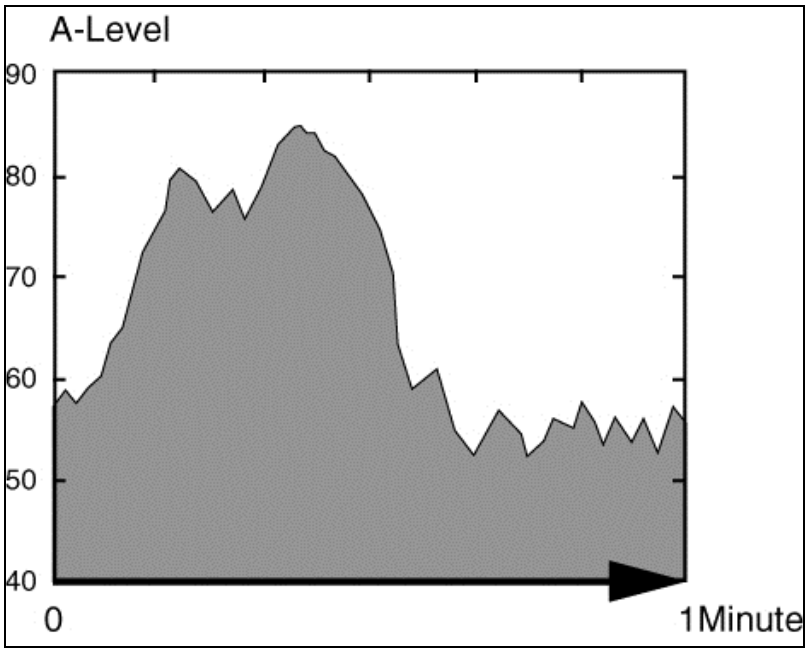

Figure A2 Variation of A-weighted sound level over time

A.1.3 Maximum sound level, Lmax and Time Above, TA

Because of this variation, it is often convenient to describe a particular noise "event" by its maximum sound level, abbreviated as L_{max}. In Figure A2, the L_{max} is approximately 85 dBA. However, the maximum level describes only one dimension of an event; it provides no information on the cumulative noise exposure generated by a sound source. Two events with identical maximum levels may produce very different total exposures. One may be of very short duration, while the other may continue for an extended period and be judged much more annoying. The following metrics, Time Above and Sound Exposure Level, account for event duration and total exposure, respectively.

A.1.4 Time Above, TA

The Time Above is simply the amount of time that an event or set of events exceeds a given noise threshold. It is often notated as TA with a threshold value (e.g. TA 65 is the amount of time which the noise level exceeds 65 dBA). By matching a TA threshold to a particular noise effect (e.g. speech interference), the amount of time a noise effect occurs can be stated using the TA metric.

A.1.5 Sound Exposure Level, SEL

The most common measure of cumulative noise exposure for a single aircraft fly-over is the Sound Exposure Level, or SEL. SEL is an accumulation of the sound energy over the duration of a noise event. The lightly shaded area in Figure A3 illustrates the portion of the sound energy included in this dose. To account for the variety of durations that occur among different noise events, the noise dose is normalized (standardized) to a one-second duration. This normalized dose is the SEL; it is shown as the darkly shaded area in Figure A3. Mathematically, the SEL is the summation of all the noise energy compressed into one second.

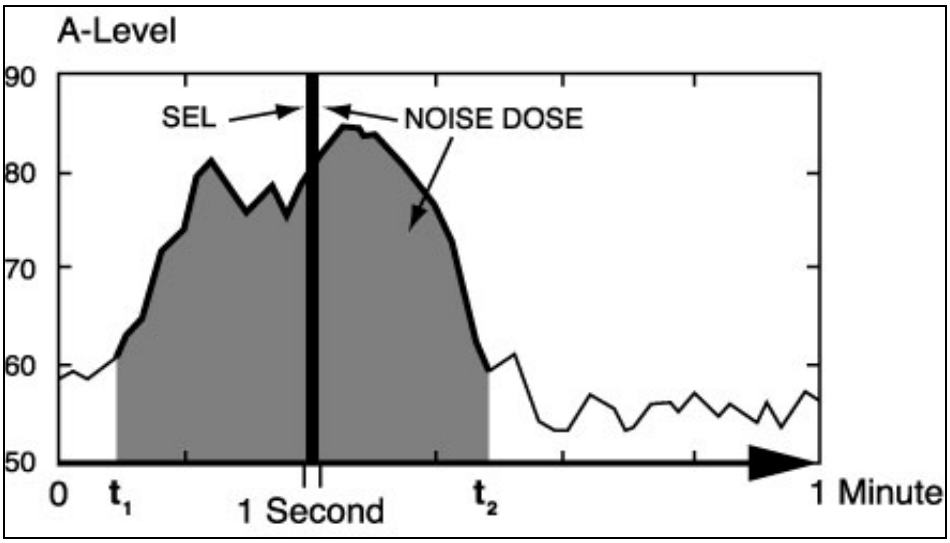

Figure A3 Graphic display of Sound Exposure Level, SEL

Note that because the SEL is normalized to one second, it will almost always be larger in magnitude than the maximum A-weighted level for the event. In fact, for most aircraft overflights, the SEL is on the order of 7 to 12 dBA higher than the L_{max}. Also, the fact that it is a cumulative measure means that not only do louder fly-overs have higher SEL than do quieter ones, but also fly-overs with longer durations have greater SEL than do shorter ones.

With this metric, we now have a basis for comparing noise events that generally matches our impression of the sound -- the higher the SEL, the more annoying it is likely to be. In addition, SEL provides a comprehensive way to describe a noise event for use in modeling noise exposure. Computer noise models base their computations on these SELs.

A.1.6 Equivalent Sound Level, Leq

The Equivalent Sound Level, abbreviated L_{eq}, is a measure of the exposure resulting from the accumulation of A-weighted sound levels over a particular period of interest -- for example, an hour, an eight-hour school day, nighttime, or a full 24-hour day. However, because the length of the period can be different depending on the time frame of interest, the applicable period should always be identified or clearly understood when discussing the metric.

L_{eq} may be thought of as a constant sound level over the period of interest that contains as much sound energy as the actual time-varying sound level. This is illustrated in Figure A4. The equivalent level is, in a sense, the total sound energy that occurred during the time in question, but spread evenly over the time period. It is a way of assigning a single number to a time-varying sound level. Since L_{eq} includes all sound energy, it is strongly influenced by the louder events.

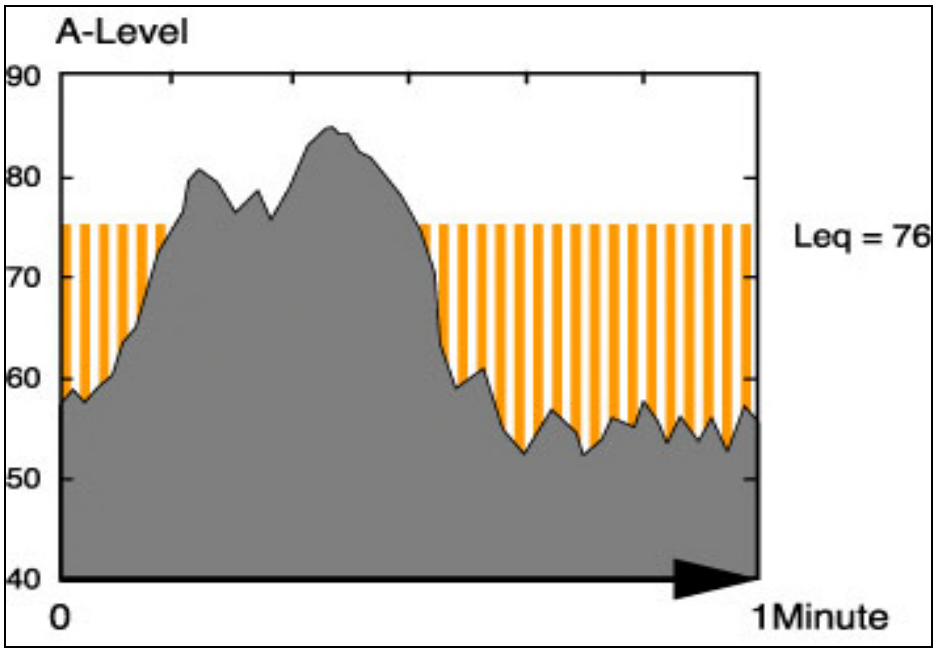

Figure A4 Graphical display of a one-minute Equivalent Sound Level, Leq

As for its application to airport noise issues, L_{eq} is often presented for consecutive one-hour periods to illustrate how the hourly noise dose rises and falls throughout a 24-hour period as well as how certain hours are significantly affected by a few loud aircraft.

A.1.7 Day-Night Average Sound Level, DNL

In the previous sections, we have been addressing noise measures that account for the moment-to-moment or short-term fluctuations in A-weighted levels as sound sources come and go affecting our overall noise environment. The Day-Night Average Sound Level (DNL) represents a concept of noise dose as it occurs over a 24-hour period. It is the same as a 24-hour L_{eq}, with one important exception; DNL treats nighttime noise differently from daytime noise. In determining DNL, it is assumed that the A-weighted levels occurring at night (10 p.m. to 7 a.m.) are 10 dB louder than they really are. This 10 dB penalty is applied to account for greater sensitivity to nighttime noise, and the fact that events at night are often perceived to be more intrusive because nighttime ambient noise is less than daytime ambient noise.

Earlier, we illustrated the A-weighted level due to an aircraft event. The example is repeated in the top frame of Figure A5. The level increases as the aircraft approaches, reaching a maximum of 85 dBA, and then decreases as the aircraft passes by. The ambient A-weighted level around 55 dBA is due to the background sounds that dominate after the aircraft passes. The shaded area reflects the noise dose that a listener receives during the one-minute period of the sample.

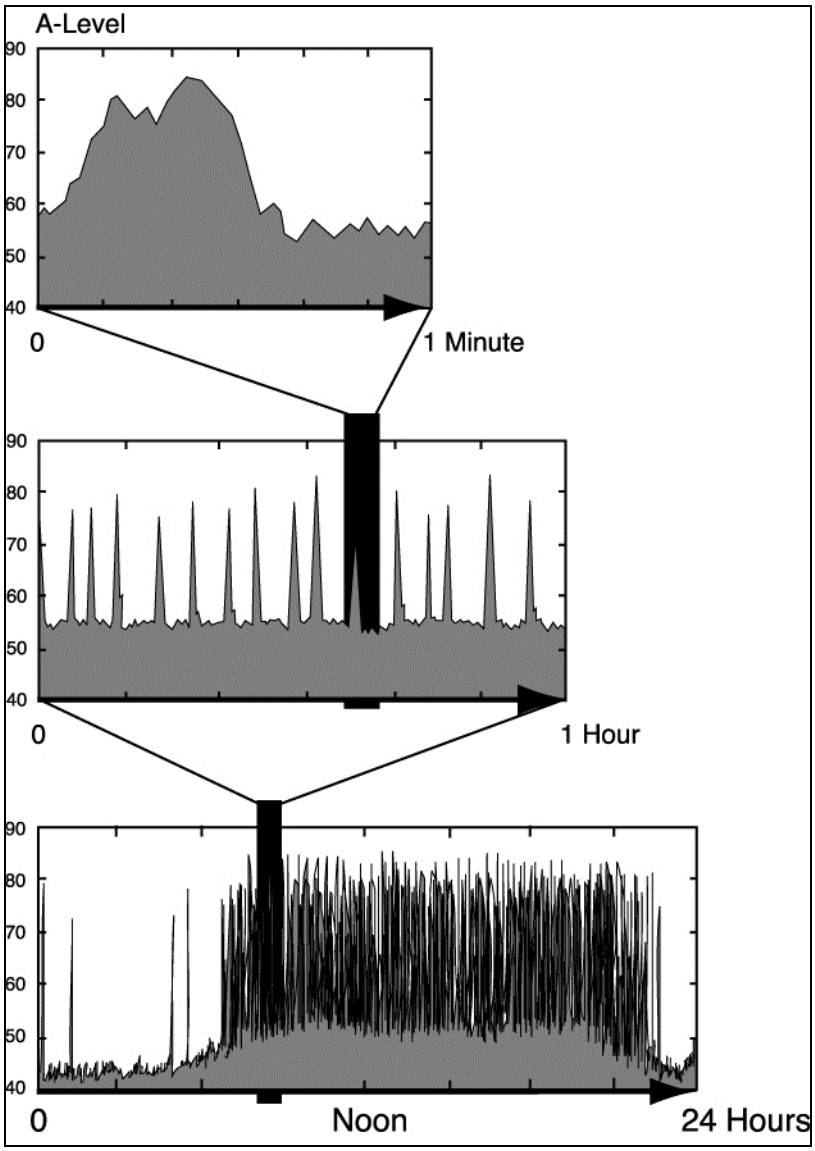

Figure A5 Sound level fluctuation and noise dose

The center frame of Figure A5 includes this one-minute interval within a full hour. Now the shaded area represents the noise dose during that hour when sixteen aircraft pass nearby, each producing a single event dose represented by an SEL. Similarly, the bottom frame includes the one-hour interval within a full 24 hours. Here the shaded area represents the noise dose over a complete day. Note that several overflights occur at night, when the background noise drops some 10 decibels, to approximately 45 dBA.

Values of DNL are normally measured with standard monitoring equipment or are predicted with computer models. Measurements are practical for obtaining DNL values for only relatively limited numbers of locations, and, in the absence of a permanently installed monitoring system, only for relatively short time periods. Thus, most airport noise studies utilize computer-generated estimates of

DNL, determined by accounting for all of the SEL from individual aircraft operations that comprise the total noise dose at a given location on the ground. This principle is used in all airport noise modeling.

Computed values of DNL are usually depicted as noise contours shown as lines of equal exposure around an airport (much as topographic maps have contour lines of equal elevation). The contours usually reflect long-term (annual average) operating conditions, taking into account the average flights per day, how often each runway is used throughout the year, and where over the surrounding communities the aircraft normally fly.

Figure A6 presents a representative sample of DNL (denoted L_{dn} in the figure) measured at various locations in the U.S.

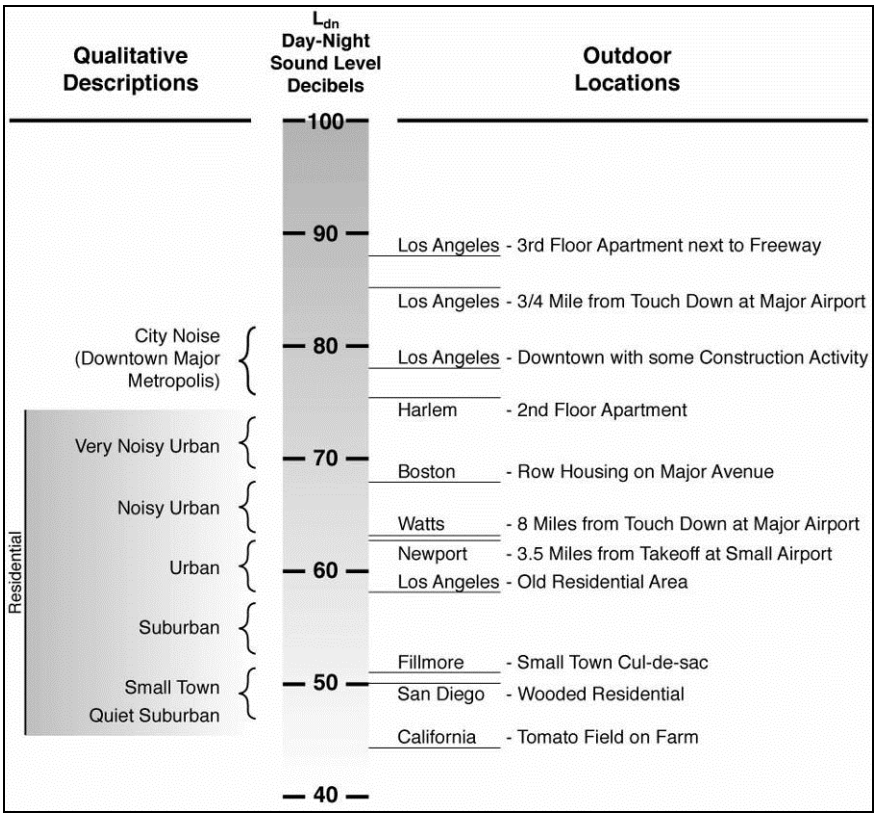

Figure A6 Representative Examples of Day-Night Average Sound Levels, DNL

Source: United States Environmental Protection Agency, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, March 1974, p.14

APPENDIX B NON-STANDARD NOISE MODELING REQUEST AND FAA RESPONSE

The following pages provide a copy of the letter of submitted to the FAA on aircraft substitutions for the aircraft operating at ART but not included in the INM standard substitutions list and the FAA's response.

B.1 NON-STANDARD MODELING REQUEST

HARRIS MILLER MILLER & HANSON INC.
77 South Bedford Street
Burlington, MA 01803
T 781.229.0707
F 781.229.7939
www.hmmh.com

December 21, 2012

Harris Miller Miller & Hanson Inc. (HMMH) is preparing the noise section for the Environmental Assessment at Watertown International Airport (ART). Consistent with Federal Aviation Administration (FAA) policies and procedures, we submit this request for approval of the identified aircraft types of interest (Attachment A).

We request that the FAA approve these Integrated Noise Model (INM) 7.0c substitutes for each of these aircraft models for use in this EA. We would be pleased to answer any questions you have regarding this request.

In accordance with FAA policy, we expect that this request will be reviewed by the FAA's Airport Planning and Environmental Division (APP-400) and Office of Environment and Energy Noise Division (AEE-100). We will be happy to respond to questions regarding this request from yourself or those offices.

Thank you for your assistance on this matter.

Sincerely yours,

HARRIS MILLER MILLER & HANSON INC.

Bradley Nicholas.
Senior Consultant

Attachment A: INM Aircraft Substitution Requests and Suggestions

HARRIS MILLER MILLER & HANSON INC.

Environmental Assessment for Watertown International Airport
Request for INM 7.0c Aircraft Type Substitutions
December 21, 2012
Page A 1

ATTACHMENT A

INM AIRCRAFT SUBSTITUTION REQUESTS AND SUGGESTIONS

Table 1. Aircraft Types and Recommended INM Substitutions

#	Group	Aircraft Code	Represented Aircraft Models	Recommended INM Substitution
1.1	Helicopter	AH64	Apache	S70
-	Helicopter	BK17	Boelkow BK-117	B222[1]
1.2	Helicopter	EC35	Eurocopter EC-135	EC130
-	Helicopter	OH58	Kiowa	SA341G[1]
1.3	Jet	E50P	Embraer Phenom 100	CNA510
-	Jet	E55P	Embraer Phenom 300	CNA55B[2]
1.4	Jet	H25C	BAe/Raytheon Hawker 1000	LEAR35
1.5	Jet	LJ40	Learjet 40	LEAR35
-	Turbo Prop	B350	Beech Super King Air 350	DO228[2]
-	Turbo Prop	P46T	Piper Malibu Meridian	CNA208[2]
1.6	Piston Prop	BE36	36 Bonanza	GASEPV
1.7	Piston Prop	COL4	Lancair LC-41 Columbia 400	GASEPV

Notes:
1 Helicopter substitutions as per FAA's HNM version 2.2 Database Number 2
2 FAA recommended type for LAX Part 161 Study, HMMH Job #300700

1.1 AH-64 Apache

We propose to model AH64 operations with INM type S70.

The AH-64 (Apache) is a military helicopter with a maximum weight of approximately 23,000 lbs, a main rotor diameter of 48', and two turboshaft engines delivering approximately 1,890 shp each. Of the available INM helicopter types, the S70 appears to be the best match. The S-70 (UH-60, Blackhawk) is a military helicopter with a maximum weight of approximately 24, 500 lbs, a rotor diameter of 53' 8", and two turboshaft engines delivering approximately 1,880 shp each[1].

1.2 Eurocopter EC-135

We propose to model EC35 operations with INM type EC130 as most recently approved for the Martin County Airport / Witham Field (SUA) Part 150, HMMH Job # 303880.

The EC-135 is a small light-weight helicopter with the fenestron tail rotor system where the tail rotor is integrated into the tailboom.

1.3 Embraer EMB-500 Phenom 100 – E50P

We propose to model EMB-500 Phenom 100 operations with INM type CNA510 as most recently approved for the LAX Part 161, HMMH Job # 300700.

Table 2 presents certification data for the EMB-500 and similar types that are available in INM. The Cessna Mustang, identified in INM 7.0b as CNA510, has the same series of engines as the EMB-500 and provides the closest match in certification levels.

[1] Data presented here regarding the AH-64 and the UH-60 are from "Jane's All the World's Aircraft 2005-2006" Jane's Information Group Limited, Sentinel House Coulsdon, Surrey, UK (ISBN 0 7106 2684 3, http://jawa.janas.com).

Table 2 Noise Certification Data for Embraer EMB 500 Phenom 100, Cessna Citation Mustang, Eclipse 500 and Cessna Bravo

Manufacturer	Type Designation	MTOW (lb)	MLW (lb)	Engine Manufacturer / Type Designator	Noise Level (EPN dB)		
					Fly Over	Lateral	Approach
Embraer	EMB 500	10,472	9,766	Pratt & Whitney Canada / PW617F-E	70.4	81.4	86.1
Cessna Aircraft Company	Cessna 510 / Citation Mustang	8,644	8,001	Pratt & Whitney Canada / PW615F-A	73.9	85.0	86.0
Eclipse Aerospace, Inc.	EA500	6,001	5,600	Pratt & Whitney Canada / PW610F-A	69.2	78.9	81.9
Cessna Aircraft Company	Model 550 / Bravo	14,800	13,499	Pratt & Whitney Canada / PW530A	73.7	85.2	91.2
Notes: All weights converted from certification data from kilograms to pounds "TCDSN Jets (080711).xls", at http://easa.europa.eu/ws_prod/c/c_tc_noise.php on January 4, 2010.							

1.4 Raytheon Hawker-125-1000 – H25C

We propose to model H25C operations with INM type LEAR35 as most recently approved for the LAX Part 161, HMMH Job # 300700.

We compared the Hawker 125-1000 with the Hawker 800 and LEAR35 aircraft shown in Table 3. Based on the comparison, the LEAR35 appears to be a good match.

Table 3 Noise Certification Data from BAe-125-1000 and -800 and LEAR35

Manufacturer	Type Designation	MTOW (lb)	MLW (lb)	Engine Manufacturer / Type Designator	Noise Level (EPN dB)		
					Takeoff	Sideline	Approach
Raytheon	Hawker 125-1000	31,000	25,000	PW305	81.8	85.9	91.6
Raytheon	Hawker 125-800	27,400	23,350	TFE731-5R-1H	80.9	87.2	96.5
Learjet	LEAR 35 A	18,000	14,300	TFE731-2-2B	83.6	87.4	91.3
Source: FAA AC 36-1H, at http://www.faa.gov/about/office_org/headquarters_offices/AEP/noise_levels/media/uscert_appendix_01_030210.xls							

1.5 Learjet 40 – LJ40

We propose to model LJ40 operations with INM type LEAR35 as most recently approved for the LAX Part 161, HMMH Job # 300700.

The LJ40 is a derivative of the Learjet 45 (LJ45) with a shorter fuselage. The LJ40 and LJ45 engines are both versions of the Honeywell TFE731-20AR. In INM 7.0b the LJ45 is mapped to the substitution aircraft, LEAR35.

1.6 Beechcraft Bonanza 36 and Turbo Bonanza - BE36 and B36T

We propose to model BE36 operations with INM type CNA206 as most recently approved for the LAX Part 161, HMMH Job # 300700.

The BE36 Beechcraft Bonanza is a single-engine propeller aircraft that is similar in weight and type engine manufacturer/type designator with the Cessna 206 as shown in Table 4.

Table 4 Estimated Maximum A-weighted Sound Levels for Cessna 206, Beechcraft

Manufacturer	Type Designation	MTOW (lb)	MLW (lb)	Engine Manufacturer / Type Designator	Noise Level (Est Lmax dB)	
					Takeoff	Approach
Cessna	206	3,300	3,300	IO-520-A	70.2	63.5
Beech	A36	3,600	3,600	IO-520-BA	71.0	64.0
Source: FAA AC 36-3H, as posted on http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/AEAB4E3E783D2B6086256E3700762A57						

1.7 Lancair Columbia 400 – COL4

We propose to model the COL4 operations with INM type as most recently approved for the LAX Part 161, HMMH Job # 300700.

The COL4 is a single engine piston aircraft similar in weight to the GASEPV.

B.2 FAA NON-STANDARD MODELING LETTER OF APPROVAL

U.S. Department of Transportation
Federal Aviation Administration

Office of Environment and Energy

800 Independence Ave., S.W.
Washington, D.C. 20591

Date: January 14, 2013

Andrew Brooks
Environmental Program Manager
Federal Aviation Administration
Eastern Regional Office
1 Aviation Plaza
Jamaica, NY 11434

Dear Mr. Brooks,

The Office of Environment and Energy (AEE) received your e-mail dated January 3, 2013 requesting approval of modeling 12 aircraft types that do not have Integrated Noise Model (INM) standard substitutions. This request is to evaluate noise in support of the Environmental Assessment (EA) for a Runway Extension at Watertown International Airport (ART).

Harris Miller Miller & Hanson Inc. (HMMH) is preparing the noise section for the EA at ART using the INM version 7.0c and is requesting approval for the aircraft substitutes listed in the table below. AEE concurs with 9 of the 12 substitutions proposed by HMMH. Three of the proposed substitutions are from older versions of INM and are no longer recommended. Updates to INM in version 7.0c include new aircraft models that are more appropriate as substitutions for the aircraft being modeled at ART. AEE's recommendations for these aircraft are noted in the table below.

Aircraft	HMMH Proposed Substitution	AEE Recommendation
Apache	S70	Concur
Boelkow BK-117	B222	B429
Eurocopter EC-135	EC130	Concur
Kiowa	SA341G	B206B
Embraer Phenom 100	CNA510	Concur
Embraer Phenom 300	CNA55B	CNA560E
Raytheon Hawker 1000	LEAR35	Concur
Learjet 40	LEAR35	Concur
Beech Super King Air 350	DO228	Concur
Piper Malibu Meridian	CNA208	Concur
Beech Bonanza 36	CNA206	Concur
Lancair LC-41 Columbia 400	GASEPV	Concur

In addition it should be noted that Table 1 of Attachment A of the request from HMMH contains an error. The HMMH recommended substitution for the Bonanza 36 is incorrectly identified as the GASEPV in Table 1. The text in paragraph 1.6 of the request correctly identifies the CNA206 as the proposed substitution. AEE concurs with using the CNA206 as a substitute for the Bonanza 36.

Please understand that this approval is limited to this particular EA for ART. Any additional projects or non-standard INM input at ART will require separate approval.

Sincerely,

Rebecca Cointin, Manager
AEE/Noise Division
cc: Jim Byers, APP-400

TABLE 1—LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUND (Part 150)

Land Use	Yearly day-night average sound level (L_{dn}) in decibels					
	< 65	65-70	70-75	75-80	80-85	> 85
Residential						
Residential, other than mobile homes and transient lodgings	Y	N (1)	N (1)	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N (1)	N (1)	N (1)	N	N
Public Use						
Schools	Y	N (1)	N (1)	N	N	N
Hospitals, nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Government services	Y	Y	25	30	N	N
Transportation	Y	Y	Y (2)	Y (3)	Y (4)	Y (4)
Parking	Y	Y	Y (2)	Y (3)	Y (4)	N
Commercial Use						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail- building materials, hardware and farm equipment	Y	Y	Y (2)	Y (3)	Y (4)	N
Retail trade-general	Y	Y	25	30	N	N
Utilities	Y	Y	Y (2)	Y (3)	Y (4)	N
Communication	Y	Y	25	30	N	N
Manufacturing and Production						
Manufacturing, general	Y	Y	Y (2)	Y (3)	Y (4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y (6)	Y (7)	Y (8)	Y (8)	Y (8)
Livestock farming and breeding	Y	Y (6)	Y (7)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports arenas and spectator sports	Y	Y (5)	Y (5)	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables and water recreation	Y	Y	25	30	N	N

Numbers in parenthesis refer to notes; see continuation of Table 1 for notes and key.

The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute Federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

(more)

TABLE 1—LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVELS (CONTINUED)

Key to Table 1	
Y (YES)	Land Use and related structures compatible without restrictions.
N (NO)	Land Use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30, or 35	Land use and related structures generally compatible; measures to achieve NLR of 25, 30 or 35 dB must be incorporated into design and construction of structure.
Notes for Table 1	
(1)	Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10 or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.
(2)	Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
(3)	Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
(4)	Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
(5)	Land use compatible provided special sound reinforcement systems are installed.
(6)	Residential buildings require an NLR of 25.
(7)	Residential buildings require an NLR of 30.
(8)	Residential buildings not permitted.
(end of Table 1)	

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

March 04, 2013

Lisa Cheung
Passero Associates
242 West Main St
Rochester, New York 14614

Re: FAA
Watertown Airport Runway Extension and
Terminal Area Development
Watertown International
Airport/HOUNSFIELD, Jefferson County
12PR05168

Dear Ms. Cheung:

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

APPENDIX F

ARCHAEOLOGICAL ASSESSMENT

Phase IB Cultural Resource Investigations
for Areas 1-5 at the Watertown International Airport
Town of Hounsfield, Jefferson County, New York

MCD: 04510

NYSOPRHP Project Review Number: 12PR05168

ACE Report 09.12

6 February 2013

Prepared By:

Mark W. Ewing, MA
Principal Investigator
Archaeological Consulting Experts
1831 Hoagland Road
Mount Morris, New York 14510

"Your ACE of spades in compliance issues"

Submitted to:

Lisa M. Cheung
Airport Planner
Passsero Associates
242 West Main Street
Suite 100
Rochester, NY 14614

Email: lcheung@passero.com
Phone: 585.325.1000 x201
Fax: 585.325.1691

Sponsor: FAA

MANAGEMENT SUMMARY

A. **SHPO Project Review Number:** 12PR05168

B. **Involved State and Federal Agencies:** SHPO, FAA

C. **Phase of Survey:** Phase IB Archaeological Resource Reconnaissance Survey

D. **Location Information**
Location: Town of Hounsfield
Minor Civil Division: MCD 04510
County: Jefferson County, New York

E. **Survey Area**
Maximum Length: varied between 5 discrete parcels
Maximum Width: varied between 5 discrete parcels
APE Acres: Approximately 35 acres distributed among 5 parcels
Number of Square Meter & Feet Excavated (Phase II, Phase III only): N/A
Percentage of the Site Excavated (Phase II, Phase III only): N/A

F. **USGS 7.5 Minute Quadrangle Map:** Sacketts Harbor, NY 2010

G. **Archaeological Survey Overview**
Number & Interval of Shovel Tests: 477 STPs at predominantly 15-m (50-ft) intervals
Number & Size of Units: N/A
Width of Plowed Strips: N/A
Surface Survey Transect Interval: N/A

H. **Results of Archaeological Survey**
Number of & name of prehistoric sites identified: 0
Number of & name of historic sites identified: 0
Number of & name of sites recommended for Phase II/Avoidance: 0

I. **Results of Architectural Survey**
Number of buildings/structures/cemeteries within project area: 0
Number of buildings/structures/cemeteries adjacent to project area: 0
Number of known NR listed/eligible buildings/structures/cemeteries/districts: 0
Number of identified eligible buildings/structures/cemeteries/districts: 0

J. **Report Author(s):** Mark W. Ewing, Archaeological Consulting Experts, Mount Morris, New York.

K. **Date of Report:** 6 February 2013

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Appendices

I. Project Summary

This report presents the results of the Phase IB cultural resource investigation of five (5) separate parcels of land which are to be included in the preparation of the Watertown International Airport Environmental Assessment. The Phase IB investigations, requested by Ms. Lisa Cheung of Passero Associates, Rochester, New York, are in compliance with existing state and federal regulations regarding the location, evaluation, and preservation of cultural resources that may suffer adverse impacts from government assisted or permitted construction projects. Approximately 35 acres are considered the Area of Potential Effect (APE) for this project. More specific information for each parcel (noted as Areas 1-5) is provided below:

Area 1: Grading area for the runway safety area and object free area for a proposed 1,000 runway 28 extension. Total acreage: 7+/- ac

Area 2: Area of the medium intensity approach lighting system (MALSR) to extended runway 28. Total acreage: 10 +/- ac

Area 3: General aviation apron expansion connecting the terminal apron with the general aviation apron. This apron will provide additional apron space for users of the business operations center. Total acreage: 1 +/- ac

Area 4: Location of the proposed airport parking lot expansion and internal roadway. Total acreage: 11 +/- ac

Area 5: General aviation apron expansion to the east to provide additional apron space for the general aviation user, and provide the apron needed to support potential future hangar development. Total acreage: 6+/- ac

The Watertown International Airport is located immediately south of NYS Route 12F (Rt 12F), just about 3 miles west of the outskirts of the City of Watertown and around 2 miles east of Black River Bay and outlet. All lands are located in the Town of Hounsfield, Jefferson County, New York (Figures 1 and 2).

II. Previous Phase IA and Phase I Reports

Phase IA investigations had already been conducted for larger sections of the Watertown International Airport that included all or parts of the Areas 1-5 under consideration for modification (Graupman and Ewing 2011). The Phase IA report had indicated that unless obvious disturbance was evident, all areas under consideration for ground disturbance should be subjected to standard Phase IB investigations due to the average potential for Native material to be encountered. Environmentally and of importance to a Phase IB survey, it also showed that bedrock outcropping was prevalent in the general area such that some places have little or no topsoil.

The limited section of Area 5 that had Phase I investigations performed previously, were devoid of archaeological material and required no additional archaeological investigations (Crowder et al 2009). As such, this section of Area 5 was excluded from testing as part of these current investigations.

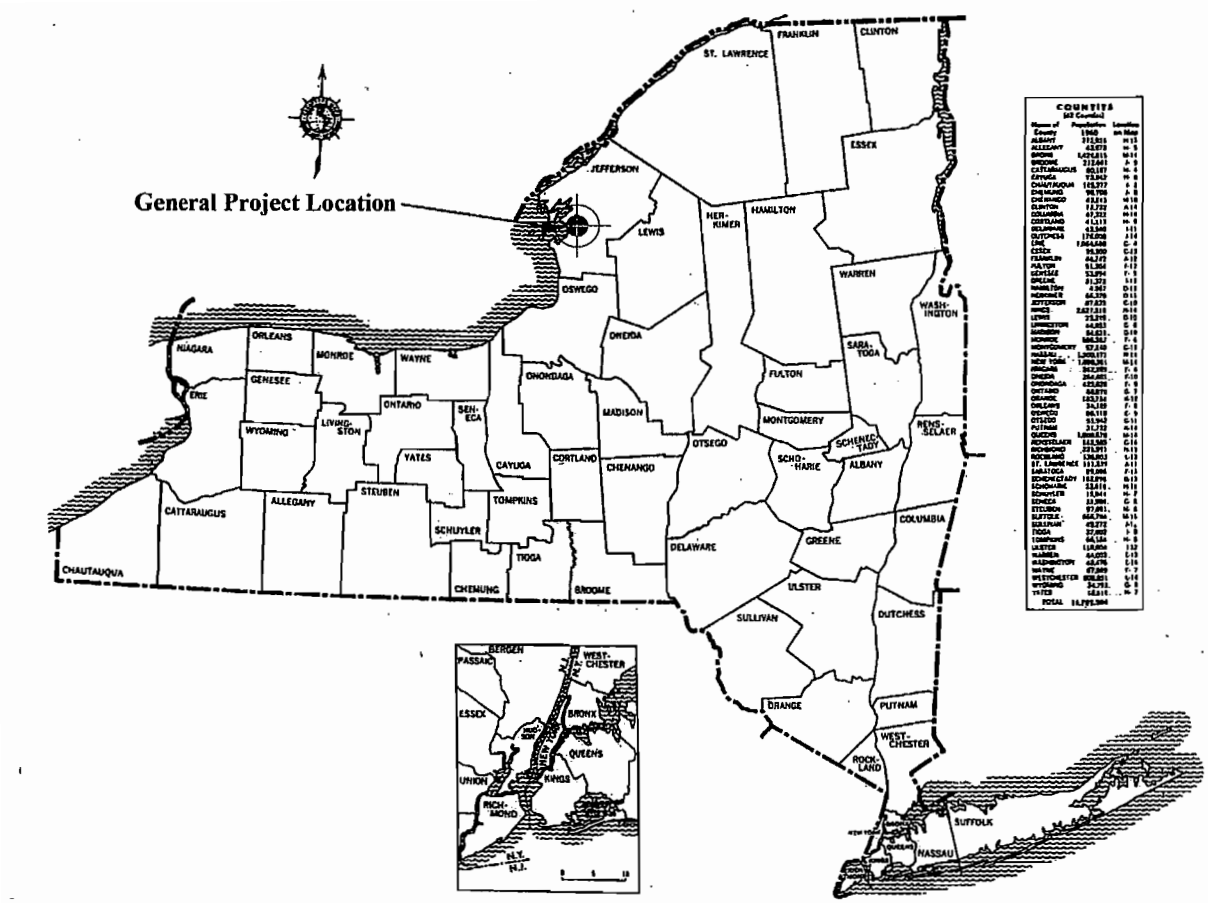


Figure 1: General project location in Jefferson County, New York State

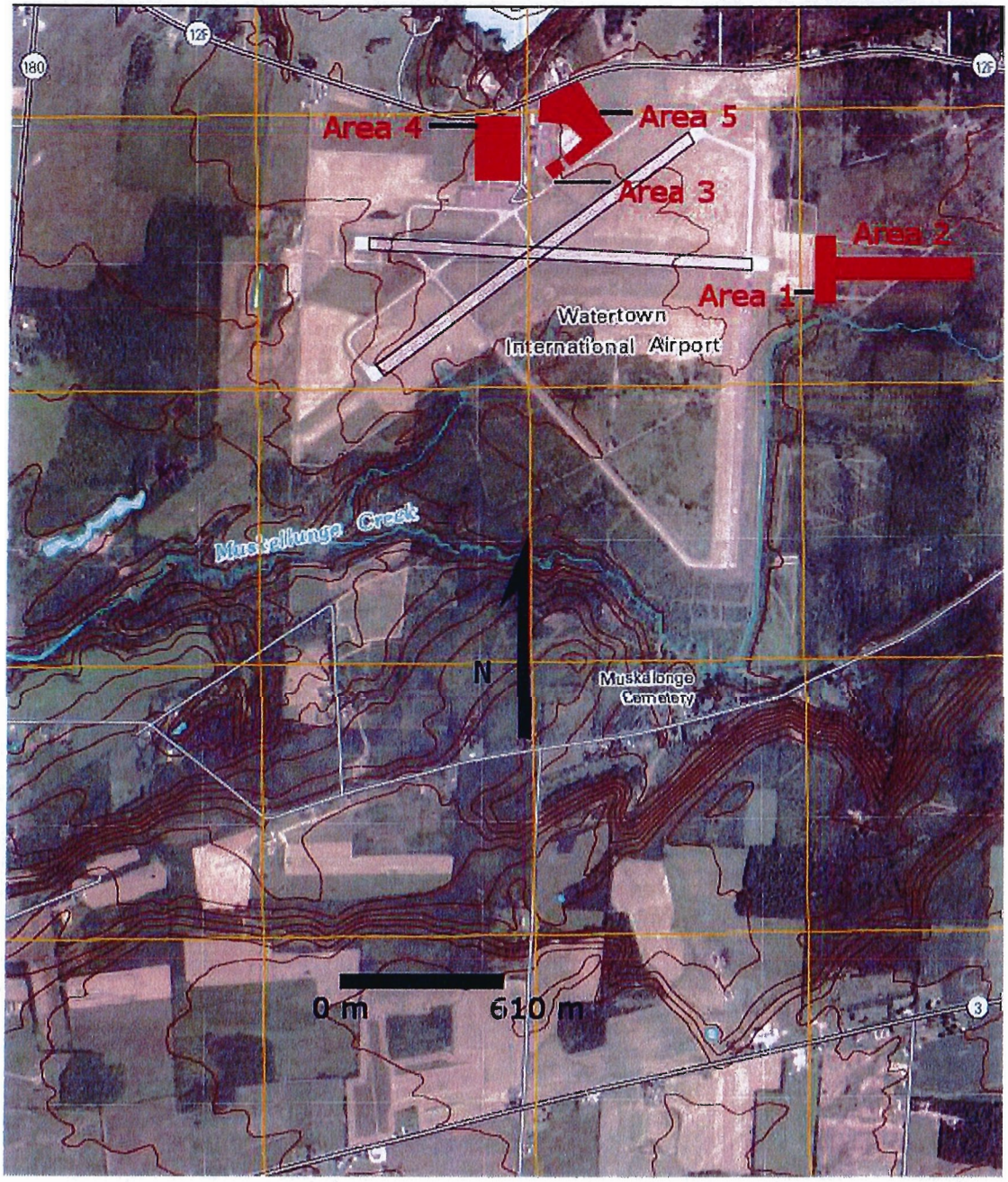


Figure 2: General Locations of Areas 1-5 on the USGS 7.5' Sacketts Harbor, NY Quadrangle 2010

III. Phase IB Testing Strategy

Archaeological Consulting Experts personnel followed a standard testing strategy of placing Shovel test Pits (STPs) in linear transects with a 15-m (50-ft) spacing between both transects and STPs within all sections of the APE that did not evidence obvious disturbance or included in previous testing. In cases where disturbance was observed, the STP interval was widened to span the disturbed area but reverted to the 15-m (50-ft) interval when conditions indicated non-disturbed soils. Based on the initial site visit, it was apparent that parts of the APE were already disturbed to such a degree that Phase IB investigations would be precluded in some locations and required modified testing intervals in others.

Area 1, at the eastern end of the airport runway 28, had a section of land adjacent to the existing perimeter access road that showed signs of grading and contained very low/wet areas with standing water. Area 3 was entirely surrounded by an existing paved apron area and was comprised of graded and graveled spaces. In Area 4, located immediately west of the airport entrance drive, a narrow corridor along the entrance was already disturbed by multiple utility installations. More recent disturbance was noted in the northern section of Area 4 along the south side of Rt 12F where a waterline had just been installed while the southeastern section had already been developed into a parking area where soils were removed before the placement of gravel. Additionally, a small area near the northeast corner and a linear track across Area 4 had been disturbed by heavy equipment travel and grading. Area 5 had even more disturbance, with graded sections and existing construction scattered throughout. Only Area 2 appeared to have undisturbed soils throughout.

Photographic documentation of all disturbed sections as well as general conditions within the tested sections of the APE are included as Appendix A and the locations of the photographs and their field of view are keyed in to the Phase IB project maps, included as Appendix B.

IV. Phase IB Testing Results

A total of 477 STPs were excavated as part of these Phase IB investigations (Appendix C). These STPs were placed within about 28.4 acres of potentially undisturbed soils within the overall 35-acre APE. This provided a 16.8 STP/acre density within the tested sections and an overall 13.6 STPs/acre for entire APE including disturbed and previously tested sections. The following is a breakdown of STPs by area.

Area 1(7 acres) had 101 STPs placed and excavated within its boundaries, although this area had about 20% (1.4 acres) of its soils disturbed by grading adjacent to the perimeter access road. This equates to about 18 STPs/acre in the tested section. Of all areas, this one had the most low/wet conditions where water was typically filling STPs prior to their complete excavation.

Area 2 (10 acres) had no sections left untested and a total of 180 STPs were excavated in this area. This equals 18 STPs/acre for density of coverage. As with Area 1, Area 2 had several locations of high ground water that filled STPs before complete excavation.

Area 3 (1 acre) was totally disturbed and had no STPs excavated within its boundaries.

Area 4, with approximately 20% (2.2 acres) disturbed, had a total of 124 STPs excavated within the undisturbed sections (8.8 acres), for an STP density of about 14.1 STPs/acre in the tested sections. This area also had the most STPs encountering a bedrock impasse.

Area 5, with almost 35% of its soils disturbed or previously tested (about 2 out of 6 acres), had 72 STPs placed within its potentially undisturbed sections, for an STP density of 18 STPs/acre.

The soil profile revealed by the excavated STPs typically consisted of 2 layers, although bedrock and a high water table did preclude reaching a second layer in 91 STPs (19%). Clay was a predominant component of most soil layers encountered. Layer 1 was typically a brown to dark brown loam variant with an average noted depth of about 26 cmbs (10.4 inches). Layer 2 usually ranged from a light yellow brown to a dark yellow brown in color and was a clay or silt variant. The average depth of excavation was 43 cmbs (17.2 inches). Based on the soils observed in the STPs, it is clear that Area 4 and Area 5 have had more soil disturbance occur than what was visibly apparent. However, except for the linear strip along the perimeter access road, Area 1 and Area 2 had remarkably

intact soil stratigraphy and a paucity of artifacts. This is very suggestive of these two areas being used as old farm pasture or scrub fields in the past, much as they exist today.

Negative Survey Results

Overall, these Phase IB investigations failed to locate any cultural material indicative of Native occupation/use of the APE and only limited evidence of historic use. The recovered material was modern debris typically encountered near roads and commercial/industrial type buildings and included bottleglass, wire, plastic sheeting, terra cotta fragments, drain tile, asphalt, and iron objects. Tellingly, it was all recovered from either Area 4 or Area 5, both of which are adjacent to the existing airport facilities and Rt 12F and which exhibited a high degree of disturbed soils. Although reported here briefly, in all cases the material was noted in field note books but discarded. In actuality, none of the recovered artifacts or material are related to an historic property and no archaeological sites were defined or identified.

Positive Survey Results

No STPs produced any artifacts that were considered indicative of an archaeological site.

V. Phase IB Recommendations

Based on all the above results, it is the opinion of ACE that no potentially historic or historic properties will be negatively affected by the proposed undertakings and that the project should be allowed to proceed as planned.

VI. References

Crowder, Scott A., Andrew K. Graupman, and Mark W. Ewing

2009 *Cultural Resource Management Report for a Phase I Cultural Resource Reconnaissance Survey For the Watertown International Airport (RMSC/RHPP PIN 2008.22)*. Rochester Museum & Science Center's Regional Heritage Preservation Program. Rochester, New York.

Graupman, Andrew K. and Mark W. Ewing

2011 *Cultural Resource Management Report of a Phase IA Cultural Resource Reconnaissance Survey For the Proposed Improvements at the Watertown International Airport (AS/RMSC PIN 2011.17)*. Archaeological Services of the Rochester Museum & Science Center. Rochester, New York.

APPENDIX G

WETLAND ASSESSMENT

ENVIRONMENTAL RESOURCES, LLC
CONSULTING SERVICES

June 16, 2014

Ms. Judy Robinson
Department of the Army
Buffalo District, Corps of Engineers
7413 County House Road
Auburn, New York 13021

Re: Pre-Construction Notification (PCN)
Department of the Army Application No. 2009-00441
Watertown International Airport

Dear Ms. Robinson:

Environmental Resources, LLC submits this Joint Application for Permit and pre-construction notification on behalf of Jefferson County in support of Section 404 Permit for the discharge of fill into 0.62 acres of federal jurisdictional wetlands associated with the new construction of the Runway 10-28 perimeter road and approach lighting system at Watertown International Airport, Town of Hounsfield, Jefferson County, New York.

This PCN includes:

- Joint Application for Permit
- *Section 404 Permit Application Pre-Construction Notification – Watertown International Airport, Runway 10-28 Perimeter Road and Approach Lighting Study Area.* Environmental Resources, LLC (June 12, 2014).

Based on the information provided, please confirm the applicability of a USACE Letter of Permission for the proposed wetland impacts which will be compensated for through the purchase of in-lieu fee credits from Ducks Unlimited, Black River Service Area.

Should you have any questions on the enclosed or require additional information, feel free to contact me.

Sincerely,
Environmental Resources, LLC

Gene Pellett
Wetlands Ecologist/Member

Enclosure.

Cc: Mr. Grant Sussey, Jefferson County
Ms. Lisa Cheung, Passero Associates

33 KRESS HILL DRIVE • SPENCERPORT, NY 14559 • (585) 594-4450 • FAX: (585) 594-4499

JOINT APPLICATION FORM

For Permits/Determinations to undertake activities affecting streams, waterways, waterbodies, wetlands, coastal areas and sources of water supply.

New York State

You must separately apply for and obtain separate Permits/Determinations from each involved agency prior to proceeding with work. Please read all instructions.

US Army Corps of Engineers (USACE)

APPLICATIONS TO

1. NYS Department of Environmental Conservation

Check all permits that apply:

- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☐ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Coastal Erosion Management
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Water Supply
- ☐ Long Island Well
- ☐ Aquatic Vegetation Control
- ☐ Aquatic Insect Control
- ☐ Fish Control
- ☐ Incidental Take of Endangered/Threatened Species

☐ I am sending this application to this agency.

2. US Army Corps of Engineers

Check all permits that apply:

- ☑ Section 404 Clean Water Act
- ☐ Section 10 Rivers and Harbors Act
- ☐ Nationwide Permit(s) - Identify Number(s):

Preconstruction Notification - ☑ Y / ☐ N

☐ I am sending this application to this agency.

3. NYS Office of General Services

Check all permits that apply:

- ☐ State Owned Lands Under Water
  - ☐ Utility Easement (pipelines, conduits, cables, etc.)
  - ☐ Docks, Moorings or Platforms

☐ I am sending this application to this agency.

4. NYS Department of State

Check if this applies:

- ☐ Coastal Consistency Concurrence

☐ I am sending this application to this agency.

5. Name of Applicant (use full name)

Jefferson County (Contact: Grant Sussey)

Mailing Address: 22529 Airport Drive

Post Office City: Dexter

State: NY Zip Code: 13634

Telephone (daytime): 315-786-6005

Email: gsussey@co.jefferson.ny.us

Applicant must be:

- ☑ Owner
- ☐ Operator
- ☐ Lessee

(check all that apply)

Taxpayer ID (If applicant is NOT an individual):

6. Name of Facility or Property Owner (if different than Applicant)

Mailing Address:

Post Office City:

State: Zip Code: 13634

Telephone (daytime):

Email:

7. Contact/Agent Name

Gene Pellett

Company Name: Environmental Resources, LLC

Mailing Address: 33 Kress Hill Drive

Post Office City: Spencerport

State: Ny Zip Code: 14559

Telephone (daytime): 585-233-5150

Email: gpellett@rochester.rr.com

8. Project / Facility Name

Waterown International Airport

Property Tax Map Section / Block / Lot Number:

Project Location - Provide directions and distances to roads, bridges and bodies of waters:

22529 Airport Drive

Street Address, if applicable: 22529 Airport Drive

Post Office City: Dexter State: NY Zip Code: 13634

Town / Village / City: Dexter

County: Jefferson

Name of USGS Quadrangle Map: Sackets Harbor&Watertown, NY

Stream/Water Body Name: Intermttnt Drainage to Muskellunge Creek

Location Coordinates: Enter NYTMs in kilometers, **OR** Latitude/Longitude

NYTM-E	NYTM-N	Latitude	Longitude

For Agency Use Only DEC Application Number: USACE Number:

JOINT APPLICATION FORM - PAGE 2 OF 2

Submit this completed page as part of your Application.

9. **Project Description and Purpose:** Provide a complete narrative description of the proposed work and its purpose. Attach additional page(s) if necessary. Include: description of current site conditions and how the site will be modified by the proposed project; structures and fill materials to be installed; type and quantity of materials to be used (i.e., square ft of coverage and cubic yds of fill material and/or structures below ordinary/mean high water) area of excavation or dredging, volumes of material to be removed and location of dredged material disposal or use; work methods and type of equipment to be used; pollution control methods and mitigation activities proposed to compensate for resource impacts; and where applicable, the phasing of activities. **ATTACH PLANS ON SEPARATE PAGES.**

Expansion of Watertown International Airport Runway 10-28, airport perimeter road, and approach lighting system, resulting in the discharge of fill into 0.62+/- acres of federal jurisdictional wetlands.

*** For complete project description refer to the attached SECTION 404 PRE-CONSTRUCTION NOTIFICATION, WATERTOWN INTERNATIONAL AIRPORT, RUNWAY 10-28 PERIMTER ROAD AND APPROACH LIGHTING SYSTEM PROJECT SITE ***

Proposed Use: ☐ Private ☑ Public ☐ Commercial	Proposed Start Date: July 2014	Estimated Completion Date: September 2015
Has Work Begun on Project? ☐ Yes ☑ No If Yes, explain.		
Will Project Occupy Federal, State or Municipal Land? ☑ Yes ☐ No If Yes, please specify.		

10. List Previous Permit / Application Numbers (if any) and Dates:

NA

11. Will this project require additional Federal, State, or Local Permits including zoning changes? ☑ Yes ☐ No If yes, please list:

NYS SEQR
Federal NEPA

12. **Signatures.** If applicant is not the owner, both must sign the application.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant	Grant Sussey Printed Name	Airport Manager Title	06/06/2014 Date
Signature of Owner	Printed Name	Title	Date
Signature of Agent	Gene Pellett Printed Name	ERS, Member Title	Date

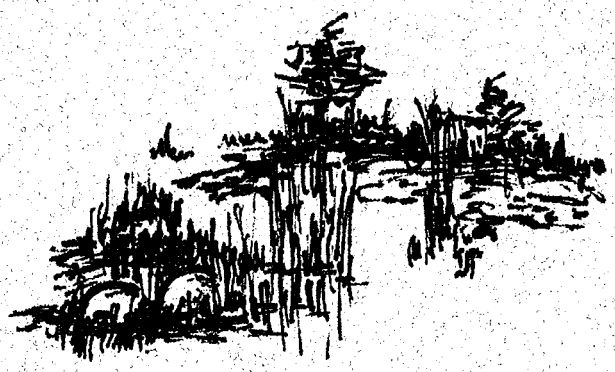
For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

Agency Project Number _____

_____ (Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative: Name (printed) _____ Title _____

Signature _____ Date _____



SECTION 404 PERMIT APPLICATION
PRE-CONSTRUCTION NOTIFICATION

(Department of the Army Application No. 2009-00441)

Watertown International Airport
Runway 10-28 Perimeter Road
And
Approach Lighting Study Area

Town of Hounsfield
Jefferson County, New York

Prepared For:

Jefferson County
22529 Airport Drive
Dexter, New York 13634

Prepared By:

Environmental Resources, LLC
33 Kress Hill Drive
Spencerport, New York 14559

June 12, 2014

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Figure 2. Overall Project Plan
Figure 3. Wetland Impact Plan
Figure 4. Wetland Profile Plan

Appendix B – Photographs (Photograph locations are shown on Figure 2)

Appendix C - Ducks Unlimited, Black River Service Area; Letter of Credit Availability

Appendix D – Rare, Threatened, and Endangered Species Correspondence

Appendix E - NYS Office of Parks, Recreation, and Historic Preservation Correspondence

INTRODUCTION

Environmental Resources, LLC (ERS), submits this pre-construction notification (PCN) on behalf of Jefferson County and the Watertown International Airport (the "Applicant"), in accordance with Section 404 of the *Clean Water Act* Joint Application Permit, Letter of Permission pertaining to impacts to federal jurisdictional wetlands resulting from the new construction of perimeter road and approach lighting system associated with the expansion of Watertown International Airport (WIA) Runway 10-28, located in the Town of Hounsfield, Jefferson County, New York. (Appendix A, Figure 1).

This PCN, for Department of the Army Permit Application No. 2009-00441, includes a discussion of the project and wetland impacts, an assessment of the wetlands functions and services, compensatory wetland mitigation, and rare, threatened, and endangered species and cultural resources evaluation.

In addition to the report text, the following appendices are enclosed:

Appendix A - Figure 1. Project Location Map
Figure 2. Overall Project Plan
Figure 3. Wetland Impact Plan
Figure 4. Wetland Profile Plan
Figure 5. Original Wetland Impact Plan

Appendix B – Photographs (Photograph locations are shown on Figure 3)

Appendix C - Ducks Unlimited - Black River Service Area; Letter of Credit Availability.

Appendix D – Rare, Threatened, and Endangered Species Correspondence

Appendix E - NYS Office of Parks, Recreation, and Historic Preservation Correspondence

For background information regarding the location of the project area, and a discussion of existing site wetland and upland communities refer to the previously submitted *Wetland Delineation Report, Watertown International Airport, Runway 10-28 Approach Lighting Study Area,* prepared by Environmental Resources, LLC (January 30, 2013).

PROJECT DESCRIPTION

Runway 10-28 serves as Watertown International Airport's main runway. Runway 10-28 is being extended from its current length of 6,000', to 7,000' to allow use by larger aircraft. These airport improvements will improve access to the northern portion of New York State, and improve economic vitality of the area. The Federal Aviation Administration approved an Airport Layout Plan in November 2013 showing the Runway 10-28 extension, which meets FAA design standards of the critical aircraft using the airport.

The runway extension project generally consists of the construction of a 1,000 foot long by 150 foot wide runway extension, and 1,150 foot by 50 foot wide parallel taxiway extension. Land associated with this work is within the airports perimeter security fence, and is characterized as mowed airfield.

As a result of the runway extension, it will be necessary for WIA to extend the airport perimeter road and restriction fence, and install an Approach Lighting system on adjacent land to the east.

SITE DESCRIPTION

As shown in Figure 2, the project site is located beyond the east end of Runway 10-28, directly adjacent to airports perimeter road and restricted fence area. Although currently under private ownership, the study area is in eminent domain proceedings and awaiting a court date.

The perimeter road and approach lighting study area, in the location of the wetland impact areas, is characterized as an early successional shrub community with areas of open old-field, and a distinct wetland drainage corridor. (See Photos 1 - 6). Areas of mixed successional forest occur along the west and east boundaries of the study area. Two wetland drainages (delineated Wetland H) converge along the east base of the existing airport perimeter road, before entering a culvert that conveys drainage west to Muskellunge Creek.

The new perimeter road and approach lighting project site is bordered by the existing airport perimeter road and Runway 10-28 to the west, and by vast areas of undeveloped successional shrub and forest communities to the north, south, and east.

PROPOSED WETLAND IMPACTS

Project design has been done carefully and thoughtfully with deliberate consideration for the sites water resources. As such, 0.97 acres of delineated Wetland H will be completely avoided.

However, given the position of the Wetland H at the base of the existing perimeter road, complete avoidance of the site wetland is impractical, as it will be necessary to fill and extend airport lands to meet FAA design grading standards for the runway safety area. FAA Advisory Circular 150/5300-13A, *Airport Design*, defines the runway safety area as "*a defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway,* " and in this case extends 1,000 feet beyond the physical runway end. The design standards identify the grading criteria for the runway safety area, and the limitations of use within this critical area.

An airport perimeter fence is required for security reasons, and the perimeter road, which is needed for visual inspections and added safety of the airfield, must be continuous for the airport property, and must occur outside the limits of the safety area. For these reasons the perimeter fence and road are located around the runway safety area.

The two delineated wetlands in this project area are Wetland H (1.59 +/- acres) and Wetland G (0.66 +/- acres). The grading for the runway safety area and installation of the perimeter road will impact Wetland H (0.55 +/- acres for the runway safety area and 0.07 +/- acres for the perimeter road). Through redesign of the perimeter road Wetland G is completely avoided.

These unavoidable impacts will result in the following:

1. Discharge of fill into 0.55 acres of delineated Wetland H for the expansion of the airport, specifically for grading of the runway safety area and the installation of the airports' east perimeter road and perimeter security fence. (See Photos 1 & 2).

2. Installation of 86 LF of three-sided arch culvert pipe resulting in impacts to 0.07 acres of wetland drainage way (Wetland H) to accommodate the new construction of a maintenance road parallel to the Runway 10-28 approach lighting system. (See Photo 5).

This preferred culvert alternative has been designed in accordance with USACE *General Regional Condition F-A 10* design requirements.

Refer to Appendix A, Figures 2 - 4 for wetland impact plans.

WETLAND AVOIDANCE AND MINIMIZATION

As shown on Figure 5 - Original Wetland Impact Plan, the preferred airport alternative was to maintain the current alignment of the existing perimeter road which would have resulted in the discharge of fill into 0.30 acres of delineated Wetland G, and 0.62 acres of Wetland H, for a total wetland impact of 0.92 acres.

However, to reduce wetland impacts, the Applicant re-aligned the new airport perimeter road to completely avoid Wetland G.

WETLAND FUNCTIONS AND SERVICES

The functions and services provided by the wetland drainage way to be impacted include storm water collection and conveyance, water quality improvements, limited wildlife habitat, primarily for breeding amphibians, and hydrophytic plant habitat.

Services pertaining to wildlife habitat may be diminished on a local scale as a result of this proposal. However, the construction of 1,200± linear feet (0.40 acres) of new wetland drainage way will maintain the drainage hydrology for the off-site upper reaches (north and east) of Wetland H, and continue the functions and services of stormwater collection and conveyance, and water quality improvements.

Further, the Applicants proposal to purchase 0.60 acres of credits from Ducks Unlimited, Black River Service Area (see Compensatory Wetland Mitigation below) will ensure that there will be no net loss of wetland functions and/or services to the environment.

COMPENSATORY WETLAND MITIGATION

To mitigate the loss of 0.62 acres of federal jurisdictional wetlands, the Applicant proposes to provide compensatory wetland mitigation through the direct purchase of 0.60 in-lieu fee credits (acres) from Ducks Unlimited Black River Service Area. This purchase represents a ratio 0.96:1.0 (in-lieu fee credits to wetland fill acreage). See Ducks Unlimited Letter of Credit Availability in Appendix E.

In addition, the Applicant proposes to construct 1,200 LF (0.40 acres) of wetland drainage way along the east side of the new perimeter road, and on both sides of the approach lighting maintenance road. These broad, vegetated swales will function to maintain conveyance of wetland drainage from undisturbed off-site (north and east) portions of Wetland H. As shown on Figures 3 and 4, these low profile drainage swales will have an eight to ten foot wide bottom, and 4:1 slopes which will provide the necessary hydroperiod to sustain promote and sustain herbaceous hydrophytic vegetation. We expect re-vegetation of the new wetland swales by the natural seed distribution of herbaceous specimens currently colonizing upstream portions of the conveyance channel. These species should include: green bulrush (*Scirpus atrovirens*-OBL), fox sedge (*Carex vulpinoidea*-OBL), bladder sedge (*Carex intumescens*-OBL), soft bulrush (*Juncus effuses*-FACW+), fowl manna grass (*Poa paulstris*-FACW), and others.

RARE, THREATENED, AND ENDANGERED SPECIES

A rare, threatened, and endangered species evaluation was conducted by ERS in August 2013. This investigation included a file search of New York Natural Heritage Program resources, an online review of U.S. Fish & Wildlife Services' database, species research, and a field evaluation to determine the presence of appropriate habitat for each species.

As shown in Appendix C, the following species of concern were identified by New York Natural Heritage Program and U.S. Fish & Wildlife Service:

- Back's sedge (*Carex backii)*
- Troublesome sedge (*Carex molesta)*
- Short-eared owl (*Asio flammeus)*
- Bald eagle (*Haliaeetus leucocephalus)*
- Piping plover (*Charadrius melodus)*
- Indiana bat (*Myotis sodalist)*

Species of Concern Characteristics

Materials from concerned agencies and various literature reviews of the named species were addressed for their relevance to this study area.

Back's Sedge - *This is a threatened species in New York State. It is found in dry, rocky, open, or shaded slopes, ridges, and barrens in hardwood and mixed or coniferous forests including pine plantations on acidic and calcareous substrates. Back's sedge is found in the surrounding vicinity along rims of gorges. In such settings, this species is apparently threatened by exotics such as common buckthorn, honeysuckle, and others.*

Troublesome Sedge - Troublesome sedge is also a threatened species in New York. It adapts to a wide variety of habitats, including wet to dry-mesic prairies, open woodlands, swamps, thickets, abandoned fields, wet depressions in sunny areas, degraded wetlands, and roadside ditches. This sedge is often found in habitats with a history of disturbance. It also has been found in the surrounding vicinity, again, near rims of gorges. Non-native exotics plants also seem to threaten this species in spite of its appearance on disturbed sites.

Short-eared Owl - This species is an endangered species in New York. This is an owl found in large tracts (> 124 acres) open country including prairies, marshes, dunes, and tundra. Open treeless areas characterized as agricultural, savannah, and grassland allow the owl to characteristically fly 2 meters above the ground looking for voles and mice. They nest on the ground protected by grasses. Unusual in the owl species, this one principally forages during daylight into early evening. Its endangered status is enhanced by loss of habitat: marshes, bogs, and open grasslands.

Bald Eagle - The bald eagle was de-listed from the Federal list of Endangered and Threatened and other Candidate Species in August 2007. While no longer listed, this species is under complete State and Federal protection and concerns continue that project impacts that affect the species will be avoided. Principal desired habitat for bald eagles largely include remote or secluded lakes, large ponds, and sizeable streams and rivers where the birds can find their principal prey (fish), likely perching sites, and appropriate nesting sites. Eagles do not tolerate constant disturbance and will abandon areas where such activities occur.

Piping Plover - Piping plover is a sparrow-sized shore bird that nests and feeds along coastal sand and gravel beaches. It is an endangered species in New York and is found along beaches or sand flats on the Atlantic coast and the shores of the Great Lakes. The piping plover feeds on insects, marine worms, and crustaceans that they find between the high water "wrack line" and the water's edge.

Indiana Bat - While found throughout the eastern United States, this species hibernates in relatively few caves. Recent declines (despite improved cave protection) suggest ongoing loss/degradation of summer habitat including sites suitable for maternity colonies. Forested tracts in agriculturally dominated landscapes provide a myriad of sites (largely under loose bark of trees) for these maternity colonies.

Results and Conclusion

While **Back's sedge** and **Troublesome sedge** are said to be in the vicinity of the Runway 10-28 perimeter road approach lighting project site, our thorough evaluation of the sites habitat study areas failed to find any specimens of Back's sedge and/or Troublesome sedge. Several other common sedge species were observed in site Wetlands G and H; however, none match the characteristics of Back's sedge or Troublesome sedge.

The open field grasslands necessary to support the **Short-eared owl** do not occur on the Approach Lighting project site, which is characterized as successional shrub lands. Large tracts of open grassland habitat preferred by Short-eared owl do not occur on, adjacent to, or in the surrounding immediate vicinity of the Runway 10-28 perimeter road and approach lighting project site. Therefore, it is unlikely that the Short-eared owl would find the 18± acre subject of this evaluation to be a preferred site.

The **Bald eagle** prefers large territories that include bodies of water and a minimum of disturbance. The WIA study area simply does not meet the eagle's needs and actually is the opposite. Nesting habitat is lacking. No large bodies of water are on site. Airport and airplane activity are constant and continual in this area. Such disturbance would displace any attempt for eagles to establish here. The eagle as a migratory species, may be seen in the area, may forage in nearby Black River, and certainly Lake Ontario, and do nest in areas of the Adirondacks, but would not find suitable habitat at WIA.

The **Piping plover** does not find any of its life's needs met by the WIA Runway 10-28 perimeter road and approach lighting project area and thus is not expected to be impacted at all by any developments here.

No hibernating caves for the **Indiana bat** are found in the vicinity of project site. From the species range map, WIA is questionably within the area of its permanent residency. The concern for maternity roosting sites is not an issue on the perimeter road and approach lighting study area because no appropriate forest sites are included. In-fact, with the exception of the small pine plantation at the west end of the study area, the project site supports only scatted, pole stand tree specimens. It is our professional opinion that suitable habitat to support Indiana bat is absent on the Runway 10-28 perimeter road and approach lighting study area.

Note: A copy of *Ecological Evaluation of Rare, Threatened, and Endangered Species – Watertown International Airport, Runway 10-28 Approach Lighting Study Area* (Environmental Resources, LLC. August 22, 2013) was sent to U.S. Fish & Wildlife Service on for their review.

CULTURAL RESOURCES

As shown in Appendix E, New York State Office of Parks, Recreation, and Historic Preservation has determined that the proposed project will have "No Effect" on "cultural resources in or eligible for inclusion in the National Registers of Historic Places."

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www.owlpages.com/owls

APPENDIX A

Figures

Legend: Site Boundary

Base Map: USGS Quadrangle Map – Sackets Harbor and Watertown, NY

Prepared By: ***Environmental Resources, LLC***

N

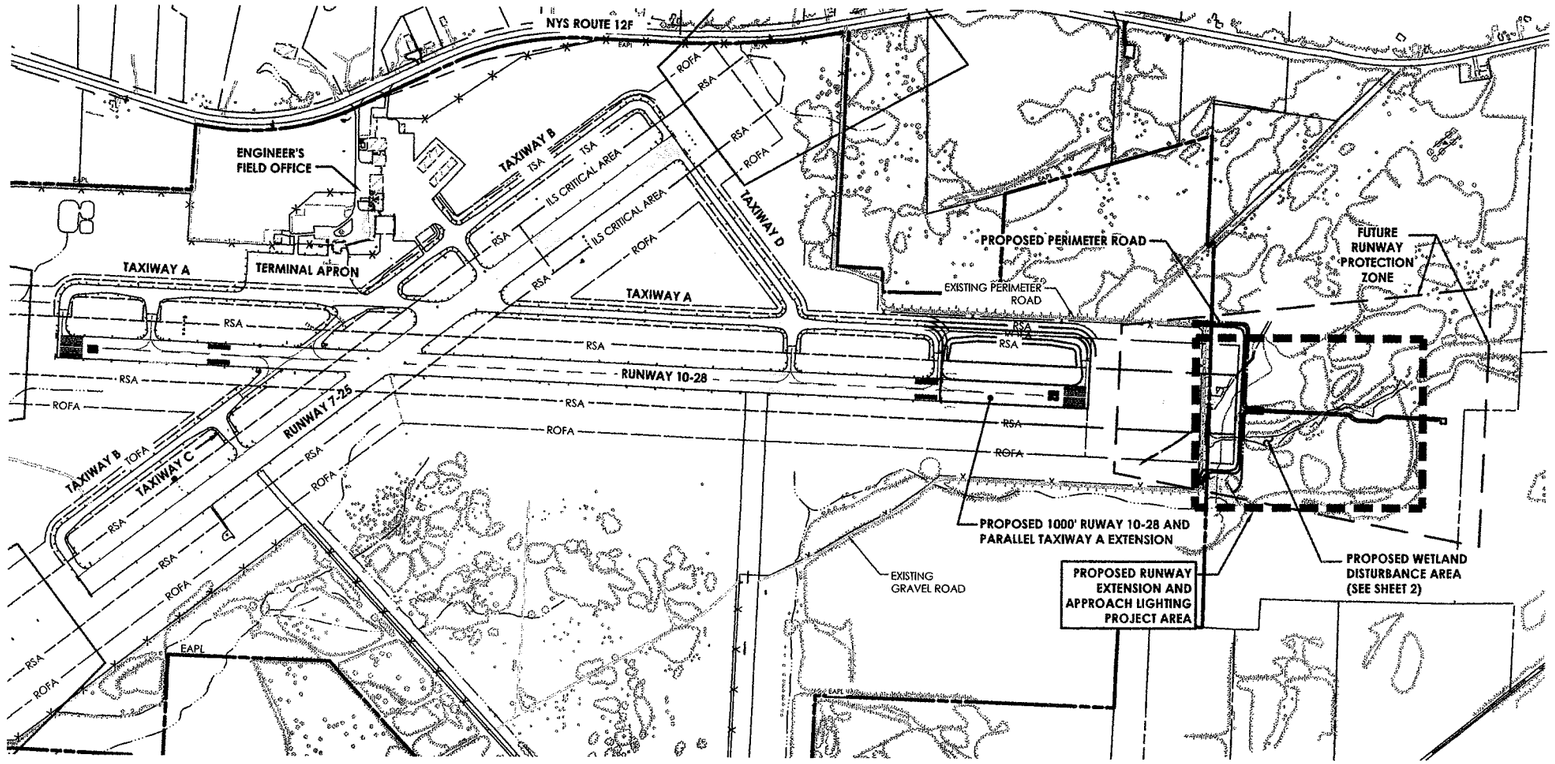
FIGURE 1. SITE LOCATION

LEGEND:

EXISTING USACOE DELINEATED WETLAND

NOTES:

1. ALL WORK THIS SHEET SHALL BE PAID FOR UNDER ITEM W-100.
2. ANY INDIVIDUAL TREES AND, OR TREE GROUPS, THAT FALL WITHIN THE N.Y.S. WETLAND OR WETLAND BUFFER, SHALL BE CUT AND THE STUMP SHALL REMAIN.



MAGNETIC NORTH 12° 51' W (2014) — TRUE NORTH

Stamp:

Client:
County of Jefferson
Department of Aviation
22529 Airport Drive
Dexter, NY 13634

Passero Associates
242 W. Main Street
Rochester, NY 14614
(585) 325-1000
Fax: (585) 325-1691
Principal-in-Charge: Wayne F.Wegman, P.E.
Project Manager: Shawn R. Bray, P.E.
Designed by: Daniel M. Cregan

Revisions

No.	Date	By	Description
1			

Overall Project Plan

Runway 28 Extension and Runway Safety Area Improvements
Watertown (ART) International Airport
Town/City: Hounsfield
County: Jefferson State: New York

Project No.
20060401.0024

Drawing No.
FIGURE 2.

Date
April 2014

EXISTING USACOE DELINEATED WETLAND

DISTURBED WETLAND

NOTES:

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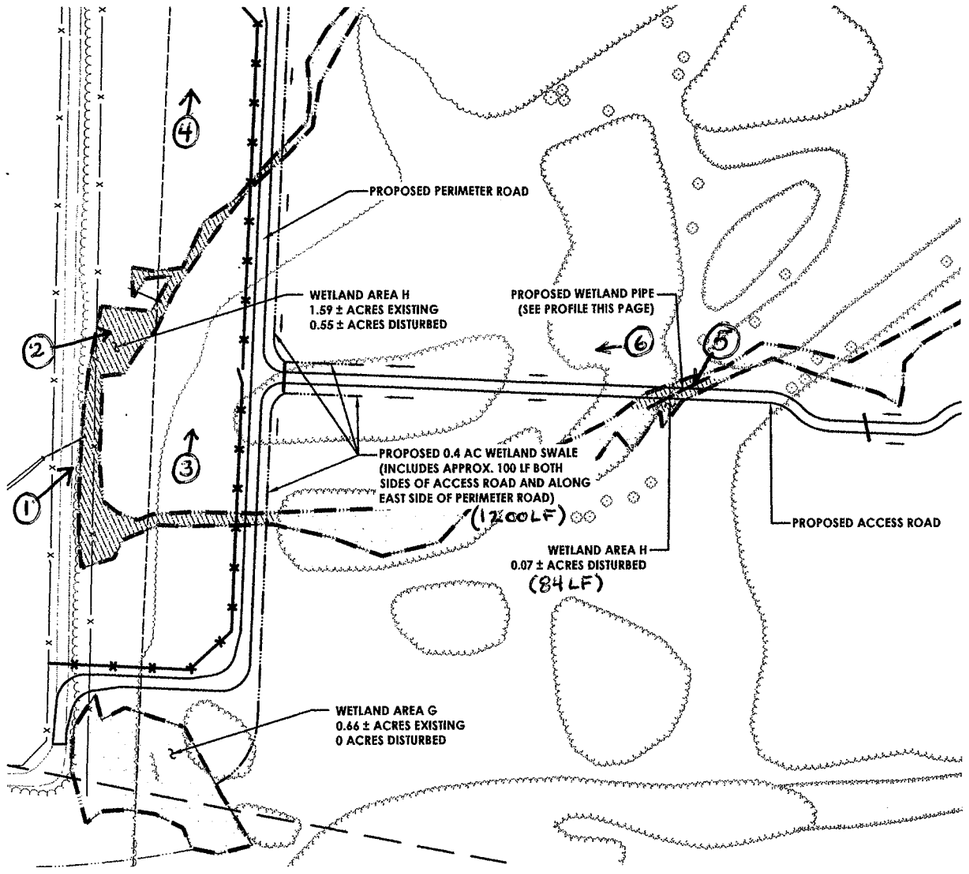

WETLAND IMPACT PLAN
SCALE: 1" = 200'

① Photograph Location

C:\Users\bsavage\Desktop\Watertown\20060401.0024\Drawings\Airport\20060401.24 13 Wetland Mitigation Plan.dwg, 6/3/2014 10:45:18 AM, bsavage

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Principal-In-Charge: Wayne F.Wegman, P.E.
Project Manager: Shawn R. Bray, P.E.
Designed by: Daniel M. Cregan

Revisions

No.	Date	By	Description
1			

Wetland Impact Plan

Runway 28 Extension and Runway Safety Area Improvements
Watertown (ART) International Airport
Town/City: Hounsfield
County: Jefferson State: New York

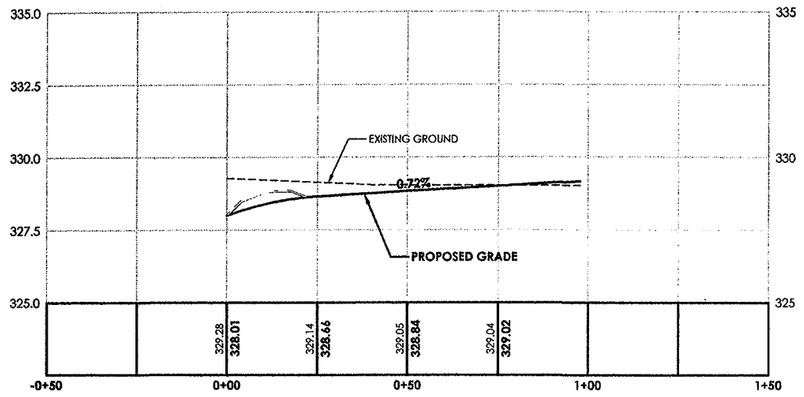
Project No.
20060401.0024

Drawing No.
FIGURE 3.

Date
April 2014

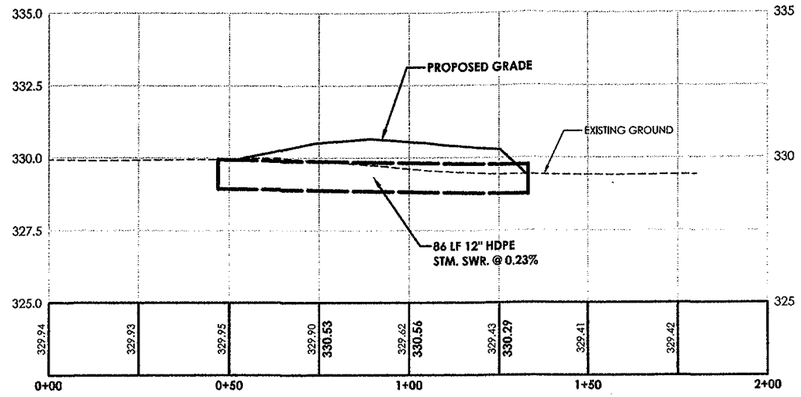
NOTES:

1. **ALL WORK THIS SHEET SHALL BE PAID FOR UNDER ITEM W-100.**
2. **ACCESS ROAD SWALE PROFILE SHOWN BELOW IS THE NORTH SWALE. THE ACCESS ROAD SOUTH SWALE IS SIMILAR IN GRADE AND CROSS SECTION.**



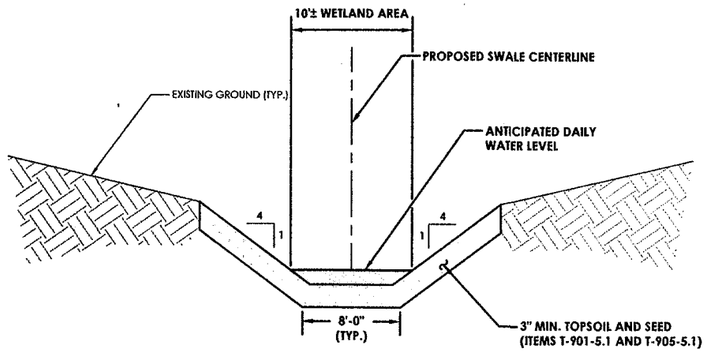
PROPOSED ACCESS ROAD WETLAND SWALE PROFILE

SCALE: HORIZONTAL - 1" = 40'
VERTICAL - 1" = 10'



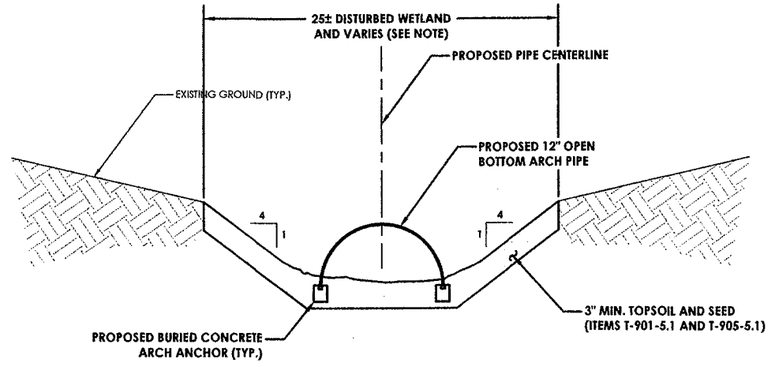
PROPOSED WETLAND PIPE PROFILE

SCALE: HORIZONTAL - 1" = 40'
VERTICAL - 1" = 10'



PROPOSED WETLAND SWALE SECTION

N.T.S.



PROPOSED WETLAND PIPE SECTION

N.T.S.

WETLAND PIPE SECTION NOTES:

1. WETLAND DISTURBANCE WIDTH VARIES. SEE WETLAND IMPACT PLAN. TOTAL WETLAND H DISTURBANCE ASSOCIATED WITH THE WETLAND PIPE IS 0.07 ACRES.

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Stamp:

Client:

County of Jefferson
Department of Aviation
22529 Airport Drive
Dexter, NY 13634

Passero Associates
242 W. Main Street, Rochester, NY 14614 (585) 325-1000 Fax: (585) 325-1691
Principal-In-Charge Wayne F.Wegman, P.E.
Project Manager Shawn R. Bray, P.E.
Designed by Daniel M. Cregan

Revisions

No.	Date	By	Description
1			

Wetland Profile Plan

Runway 28 Extension and Runway Safety Area Improvements
Watertown (ART) International Airport
Town/City: Hounsfield
County: Jefferson State: New York

Project No.
20060401.0024

Drawing No.
FIGURE 4.

Date
April 2014

NOTES:

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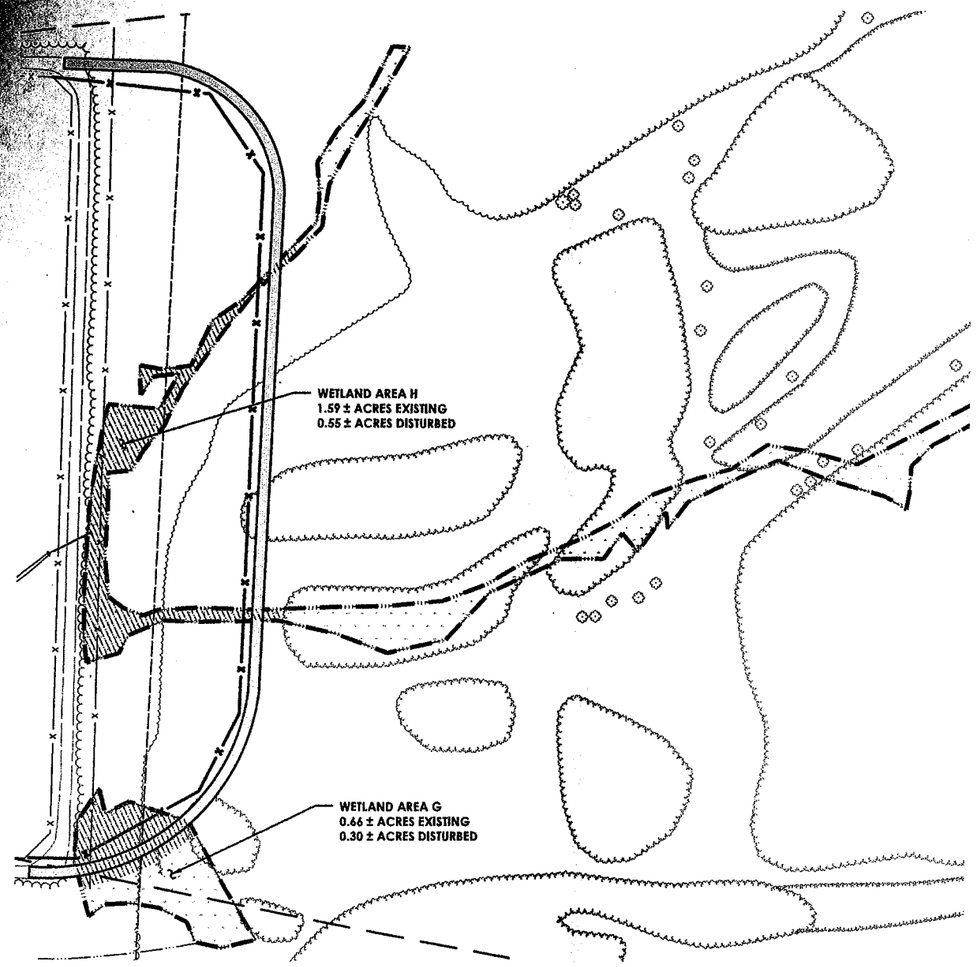

WETLAND IMPACT PLAN
SCALE: 1" = 200'

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Fax: (585) 325-1691
Principal-in-Charge: Wayne F.Wegman, P.E.
Project Manager: Shawn R. Bray, P.E.
Designed by: Daniel M. Cregan

Revisions

No.	Date	By	Description
1			

Original Wetland Impact Plan

Runway 28 Extension and Runway Safety Area Improvements
Watertown (ART) International Airport
Town/City: Hounsfield
County: Jefferson State: New York

Project No.
20060401.0024

Drawing No.
FIGURE 5.

Date
April 2014

Appendix B

Photographs

PHOTO 1. View of emergent portion of Wetland H as it occurs along the east edge of the existing perimeter road (foreground). This portion of the wetland will be lost as a result of the proposed perimeter road expansion area.

PHOTO 2. Portion of scrub-shrub Wetland H to be lost as a result of the perimeter road expansion area.

PHOTO 3. Representative view of site uplands adjacent to the Wetland H impact area.

PHOTO 4. Successional shrub uplands adjacent to Wetland H impact area at north end of project site.

PHOTO 5. View of Wetland H drainage way in location of the approach lighting maintenance road impact area. Note scrub-shrub uplands just beyond drainage cooridor.

PHOTO 6. Representative view of successional shrub uplands adjacent to Wetland H in the approach lighting project site.

APPENDIX C

Ducks Unlimited, Black River Service Area; Letter of Credit Availability.

DUCKS UNLIMITED

Great Lakes/Atlantic Regional Office
1220 Eisenhower Place
Ann Arbor, MI 48108-3281
(734) 623-2000 fax (734) 623-2035
www.ducks.org

June 12, 2014

Grant Sussey
Jefferson County
22529 Airport Dr.
Dexter, NY 13634

RE: Credit Availability in the Black River Service Area of the Ducks Unlimited New York In-Lieu Fee Program

Dear Mr. Sussey:

Per my phone conversation with Gene Pellett of Environmental Resources, LLC, your agency is in need of 0.6 wetland credits in the Black River Service Area for the Watertown International Airport project with application # 2009-00441. This letter is to notify you that the required credits are available for purchase.

The next step in the purchase process is for you to provide this letter to the Corps Project Manager as proof that the required credits are available. Once the permit is issued with the In-Lieu Fee payment as the mitigation requirement in the special conditions, payment can be made to Ducks Unlimited. Upon receipt of payment, Ducks Unlimited will issue a "Credit Sale Letter" to the Corps and copy your agency. When the credit sale letter has been issued, your agency will have satisfied their mitigation needs.

Thank you for working with Ducks Unlimited and please don't hesitate to call if you have any questions or concerns (734) 623-2000.

Sincerely,
Ducks Unlimited, Inc.

Peter Wyckoff

Peter Wyckoff, P.E., PWS
Manager of Conservation Services - Mitigation

APPENDIX D

Rare, Threatened, and Endangered Species Correspondence

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

November 26, 2012

Lisa Cheung
Passero Associates
100 Liberty Pole Way
Rochester, NY 14604

Dear Ms. Cheung:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the Proposed Runway Extension and Terminal Area Development at the Watertown Airport, site as indicated on the map you enclosed, located in the Town of Hounsfield, Jefferson County.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities, which our database indicates occur, or may occur, on your site or in the immediate vicinity of your site. For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our 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.

The enclosed report may be included in documents that will be available to the public. However, any enclosed maps displaying locations of rare species are considered sensitive information, and are intended only for the internal use of the recipient; they should not be included in any document that will be made available to the public, without permission from the New York Natural Heritage Program.

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.

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.

Sincerely,

Jean Pietrusiak, Information Services
NYS Department Environmental Conservation

Enc.
Cc: Reg. 6, Wildlife Mgr.

#1102

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 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			
Back's Sedge	*Carex backii*	Threatened	Imperiled in NYS

Brownville: Site 1: East and south of the bridge over Black River in Brownville. The area is flat and on the rim of a large gorge about 10-15 meters from the edge of the rim. The bedrock is limestone. The area is very weedy. The tree canopy is sparse with Prunus serotina and Robinia pseudo-acacia dominant. The shrub layer is dense in most places with Lonicera morrowii. Rhamnus cathartica is also present. The herb layer is fairly dense with Carex blanda quite abundant. The soil is silty or perhaps a silty sand. Thesite 2: This area is also on the rim of the Black River Gorge. It is an open forest with a 0-5 degree south-facing slope with young Quercus rubra and Populus tremuloides dominant. Other trees present include Thuja occidentalis, Populus grandidentata, and 11839

Troublesome Sedge	*Carex molesta*	Threatened	Imperiled in NYS

Brownville: Site 1: South of the Black River and just east of the bridge over the Black River in Brownville. The Carex molesta occurs here in a short "path" through dense Lonicera. There is a thin/sparse tree canopy with Prunus serotina and Robinia pseudo-acacia dominant. In the path, the shrub layer has been kept clear, but adjacent to the path the shrubs are thick mostly with just Lonicera morrowii. The herb layer is fairly dense with many low herbs and carices. The soil is silty or perhaps a sandy silt and the soils are thin over limestone. This site is also adjacent to the rim of a large gorge of the Black River. The site 2: On the north side of the Black River just west of Brownville. The Carex molesta occurs here in the open area of an old powerline or railr 11834

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.

New York Natural Heritage Program  Report on State-Listed Animals

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 and habitats have been documented at or near the project site, generally within 0.5 mile. Potential onsite and offsite impacts from the project may need to be addressed.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Birds				
Henslow's Sparrow *Breeding*	*Ammodramus henslowii*	Threatened		2623
Short-eared Owl *Breeding*	*Asio flammeus*	Endangered		7280

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.

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.

Jefferson County

Federally Listed Endangered and Threatened Species and Candidate Species

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

Common Name	Scientific Name	Status
Bald eagle[1]	*Haliaeetus leucocephalus*	D
Indiana bat (W/S)	*Myotis sodalis*	E
Piping plover [Designated Critical Habitat]	*Charadrius melodus*	E

Status Codes: E=Endangered T=Threatened P=Proposed C=Candidate D=Delisted

W=Winter S=Summer

[1] The bald eagle was delisted on August 8, 2007. While there are no ESA requirements for bald eagles after this date, the eagles continue to receive protection under the Bald and Golden Eagle Protection Act (BGEPA). Please follow the Service's May 2007 Bald Eagle Management Guidelines to determine whether you can avoid impacts under the BGEPA for your projects. If you have any questions, please contact the endangered species branch in our office.

Print Species List

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES IN NEW YORK (By County)

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

COUNTY Common Name	Scientific Name	Status
GENESEE		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle *(Historic)*	*Clemmys [=Glyptemys] muhlenbergii*	T
Eastern massasauga	*Sistrurus catenatus catenatus*	C
Eastern prairie fringed orchid *(Historic)*	*Platanthera leucophaea*	T
Houghton's goldenrod	*Solidago houghtonii*	T
GREENE		
Bald eagle	*Haliaeetus leucocephalus*	D
Indiana bat (S)	*Myotis sodalis*	E
HAMILTON		
Bald eagle[2]	*Haliaeetus leucocephalus*	D
HERKIMER[2]		
JEFFERSON		
Bald eagle	*Haliaeetus leucocephalus*	D
Indiana bat (W/S)	*Myotis sodalis*	E
Piping plover {Designated Critical Habitat}	*Charadrius melodus*	E
KINGS[2]		
LEWIS		
Indiana bat (S)	*Myotis sodalis*	E
LIVINGSTON		
Bald eagle[2]	*Haliaeetus leucocephalus*	D
MADISON		
American hart's-tongue fern	*Asplenium scolopendrium* var. *americana*	T
Chittenango ovate amber snail	*Novisuccinea chittenangoensis*	T
Indiana bat (S)	*Myotis sodalis*	E

APPENDIX E

NYS Office of Parks, Recreation, and Historic Preservation Correspondence

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

March 04, 2013

Lisa Cheung
Passero Associates
242 West Main St
Rochester, New York 14614

Re: FAA
Watertown Airport Runway Extension and
Terminal Area Development
Watertown International
Airport/HOUNSFIELD, Jefferson County
12PR05168

Dear Ms. Cheung:

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

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Appendix A - Figure 1. Project Location Map
Figure 2. Overall Project Plan
Figure 3. Wetland Impact Plan
Figure 4. Wetland Profile Plan

Appendix B – Photographs (Photograph locations are shown on Figure 2)

Appendix C - Ducks Unlimited, Black River Service Area; Letter of Credit Availability

Appendix D – Rare, Threatened, and Endangered Species Correspondence

Appendix E - NYS Office of Parks, Recreation, and Historic Preservation Correspondence

Copy to Gene

DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

REPLY TO

September 6, 2013

Regulatory Branch

SUBJECT: Preliminary Jurisdictional Determination for Department of the Army File No. 2009-00441

Jefferson County
21897 County Road 190
Watertown, New York 13601
Attn: James Lawrence

Dear Mr. Lawrence

I have reviewed the wetland delineation report and maps, submitted on your behalf by Gene Pellett, Environmental Resources, LLC. On June 20, 2013, I conducted a site visit to confirm wetland boundaries on the Watertown Airport property located at 22592 Airport Drive, Dexter, Town of Hounsfield, Jefferson County, New York.

I have determined that the wetland and water boundaries shown on the map accurately represent on-site conditions. Please note that this is a Preliminary Jurisdictional Determination (JD). Preliminary JDs are non-binding written indications that there may be waters of the United States on your parcel and approximate locations of those waters. Preliminary JDs are advisory in nature and may not be appealed.

Pursuant to Regulatory Guidance Letter 08-02, any permit application made in reliance on this Preliminary JD will be evaluated as though all wetlands or waters on the site are regulated by the U.S. Army Corps of Engineers (USACE). Further, all waters, including wetlands will be used for purposes of assessing the area of project related impacts and compensatory mitigation. If you require a definitive response regarding Department of the Army jurisdiction for any or all of the waters identified on the submitted drawings, you may request an Approved JD from this office. If an Approved JD is requested, please be aware that this is often a lengthy process and we may require the submittal of additional information.

I have enclosed the signed Preliminary JD Form with this letter. The form and attached table identifies the extent of waters on the site and specific terms and conditions of the Preliminary JD.

In accordance with Regulatory Guidance Letter 05-02, "Preliminary jurisdictional determinations are not definitive determinations of areas within regulatory jurisdiction and do not have expirations dates." However, I strongly recommend that the boundaries of waters of the United States be re-evaluated by a qualified wetland biologist after five years of the date of this letter. This will

ensure that any changes are appropriately identified and you do not inadvertently incur a violation of Federal law while constructing your project or working on your project site.

Lastly, this determination has been conducted only to identify the limits of waters that may be subject to USACE jurisdiction under the Clean Water Act or Rivers and Harbors Act. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resource Conservation Service (NRCS) prior to starting work.

A copy of this correspondence has been sent to Gene Pellet.

Questions pertaining to this matter should be directed to me at 315-704-0255, by writing to Judy A. Robinson, U.S. Army Corps of Engineers, 7413 County House Road, Auburn, New York 14207, or at judy.a.robinson@usace.army.mil

Sincerely,

SIGNED

Judy Robinson
Biologist

Enclosures

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): August 14, 2013

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

Jefferson County
21897 County Road 190
Watertown, New York 13601
Attn: James Lawrence

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: Buffalo District, Auburn Field Office; Jefferson County (Watertown Airport); File No. 2009-00441

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

The 18-acre study area is the proposed approach lighting corridor for the proposed Runway 10-28 extension. The 40+ acre parcel consists of a private parcel of land that extends east of the airport's current boundary. The Airport intends to purchase the 40+ acre parcel in order to provide new safety approach lighting to accommodate the newly constructed Runway 10-28 extension. The study area is characterized as an early successional shrub community with areas of open old-field and a distinct wetland drainage corridor. Areas of mixed successional forest occur along the west and east boundaries of the study area.

State: **NY** County: **Jefferson** Town: **Hounsfield**
Center coordinates of site: **Lat: 43.99317 Long: -75.99159**
Universal Transverse Mercator: **Y= 4871591.81939119 X=420490.623937965**
Name of nearest waterbody: **Muscellunge Creek**
Identify (estimate) amount of waters in the review area:
Wetlands: **Wetland G: 0.66 acre PSS**
Wetland H: 1.59 acre PEM

Name of any water bodies on the site that have been identified as Section 10 waters:
Tidal: **None**
Non-Tidal: **None**

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLIES):

☐ Office (Desk) Determination. Date:
☒ Field Determination. Date(s): **06/20/13**

1. The Corps of Engineers believes that there *may be* jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this Preliminary Jurisdictional Determination (JD) is hereby advised of his or her option to request and obtain an Approved JD for that site. Nevertheless, the permit applicant or other person who requested this

Preliminary JD has declined to exercise the option to obtain an Approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an Individual Permit, or a Nationwide General Permit (NWP) or other General Permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other General Permit, and the permit applicant has not requested an Approved JD for the activity, the permit applicant is hereby made aware of the following:

(1) the permit applicant has elected to seek a permit authorization based on a Preliminary JD, which does not make an official determination of jurisdictional waters;

(2) the applicant has the option to request an Approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an Approved JD could possibly result in less compensatory mitigation being required or different special conditions;

(3) the applicant has the right to request an Individual Permit rather than accepting the terms and conditions of the NWP or other General Permit authorization;

(4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary;

(5) undertaking any activity in reliance upon the subject permit authorization without requesting an Approved JD constitutes the applicant's acceptance of the use of the Preliminary JD, but that either form of JD will be processed as soon as is practicable;

(6) accepting a permit authorization (e.g., signing a proffered Individual Permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a Preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and

(7) whether the applicant elects to use either an Approved JD or a Preliminary JD, that JD will be processed as soon as is practicable.

Further, an Approved JD, a proffered Individual Permit (and all terms and conditions contained therein), or Individual Permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an Approved JD to accomplish that result, as soon as is practicable.

This Preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for Preliminary JD

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant:
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
- ☒ Office concurs with data sheets/and delineation report.
- ☐ Office does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps:
☐ Corps navigable waters' study:
☐ U.S. Geological Survey Hydrologic Atlas:
☐ USGS NHD data.
- ☐ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name: **24000 scale; Watertown, NY Quad**
- ☒ USDA Natural Resources Conservation Service Soil Survey. **Citation: Soil Survey for Jefferson County. Soils identified within the 18+ acre study area include:**

BgB; Benson-Galoo Complex 0 to 8 percent slopes, shallow and very shallow, somewhat excessively drained and excessively drained soils, often exhibiting rocky outcrops. This is classified as a non-hydric soil.

Ma: Madalin silt loam, 0 to 3 percent slopes, very deep, poorly drained and very poorly drained soils occupying long, narrow lowland areas – mapped in the NW corner of the study area. This soil is classified as hydric

Nn: Newstead silt loam series – nearly level, moderately deep, somewhat poorly drained and poorly drained; occupy long irregularly shaped drainage areas on upland sites – mapped in the center of the site as Wetland B. This soil has the potential for hydric soil inclusions.

RhA: Rhinebeck silt loam, 0 to 3 percent slopes, very deep, somewhat poorly drained soils, mainly occupying broad, irregularly shaped lake plains areas. This is the site's dominant soil type. This soil has the potential for hydric soil inclusions.

☒ National Wetlands Inventory map(s). Cite name: **Watertown, NY Quad. Wetland areas are indicated on the NWI map.**

☒ State/Local wetland inventory map(s): **Watertown, NY Quad. No state regulated wetlands are shown on the NYSDEC FWW map.**

☐ FEMA/FIRM maps:
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☐ Aerial (Name & Date):.
or ☒ Other (Name & Date): **Submitted with application.**

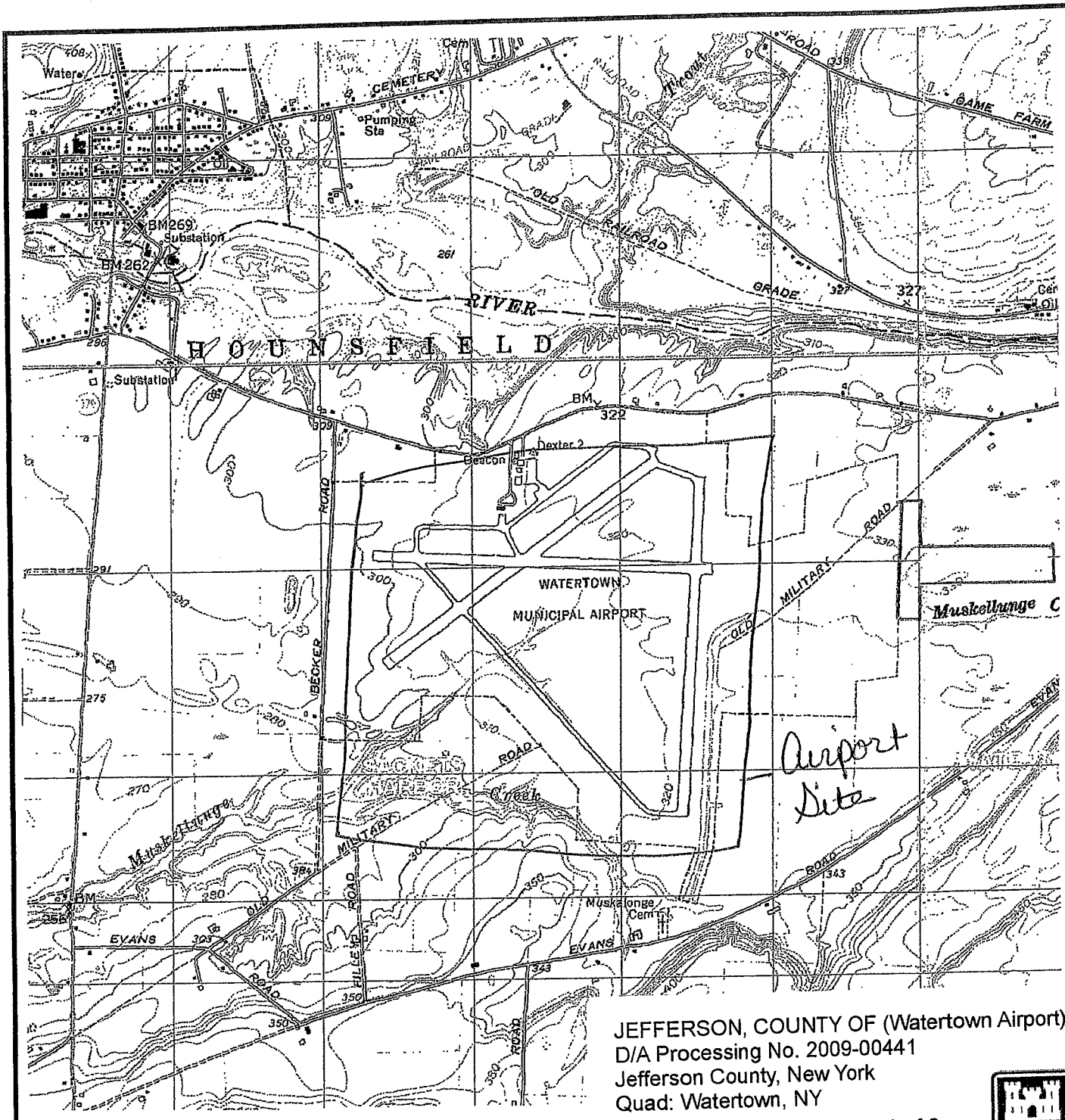
☐ Previous determination(s). **An approved JD was issued on November 26, 2009 for several wetlands identified on another portion of the airport property under the same file number.**
☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Judy A. Robinson — Signature — Date 8/14/13
Regulatory Project Manager

Lawrence J. — Signature — Date 8/16/13
Person Requesting Preliminary JD

Site No.	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
Wetland G	43.99317	-75.99159	PSS	0.66 acre	404
Wetland H	43.99317	-75.99159	PEM	1.59 acres	404



JEFFERSON, COUNTY OF (Watertown Airport)
D/A Processing No. 2009-00441
Jefferson County, New York
Quad: Watertown, NY

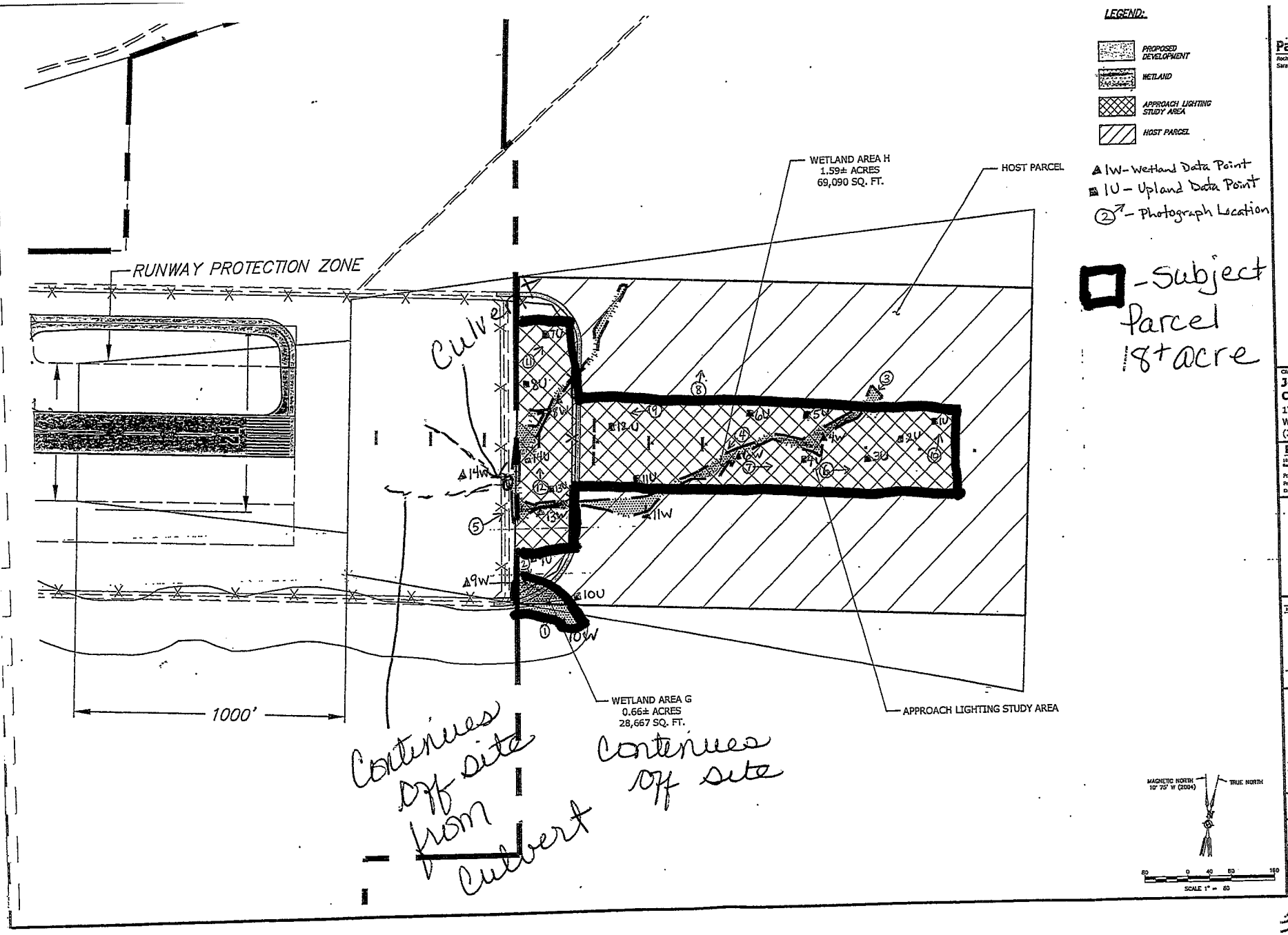
Sheet 1 of 3

Prepared By: ***Environmental Resources, LLC***

Legend: Site Boundary
Base Map: USGS Quadrangle Map –
Sackets Harbor and Watertown, NY

N

FIGURE 1. SITE LOCATION



Passero Associates
Rochester, NY • Jacksonville, FL
Sarasota Springs, NY • St. Augustine, FL
www.passero.com

Client:
Jefferson County
175 Arsenal Street
Watertown, NY 13601
(315) 785-3075

Passero Associates
100 Liberty Pole Way (585) 325-1000
Rochester, New York 14604 Fax (585) 325-1691

Principal-In-Charge	Wayne F. Wegman, P.E.
Project Manager	Shawn R. Bray, P.E.
Designed by	Lisa Cheung

Revisions

No.	Date	By	Description
1			

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS IN VIOLATION OF STATE EDUCATION LAW ARTICLE 145 SECTION 7209 AND ARTICLE 147 SECTION 7325. THOSE FOUND ARE SUBJECTED TO ©

Wetland Map
Environmental Assessment
Watertown (ART) International Airport

Town/City: Hounsfield
County: Jefferson State: New York

Project No. 2006401.06

Drawing No. Fig. 5 | Sheet No. 2 of 2

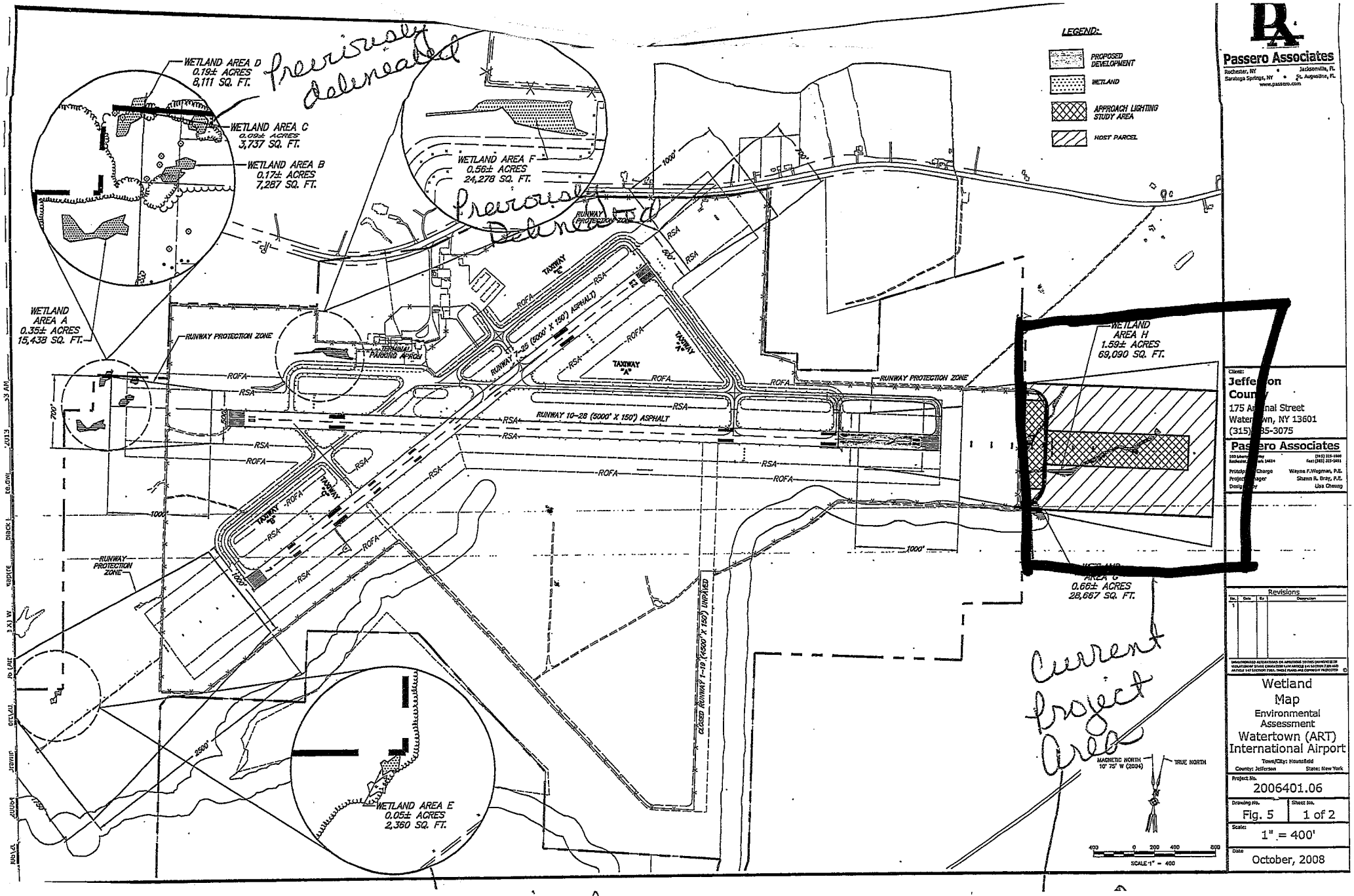
Scale: 1" = 80'

Date: October 2012

February 2013

JEFFERSON, COUNTY OF (Watertown Airport)
D/A Processing No. 2009-00441
Jefferson County, New York
Quad: Watertown, NY

Sheet 2 of 3



Overall Delineation of the Airport Parcel with the Current Subject Area Highlighted

Previously Delineated

JEFFERSON, COUNTY OF (Watertown Airport)
D/A Processing No. 2009-00441
Jefferson County, New York
Quad: Watertown, NY

ENVIRONMENTAL RESOURCES, LLC
CONSULTING SERVICES

February 28, 2013

Ms. Judy Robinson
Department of the Army
Auburn Field Office, Corps of Engineers
7413 County House Road
Auburn, New York 13021

RE: Watertown International Airport
Jurisdictional Determination

Dear Ms. Robinson:

In accordance with our phone conversation earlier this month, Environmental Resources, LLC (ERS) submits the enclosed ***Wetland Delineation Report, Watertown International Airport Runway 10-28 Approach Lighting Study Area*** in support of a USACE field jurisdictional determination.

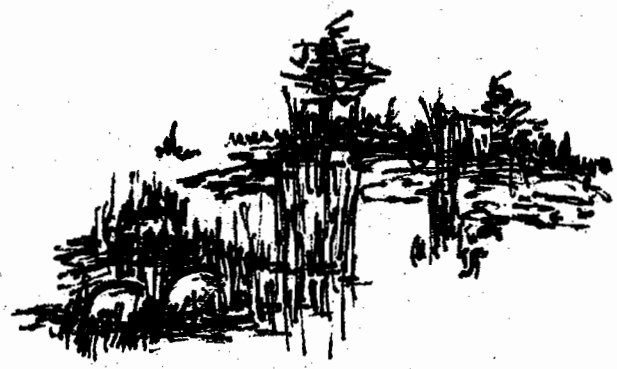
Please contact me in advance of your site visit and I will meet you on site to review the delineated wetlands.

Sincerely,
Environmental Resources, LLC

Gene Pellett
Wetlands Ecologist/Member

Enclosure.

Cc: Lisa Cheung, Passero Associates



WETLAND DELINEATION REPORT

Watertown International Airport
Runway 10-28 Approach Lighting Study Area

Town of Hounsfield
Jefferson County, New York

Prepared For:

Jefferson County
C/o Passero Associates
242 West Main Street
Rochester, New York 14614

Prepared By:

Environmental Resources, LLC
33 Kress Hill Drive
Spencerport, New York 14559

January 30, 2013

TABLE OF CONTENTS

APPENDICES

Appendix A	Figures
	Figure 1 – Site Location
	Figure 2 – Federal Wetlands
	Figure 3 – State Wetlands
	Figure 4 – Soils
	Figure 5 – Surveyed Wetland Boundaries
Appendix B	Data Sheets
Appendix C	Photographs

INTRODUCTION

At the request of Passero Associates, for the Watertown International Airport (WIA), Environmental Resources, L.L.C., (ERS), undertook a study to delineate and describe the Waters of the United States that occur on an 18± acre study area that is part of a larger 40± acre host parcel adjacent to the WIA. The 18± acre study area is the proposed approach lighting corridor for a proposed Runway 10-28 extension. The project area is located east of WIA property in the Town of Hounsfield, Jefferson County, New York (see Appendix A—Figure 1). Waters of the United States, as defined by the United States Army Corps of Engineers (USACE), include all lakes, ponds, rivers, streams (intermittent and perennial), and non-isolated wetlands. Wetlands as referenced in this report are defined in Section 404 of the *Clean Water Act* as, "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions". This report describes the Waters of the United States delineated within the study area and the methodology used in making the boundary determinations. It provides the information necessary to identify all on-site Waters of the United States and can be used to support any subsequent permit applications that may be submitted to the USACE (Buffalo District) and New York State Department of Environmental Conservation (NYSDEC) (Region 6).

SITE DESCRIPTION

The 40± acre host parcel consists of a private parcel of land that extends east of the airports current 1,172± acres. The WIA seeks to purchase rights over the 40± acre parcel in order to provide a new approach lighting system to accommodate a proposed Runway 10-28 extension. The study area is characterized as an early successional shrub community with areas of open old-field, and a distinct wetland drainage corridor. Areas of mixed successional forest occur along the west and east boundaries of the study area.

The site is bordered by WIA Runway 10-28 to the west, and by vast areas of undeveloped successional shrub and forest communities to the north, south, and east.

RESOURCE INFORMATION

To determine the possibility of wetlands occurring within the study area, the following background information was collected and reviewed.

United States Geologic Survey (USGS) Topographic Map
The project site is located partially within both the Sackets Harbor and Watertown, New York Quadrangle Map (Figure 1). This mapping shows the site to be level with less than 10 feet relief across the entire site. A tributary of Muskellunge Creek is mapped well south of the study area. The Black River is found north of Route 12F.

United States Fish and Wildlife Service National Wetlands Inventory (NWI) Map
The NWI map (Figure 2) indicates suspected wetlands on the study area described as PSS1E (palustrine, scrub-shrub, broad leaved deciduous, seasonally flooded/saturated) and PEM1Ed (palustrine, emergent, persistent, partially drained/ditched).

NYS Freshwater Wetland Map
As shown in Figure 3, no NYSDEC wetlands are suspected to be present on or adjacent to the study area. State wetland S-2 is mapped in excess of 300-feet south study area south boundary, and is 700± feet from the approach lighting development area.

Jefferson County Soil Survey
A review of the Jefferson County Soil Survey (USDA, September 1989) indicates an intermittent drainage crossing the site from northeast to southwest. Associated with gently sloping lands, the site soil types are described below and shown in Figure 4.

- BgB – Benson-Galoo Complex, very rocky, 0 to 8 percent slopes, shallow and very shallow, somewhat excessively drained and excessively drained soils, often exhibiting rocky outcrops. BgB soils were confirmed in the extreme northwest corner of the site.
- Ma – Madalin silt loam, 0 to 3 percent slopes, very deep, poorly drained and very poorly drained soils occupying long narrow lowland areas. Madalin soils are mapped in the northwest corner of the study area.
- Nn – Newstead silt loam series is nearly level, moderately deep, somewhat poorly drained and poorly drained soils that occupy long irregularly shaped drainage areas on upland sites. This soil series is mapped in the center of the project site in the location of delineated Wetland B.
- RhA – Rhinebeck silt loam, 0 to 3 percent slopes, very deep, somewhat poorly drained soils, mainly occupying broad, irregularly shaped lake plains areas. The Rhinebeck series is the site's dominant soil type.

The USDA Natural Resource Conservation Service (USDA SCS, 1989) has determined the Madalin soil series to be hydric, and the Newstead and Rhinebeck series to have to potential for hydric soil inclusions. Benson-Galoo Complex is non-hydric.

WETLAND DELINEATION METHODOLOGY

A wetlands delineation including detailed data collection and boundary identification was performed on November 20 and 26, 2012 by ERS wetlands ecologist Gene Pellett and wildlife biologist John Hauber. During the field investigation, the boundaries of all wetlands within the study area were flagged using surveyor's ribbon and data collected from a thorough assessment of the property.

Wetlands on site were delineated according to the methodology described in the *Interim Regional Supplement to the Corps of* Engineers *Wetland Delineation Manual: Northcentral and Northeast Regions* (hereafter referred to as the *Corps Manual*) (Environmental Laboratory, 2009). Observations of vegetation, soils and hydrologic conditions were used to determine the boundaries of federally and state regulated wetlands. Data sheets were completed for the sample plots, including verifying upland points, and are presented in Appendix B. Representative photographs were taken of the wetland, as well as adjacent uplands, and are presented in Appendix C (the locations of the photographs are indicated in Appendix A, Figure 5B).

Vegetation data collection focused on dominant plant species in four categories: trees (>3" DBH), sapling/shrubs (<3.2' tall), woody vines, and herbs (<3.2' tall). Dominance was measured by visually estimating those species having the largest relative basal area (trees), greatest density (saplings/shrubs), greatest number of stems (woody vines), and greatest percentage of aerial coverage (herbs) by species. The species were rank-ordered for each category by decreasing value of percent cover. The dominant species for each category are defined as those plants with the highest ranking which, when cumulatively totaled, exceed 50 percent of the total dominance measure for that category, plus any additional plant species comprising 20 percent or more of the total dominance measure for the category.

The indicator status for each species was determined by reference to the *National List of Plant Species that Occur in Wetlands: Northeast (Region 1)* (Reed, 1988), or by reference to species habitat descriptions from various botanical sources for those species not on the national list. Scientific nomenclature for plant species follows that in *A Checklist of New York State Plants* (Mitchell, 1986). A sampling plot was determined to have wetland vegetation if 50 percent or more of all dominate plant species are of facultative (FAC), facultative wetland (FACW), or obligate (OBL) indicator status, as described in the *Corps Manual*.

Soils information was collected using a Dutch soil auger. Information concerning soil series, subgroup, drainage classification, texture, and matrix and mottle color was obtained at each sample location. Soil color was determined using *Munsell Soil Color Charts* (Kollmorgen Corp., 1992).

Hydrologic characteristics (inundation and soil saturation) were visually assessed to a depth of sixteen inches. *The Corps Manual* lists the following indicators as evidence of wetland hydrology: (1) visual observation of inundation, (2) visual observation of soil saturation, (3) watermarks, (4) drift lines, (5) sediment deposits, (6) absence of leaf litter, (7) encrusted detritus, and (8) drainage patterns. Based on professional judgment, the following additional indicators were also used as evidence of wetland hydrology: (1) water-stained leaves, and (2) oxidized rhizospheres.

INSTRUMENT SURVEY

An instrument survey of the delineated wetland boundaries was completed by Bernier, Carr and Associates during December 2012, and is shown in Figure 5B.

RESULTS AND DISCUSSION

The results of our investigation determined there to be two (2) wetland areas within the confines of the proposed Runway 10-28 approach lighting development area. A description of these wetland areas and the site uplands are described below.

> **Note: The wetland letter designations below (Wetland G and Wetland H) are a continuation of previous letter designations for the WIA Master Plan Areas as delineated by ERS in October 2008 (Wetlands A-F as shown in Figure 5A).**

Wetland G

Wetland G is a 0.66± acre scrub-shrub/wet meadow area that extends beyond the southwest corner of the project site. This wetland collects surface water runoff from slightly elevated uplands, conveying waters off-site to the southwest. The majority of Wetland G is dominated by silky willow (*Salix sericia*-FACW) and gray dogwood (*Cornus racemosa*-FAC) shrubs, with reed canary grass (*Phalaris arundinacea*-FACW) and wool grass (*Scirpus cyperinus*-FACW+) dominating the ground plain. (Photo 1). The western end of this wetland (Photo 2), just off the current airport access road, is dominated by cattail (*Typha angustifolia*-OBL) and fowl bluegrass (*Poa palustris*-FACW), with standing green ash (*Fraxinus pensylvanica*-FACW) saplings and trees.

Underlying hydric soils have a depleted matrix of 10YR4/1 (dark gray), with 10YR5/4 (yellowish brown) mottles to a depth of 22-inches. Indicators of wetland hydrology include surface water and saturated soils.

Wetland H

Wetland H (1.59± acres) is characterized as a vegetated, low profile wetland drainage way that collects and conveys surface water runoff across the site from east to west. (Photos 3 & 4). A similar secondary drainage conveys runoff from the north to the southwest. (Photo 5). Both of these drainages converge at the west end of the study area along the WIA perimeter access road. A culvert pipe carries water under the access road, where it then re-emerges and is allowed to flow through an open channel across the Runway 10-28 airfield. Dominant herbaceous vegetation characterizing the Wetland H typically includes wool grass, fox sedge (*Carex vulpinoidea*-OBL), bladder sedge (*Carex intumescens*-OBL), fowl bluegrass, and green bulrush (*Scirpus atrovirens*-FACW), with pockets of silky willow and gray dogwood shrubs.

Underlying hydric soils have a dark gray depleted matrix of 10YR4/1 or 7.5YR4/1, with high chroma mottles to a depth of 24-inches. Indicators of wetland hydrology include surface water, saturated soils, and drainage patterns.

Site Uplands

Site uplands, including those through which Wetland H conveys runoff, are predominately characterized as an early successional shrub community with areas of open old-field. (Photos 5 - 9). Although only slightly elevated with respect to Wetlands G and H, these transitional uplands are dominated by vegetation that has an allegiance towards drier conditions. Dominant vegetation in this community typically includes, in varying dominance: gray dogwood (*Cornus racemosa*-FAC) and buckthorn (*Rhamnus cathartica*-FAC) shrubs, and timothy (*Phleum pretense*-FACU), narrow leaf goldenrod (*Euthamia gramifolia*-FAC), Canada goldenrod (*Solidago canadensis*-FACU), wild strawberry (*Fragaria virginiana*-FACU), Queen Ann's lace (*Daucus carota*-FACU), and gray dogwood seedlings in the herbaceous stratum. While the underlying soils in these uplands generally exhibit hydric character having a matrix color in the A horizon of 10YR4/2, and a depleted B horizon matrix of 10YR4/1 (with mottles), these successional shrub/old-field areas lack indicators of wetland hydrology and have a dominance of upland vegetation.

The eastern end of the study area also exhibits depleted matrix hydric soils having an A horizon of 7.5YR4/2, and a B horizon of 10YR4/2 with prominent mottles. However, while this transitional area supports a pole stand green ash trees, with wild strawberry and rough-leaf goldenrod (*Solidago rugosa*-FAC) characterizing the herbaceous layer, it completely lacks indicators of wetland hydrology. (Photo 10).

12). Dominant herbaceous species generally include Canada goldenrod, wild strawberry, small white aster (*Aster vimineus*-FAC), and rough leaf goldenrod. Similar to other site uplands that are only slightly elevated with respect to the lower laying wetlands, the underlying soil profile can exhibit hydric character with an A horizon matrix color of 10YR3/2, and a B horizon matrix color of 10YR4/2 or 10YR4/1 with mottling evident. There are no indictors of wetland hydrology in the site uplands adjacent to the west end of Wetlands G or H.

WETLAND FUNCTIONS AND SERVICES

Activities affecting wetlands have been regulated because these areas can provide various functions and services, including 1) natural products for human use, 2) habitat for fish and wildlife, 3) habitat for rare plant and animal species, 4) opportunities for recreation, education, and aesthetic appreciation, 5) flood protection, 6) water quality improvement, 7) shoreline erosion control, and 8) groundwater recharge and discharge. The functions and services provided by Wetlands G and H include stormwater collection and conveyance, and wildlife habitat, primarily for breeding amphibians. Recreation and educational values are limited.

CONCLUSIONS

This wetland delineation investigation focused on the 18± acre, Runway 10-28 Approach Lighting study area. Based on our review of existing data and field conditions, it was determined that two defined wetlands occur on the project site, 2.25± acres. Field delineated Wetlands G is a 0.66± acre depressional wet meadow whose acreage continues off-site to the west. Wetland H is a 1.59± acre wetland drainage that conveys off-site waters from the east, and on-site runoff westerly eventually converging with Muskellunge Creek.

Based on their direct connection to the Muskellunge Creek, it is our professional opinion that delineated Wetlands G and H are interstate waters regulated by Section 404 of the *Clean Water Act*. However, the USACE makes the final jurisdictional determination based on their site visit and review of historical maps and aerial photographs.

Remaining habitats within the study areas are characterized as transitional, early successional shrub/old-field and successional woods communities. These areas typically are underlain by hydric soils. However, their slight elevational rise with respect to the site wetlands results in their lack of wetland hydrology indicators and are dominated by transitional upland vegetation.

REGULATORY GUIDANCE

The discharge of fill material into jurisdictional wetland areas, as determined by USACE, resulting in the loss of <0.10 acres will likely qualify for Nationwide Permit 39 (NWP 39) requiring pre-construction notification to USACE, with no compensatory mitigation requirement. Wetland fills between 0.10 and 0.50 acres should qualify for NWP 39, requiring pre-construction notification to USACE, including plans for compensatory wetland mitigation.

The discharge of fill into site wetlands exceeding 0.50 acres will require an Individual Permit.

There are no wetlands on or immediately adjacent to the subject property that are subject to New York State Freshwater Wetland, *Article 24* regulations.

LITERATURE CITED

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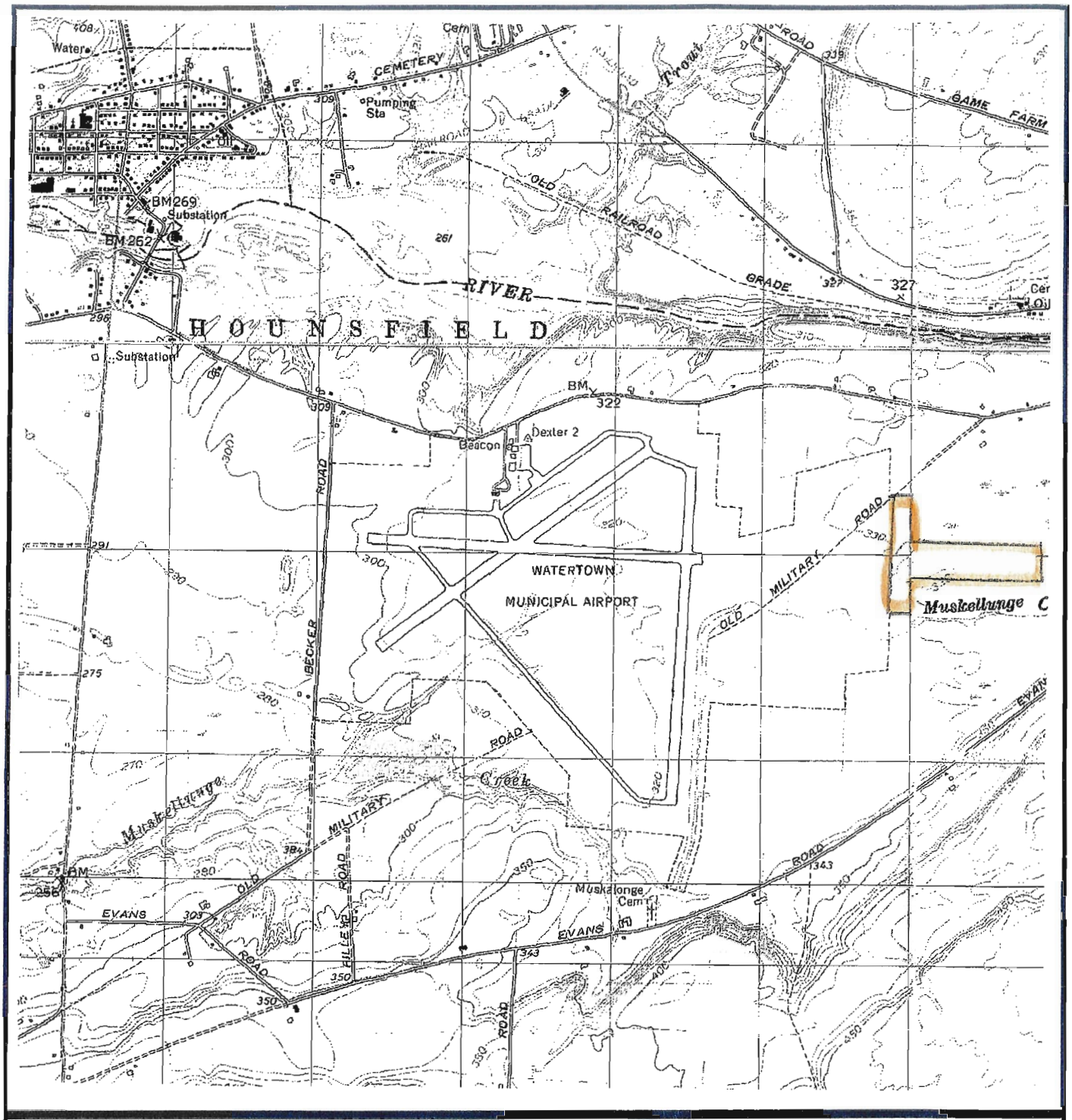
APPENDIX A

Figures



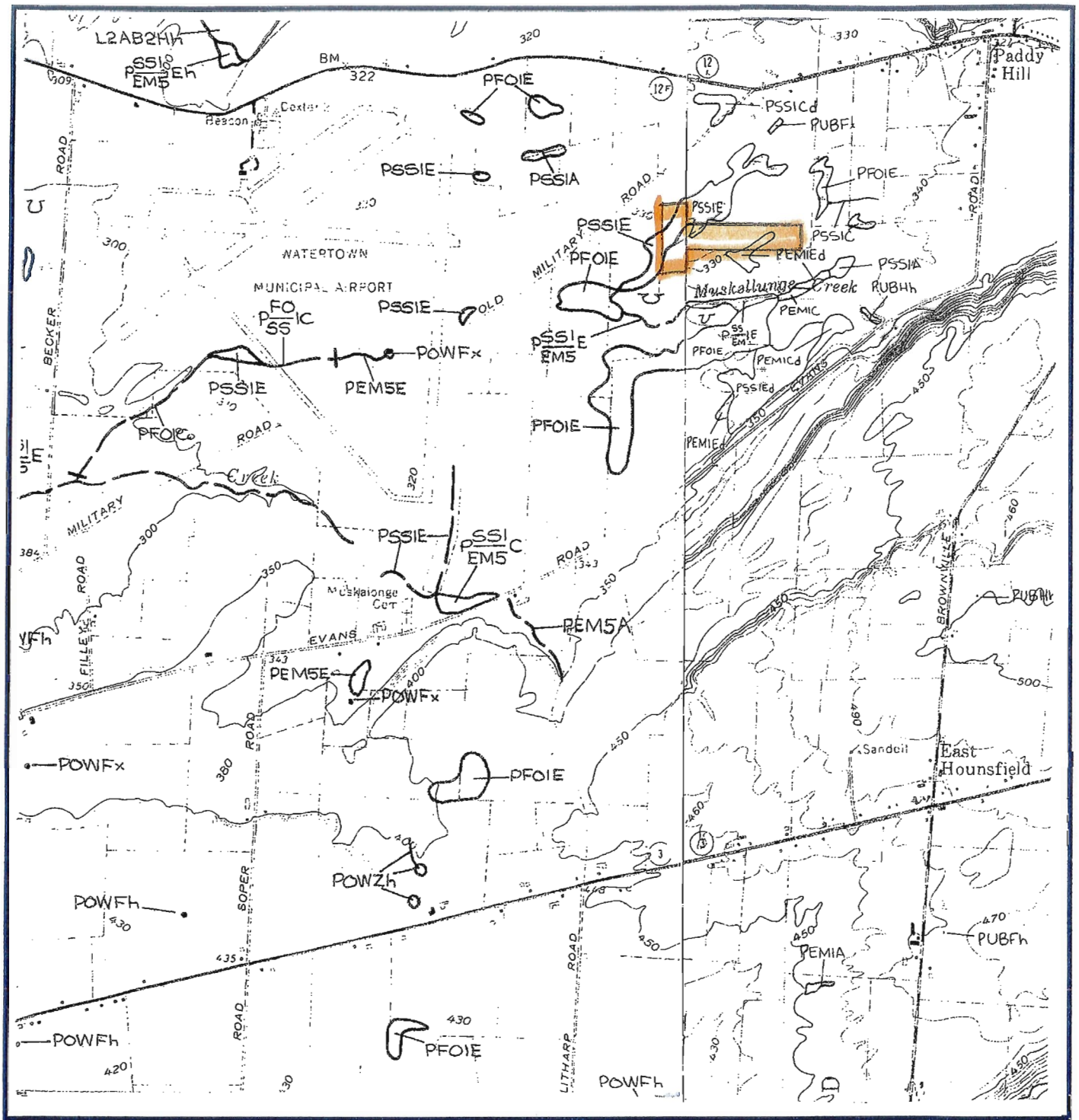
Prepared By: ***Environmental Resources, LLC***

Legend: Site Boundary

Base Map: USGS Quadrangle Map –
Sackets Harbor and Watertown, NY

N

FIGURE 1. SITE LOCATION



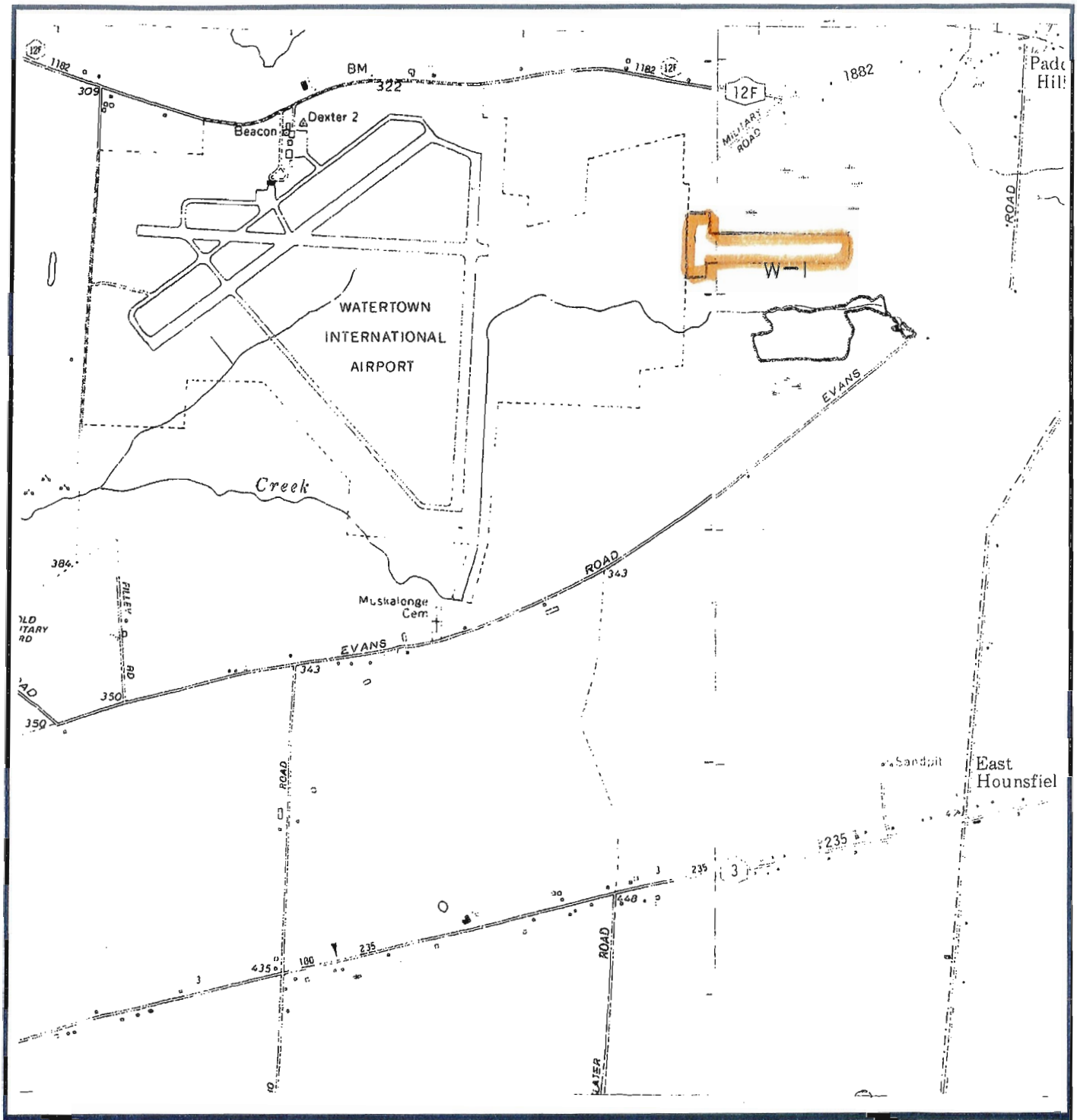
Prepared By: ***Environmental Resources, LLC***

Legend: Site Boundary

Base Map: National Wetlands Inventory Map –
Sackets Harbor and Watertown, NY Quadrangles

N

FIGURE 2. FEDERAL WETLANDS



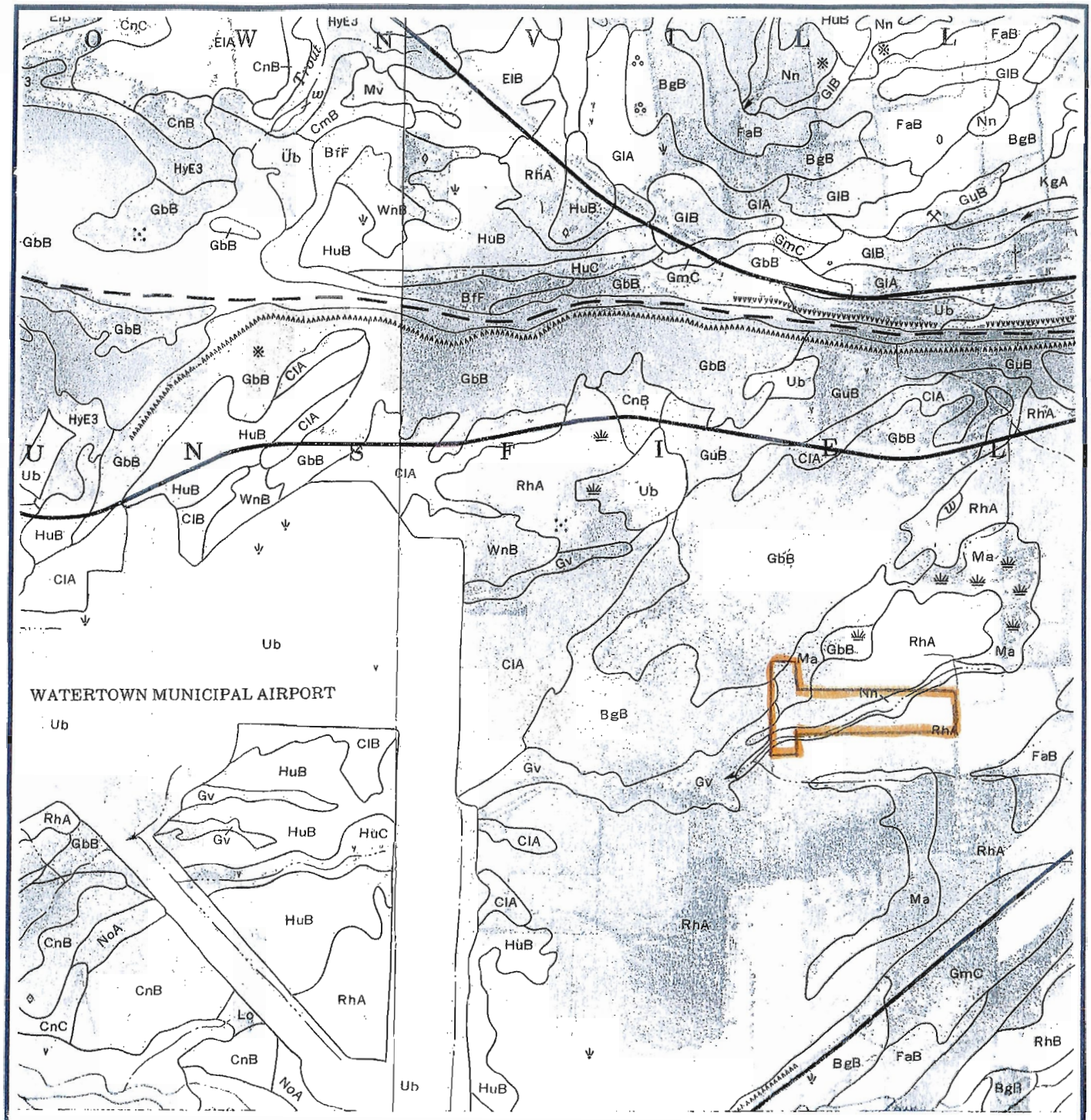
Prepared By: ***Environmental Resources, LLC***

Legend: Site Boundary

Base Map: New York State Freshwater Wetlands Map – Sackets Harbor and Watertown, NY Quadrangles

N

FIGURE 3. STATE WETLANDS



Prepared By: ***Environmental Resources, LLC***

Legend: Site Boundary

Base Map: Soil Survey of Jefferson County (USDA, 1986)

FIGURE 4. SOILS

N

WETLAND AREA D
0.19± ACRES
8,111 SQ. FT.

WETLAND AREA C
0.09± ACRES
3,737 SQ. FT.

WETLAND AREA B
0.17± ACRES
7,287 SQ. FT.

WETLAND AREA F
0.56± ACRES
24,278 SQ. FT.

WETLAND
AREA A
0.35± ACRES
15,438 SQ. FT.

WETLAND
AREA H
1.59± ACRES
69,090 SQ. FT.

WETLAND AREA G
0.66± ACRES
28,667 SQ. FT.

WETLAND AREA E
0.05± ACRES
2,360 SQ. FT.

LEGEND:

- EXISTING EASEMENT
- PROPOSED DEVELOPMENT
- WETLAND
- FEE ACQUISITION
- PROPOSED EASEMENT
- APPROACH LIGHTING STUDY AREA
- FLOODPLAIN
- HOST PARCEL

RUNWAY PROTECTION ZONE
RUNWAY 7-25 (6000' X 150') ASPHALT
RUNWAY 10-28 (8000' X 150') ASPHALT
CLOSED RUNWAY 1-19 (4500' X 150') UNPAVED
TERMINAL PARKING APRON
TAXIWAY "A"
TAXIWAY "B"
TAXIWAY "C"
ROFA
RSA
1000'
500'
2500'
1750'

MAGNETIC NORTH
10° 75' W (2004)
TRUE NORTH

400 0 200 400 800
SCALE 1" = 400

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Rochester, New York 14604 Fax: (585) 325-1691
Principal-in-Charge Wayne F.Wegman, P.E.
Project Manager Shawn R. Bray, P.E.
Designed by Lisa Cheung

Revisions

No.	Date	By	Description
1			

Wetland Map

Environmental Assessment
Watertown (ART) International Airport
Town/City: Hounsfield
County: Jefferson State: New York

Project No. 2006401.06
Drawing No. Fig. 5A
Sheet No. 1 of 2
Scale: 1" = 400'
Date October, 2008

LEGEND:

- EXISTING EASEMENT
- WETLAND
- PROPOSED EASEMENT
- FLOODPLAIN
- PROPOSED DEVELOPMENT
- FEE ACQUISITION
- APPROACH LIGHTING STUDY AREA
- HOST PARCEL

▲1W - Wetland Data Point Location
■2U - Upland Data Point Location
←(3) — photograph location

RUNWAY PROTECTION ZONE

WETLAND AREA H
1.59± ACRES
69,090 SQ. FT.

HOST PARCEL

1000'

WETLAND AREA G
0.66± ACRES
28,667 SQ. FT.

APPROACH LIGHTING STUDY AREA

MAGNETIC NORTH
10° 75' W (2004)

TRUE NORTH

100 0 50 100 200
SCALE 1" = 100

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Principal-in-Charge: Wayne F.Wegman, P.E.
Project Manager: Shawn R. Bray, P.E.
Designed by: Lisa Cheung

Revisions

No.	Date	By	Description
1			

Wetland Map

Environmental Assessment

Watertown (ART) International Airport

Town/City: Hounsfield
County: Jefferson

Project No. 2006401.06

Drawing No. Fig. 5B

Sheet No. 2 of 2

Scale: 1" = 100'

Date: October, 2008

APPENDIX B

Data Sheets

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 1U

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Level

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck NWI classification: S/S

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

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

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

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

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

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

Level area underlain by somewhat poorly drained Rhinebeck soils that support hydrophytic veg. but lack indicators of wetland hydrology. Upland

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 1U

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pensylvanica	20	✓	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. F. pensylvanica	30	✓	FACW
2. Cornus racemosa	30	✓	FAC
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Fragaria virginiana	10		FACU
2. Solidago rugosa	20	✓	FAC
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: _____ (A)

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species 50	x 2 = 100
FAC species 50	x 3 = 150
FACU species 10	x 4 = 40
UPL species _____	x 5 = _____
Column Totals: 110 (A)	290 (B)

Prevalence Index = B/A = 2.63

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 _____

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

SOIL

Sampling Point: 10

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	7.5yr 4/2						Si lm.	
9-22	10yr 4/2		7.5yr 4/6	40	C	M	cl lm.	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 2U

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Level

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck NWI classification: S/S

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

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

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

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

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

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

Level transitional uplands (see Remarks on Sample pt. 1U).

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 2U

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1. Fraxinus pensylvanica	20	✓	FACW
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 30')			
1. F. pensylvanica	30	✓	FACW
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			
Herb Stratum (Plot size:)			
1. Fragaria virginiana	20	✓	FACU
2. Solidago rugosa	20	✓	FAC
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: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ✓ 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 ___

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

SOIL

Sampling Point: 2V

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	7.5yr 4/2						Si. clay loam.	
9-20	10yr 4/2		7.5yr 4/6	40	M	C	cl. loam	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 3U

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck. NWI classification: S/S

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

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

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

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

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

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

Insufficient wetland criteria.

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 3U

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pensylvanica	10		FACW
2. Betula alba	10		FAC+
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1. Salix spp.	10		FACW
2. Cornus racemosa	70	✓	FAC
3. Spirea tomentosa	15		FACW
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Solidago rugosa	20	✓	FAC
2. Fragaria virginiana	20	✓	FACU
3. Lonicera tatarica	10		FACU
4. Dichanthelium clandestinum	30	✓	FAC+
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: _____ (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	35	x 2 =	70
FAC species	130	x 3 =	390
FACU species	30	x 4 =	120
UPL species		x 5 =	
Column Totals:	195 (A)		580 (B)

Prevalence Index = B/A = 2.97

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 _____ weak.

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

SOIL

Sampling Point: 30

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10yr5/2		10yr5/4	10	C	M	s: l m.	
9-24	10yr5/2		10yr5/4	40	C	M	c l.	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 4W

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Newstead NWI classification: PSSIE

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

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

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

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

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

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

wetland drainage.

Interstate.

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 _____	Depth (inches): 4
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 4W

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Cornus racemosa	15		FAC
2. Spirea tomentosa	15		FACW
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Scirpus atrovirens	30	✓	FACW
2. Poa palustris	50	✓	FACW
3. Carex scoparia	20	✓	FACW
4. C. Vulpinoidea	20	✓	OBL
5. Aster spp.	30	✓	FAC→FACW
6. Cornus racemosa	15		FAC
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: _____ (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ 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 _____

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

SOIL

Sampling Point: 4W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10yr3/1						Si lm.	
8-16	10yr3/1		10yr5/4	40	C	M	cl. lm	
16-24	10yr4/1						cl.	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 4U

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Level

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck NWI classification: Succ - Old Field.

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

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

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

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

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

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

Successional old-field. Field exhibits evidence of moist soil conditions however wetland criteria is not met.

Upland

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 _____	Depth (inches): _____	
Water Table Present?	Yes _____	No _____	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____	No _____	Depth (inches): _____	**Wetland Hydrology Present?** Yes _____ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 4U

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 30')			
1. Cornus racemosa	60	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			
Herb Stratum (Plot size:)			
1. Daucus carota	30	✓	FACU
2. Poa palustris	20	✓	FACW
3. Phleum pratense	40	✓	FACU
4. Cornus racemosa	40	✓	FAC
5. Fragaria virginiana	30	✓	FACU
6. Eutrochium grandifolia	30	✓	FAC
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: _____ (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	20	x 2 =	40
FAC species	130	x 3 =	390
FACU species	100	x 4 =	400
UPL species		x 5 =	
Column Totals:	250 (A)		830 (B)

Prevalence Index = B/A = 3.32

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 ✓

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

SOIL

Sampling Point: 4U

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10yr4/2						Si. lm.	
10-14	10yr4/2		10yr5/4	20	C	M	cl. lm	
14-24	10yr4/1						cl.	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: SU

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck NWI classification: _____

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

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

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

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

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

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

Underlying somewhat poorly drained soils have hydric character but other wetland criteria is lacking - upland.

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 ___ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 5U

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Cornus racemosa	40	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Eutham·a graminifolia	20	✓	FAC
2. Daucus carota	20	✓	FACU
3. Phleum pratense	30	✓	FACU
4. Fragaria virginiana	20	✓	FACU
5. Solidago canadensis	20	✓	FACU
6. Cornus racemosa	40	✓	FAC
7. Poa palustris	20	✓	FACW
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: ~~8~~ (A)

Total Number of Dominant Species Across All Strata: 4 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	20	x 2 =	40
FAC species	100	x 3 =	300
FACU species	90	x 4 =	360
UPL species		x 5 =	
Column Totals:	210 (A)		700 (B)

Prevalence Index = B/A = 3.33

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 ✓

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

SOIL

Sampling Point: 5U

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10yr4/2						si. lm.	
4-9	10yr4/2		10yr5/4				cl. lm.	
9-22	10yr4/1						cl.	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 6W

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): level

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Newstead NWI classification: PSS1E

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

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

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

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

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

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

PSS1E wetland drainage corridor.
Interstate Wetland.

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 _____	Depth (inches): 2"
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 6W

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Cornus racemosa	30	✓	~~FAC~~
2. Salix Serrata	40	✓	~~FACW~~
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Scirpus atrovirens	20	✓	OBL
2. Carex Vulpinoidea	20	✓	OBL
3. Aster spp.	20	✓	~~FAC~~→FACW
4. Poa palustris	30	✓	FACW
5. Carex intumescens	50	✓	FACW+
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: _____ (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ 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 _____

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

SOIL

Sampling Point: 6W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	7.5yr 4/1		10yr5/4	10	C	M	Cl. /m	
7-22	7.5yr 4/1		10yr5/4	55	C	M	Cl.	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 6U

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Level

Slope (%): 1% Lat: Long: Datum:

Soil Map Unit Name: Rhinebeck NWI classification: S/S old field

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

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

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

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

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

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

Transitional, success. upland field.

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

Wetland Hydrology Present? Yes ___ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 6U

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Cornus racemosa	60	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. C. racemosa	40	✓	FAC
2. Phleum pratense	40	✓	FACU
3. Solidago canadensis	20	✓	FACU
4. Daucus carota	20	✓	FACU
5. Fragaria virginiana	20	✓	FACU
6. Poa palustris	20	✓	FACW
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: 7 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 43 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 4/

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 ✓

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

SOIL

Sampling Point: 6U

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10yr4/2						si. lm.	
9-15	10yr4/2		10yr5/4	50			cl lm	
15-24	10yr5/3		10yr5/6	20			cl.	

[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 _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 7U

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Benson-Galoo Complex NWI classification: Success. Shrub

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

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

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

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

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

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

upland S/S - forest

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 _____	Depth (inches): _____	
Water Table Present?	Yes _____	No _____	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____	No _____	Depth (inches): _____	**Wetland Hydrology Present?** Yes _____ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 7U

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus sylvestris	30	✓	UPL
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Cornus racemosa	50	✓	FAC
2. Rhamnus cathartica	50	✓	FAC
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Fragaria virginiana	30	✓	FACU
2. Aster spp.	15		FAC→FACW
3. Solidago canadensis	10		FACU
4. Lonicera tatarica	10		FACU
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: 4 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	115	x 3 =	345
FACU species	50	x 4 =	200
UPL species	30	x 5 =	150
Column Totals:	195 (A)		695 (B)

Prevalence Index = B/A = 3.56

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 ✓

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

SOIL

Sampling Point: 7U

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0–7	10yr 3/2						Si/m.	
7+	Bedrock							

[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 ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: SW

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Level

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Madalin NWI classification: Wet Meadow/Drainage

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

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

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

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

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

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

northern wetland drainage that converges w/main drainage to the west.

Interstate wetland

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 _____	Depth (inches): 6"
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SW

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: 5')			
1. Carex intumescens	40	✓	OBL
2. C. vulpinoidea	40	✓	OBL
3. Verbena hastata	20	✓	FACW
4. Scirpus cyperinus	20	✓	FACW+
5. Poa palustris	30	✓	FACW
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: _____ (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ 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 _____

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

SOIL

Sampling Point: SW

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10yr4/1		10yr5/4	15	C	M	Si/m.	
9-22	10yr3/1		10yr5/4	25	C	M	cl.	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 8U

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): level

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck NWI classification: S/S

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

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

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

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

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

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

successional shrub uplands.

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SU

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Rhamnus cathartica	30	✓	FAC
2. Fraxinus pennsylvanica	20	✓	FACW
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 30')			
1. Rhamnus cathartica	60	✓	FAC
2. Cornus racemosa	50	✓	FAC
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Fragaria virginiana	20	✓	FACU
2. Lonicera tatarica	15		FACU
3. Aster spp.	15		FAC→FACW
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: _____ (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	20	x 2 =	40
FAC species	155	x 3 =	465
FACU species	35	x 4 =	140
UPL species		x 5 =	
Column Totals:	210 (A)		645 (B)

Prevalence Index = B/A = 3.07

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 ✓

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

SOIL

Sampling Point: SU

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10yr 3/2						Si. lm.	
10-24	10yr 4/2						Si. Cl. lm	

[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 ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 9W

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck. NWI classification: PSSIE/EM

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

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

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

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

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

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

slight depression off shoulder of access road.

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 _____	Depth (inches): 1
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 9W

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	30	✓	FACW
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: 5')			
1. Typha angustifolia	45	✓	OBL
2. Poa palustris	50	✓	FACW
3. Phalaris arundinacea	10		FACW
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: _____ (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ 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 _____

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

SOIL

Sampling Point: 9W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10yr4/1		10yr5/4	40	C	M	Si. lm	
8-20	10yr4/1		10yr5/4	60	C	M	Cl.	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 9U

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Level

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck NWI classification: Success. Shrub/forest

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

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

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

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

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

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

upland.

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 _____	Depth (inches): _____	
Water Table Present?	Yes _____	No _____	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____	No _____	Depth (inches): _____	**Wetland Hydrology Present?** Yes _____ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 9U

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus sylvestris	50	✓	UPL
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Cornus racemosa	60	✓	FAC
2. Rhamnus cathartica	20	✓	FAC
3. Lonicera tatarica	5		FACU
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Solidago rugosa	15		FAC
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: _____ (A)

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species 95	x 3 = 285
FACU species 5	x 4 = 20
UPL species 50	x 5 = 250
Column Totals: _____ (A)	655 (B)

Prevalence Index = B/A = 4.37

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 ✓

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

SOIL

Sampling Point: 9U

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10yr3/2						Si. lm	
7-11	10yr4/2		10yr5/4	50			cl. lm	
11-24	10yr4/1		10yr5/4	70			cl.	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 10W

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck NWI classification: PSS1E

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

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

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

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

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

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

Low area in successional old-field.

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 _____	Depth (inches): 1
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 10W

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pensylvanica	10		FACW
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Salix sericea	25	✓	FACW
2. Fraxinus pensylvanica	10		FACW
3. Cornus racemosa	40	✓	FAC
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Scirpus cyperinus	20	✓	FACW+
2. Phalaris arundinacea	25	✓	FACW
3. Solidago rugosa	10		FAC
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: _____ (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ 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 ___

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

SOIL

Sampling Point: 10W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10yr4/1	30	10yr4/4				Si. lm	
4-20	10yr4/1	75	10yr4/4				Cl. lm	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 10U

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck NWI classification: Succ. old field

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

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

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

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

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

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

Transitional area. Wetland criteria not met, upland.

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 10V

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 30')			
1. Cornus racemosa	95	✓	FAC
2. Rhamnus cathartica	5		FAC
3. Fraxinus pensylvanica	5		FACW
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Fragaria virginiana	15		FACU
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: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 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 ____

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

Veg. shows transitional character

SOIL

Sampling Point: 10U

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10yr4/1						si. lm.	
4-9	10yr4/1	50	10yr4/4				cl. lm.	
9-22	10yr4/1	60	10yr4/4				cl.	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 11W

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Newstead NWI classification: PSS1E

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

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

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

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

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	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 _____	Depth (inches): 2
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): >

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 1/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: 30')			
1. Salix sericia	50	✓	FACW
2. Cornus racemosa			
3. Fraxinus pensylvanica	5		FACW
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Poa palustris	30	✓	FACW
2. Juncus effusus	20	✓	FACW+
3. Scirpus cyperinus	5		FACW+
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: _____ (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ 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 _____

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

SOIL

Sampling Point: 11W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10yr3/2	5	10yr4/4					
4-10	10yr4/1	30	↓					
10-24	10yr4/1	70						

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 1IU

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck NWI classification: Success. Old Field

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

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

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

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

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

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

Transitional upland field.

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

Wetland Hydrology Present? Yes ___ No ✓

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

Remarks:

SOIL

Sampling Point: 1/U

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10yr3/2						Si. lm	
8-22	10yr5/1	30	10yr 4/4				cl. lm	

[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 ___

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 11U

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. Cornus racemosa	80	✓	FAC
2. Rhamnus cathartica	10		FAC
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Fragaria virginiana	25	✓	FACU
2. Phleum pratense	20	✓	FACU
3. Solidago canadensis	10		FACU
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 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 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 ✓

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 12U

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck NWI classification: Success OF

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

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

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

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

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

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

Somewhat poorly drained soils exhibit hydric character However other wetland parameters are absent. Transitional uplands.

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 _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 1ZU

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Cornus racemosa	80	✓	FAC
2. Fraxinus pensylvanica	10		FACW
3. Rhamnus cathartica	10		FAC
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Phleum pratense	30	✓	FACU
2. Fragaria virginiana	35	✓	FACU
3. Carex spp.	30	✓	FAC→FACW
4. Solidago canadensis	25	✓	FACU
5. Acer viminus	15		FAC
6. Vicia spp.	10		FAC→FACU
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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 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 ✓

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

SOIL

Sampling Point: 12U

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5yr 4/2						SiL/m	
6-22	7.5yr 4/1	50	7.5yr 4/4		C	M	CL	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 13W

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Newstead NWI classification: wet drainage

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

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

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

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

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	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 _____	Depth (inches): 3
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 13W

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Ulmus americana	10		FACW
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Scirpus cyperinus	20	✓	FACW+
2. Phalaris arundinacea	25	✓	FACW
3. Poa palustris	40	✓	FACW
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: _____ (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ✓ 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 ___

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

SOIL

Sampling Point: 13W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10yr4/1		10yr4/4	5	C	M	cl. lm	
12-23	10yr4/1		10yr4/4	50	C	M	cl.	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 13U

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck. NWI classification: Succ. of/upland.

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

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

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

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

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

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

Transitional uplands.

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 _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 13U

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Cornus racemosa	90	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Solidago canadensis	20	✓	FACU
2. Fragaria virginiana	20	✓	FACU
3. Phleum pratense	50	✓	FACU
4. Geum canadense	10		FACU
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: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 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 ✓

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

SOIL

Sampling Point: 130

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10yr 3/2						Si. lm.	
10-22	10yr 4/1		10yr 4/4	50			cl.	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 14W

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Newstead NWI classification: PSSIE

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

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

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

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

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

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

west end of wetland drainage collecting against road. culvert pipe leads (W) onto airfield and off to Musk Creek Trib.

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 _____	Depth (inches): 4"
Water Table Present?	Yes ✓	No _____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 14W

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: 30')			
1. Rhamnus cathartica	60	✓	FAC
2. Cornus stolonifera	10		FACW
3.			
4.			
5.			
6.			
7.			
	____ = Total Cover		

Herb Stratum (Plot size: 5')			
1. Glyceria canadensis	50	✓	OBL
2. Carex intumescens	25	✓	OBL
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: ____ (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ✓ 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 ____

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

SOIL

Sampling Point: 14W

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10yr4/1		10yr4/4	5	C	M	Si. l/m.	
10-22	10yr4/1		↓	50	C	M	cl. l/m.	

[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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Watertown Intl. Airport City/County: Jefferson Sampling Date: 11/19/12

Applicant/Owner: Approach Lighting (WIA) State: NY Sampling Point: 14V

Investigator(s): G. Pellett J. Hauber Section, Township, Range: Hounsfield

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): 1% Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Rhinebeck NWI classification: Succ. Shrb/Forest

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

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

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

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

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

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

uplands

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 _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

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

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 14U

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus sylvestris	50	✓	UPL
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 30')			
1. Cornus racemosa	35	✓	FAC
2. Crataegus spp.	30	✓	FACU
3. Lonicera tatarica	20	✓	FACU
4. Rhamnus cathartica	20	✓	FAC
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Aster vimineus	20	✓	FAC
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: _____ (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	75	x 3 =	225
FACU species	50	x 4 =	200
UPL species	50	x 5 =	250
Column Totals:	175 (A)		675 (B)

Prevalence Index = B/A = 3.85

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 ✓

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

SOIL

Sampling Point: 14U

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10yr3/2						Si. l/m.	
10-22	10yr4/1		10yr4/4	50	C	M	cl. l/m.	

[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 ___

Remarks:

APPENDIX C

Photographs

PHOTO 5. Representative view of Wetland H - at Data Point 14W - where water collects along airport access road before being conveyed westerly through culvert.

PHOTO 6. View of gray dogwood dominated site uplands at Data Point 4U.

PHOTO 7. Representative view of transitional site uplands dominated by gray dogwood and buckthorn shrubs, and upland grasses and forbs.

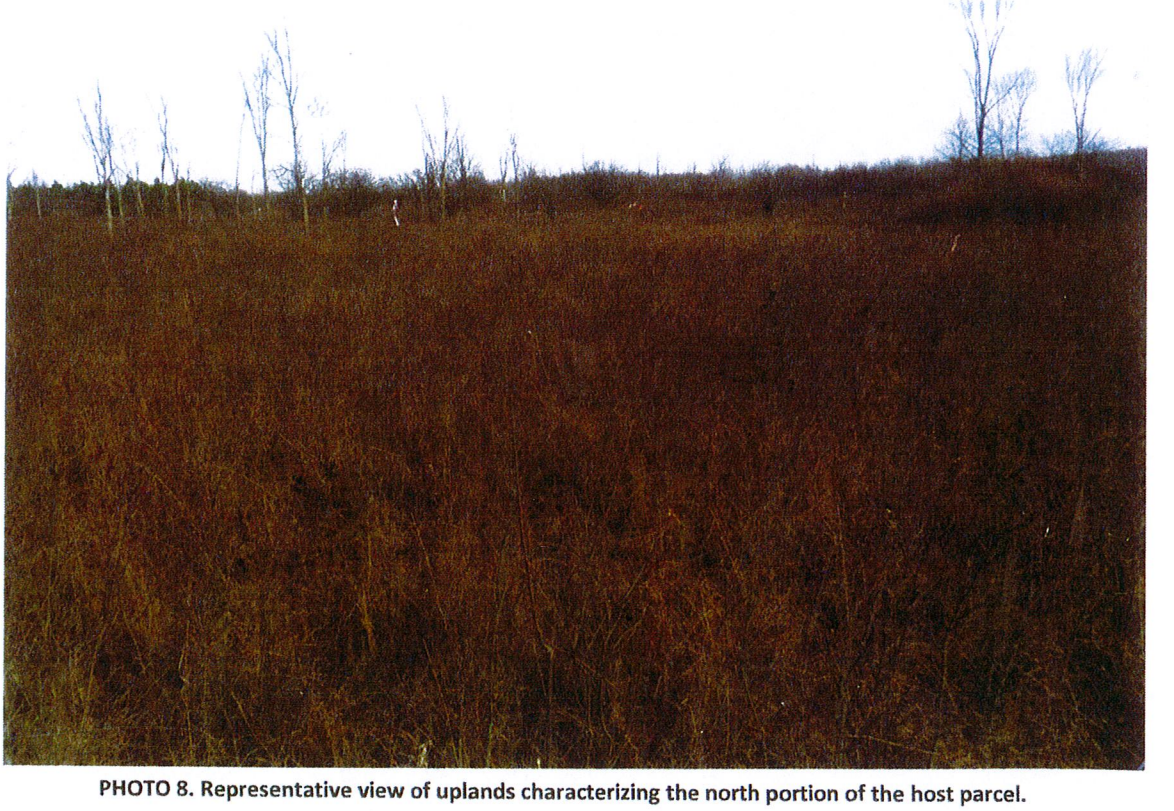


PHOTO 8. Representative view of uplands characterizing the north portion of the host parcel.

PHOTO 9. Representative view of site uplands at Data Point 12U.

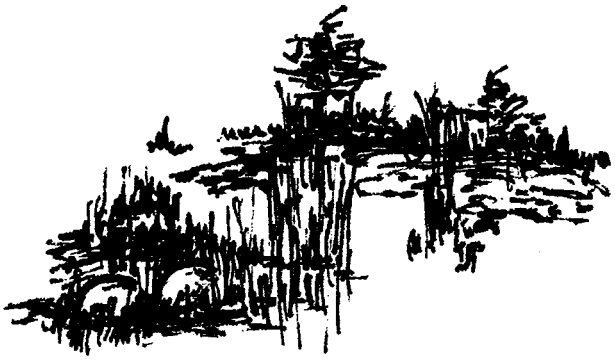
PHOTO 10. Representative view of transitional uplands at the east end of the study area.

PHOTO 11. Representative view of site uplands adjacent to the west end of Wetland H; Data Point 7U.

PHOTO 12. Representative view of site uplands at Data Point 14u.

APPENDIX H

ENDANGERED & THREATENED SPECIES



ECOLOGICAL EVALUATION OF RARE, THREATENED, AND ENDANGERED SPECIES

Watertown International Airport
Runway 10-28 Approach Lighting Study Area

Town of Hounsfield
Jefferson County, New York

Prepared For:

Jefferson County
C/o Passero Associates
242 W. Main Street
Rochester, New York 14614

Prepared By:

Environmental Resources, LLC
33 Kress Hill Drive
Spencerport, New York 14559

August 22, 2013

TABLE OF CONTENTS

APPENDICIES

INTRODUCTION

Environmental Resources, LLC (ERS) conducted an rare, threatened, and endangered species evaluation of specific lands on the Watertown International Airport (WIA) property located just south of State Route 12F about five miles west of Interstate 81. (Appendix A, Figure 1). The focus of this investigation is an 18± acre study area described as the WIA Runway 10-28 Approach Lighting project site (Figure 2) to evaluate the relative significance of the area's habitat and presence for rare, threatened, and endangered species and other species of concern as identified by New York Natural Heritage Program and U.S. Fish & Wildlife Service (Appendix B, Agency Correspondence). Specifically our evaluation included the following species:

Common Name	Scientific Name	Status	Source
• Back's sedge	*Carex backii*	Threatened	NY Natural Heritage Program
• Troublesome sedge	*Carex molesta*	Threatened	NY Natural Heritage Program
• Short-eared owl	*Asio flammeus*	Endangered	NY Natural Heritage Program
• Bald eagle	*Haliaeetus leucocephalus*	Delisted	U.S. Fish and Wildlife Service
• Piping plover	*Charadrius melodus*	Endangered	U.S. Fish and Wildlife Service
• Indiana bat	*Myotis sodalis*	Endangered	U.S. Fish and Wildlife Service

Our assessment consisted of site inspections on November 20 and 26, 2012, and on June 20, during the 2013 growing season, and a literature review for information about the habitats and habits of the species.

SITE DESCRIPTION

The WIA encompasses 1,172± acres with two principal intersecting runways: 10-28 oriented generally east-west, and 7-25 oriented generally southwest to northeast.

The WIA Runway 10-28 Approach Lighting project site consists of 18± acres of land that is part of a larger 40± acre host parcel, east of Runway 10-28. The Approach Lighting study area is beyond the WIA perimeter road and security fence, and is predominately characterized as an early successional shrub/old field community. The west end of the study area, along the existing airport perimeter road, consists of a successional aging pine plantation. A distinct wetland drainage corridor passes through the study area from east to west. **See Figure 2 for Approach Lighting study area.**

SPECIES OF CONCERN CHARACTERISTICS

Materials from concerned agencies and various literature reviews of the named species were addressed for their relevance to this study area.

Back's Sedge

This is a threatened species in New York State. It is found in dry, rocky, open, or shaded slopes, ridges, and barrens in hardwood and mixed or coniferous forests including pine plantations on acidic and calcareous substrates. Back's sedge is found in the surrounding vicinity along rims of gorges. In such settings, this species is apparently threatened by exotics such as common buckthorn, honeysuckle, and others.

Troublesome Sedge

Troublesome sedge is also a threatened species in New York. It adapts to a wide variety of habitats, including wet to dry-mesic prairies, open woodlands, swamps, thickets, abandoned fields, wet depressions in sunny areas, degraded wetlands, and roadside ditches. This sedge is often found in habitats with a history of disturbance. It also has been found in the surrounding vicinity, again, near rims of gorges. Non-native exotics plants also seem to threaten this species in spite of its appearance on disturbed sites.

Short-eared Owl

This species is an endangered species in New York. This is an owl found in large tracts (> 124 acres) open country including prairies, marshes, dunes, and tundra. Open treeless areas characterized as agricultural, savannah, and grassland allow the owl to characteristically fly 2 meters above the ground looking for voles and mice. They nest on the ground protected by grasses. Unusual in the owl species, this one principally forages during daylight into early evening. Its endangered status is enhanced by loss of habitat: marshes, bogs, and open grasslands.

Bald Eagle

The bald eagle was de-listed from the Federal list of Endangered and Threatened and other Candidate Species in August 2007. While no longer listed, this species is under complete State and Federal protection and concerns continue that project impacts that affect the species will be avoided. Principal desired habitat for bald eagles largely include remote or secluded lakes, large ponds, and sizeable streams and rivers where the birds can find their principal prey (fish), likely perching sites, and appropriate nesting sites. Eagles do not tolerate constant disturbance and will abandon areas where such activities occur.

Piping Plover

Piping plover is a sparrow-sized shore bird that nests and feeds along coastal sand and gravel beaches. It is an endangered species in New York and is found along beaches or sand flats on the Atlantic coast and the shores of the Great Lakes. The piping plover feeds on insects, marine worms, and crustaceans that they find between the high water "wrack line" and the water's edge.

Indiana Bat

While found throughout the eastern United States, this species hibernates in relatively few caves. Recent declines (despite improved cave protection) suggest ongoing loss/degradation of summer habitat including sites suitable for maternity colonies. Forested tracts in agriculturally dominated landscapes provide a myriad of sites (largely under loose bark of trees) for these maternity colonies.

WILDLIFE SPECIES OF THE STUDY AREA

Sites that have the varied habitats found here are a natural for the many indigenous and migratory species present in this area of New York. The extensive shrub/scrub and forest areas surrounding the airport are obvious habitat for everything from mice, mink, raccoons, rabbits, fox, and deer to a myriad of songbirds and some raptors. Waterfowl and shorebird habitat is essentially non-existent; however, an occasional great blue heron may be seen searching for mice in the open and agricultural fields or amphibians in the swale areas. The airport proper is much less appropriate due to the maintenance mowing and obvious airplane and auxiliary traffic.

RESULTS/CONCLUSIONS

While **Back's sedge** and **Troublesome sedge** are said to be in the vicinity of the Approach Lighting project site, our thorough evaluation of the sites habitat study areas failed to find any specimens of Back's sedge and/or Troublesome sedge. Several other common sedge species were observed in site Wetlands G and H; however, none match the characteristics of Back's sedge or Troublesome sedge.

The open field grasslands necessary to support the **Short-eared owl** do not occur on the Approach Lighting project site, which is characterized as successional shrub lands. Large tracts of open grassland habitat preferred by Short-eared owl do not occur on, adjacent to, or in the surrounding immediate vicinity of the Runway 10-28 Approach Lighting project site. Therefore, it is unlikely that the Short-eared owl would find the 18± acre subject of this evaluation to be a preferred site.

The **Bald eagle** prefers large territories that include bodies of water and a minimum of disturbance. The WIA study area simply does not meet the eagle's needs and actually is the opposite. Nesting habitat is lacking. No large bodies of water are on site. Airport and airplane activity are constant and continual in this area. Such disturbance would displace any attempt for eagles to establish here. The eagle as a migratory species, may be seen in the area, may forage in nearby Black River, and certainly Lake Ontario, and do nest in areas of the Adirondacks, but would not find suitable habitat at WIA.

The **Piping plover** does not find any of its life's needs met by the WIA Approach Lighting project area and thus is not expected to be impacted at all by any developments here.

No hibernating caves for the **Indiana bat** are found in the vicinity of Approach Lighting study area. From the species range map, WIA is questionably within the area of its permanent residency. The concern for maternity roosting sites is not an issue on the Approach Lighting study area because no appropriate forest sites are included. In-fact, with the exception of the small pine plantation at the west end of the study area, the Approach Lighting project site supports only scatted, pole stand tree specimens. It is our professional opinion that suitable habitat to support Indiana bat is completely absent on the Approach Lighting study area.

SUMMARY

The 18± acre WIA Runway 10-28 Approach Lighting project site is occurs at the east end of Runway 10-28, outside the WIA perimeter fence. This project site is primarily characterized as successional shrub land, but also includes 4± acres of old pine plantation at its west end, and wet meadow drainages. These vegetative communities do not provide the appropriate habitat to support Sort-eared owl, Indiana bat, Piping Plover, or Bald eagle, and a field investigation conducted by ERS confirmed the absence of Troublesome sedge and Back's sedge on the Approach Lighting project site.

Other wildlife species likely reside and utilize the area; however, they have less restrictive habitat needs than those discussed above. Deer, fox, raccoon, skunk, passerine songbirds, crows, red-tailed hawks, vultures, a myriad of insects, moles, shrews, mice, etc., may find acceptable forage grounds around the WIA study area. Even these though, are not encouraged and specifically are not compatible with most airport activities. Thus efforts are made to discourage their presence and rightfully so.

While the 18± acre WIA Runway 10-28 Approach Lighting project site provides territory and conditions for many wildlife species, it is our professional opinion that these habitats are not sufficient to provide the requirements for the state and federally listed species of concern described above.

REFERENCES

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Peterson, Roger Tory, 1980—A Field Guide to the Birds, Houghton, Mifflin Co. Boston, 384 pages.
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www.owlpages.com/owls

APPENDIX A

Figures

Legend: Site Boundary
Base Map: USGS Quadrangle Map –
Sackets Harbor and Watertown, NY

Prepared By: ***Environmental Resources, LLC***

N

FIGURE 1. SITE LOCATION

WETLAND AREA D
0.19± ACRES
8,111 SQ. FT.

WETLAND AREA C
0.09± ACRES
3,737 SQ. FT.

WETLAND AREA B
0.17± ACRES
7,287 SQ. FT.

WETLAND AREA F
0.56± ACRES
24,278 SQ. FT.

WETLAND AREA A
0.35± ACRES
15,438 SQ. FT.

WETLAND AREA H
1.59± ACRES
69,090 SQ. FT.

WETLAND AREA G
0.66± ACRES
28,667 SQ. FT.

WETLAND AREA E
0.05± ACRES
2,360 SQ. FT.

LEGEND:

- EXISTING EASEMENT
- PROPOSED DEVELOPMENT
- WETLAND
- FEE ACQUISITION
- PROPOSED EASEMENT
- APPROACH LIGHTING STUDY AREA
- FLOODPLAIN
- HOST PARCEL

RUNWAY PROTECTION ZONE
RUNWAY 7-25 (5000' X 150') ASPHALT
RUNWAY 10-28 (5000' X 150') ASPHALT
CLOSED RUNWAY 7-19 (4500' X 150') UNPAVED
TERMINAL PARKING APRON
TAXIWAY "A"
TAXIWAY "B"
TAXIWAY "C"
RSA
ROFA
1000'
500'
700'
2500'
1750'

Runway 10-28
Approach Lighting
Project Site

MAGNETIC NORTH
10° 75' W (2004)
TRUE NORTH

400 0 200 400 800
SCALE 1" = 400

Passero Associates
Rochester, NY • Jacksonville, FL
Saratoga Springs, NY • St. Augustine, FL
www.passero.com

Client:
Jefferson County
175 Arsenal Street
Watertown, NY 13601
(315) 785-3075

Passero Associates
100 Liberty Pole Way, Rochester, New York 14604
(585) 325-1000 Fax: (585) 325-1691
Principal-in-Charge: Wayne F. Wegman, P.E.
Project Manager: Shawn R. Bray, P.E.
Designed by: Lisa Cheung

Revisions

No.	Date	By	Description
1			WIA OVERALL

Wetland Map

Environmental Assessment

Watertown (ART) International Airport

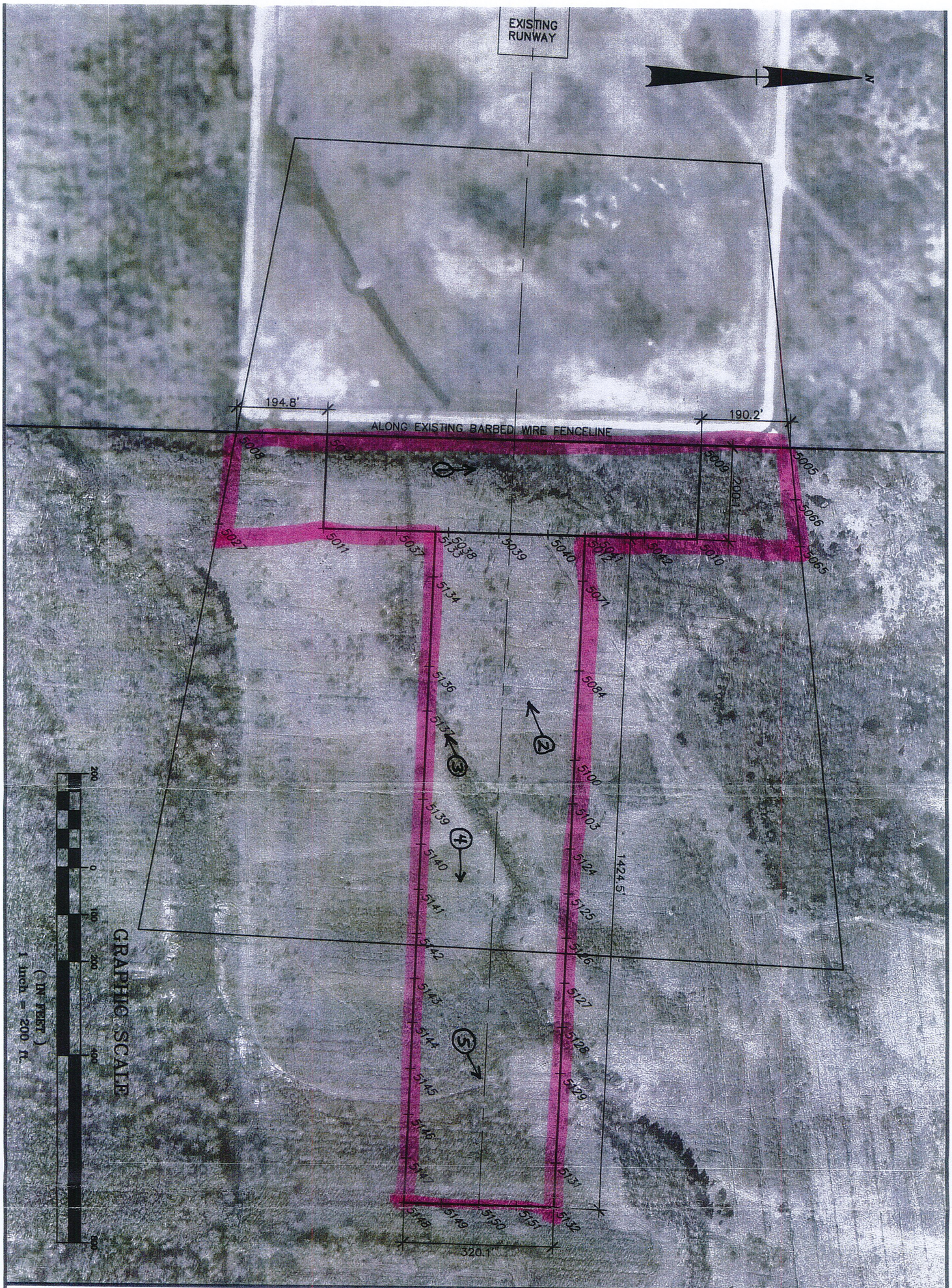
Town/City: Hounsfield
County: Jefferson
State: New York

Project No.: 2006401.06

Drawing No.: Fig. 2
Sheet No.: 1 of

Scale: 1" = 400'

Date: October, 2008



Contract Drawing Reference No.

EASEMENT LINE STAKEPLAN

EISENHAUER PARCEL
JEFFERSON COUNTY INTERNATIONAL AIRPORT
Town of Hounsefield County of Jefferson State of New York

THE BERNIER CARR GROUP

BERNIER, CARR & ASSOCIATES, P.C. • MACH ARCHITECTURE + ENGINEERING, P.C.
engineers • architects • planners • surveyors • construction managers

Revisions:

FIGURE 3.

THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AT THE SITE & NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES.

Drawn By	Checked By
JJO	JJO
Scale	Date
1"=200'	11/6/2012
File No.	2010-218

Runway 10-28 Approach Light Project Site

① Photo Location

APPENDIX B

Agency Correspondence

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

December 6, 2012

Gene Pellett
Environmntl Resources
33 Kress Hill Drive
Spencerport, NY 14559

Dear Mr. Pellett:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the Proposed 39-Acre Parcel Development, adjacent to the Watertown Airport, site as indicated on the map you enclosed, located in the Town of Hounsfield, Jefferson County.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities, which our database indicates occur, or may occur, on your site or in the immediate vicinity of your site. For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our 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.

The enclosed report may be included in documents that will be available to the public. However, any enclosed maps displaying locations of rare species are considered sensitive information, and are intended only for the internal use of the recipient; they should not be included in any document that will be made available to the public, without permission from the New York Natural Heritage Program.

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.

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.

Sincerely,

Jean Pietrusiak, Information Services
NYS Department Environmental Conservation

Enc.
Cc: Reg. 6, Wildlife Mgr.

1148

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 and habitats have been documented at or near the project site, generally within 0.5 mile. Potential onsite and offsite impacts from the project may need to be addressed.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Birds				
Short-eared Owl *Breeding*	*Asio flammeus*	Endangered		7280

The following species have been documented within 2.5 mi. Individual animals may travel 2.5 mi from documented locations.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Mammals				
Indiana Bat *Hibernaculum*	*Myotis sodalis*	Endangered	Endangered	3122
Indiana Bat *Maternity colony*	*Myotis sodalis*	Endangered	Endangered	11657

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.

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 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			
Back's Sedge	*Carex backii*	Threatened	Imperiled in NYS

Brownville: Site 1: East and south of the bridge over Black River in Brownville. The area is flat and on the rim of a large gorge about 10-15 meters from the edge of the rim. The bedrock is limestone. The area is very weedy. The tree canopy is sparse with Prunus serotina and Robinia pseudo-acacia dominant. The shrub layer is dense in most places with Lonicera morrowii. Rhamnus cathartica is also present. The herb layer is fairly dense with Carex blanda quite abundant. The soil is silty or perhaps a silty sand. Thesite 2: This area is also on the rim of the Black River Gorge. It is an open forest with a 0-5 degree south-facing slope with young Quercus rubra and Populus tremuloides dominant. Other trees present include Thuja occidentalis, Populus grandidentata, and 11839

Troublesome Sedge	*Carex molesta*	Threatened	Imperiled in NYS

Brownville: Site 1: South of the Black River and just east of the bridge over the Black River in Brownville. The Carex molesta occurs here in a short "path" through dense Lonicera. There is a thin/sparse tree canopy with Prunus serotina and Robinia pseudo-acacia dominant. In the path, the shrub layer has been kept clear, but adjacent to the path the shrubs are thick mostly with just Lonicera morrowii. The herb layer is fairly dense with many low herbs and carices. The soil is silty or perhaps a sandy silt and the soils are thin over limestone. This site is also adjacent to the rim of a large gorge of the Black River. The site 2: On the north side of the Black River just west of Brownville. The Carex molesta occurs here in the open area of an old powerline or railr 11834

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.

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES IN NEW YORK (By County)

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

COUNTY Common Name	Scientific Name	Status
GENESEE		
Bald eagle	*Haliaeetus leucocephalus*	D
Bog turtle *(Historic)*	*Clemmys [=Glyptemys] muhlenbergii*	T
Eastern massasauga	*Sistrurus catenatus catenatus*	C
Eastern prairie fringed orchid *(Historic)*	*Platanthera leucophaea*	T
Houghton's goldenrod	*Solidago houghtonii*	T
GREENE		
Bald eagle	*Haliaeetus leucocephalus*	D
Indiana bat (S)	*Myotis sodalis*	E
HAMILTON		
Bald eagle[2]	*Haliaeetus leucocephalus*	D
HERKIMER[2]		
JEFFERSON		
Bald eagle	*Haliaeetus leucocephalus*	D
Indiana bat (W/S)	*Myotis sodalis*	E
Piping plover {Designated Critical Habitat}	*Charadrius melodus*	E
KINGS[2]		
LEWIS		
Indiana bat (S)	*Myotis sodalis*	E
LIVINGSTON		
Bald eagle[2]	*Haliaeetus leucocephalus*	D
MADISON		
American hart's-tongue fern	*Asplenium scolopendrium* var. *americana*	T
Chittenango ovate amber snail	*Novisuccinea chittenangoensis*	T
Indiana bat (S)	*Myotis sodalis*	E

Jefferson County

Federally Listed Endangered and Threatened Species and Candidate Species

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

Common Name	Scientific Name	Status
Bald eagle[1]	*Haliaeetus leucocephalus*	D
Indiana bat (W/S)	*Myotis sodalis*	E
Piping plover [Designated Critical Habitat]	*Charadrius melodus*	E

Status Codes: E=Endangered T=Threatened P=Proposed C=Candidate D=Delisted

W=Winter S=Summer

[1] The bald eagle was delisted on August 8, 2007. While there are no ESA requirements for bald eagles after this date, the eagles continue to receive protection under the Bald and Golden Eagle Protection Act (BGEPA). Please follow the Service's May 2007 Bald Eagle Management Guidelines to determine whether you can avoid impacts under the BGEPA for your projects. If you have any questions, please contact the endangered species branch in our office.

Print Species List

APPENDIX C

Photographs

PHOTO 1. View of west end of the project site characterized by successional shrubs and a bordering pine plantation.

PHOTO 2. View of successional shrublands characterizing the north-central portion of the site.

PHOTO 3. View of drainage corridor (delineated Wetland H) within successioanl shrub uplands, flowing west through the project site.

PHOTO 4. Representative view of the successional shrublands characterizing the south portion of the project site.

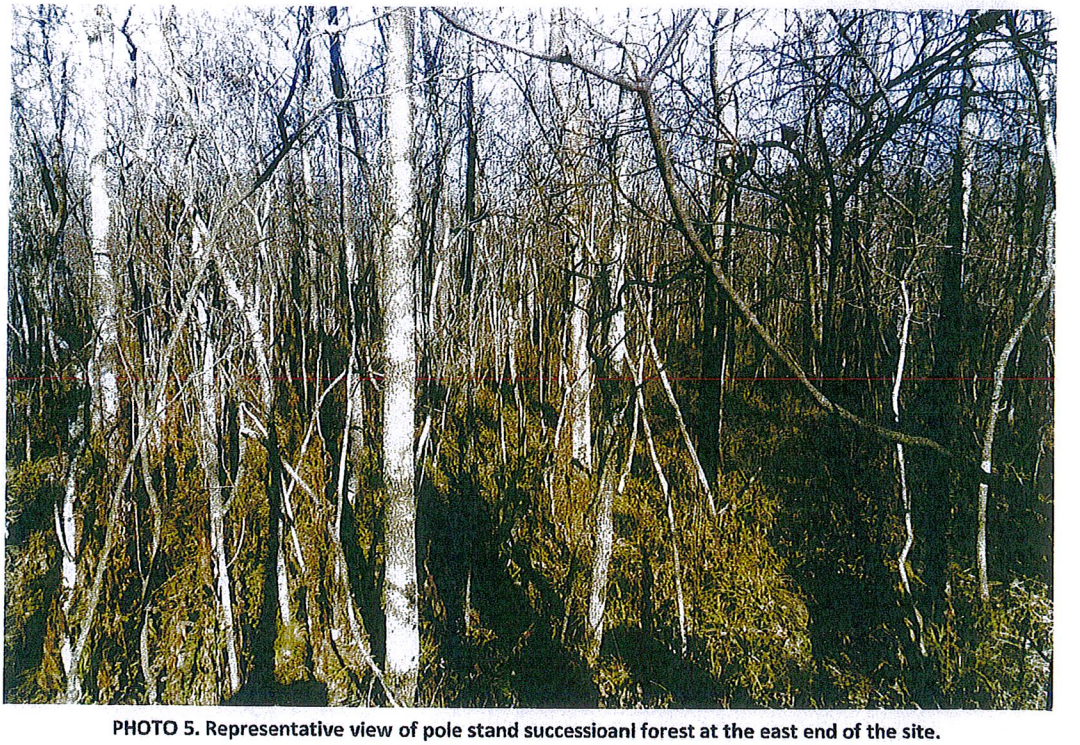


PHOTO 5. Representative view of pole stand successioanl forest at the east end of the site.

ECOLOGICAL EVALUATION OF RARE, THREATENED, AND ENDANGERED SPECIES

Watertown International Airport Terminal and General Aviation Master Plan Areas

Town of Watertown Jefferson County, New York

Prepared For:

Passero Associates
100 Liberty Pole Way
Rochester, New York 14604

Prepared By:

Environmental Resources, LLC
33 Kress Hill Drive
Spencerport, New York 14559

February 8, 2012

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APPENDICIES

INTRODUCTION

Environmental Resources, LLC (ERS) conducted an rare, threatened, and endangered species evaluation of specific lands on the Watertown International Airport (WIA) property located just south of State Route 12F about five miles west of Interstate 81. (Appendix A, Figure 1). The focus of this investigation is a 73± acre study area described as the WIA Terminal and General Aviation Master Plan Areas (Figure 2) to evaluate the relative significance of the area's habitat and presence for rare, threatened, and endangered species and other species of concern as identified by New York Natural Heritage Program and U.S. Fish & Wildlife Service (Appendix B, Agency Correspondence). Specifically our evaluation included the following species:

Common Name	Scientific Name	Status	Source
• Back's sedge	*Carex backii*	Threatened	NY Natural Heritage Program
• Troublesome sedge	*Carex molesta*	Threatened	NY Natural Heritage Program
• Henslow's sparrow	*Ammodramus henslowii*	Threatened	NY Natural Heritage Program
• Short-eared owl	*Asio flammeus*	Endangered	NY Natural Heritage Program
• Bald eagle	*Haliaeetus leucocephalus*	Deleted	US Fish and Wildlife Service
• Piping plover	*Charadrius melodus*	Endangered	US Fish and Wildlife Service
• Indiana bat	*Myotis sodalis*	Endangered	US Fish and Wildlife Service

Our assessment consisted of a site inspection on September 27, 2011, and a literature review for information about the habitats and habits of the species.

SITE DESCRIPTION

The WIA encompasses 1,172± acres with two principal 5,000-foot intersecting runways: 10-28 oriented generally east-west, and 7-25 oriented generally southwest to northeast. A north-south runway in the eastern portion of the facility is used only in unusual weather conditions. The facility is security-fenced and has perimeter access roads as well as taxiways for the runways. The majority of the WIA facility is under an extensive mowing management plan except some shrub/scrub lands exist in the southeast portion. Mowing obviously emphasizes visibility and appropriately reduces wildlife interaction with airport function.

The focus of this rare, threatened, and endangered species evaluation involves 73± acres of land occurring on the north side of the WIA, between the active airfield and its operations buildings, and NYS Route 12F. As shown on Figure 2, the specific study areas of our evaluation are more or less disconnected and include:

- North Terminal Area – 64.5± acres. (Appendix C, Photo 1 & 2).
- East Terminal Area - 1.9± acres. (Photo 3).
- General Aviation Access Area – 1.0± acres. (Photo 3).
- General Aviation Development Area – 5.5± acres. (Photo 4).

All habitat areas evaluated for this investigation are characterized by routinely mowed grasses and forbs. (see Photos 1 -4).

SPECIES OF CONCERN CHARACTERISTICS

Materials from concerned agencies and various literature reviews of the named species were addressed for their relevance to this study area.

Back's Sedge

This is a threatened species in New York State. It is found in dry, rocky, open, or shaded slopes, ridges, and barrens in hardwood and mixed or coniferous forests including pine plantations on acidic and calcareous substrates. Back's sedge is found in the surrounding vicinity along rims of gorges. In such settings, this species is apparently threatened by exotics such as common buckthorn, honeysuckle, and others.

Troublesome Sedge

Troublesome sedge is also a threatened species in New York. It adapts to a wide variety of habitats, including wet to dry-mesic prairies, open woodlands, swamps, thickets, abandoned fields, wet depressions in sunny areas, degraded wetlands, and roadside ditches. Obviously, this sedge is often found in habitats with a history of disturbance. It also has been found in the surrounding vicinity, again, near rims of gorges. Exotics also seem to threaten this species in spite of its appearance on disturbed sites.

Henslow's Sparrow

Henslow's sparrow is a threatened species in New York largely due to limited areas of desired habitat. It prefers extensive grasslands, either moist or dry, with scattered weeds and small shrubs. It is a secretive species preferring to run rather than fly. Efforts by State, Federal, and private groups to preserve extensive grasslands are management programs aimed at perpetuating this and other similar grassland species (bobolink, vesper sparrows, etc.).

Short-eared Owl

This species is an endangered species in New York. This is an owl found in open country including prairies, marshes, dunes, and tundra. Open treeless areas characterized as agricultural, savannah, and grassland allow the owl to characteristically fly 2 meters above the ground looking for voles and mice. They nest on the ground protected by grasses. Unusual in the owl species, this one principally forages during daylight into early evening. Its endangered status is enhanced by loss of habitat: marshes, bogs, and open grasslands.

Bald Eagle

The bald eagle was de-listed from the Federal list of Endangered and Threatened and other Candidate Species in August 2007. While no longer listed, this species is under complete State and Federal protection and concerns continue that project impacts that affect the species will be avoided. Principal desired habitat for bald eagles largely include remote or secluded lakes, large ponds, and sizeable streams and rivers where the birds can find their principal prey (fish), likely perching sites, and appropriate nesting sites. Eagles do not tolerate constant disturbance and will abandon areas where such activities occur.

Piping Plover

Piping plover is a sparrow-sized shore bird that nests and feeds along coastal sand and gravel beaches. It is an endangered species in New York and is found along beaches or sand flats on the Atlantic coast and the shores of the Great Lakes. The piping plover feeds on insects, marine worms, and crustaceans that they find between the high water "wrack line" and the water's edge.

Indiana Bat

While found throughout the eastern United States, this species hibernates in relatively few caves. Recent declines (despite improved cave protection) suggest ongoing loss/degradation of summer habitat including sites suitable for maternity colonies. Forested tracts in agriculturally dominated landscapes provide a myriad of sites (largely under loose bark of trees) for these maternity colonies.

WILDLIFE SPECIES OF THE STUDY AREA

Due to airport operations routine mowing of the open fields characterizing the four specific study areas, wildlife species are limited to small mammals and passerine birds. Waterfowl and shorebird habitat is non-existent.

RESULTS/CONCLUSIONS

While Back's sedge and **Troublesome sedge** are apparently found in the vicinity, our thorough evaluation of the sites habitat study areas failed to find any specimens. Other sedge species were located in the swales and fields of the site; however, none matched the characteristics of these species of concern.

The open field grasslands that characterize the 73± acre study areas adjacent to the airfield are routinely mowed to discourage nesting avian species and other resident wildlife that may interfere with airport operations, and to maintain a manicured appearance in and around building facilities. Such habitats are not conducive to the presence of **Henslow's sparrow**. The constant disturbance of airport and airplane traffic further discourages this secretive species.

The discussion for the **Short-eared owl** is essentially similar to that for Henslow's sparrow. The preferred habitat of the short-eared owl is more likely to be found in undisturbed undeveloped lands surrounding the airport property, rather than that described in the maintained study area. Therefore, it is unlikely that the owl would find the 73± acre subject of this evaluation to be a preferred site.

The **Bald eagle** prefers large territories that include bodies of water and a minimum of disturbance. The WIA study area simply does not meet the eagle's needs and actually is the opposite. Nesting habitat is lacking. No large bodies of water are on site. Airport and airplane activity are constant and continual in this area. Such disturbance would displace any attempt for eagles to establish here. The eagle as a migratory species, may be seen in the area, may forage in nearby Black River, and certainly Lake Ontario, and do nest in areas of the Adirondacks, but would not find suitable habitat at WIA.

The **Piping plover** does not find any of its life's needs met by the WIA Terminal and General Aviation Master Plan Areas and thus is not expected to be impacted at all by any developments here.

No hibernating caves for the **Indiana bat** are found in the vicinity of WIA study area. From the species range map, WIA is questionably within the area of its permanent residency. The concern for maternity roosting sites is not an issue on the study area because no appropriate forest sites are included. In-fact the study area does not support any tree specimens. It is our professional opinion that suitable habitat to support Indiana bat is completely absent on the 73± acre Terminal and General Aviation Master Plan study areas.

SUMMARY

As a result of airport operations, the 73± acre Terminal and General Aviation Master Plan study areas are routinely mowed to discourage resident avian and mammalian wildlife which are not compatible with airport and air traffic activities. This mowing activity effectively eliminates the preferred habitat for Henslow's sparrow and short-eared owl. Thus, while potentially appropriate habitat is present, it is unlikely that the concerned species would occupy it due to routine mowing operations.

Other wildlife species likely reside and utilize the area; however, they have less restrictive habitat needs than those discussed above. Deer, fox, raccoon, skunk, passerine songbirds, crows, red-tailed hawks, vultures, a myriad of insects, moles, shrews, mice, etc., may find acceptable forage grounds around the WIA study area. Even these though are not encouraged and specifically are not compatible with most airport activities. Thus efforts are made to discourage their presence and rightfully so.

While the 73± acre WIA Terminal and General Aviation Master Plan study areas provide territory and conditions for many wildlife species, it is our professional opinion that these habitats are not sufficient to provide the requirements for the species of concern mentioned above.

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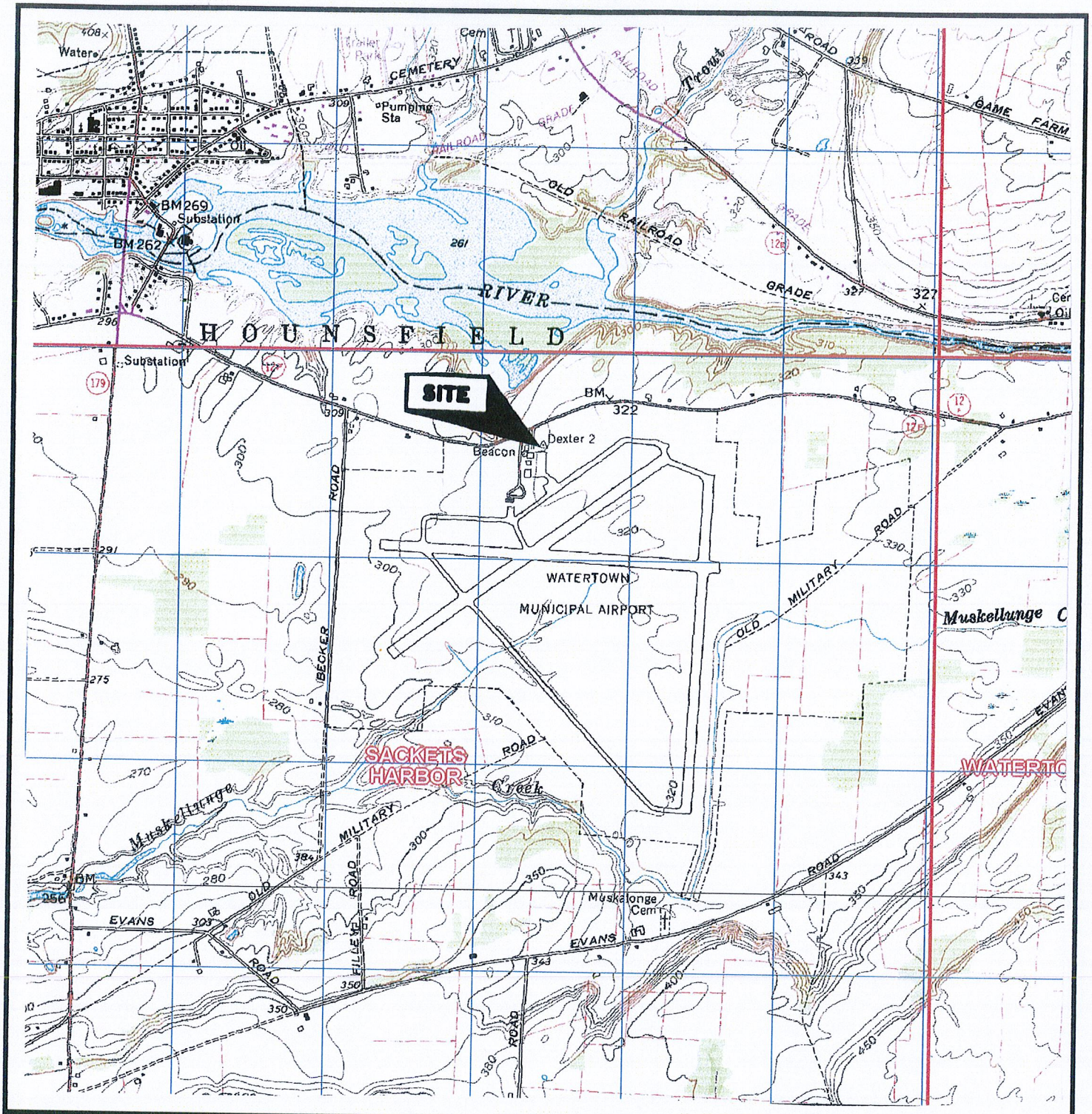
APPENDIX A

Figures



Legend: Site Boundary

Source: USGS Quadrangle Map - Sackets Harbor, NY

Prepared By: *Environmental Resources, LLC*

FIGURE 1. SITE LCOATION

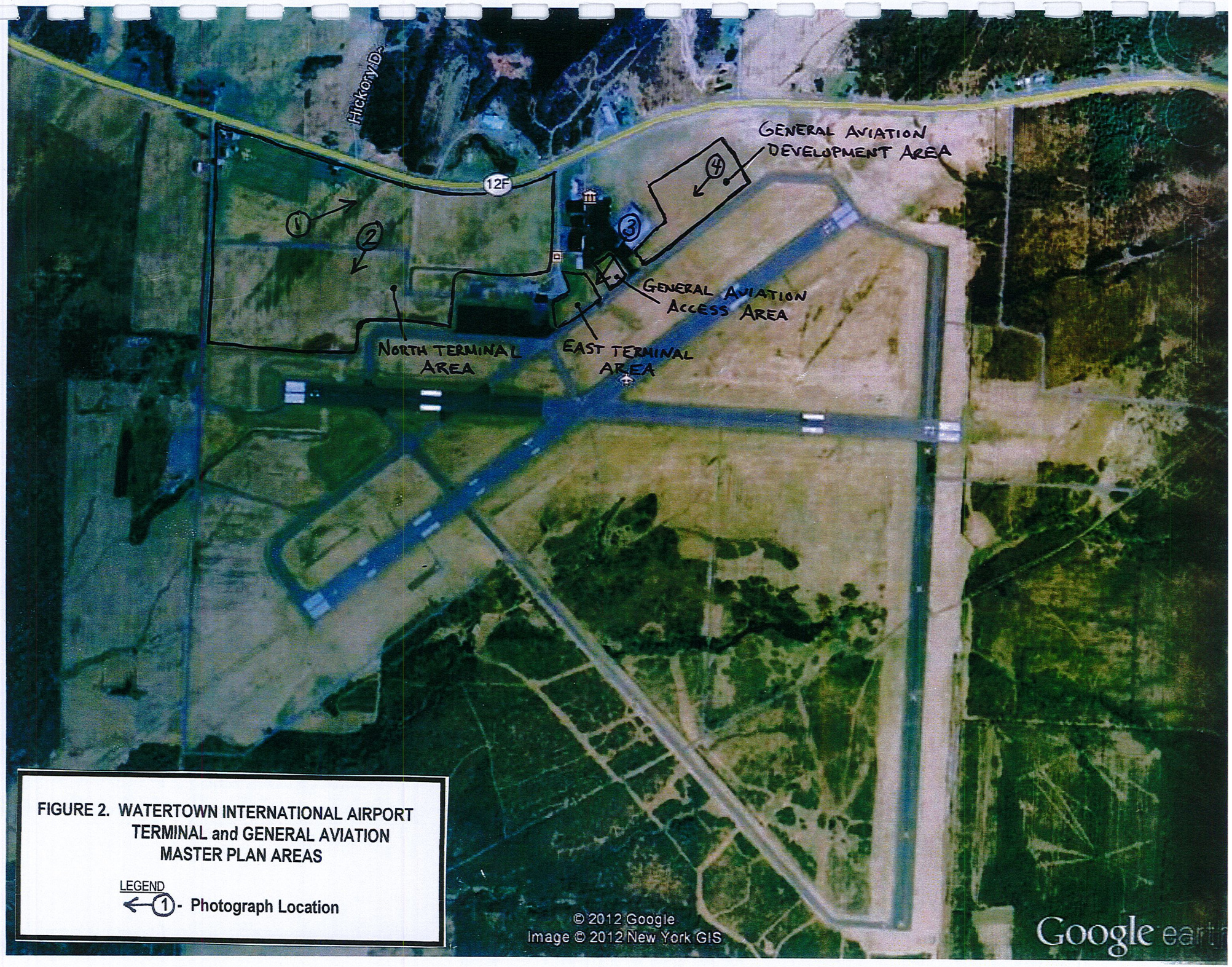


FIGURE 2. WATERTOWN INTERNATIONAL AIRPORT TERMINAL and GENERAL AVIATION MASTER PLAN AREAS

LEGEND

← (1) - Photograph Location

APPENDIX B

Agency Correspondence

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
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

November 9, 2011

Gene Pellett
Environmental Resources
33 Kress Hill Drive
Spencerport, NY 14559

Dear Mr. Pellett:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Watertown Airport Master Plan – 73 Acre Parcel, area as indicated on the map you provided, located in the Town of Watertown, Jefferson County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, 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.

The enclosed report may be included in documents that will be available to the public. However, any enclosed maps displaying locations of rare species are considered sensitive information, and are intended only for the internal use of the recipient; they should not be included in any document that will be made available to the public, without permission from the New York Natural Heritage Program.

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.ht ml.

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.

Sincerely,

Jean Pietrusiak, Information Services
NYS Department Environmental Conservation

Enc.
cc: Region 6

1089

Natural Heritage Report on Rare Species and Ecological Communities

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,
Albany, NY 12233-4757
(518) 402-8935

~The information in this report includes only records entered into the NY Natural Heritage databases as of the date of the report. This report is not a definitive statement on the presence or absence of all rare species or significant natural communities at or in the vicinity of this site.
Refer to the User's Guide for explanations of codes, ranks and fields.
Location maps for certain species and communities may not be provided 1) if the species is vulnerable to disturbance, 2) if the location and/or extent is not precisely known, 3) if the location and/or extent is too large to display, and/or 4) if the animal is listed as Endangered or Threatened by New York State.

Natural Heritage Report on Rare Species and Ecological Communities

RDS

Ammodramus henslowii

Henslow's Sparrow
Breeding

NY Legal Status: Threatened
Federal Listing:
Last Report: **
County: Jefferson
Town: Brownville, Clayton, Hounsfield, Leray, Orleans, Pamelia, Theresa, Watertown - Town
Location: At, or in the vicinity of, the project site.
General Quality and Habitat: **For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located.

NYS Rank: S3B - Vulnerable
Global Rank: G4 - Apparently secure
EO Rank: **

Office Use 2823 ESU

Asio flammeus

Short-eared Owl
Breeding

NY Legal Status: Endangered
Federal Listing:
Last Report: **
County: Jefferson
Town: Hounsfield
Location: At, or in the vicinity of, the project site.
General Quality and Habitat: **For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located.

NYS Rank: S2 - Imperiled
Global Rank: G5 - Secure
EO Rank: **

Office Use 7280 ESU

SCULAR PLANTS

Carex backii

Back's Sedge

NY Legal Status: Threatened
Federal Listing:
Last Report: 2004-06-08
County: Jefferson
Town: Brownville, Hounsfield
Location: Brownville
General Quality and Habitat: There are 150 plants in fair habitat threatened by exotics. Site 1: East and south of the bridge over Black River in Brownville. The area is flat and on the rim of a large gorge about 10-15 meters from the edge of the rim. The bedrock is limestone. The area is very weedy. The tree canopy is sparse with Prunus serotina and Robinia pseudo-acacia dominant. The shrub layer is dense in most places with Lonicera morrowii. Rhamnus cathartica is also present. The herb layer is fairly dense with Carex blanda quite abundant. The soil is silty or perhaps a silty sand. Thesite 2: This area is also on the rim of the Black River Gorge. It is an open forest with a 0-5 degree south-facing slope with young Quercus rubra and Populus tremuloides dominant. Other trees present include Thuja occidentalis, Populus grandidentata, and

NYS Rank: S2 - Imperiled
Global Rank: G4 - Apparently secure
EO Rank: Fair

Office Use 11839

APPENDIX C

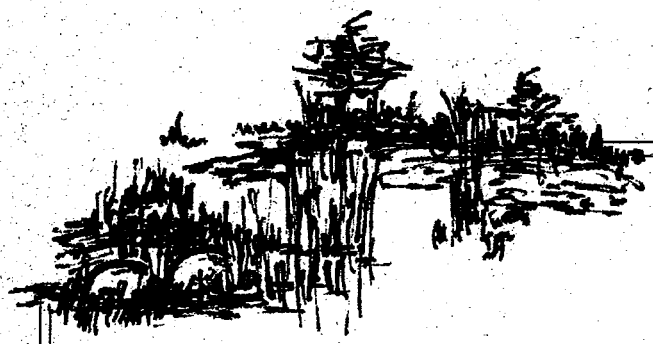
Photographs

PHOTO 1. Representative view of the north portion of the North Terminal study area. Note Rte. 12F in back ground.

PHOTO 2. View of the south portion of the North Terminal study area. Note airport runway in background.

PHOTO 3. Representative view of the East Terminal Area (background) and the General Aviation Access Area (foreground).

PHOTO 4. View of the General Aviation Development Area.



ECOLOGICAL EVALUATION OF RARE, THREATENED, AND ENDANGERED SPECIES

Watertown International Airport Runway Expansion Project

Town of Hounsfield Jefferson County, New York

Prepared For:

Passero Associates
100 Liberty Pole Way
Rochester, New York 14604

Prepared By:

Environmental Resources, LLC
33 Kress Hill Drive
Spencerport, New York 14559

December 18, 2008

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APPENDICIES

INTRODUCTION

Environmental Resources, LLC (ERS) conducted an assessment of the above site located as noted and just south of State Route 12F about five miles west of Interstate 81 (see Appendix A Figures 1 and 2) to determine the relative significance of the area's habitat and presence for rare, threatened, and endangered species and other species of concern as identified by New York Natural Heritage Program and U.S. Fish & Wildlife Service (Appendix A, Agency Correspondence). Specifically our evaluation included the following:

Common Name	Scientific Name	Status	Source
• Back's sedge	*Carex backii*	Threatened	NY Natural Heritage Program
• Troublesome sedge	*Carex molesta*	Threatened	NY Natural Heritage Program
• Henslow's sparrow	*Ammodramus henslowii*	Threatened	NY Natural Heritage Program
• Short-eared owl	*Asio flammeus*	Endangered	NY Natural Heritage Program
• Bald eagle	*Haliaeetus leucocephalus*	Deleted	US Fish and Wildlife Service
• Piping plover	*Charadrius melodus*	Endangered	US Fish and Wildlife Service
• Indiana bat	*Myotis sodalis*	Endangered	US Fish and Wildlife Service

Our assessment consisted of site inspections on October 8 and 24, 2008, and a literature review for information about the habitats and habits of the species.

SITE DESCRIPTION

The focus of this environmental assessment involves several study areas around and within the Watertown International Airport (WIA) boundary. The airport master plan proposes extensions of some runways and other expansion work in small areas of the site to promote efficient operation of the facility.

The WIA encompasses 1,172± acres with two principal 5,000-foot intersecting runways: 10-28 oriented generally east-west, and 7-25 oriented generally southwest to northeast. A north-south runway in the eastern portion of the facility is used only in unusual weather conditions. The facility is security-fenced and has perimeter access roads as well as taxiways for the runways. The majority of the WIA facility is under an extensive mowing management plan except some shrub/scrub lands exist in the southeast portion. Mowing obviously emphasizes visibility and appropriately reduces wildlife interaction with airport function.

To the east, south, and west, outside the perimeter fencing, much of the existing habitat is shrub/scrub and forest while especially in the runway extension areas are successional old-field communities of grasses and forbs, and seedling shrubs. The north side of the airport is mowed and in agricultural fields along with the airport administration, control, and auxiliary buildings. Farmsteads, rural roadside residential, and further agricultural fields are found north of Route 12F and to the northwest south of the road.

The specific study areas of our assessment concentrate principally as extension acreages at both ends of Runway 10-28 (17.7± acres to the west and 45.50± acres to the east); and the southwest extension of Runway 7-25 (56± acres). Other study areas include four smaller plots in and around the airports facilities operations and cumulatively total approximately seven-acres. The acreages of the study areas inside the perimeter fence are mowed grasses with limited shallow drainage swales, also usually mowed. Habitats are more natural outside the perimeter fence.

Runway 10-28 - East Extension Study Area

This study area consists of a 45± acres of upland that lies both within and outside the WIA perimeter fence. Areas outside (east) of the perimeter fence is characterized by level topography with a thick growth of common buckthorn (*Rhamnus cathartica*), gray dogwood (*Cornus racemosa*), silky dogwood (*C. amomum*), multiflora rose (*Rosa multiflora*), honeysuckle (*Lonicera sps.),* and scattered pockets of forbs (common strawberry-*Fragaria virginiana*), assorted grasses (timothy-*Phleum pratense*), and others. (Photo 1).

The majority of the study area inside the fence consists primarily of an old-field community that is mowed at least annually, thus vegetation characterizing this level area is limited to shrub stubble, assorted grasses, and forbs. (Photo 2 and 3). The exception to this is margin areas within the fence to the south and east, which exhibit successional shrub character similar to those areas described outside the fence.

Runway 10-28 - West Extension Study Area

This 18± acre study area shows some past disturbance including exposed bedrock scrapes, and brush and tree disposal. Also, here, are several small emergent wetlands that have developed as a result of grading changes and are characterized by silky dogwood, silky willow (*Salix sericea*), narrow-leaf cattail (*Typha angustifolia*), blunt spike-rush (*Eleocharis obtusa*), wool grass (*Scirpus cyperinus*), soft rush (*Juncus effusus*), and sensitive fern (*Onoclea sensibilis*). (Photo 4 and 5). Characteristic uplands in this area have a slight elevation rise, and include trees, shrubs, and forbs: quacking aspen (*Populus tremula*), eastern cottonwood (*P. deltoides*), gray dogwood, common buckthorn, timothy, strawberry, Queen Ann's lace (*Daucus carota*), white sweet clover (*Meliotus alba*), and vetch (*Vicia spp.).*

A small portion of this study area occurs within the WIA perimeter fence at the end of the runway (runway safety zone) and is characterized by upland grasses and forbs that are periodically mowed.

Runway 7-25 - Southwest Extension Study Area

The majority of this 56± acre area is a characterized by an extensive old-field community beginning to come into young shrubs. (Photo 6). It is level or gently rolling and appears to have periodic mowing to maintain the growth of woody vegetation. Forest surrounds the adjacent areas north, south, and east of this area. Airport center-line runway lighting is found through this area along with an access roadway and small support building. (see Photo 6). Vegetation characterizing this extension area includes eastern cottonwood, silky willow, gray dogwood, broadleaf meadowsweet (*Spiraea latifolia*), nannyberry (*Viburnum lentago*), and northern arrowwood (*V. recognitum*) saplings and shrubs. Characteristic herbaceous vegetation includes timothy , wild strawberry, rough goldenrod (*Solidago rugosa*), Canada goldenrod (*S. canadensis*), Queen Ann's lace, small white aster (*Aster vimineus*), and vetch. Many of the tree and shrub species are young specimens in the herb layer.

Runway 7-25 - southwest extension inside fence the WIA perimeter fence exhibits similar mowed old-field character as previously described. (Photo 7).

Administration Building Study Area

This study area consists of 1.10± acres encompassing the current facilities building, driveways, parking areas, and accesses to the airport proper. This currently is a developed area with limited lawn being the only green areas. (Photo 8).

North Aircraft Ramp/Taxiway Study Area

This 2.90± acre area is characterized by mowed grasses and forbs, and an expanded wetland swale of cattail, sedges, and sensitive fern. (Photo 9). This area receives general area drainage and carries it westerly through maintained ditches. Further airport facilities are proposed for this site.

2.80± Acre North Facilities Operations Study Area

This study area is located around the airport facilities operations buildings just off Route 12F and consists of a 2.71± acre and 0.10-acre area of mowed grasses and forbs. (Photo 10).

SPECIES OF CONCERN CHARACTERISTICS

Materials from concerned agencies and various literature reviews of the named species were addressed for their relevance to this study area.

Back's Sedge

This is a threatened species in New York State. It is found in dry, rocky, open, or shaded slopes, ridges, and barrens in hardwood and mixed or coniferous forests including pine plantations on acidic and calcareous substrates. Back's sedge is found in the surrounding vicinity along rims of gorges. In such settings, this species is apparently threatened by exotics such as common buckthorn, honeysuckle, and others.

Troublesome Sedge

Troublesome sedge is also a threatened species in New York. It adapts to a wide variety of habitats, including wet to dry-mesic prairies, open woodlands, swamps, thickets, abandoned fields, wet depressions in sunny areas, degraded wetlands, and roadside ditches. Obviously, this sedge is often found in habitats with a history of disturbance. It also has been found in the surrounding vicinity, again, near rims of gorges. Exotics also seem to threaten this species in spite of its appearance on disturbed sites.

Henslow's Sparrow

Henslow's sparrow is a threatened species in New York largely due to limited areas of desired habitat. It prefers extensive grasslands, either moist or dry, with scattered weeds and small shrubs. It is a secretive species preferring to run rather than fly. Efforts by State, Federal, and private groups to preserve extensive grasslands are management programs aimed at perpetuating this and other similar grassland species (bobolink, vesper sparrows, etc.).

Short-eared Owl

This species is an endangered species in New York. This is an owl found in open country including prairies, marshes, dunes, and tundra. Open treeless areas characterized as agricultural, savannah, and grassland allow the owl to characteristically fly 2 meters above the ground looking for voles and mice. They nest on the ground protected by grasses. Unusual in the owl species, this one principally forages during daylight into early evening. Its endangered status is enhanced by loss of habitat: marshes, bogs, and open grasslands.

Bald Eagle

The bald eagle was de-listed from the Federal list of Endangered and Threatened and other Candidate Species in August 2007. While no longer listed, this species is under complete State and Federal protection and concerns continue that project impacts that affect the species will be avoided. Principal desired habitat for bald eagles largely include remote or secluded lakes, large ponds, and sizeable streams and rivers where the birds can find their principal prey (fish), likely perching sites, and appropriate nesting sites. Eagles do not tolerate constant disturbance and will abandon areas where such activities occur.

Piping Plover

Piping plover is a sparrow-sized shore bird that nests and feeds along coastal sand and gravel beaches. It is an endangered species in New York and is found along beaches or sand flats on the Atlantic coast and the shores of the Great Lakes. The piping plover feeds on insects, marine worms, and crustaceans that they find between the high water "wrack line" and the water's edge.

Indiana Bat

While found throughout the eastern United States, this species hibernates in relatively few caves. Recent declines (despite improved cave protection) suggest ongoing loss/degradation of summer habitat including sites suitable for maternity colonies. Forested tracts in agriculturally dominated landscapes provide a myriad of sites (largely under loose bark of trees) for these maternity colonies.

WILDLIFE SPECIES OF THE STUDY AREA

Sites that have the varied habitats found here are a natural for the many indigenous and migratory species present in this area of New York. Waterfowl and shorebird habitat is essentially non-existent; however, an occasional great blue heron may be seen searching for mice in the open and agricultural fields or amphibians in the swale areas. Canada geese and ducks are also likely foragers in the winter wheat and other agricultural fields. Otherwise, the extensive shrub/scrub and forest areas surrounding the airport are obvious habitat for everything from mice, mink, raccoons, rabbits, fox, and deer to a myriad of songbirds and some raptors. The airport proper is much less appropriate due to the maintenance mowing and obvious airplane and auxiliary traffic.

RESULTS/CONCLUSIONS

While Back's sedge and Troublesome sedge are apparently found in the vicinity, our thorough evaluation of the sites habitat study areas failed to find any specimens. Other sedge species were located in the swales and fields of the site; however, none matched the characteristics of these species.

Grasslands within the existing fenced areas are mowed at least on an annual basis if not more often. Such habitats are not conducive to the presence of Henslow's sparrow. The constant disturbance of airport and airplane traffic further discourages this secretive species. Appropriate habitat may, however, be found associated with the southwesterly extension of Runway 7-25. Here, grassland is found in part connected northward to more grassland south of the westward extension of Runway 10-28 that may be compatible for the species. Since this acreage is limited, the disturbance level again is highly elevated, and other similar habitats are not nearby, our opinion is that the likelihood of Henslow's sparrows using this site is unlikely. None were seen during this assessment.

The discussion for the short-eared owl is essentially similar to that for Henslow's sparrow. The preferred habitat seems to be found outside the fenced area, however, it is limited in size, subject to constant disturbance, and not near similar acreage that would add to the territory thought to be of sufficient size to sustain the species. Therefore, it is unlikely that the owl would find this to be a preferred site.

The bald eagle prefers large territories that include bodies of water and a minimum of disturbance. The WIA simply does not meet the eagle's needs and actually is the opposite. Nesting habitat is lacking. No large bodies of water are on site. Airport and airplane activity are constant and continual in this area. Such disturbance would displace any attempt for eagles to establish here.

The eagle as a migratory species, may be seen in the area, may forage in nearby Black River, and certainly Lake Ontario, and do nest in areas of the Adirondacks, but would not find suitable habitat at WIA.

The piping plover does not find any of its life's needs met by the WIA and thus is not expected to be impacted at all by any developments here.

No hibernating caves for the Indiana bat are found in the vicinity of WIA. From the species range map, WIA is questionably within the area of its permanent residency. The concern for maternity roosting sites is not an issue on the study area because no appropriate forest sites are included. It is our professional opinion that Impacts on the Indiana bat from WIA runway extensions are not envisioned.

SUMMARY

The extension of 7-25 occupies potential habitat for Henslow's sparrow and short-eared owls; however, the acreage appears minimal, is not coincident or near other similar habitat (is enclosed by forest, shrub/scrub, and active airport), and is subject to current airport and airplane activity. Thus, while potentially appropriate habitat is present, it seems unlikely that the concerned species would occupy it.

Other wildlife species reside in the area; however, they have less restrictive habitat needs than those discussed above. Deer, fox, raccoon, skunk, songbirds, crows, red-tailed hawks, vultures, a myriad of insects, moles, shrews, mice, etc., find acceptable homes around the airport. Even these though are not encouraged and specifically are not compatible with most airport activities. Thus efforts are made to discourage their presence and rightfully so.

While the habitats of the study area provide appropriate territory and conditions for many wildlife species, it is our professional opinion that these habitats are not sufficient to provide the requirements for the species of concern mentioned above.

REFERENCES

Harlow, William M., 1946—Fruit Key and Twig Key to Trees and Shrubs, Dover Publications, Inc., 56 pages.

Newcomb, Lawrence, 1977—Wildflower Guide, Little, Brown and Co., New York, 490 pages.

Peterson, Roger Tory, 1980—A Field Guide to the Birds, Houghton, Mifflin Co. Boston, 384 pages.
New York Natural Heritage Program, 625 Broadway, Albany, New York, April 14, 2008.

United States Department of the Interior, Fish and Wildlife Service, *Federally Listed Endangered And Threatened and Candidate Species.*

United States Department of the Interior, Fish and Wildlife Service, Wetland Plants of the State of New York, 1986, 37 pages.

http://en.wikipedia.org/wiki/Piping_Plover

http://images google.com
http://www.illinoiswildflowers.info/grasses/plants/trouble_sedge.htm

http://msu.edu

http://plants.usda.gov

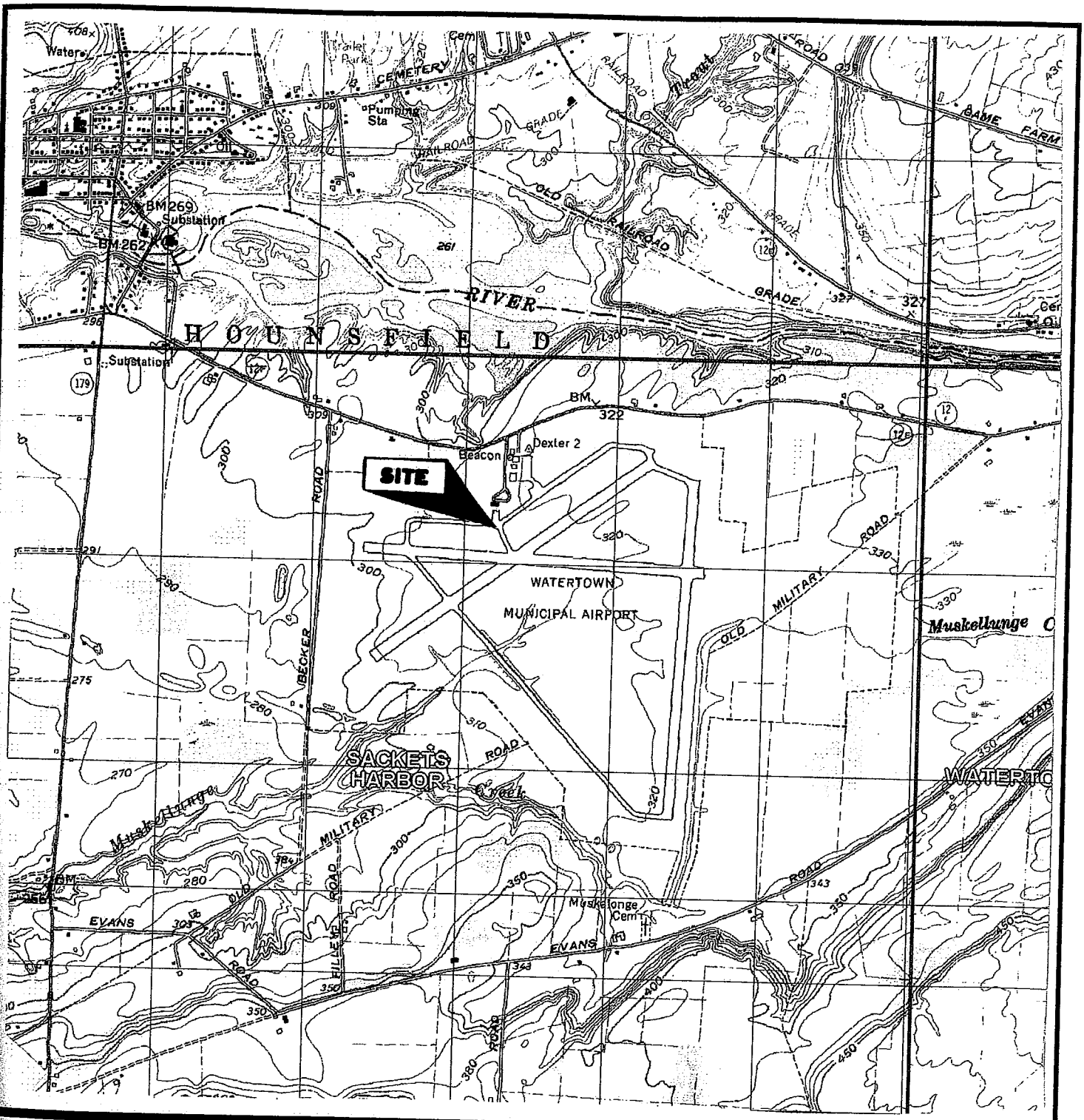
http://www.botany.wisc.edu/wisflora/pectures/xl

http://www.efloras.org

http://www.natureserve.org

APPENDIX A

Figures



Legend: Site Boundary

Source: USGS Quadrangle Map - Sackets Harbor, NY

Prepared By: *Environmental Resources, LLC*

FIGURE 1. SITE LCOATION

WATERTOWN INTERNATIONAL AIRPORT
(2008)

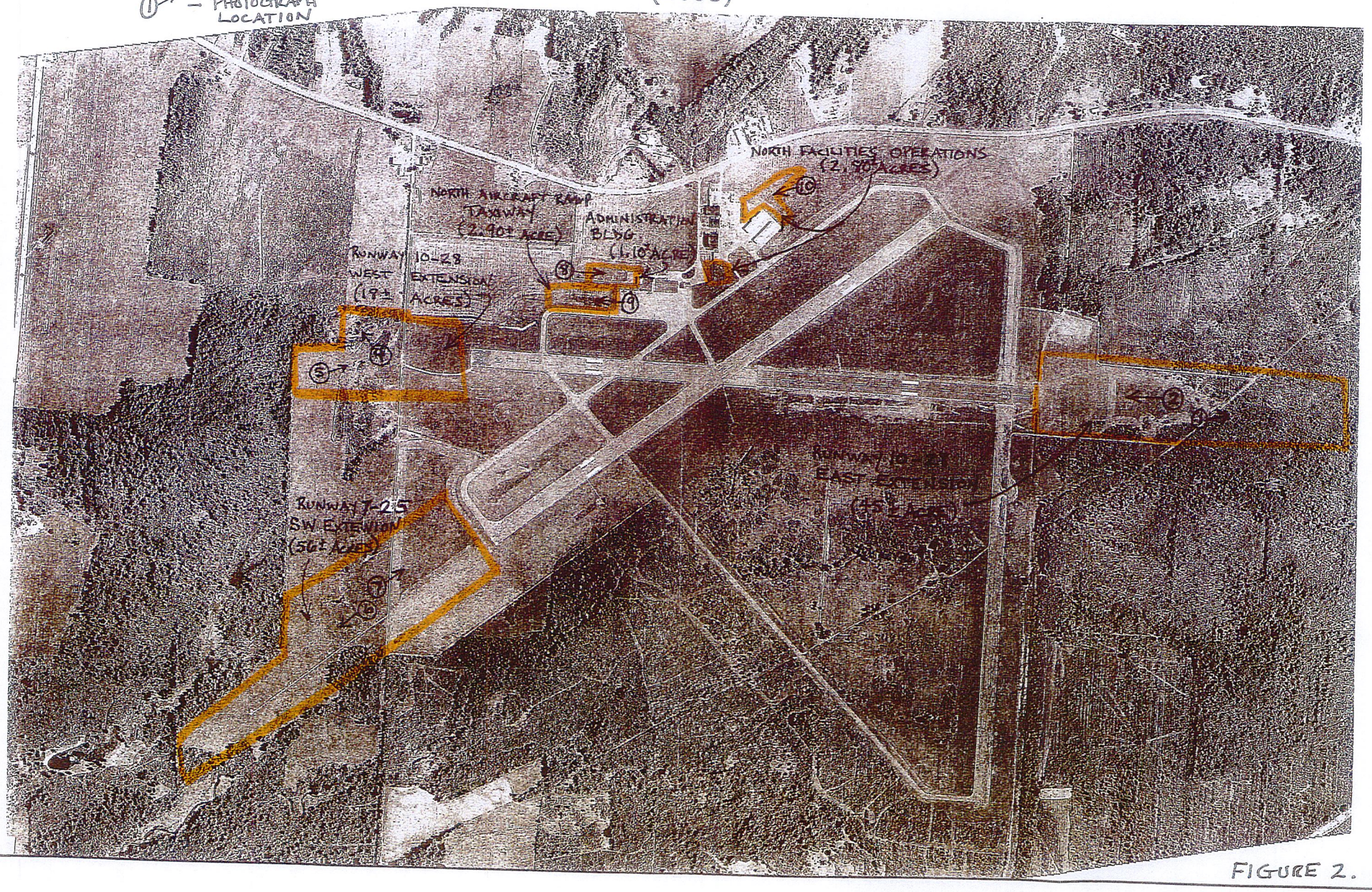


FIGURE 2.

APPENDIX B

Photographs

PHOTO 1. Representative view of scrub-shrub thicket community characterizing the eastern half of the 45± acre Runway 10-28 eastern extension study area.

PHOTO 2. Representative view of the mowed old-field community characterizing the western half of the Runway 10-28 eastern extension study area.

PHOTO 3. View looking east onto the Runway 10-28 eastern extension study area adjacent to the existing 10-28 runway.

PHOTO 4. View of wetlands having developed on the Runway 10-28 western extension study area. Note exposed bedrock ((background, center).

PHOTO 5. Representative view of successional old-field community characterizing the 17± acre Runway 10-28 western extension study area.

PHOTO 6. View of the successional old-field community characterizing Runway 7-52 extension study area. Evidence suggests this area to have routine mowing to maintain airfield safety. Note woodlands abutting the study area (right, left, and center background)

PHOTO 7. Runway 7-52 southwest extension study area within existing airport perimeter fence, characterized by mowed grasses.

PHOTO 8. View of 1.10± acre Administrative Building study area characterized by mowed grasses.

PHOTO 9. Representative view of North Aircraft Ramp/Taxiway study area, characterized by mowed grasses.

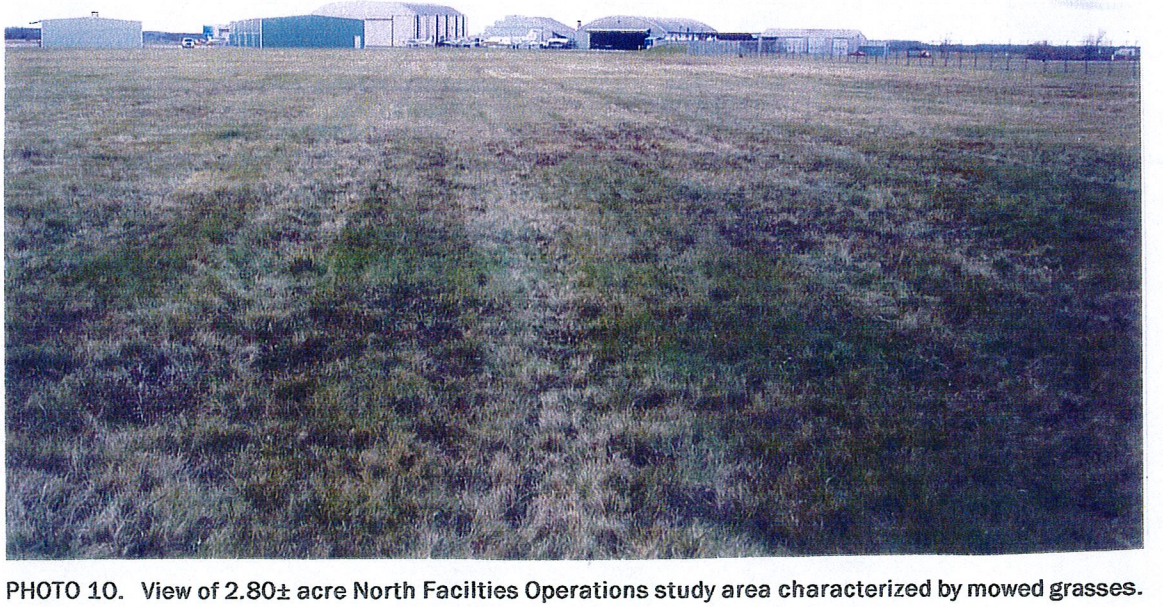


PHOTO 10. View of 2.80± acre North Facilties Operations study area characterized by mowed grasses.

APPENDIX C

Agency Correspondence

Passero Associates
Engineering Architecture

100 Liberty Pole Way
Rochester, NY 14604
www.passero.com
585-325-1000
585-325-1691 Fax

December 15, 2008

Mr. Lawrence Ambeau
Regional Permit Administrator
NYSDEC, Region 6
317 Washington St.
Watertown, NY 13601

Re: Watertown International Airport
Environmental Information Request

Dear Mr. Ambeau:

Can you provide me with environmental information I need for an Environmental Assessment for Watertown International Airport, located off Airport Road, off Route 12F, Town of Hounsfield, Jefferson County?

Passero Associates is assisting Jefferson County in preparing a Federal level Environmental Assessment to meet the requirements of the National Environmental Policy Act (NEPA). The proposed project includes a 1,000 foot runway and taxiway extension, and some terminal area development. The alternatives will examine an extension to Runway 7, 10 and 28, with only one extension as the development alternative (see Figures marked 1, 2 and 3). At this point in time we are seeking environmental information that will aid in narrowing the best alternative development plan by documenting all environmental categories that may be impacted and ascertain what environmental permits may be required, during the design phase, to be submitted to your agency.

We have reviewed the NYSDEC GIS websites for various resources maintained by the NYSDEC. There appears to be a creek, Muskellunge Creek and a NYSDEC wetland in the project vicinity. Muskalunge Creek has an associated floodplain (see Figure marked 4). According to federal wetland maps there is a single wetland between the runways that will not be impacted by any of the projects. The NYSDEC wetland would not be impacted by a 1,000 foot extension to the Runway 28 end, as the wetland, and its buffer, are outside the development boundary. Wetland delineation was conducted in October/November 2008 and five wetlands were found to be in the project areas, all less than 1 acre (see Figure marked 4). Terminal development area is open areas that have no wetlands. The airport lies outside the Sackets Harbor Coastal Zone. The EPA website revealed there are no sole source aquifers in the airport vicinity. The airport also does not lie within an MS-4. The proposed project will not affect any wild and scenic rivers in Jefferson County.

The NYSDEC website also indicates that there are some rare animal and plant species in the vicinity of the airport. The plant species exist along the northeast of the airport and are outside the project areas. The animal species encompass the airport. Correspondence from NYSDEC Division of Fish, Wildlife and Marine Resources, dated January 3, 2007 (see attachment marked 5) identified the species of significance to the state. These species, along with federally listed species, were examined in October 2008 during a field reconnaissance for the proposed project area. The findings revealed that there is *"potential habitat for the Henslow's sparrow and short eared owls however the acreage appears minimal and is not coincident or near other similar habitat, and is subject to current airport and airplane activity. Thus while potentially appropriate habitat is present, it seems unlikely that the concerned species would occupy it."* (Environmental Resources LLC)

Examining the EPA EnviroMapper for hazardous waste/toxic substances around the airport concluded that there were no sites in the vicinity of the airport. Additional research on the NYSDEC website for petroleum spills indicates that all spill reports have been closed (spill # 0002425, 0406539, 0406628, 0503529). If your records indicate additional resources that may be affected by the proposed project please forward that information. There also appears to be an active PBS (site # 6-441988) that expires in 2011.

A preliminary archeological field investigation suggests some historic sites may exist on the west end (off Runway 10). Additional field work is still ongoing.

We anticipate, during the design phase of the project, that we will notify your office for a 401 Water Quality Certification. If you have additional information about other permits that may be required to do work in these areas, please provide them to me.

I would appreciate receiving your environmental information by **January 18, 2009**. If you have any questions please call me at 585-325-1000, extension 201.

Sincerely,

Lisa M. Cheung
Airport Planner

Attachments

Cc: File

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.state.ny.

Denise M. Sheehan
Commissioner

January 3, 2007

Lisa M Cheung
Passero associates
100 Liberty Pole Way
Rochester, NY 14604

Dear Ms. Cheung:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Watertown International Airport Master Plan, area as indicated on the map you provided, located Jefferson County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered sensitive and should not be released to the public without permission from the New York Natural Heritage Program.

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 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, at the enclosed address.

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 on 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.

Sincerely,

Tara Seoane

Tara Seoane, Information Services
NY Natural Heritage Program

Enc.

cc: Reg. 6, Wildlife Mgr.
Reg. 6, Fisheries Mgr.
Peter Nye, Endangered Species Unit, Albany

Jefferson County

Federally Listed Endangered and Threatened Species and Candidate Species

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

Common Name	Scientific Name	Status
Bald eagle[1]	*Haliaeetus leucocephalus*	D
Indiana bat (W/S)	*Myotis sodalis*	E
Piping plover [Designated Critical Habitat]	*Charadrius melodus*	E

Status Codes: E=Endangered T=Threatened P=Proposed C=Candidate D=Delisted

W=Winter S=Summer

The bald eagle was delisted on August 8, 2007. While there are no ESA requirements for bald eagles after this date, the eagles continue to receive protection under the Bald and Golden Eagle Protection Act (BGEPA). Please follow the Service's May 2007 Bald Eagle Management Guidelines to determine whether you can avoid impacts under the BGEPA for your projects. If you have any questions, please contact the endangered species branch in our office.

Information current as of: 8/4/2008

Print Species List

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 6
Dulles State Office Building, 317 Washington Street, Watertown, New York 13601-3787
Phone: (315) 785-2245 • **FAX:** (315) 785-2242
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

January 29, 2009

Ms. Lisa M. Cheung
Airport Planner
Passero Associates
100 Liberty Pole Way
Rochester, New York 14604

RE: Watertown International Airport
Runway Extension Analysis
Environmental Information Request

Dear Ms. Cheung:

Mr. Lawrence Ambeau, Regional Permit Administrator asked that I respond to your inquiry request to this office dated December 15, 2008. I requested that our wildlife staff review the plans and I received the attached comments this date from Ms. Irene Mazzocchi, a biologist with our wildlife unit and our regional bird specialist. Irene indicates that there may be viable habitat on the project site that could support Henslow's sparrows, and Short-eared Owls. It is her recommendation that further field analysis be performed to establish the presence or absence of these species.

I did not identify any other areas of department jurisdiction or concern based on project design.

If you have any questions regarding this letter or attachments, please contact Irene directly at her Brownville Field Office at (315) 639-6122.

Sincerely,

Mark A. Wiggins

Mark A. Wiggins
Environmental Analyst II
Region 6

maw

cc: Irene Mazzocchi, Brownville

New York State Department of Environmental Conservation
Regional Director, Region 6
Dulles State Office Building
317 Washington Street, Watertown, New York 13601-3787
Phone: (315) 785-2239 • **Fax:** (315) 785-2242
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

Ms. Lisa Chung
Passero Associates
100 Liberty Pole Way
Rochester, NY 14604

January 28, 2009

Dear Ms. Chung:

I recently reviewed your application for the expansion of the Watertown airport located in Jefferson County, New York. My understanding is that there are three alternatives proposed (#3, #4, and #5). In addition to the application you also sent me some photos and what appears to be a habitat assessment of the expansion areas. I based my review from the above mentioned information and was basically assessing any habitat that would possibly support threatened or endangered bird species in that area. In particular I am concerned about Short-eared Owl (*Asio flammeus*) wintering habitat and Henslow's Sparrow (*Ammodramus henslowii*) breeding habitat. From the photos and report, both alternatives #3 (photo 7) and #5 (photo 2) have habitat that may support these species of concern. Therefore I am recommending further studies to determine the presence or absence of these species.

In order to assess the presence or absence of the Henslow's Sparrow, I would recommend a grassland bird study. This would consist of several point counts conducted during the months of May, June and early July. I would also recommend some winter surveys for the Short-eared owl and can discuss the timing of those if you would like. I am attaching an outline of the protocol for such surveys. The acreage on the Watertown airport project is not extensive so there should not be too much of a time commitment for this effort. Please let me know if you have any questions.

Sincerely,

Irene Mazzocchi
Region 6 Wildlife Biologist
(315) 639-6122 Ext 201

ENVIRONMENTAL RESOURCES, LLC
CONSULTING SERVICES

February 20, 2009

Ms. Lisa Cheung
Passero Associates
100 Liberty Pole Way
Rochester, New York 14604

Re: Further Information about Presence of Endangered and Rare Species; Proposed Runway Extension of Watertown International Airport, Town of Watertown, Jefferson County.

Dear Ms. Cheung:

In a letter dated January 29, 2009, the Region #6 New York State Department of Environmental Conservation (NYSDEC) wildlife biologist Ms. Irene Mazzocchi, suggested further study of the Watertown International Airport (WIA) site regarding the possible presence of Henslow's sparrow (*Ammodramus henslowii*), short-eared owl (*Asio flammeus*), and their habitats. In response to that request please review the following extension of our *Ecological Evaluation of Rare, Threatened, and Endangered Species, Watertown International Airport Runway Extension Project* (December 18, 2008) for the study area and concerned species.

ERS's initial correspondence indicated potential habitat for both species may be present especially in the southwestern extension of Runway 7-25. However, that assessment further identified that this acreage was of limited size, subject to defined disturbance from routine (at least annual) mowing, subject to daily aircraft traffic and airport activities, and is generally surrounded by shrub and forest land and mowed lands (not adjacent to additional potential habitat). Our conclusion at that time was that these limitations essentially precluded the presence of and use by Henslow's sparrow and short-eared owl.

To further our contention that the study area is inappropriate for these species, please consider the following additional information.

A Species Management Abstract for Henslow's Sparrow, prepared by The Nature Conservancy (1999), is fully illustrative of reasons that our study area of WIA is not conducive for this sparrow species.

In the northeast, Henslow's sparrow populations have declined; they are sparse and localized in the mid-Atlantic and southern states. Loss of grassland breeding habitats is attributed to encroaching urbanization or natural succession to shrub lands and forest. Also, intensive production of row crops reduces or eliminates the use of hayfields and grazing land. Fragmentation of grasslands into patches less than 30 hectares (74.4 acres) may also preclude use.

33 KRESS HILL DRIVE • SPENCERPORT, NY 14559 • (585) 594-4450 • FAX: (585) 594-4499

Recommendations for habitat preservation for Henslow's sparrow indicate a minimum of 30 hectares be set aside at any such site. Management activities that enhance grassland productivity such as mowing, burning, and grazing should be encouraged, but not from mid-May through mid-August. Such activities are needed to maintain the grasslands but are detrimental to species populations in the short term.

One of the study areas in question is Runway 7-25 southwest extension area. The Runway 7-25 project site is only 56 acres in total, approximately one-third (20± acres) of which is inside the WIA perimeter fence and regularly mowed throughout the growing season. The area outside the fence is also mowed at least annually during the growing season. The Nature Conservancy abstract continues and cautions that management activities (mowing, burning, and grazing) should not occur over the entire area in any one breeding season. It indicates such disturbance reduces available habitat for one or two growing seasons. Even if rotational disturbance were instituted on the study area, the habitat acreage is much less than the minimum recommended. One researcher (Heckert, 1994) indicates that Henslow's sparrows in the east are rarely encountered on grassland fragments less than 100 hectares (248 acres).

Runway 10-28 eastern expansion study area as depicted in photo 2 of the original ecological evaluation report, consists of smaller acreages than that described above for Runway 7-25 and is entirely within the WIA perimeter fence, which is routinely mowed throughout the growing season.

Obviously, the above discussion of habitat requirements and management considerations do not consider the added disturbance of aircraft and airport activity. Certainly different researchers reflect different observations (habitat size, management, and disturbance). However, the less than minimal size, annual (at least) mowing, aircraft and airport activities, and habitat isolation lead us to conclude that this study area is inappropriate for and very unlikely to harbor Henslow's sparrow.

Researchers studying short-eared owls consistently reference large grassland or emergent marshes such as prairies, hayfields, fallow fields, small grain stubble, and marshes as being essential for breeding and wintering habitats for the species. Typical references such as ">250 acres" or "conserve large blocks of habitat >100 ha (248 acres)" or "50 ha (124 acres) or larger for breeding or wintering habitat" are common. In another example, smaller fragments as small as 75 acres can be utilized where the surrounding landscape is open habitat. These observations and recommendations certainly put in question the appropriateness of the areas of the WIA. This is the habitat itself; not considering other factors such as "away from human developments (sources of disturbance)", mowing, aircraft, etc.

Thus, again, our professional opinion is that the WIA is not a site that has or will foster appropriate habitat for Henslow's sparrows or short-eared owls. The existing habitat is much smaller that what is recommended, it is disturbed by a distinct mowing plan, it is not adjacent to other preferred habitats, and it is subject to aircraft and airport activity disturbances.

ERS will certainly be willing to conduct additional studies regarding the subject species. However, we feel it is not necessary due to the discussion above. Further, with the objective of this facility, the proposed development, the constraints of the existing habitat, and other factors at WIA, we suggest it is inappropriate to put these species in jeopardy by fostering their presence (if at all) under restricted conditions.

Sincerely,
Environmental Resources, LLC

for John R. Hauber
Wildlife Biologist

Gene Pellett
Wetlands Ecologist

References:

The Nature Conservancy, 1999, Species Management Abstract, Henslow's Sparrow, *Ammodramus henslowii*, 4245 North Fairfax Drive, Suite 100, Arlington, Va.
web4.msue.msu.edu/mnfi
www.birds.cornell. edu/allaboutbirds
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www.fws.gov/r5gomp/gom/habitatstudy/metadata/short-eared_owl_model.htm
www.natureserve.org/explorer
www.owlpages.com/owls
www.state.nj.us/dep/fsuo/ensp/

New York State Department of Environmental Conservation
Dulles State Office Building
317 Washington Street, Watertown, New York 13601-3787
Phone: (315) 785-2239 • **Fax:** (315) 785-2242
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

April 21, 2009

Ms. Lisa Cheung
Airport Planner
Passero Associates
100 Liberty Pole Way
Rochester, NY 14604

Re: Watertown International Airport
Site Visit

Dear Ms. Cheung:

On 16 April 2009, Angelena Ross (NYSDEC Wildlife Biologist) and I met with Gene Pellett from Environmental Resources, LLC to tour the Watertown Airport proposed extension sites. As you are well aware, there are two proposed alternatives identified as Runway 7-25 southwest expansion and Runway 10-28 eastern expansion. During our site visit we observed several bird species of concern, particularly the Northern Harrier (*Circus cyaneus*), which is listed in New York State as threatened. Although this species was not recorded in the information you received from the NY Natural Heritage program, it is clear in their letter that the database is not complete, which is why "on site" surveys need to be conducted.

After visiting the site and noting the habitat make-up of the proposed expansions, we recommend that the Runway 10-28 extension be the selected alternative because the size and quality of grassland habitat at this site is not favorable for grassland bird species. At this time, if Runway 10-28 was chosen we would not require any further bird studies. However, if Runway 7-25 extension was the preferred alternative, we would recommend that grassland bird studies be conducted as outlined in my letter dated 28 January 2009. The grassland acreage at this site has the potential of supporting both breeding and/or foraging grassland bird species such as the Northern Harrier.

If you have any questions please free to contact me at (315) 639-6122 Ext 201.

Sincerely,

Irene Mazzocchi
Region 6 Wildlife Biologist

cc William Gordon
Larry Ambeau
Angelena Ross

APPENDIX I

CALCULATIONS/MISCELLANEOUS INFORMATION

TYPE OF INTERESTED AIRCRAFT
(included in future noise analysis by category)

Gulfstream IV (GIV)
Gulfstream V (GV)
Mooney M20E (GASEPV)
Piper (PA28)
Beech 35 (GASEPV)

TRAFFIC ANALYSIS

A traffic analysis for Route 12F, a NYS roadway, was performed by Passero Associates in January 20013 using ***Synchro 7 – Light, Lanes, Volumes and Timings*** to determine the future level of service on Route 12F as a result of the proposed improvements, and anticipated increase in operations.

The inputs used:

- AADT of Route 12F from the DOT is 4,418
- No crossroads in the vicinity
- Route 12F is one lane each way, with paved shoulders, and no turn lanes into the airport
- Existing employee level: 33 vehicle
- Existing enplanements (passengers departing) = 46/day
- Existing deplanements = 48/day
- Existing meeters/greeters = 23 per departure flight, 24 per arrival flight – 1 additional vehicle each
- Existing schedule = M-F departure: 7:15 am, 5:20 pm; Arrival – 4:45 pm, 9:15 pm
- Proposed employee level: 46 vehicle
- Proposed enplanements (passengers departing) = 102/day
- Proposed deplanements = 114/day
- Proposed meeters/greeters = 34 per departure flight, 38 per arrival flight – 1 additional vehicle each
- Proposed schedule = M-F departure: 7:15 am, 9 am, 5:20 pm; Arrival – 4:45 pm, 7:30 pm, 9:15 pm

Worse case assumption was used to determine level of service:

- Assume all employees arrive with AM peak hour, and leave with PM peak hour
- Existing assumptions:
    - AM – employees arriving, AM flight to early to impact peak
    - PM – employees leaving, 5:20 departure passengers arriving and 4:45 arriving passengers leaving
- Proposed assumptions:
    - AM – increased employees arriving, 9 AM departing passengers arriving
    - PM – increased employees leaving, 5:20 departure passengers arriving and 4:45 arriving passengers leaving

- Consider each turning direction

Results:

- Existing: Level of Service of Route 12 F is "A", sufficient capacity, no delays
- Proposed: Level of Service of Route 12F is "A", sufficient capacity, no delay

Run By JS

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	200	1	22	351	3	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999				0.872	
Flt Protected				0.997	0.998	
Satd. Flow (prot)	1861	0	0	1857	1621	0
Flt Permitted				0.997	0.998	
Satd. Flow (perm)	1861	0	0	1857	1621	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	1020			1003	356	
Travel Time (s)	23.2			22.8	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1	24	382	3	59
Shared Lane Traffic (%)						
Lane Group Flow (vph)	218	0	0	406	62	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.8%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	199	2	32	341	4	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999				0.871	
Flt Protected				0.996	0.998	
Satd. Flow (prot)	1861	0	0	1855	1619	0
Flt Permitted				0.996	0.998	
Satd. Flow (perm)	1861	0	0	1855	1619	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	1020			1003	356	
Travel Time (s)	23.2			22.8	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	216	2	35	371	4	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	218	0	0	406	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Yield	

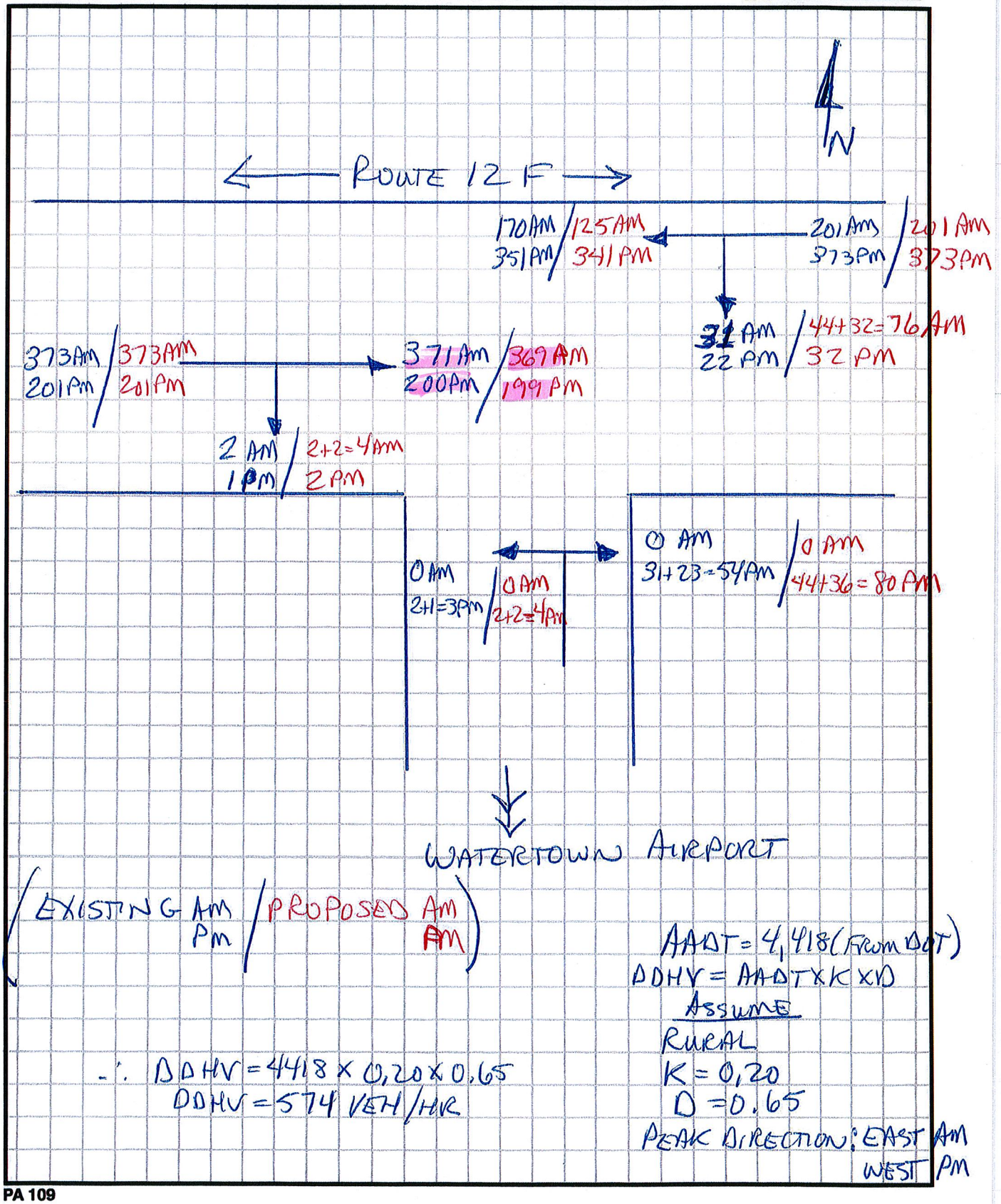
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.5%		ICU Level of Service A	
Analysis Period (min) 15			

Passero Associates
Phone: 585.325.1000 • Fax: 585.325.6294

PROJECT: WATERTOWN ~~AIRPORT~~ ET4 PROJECT #: 20060401.0021 DATE: 1/23/13

RE: BY MKG ☐ COMPUTATIONS ☐ MEMO

TO: _____ FROM: ~~John F. Caruso, P.E.~~



AADT = 4,418 (FROM DOT)

DDHV = AADT x K x D

ASSUME

RURAL

K = 0.20

D = 0.65

PEAK DIRECTION: EAST AM

WEST PM

∴ DDHV = 4418 x 0.20 x 0.65

DDHV = 574 VEH/HR

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AIRPORT MASTER RECORD

PRINT DATE: 07/22/2014
AFD EFF 07/24/2014
Form Approved OMB 2120-0015

> 1 ASSOC CITY: WATERTOWN
> 2 AIRPORT NAME: WATERTOWN INTL
3 CBD TO AIRPORT (NM): 05 W
4 STATE: NY
6 REGION/ADO: AEA/NYC
LOC ID: ART
5 COUNTY: JEFFERSON NY
7 SECT AERO CHT: NEW YORK
FAA SITE NR: 16367.*A

GENERAL

10 OWNERSHIP: PU
> 11 OWNER: COUNTY OF JEFFERSON
> 12 ADDRESS: 195 ARSENAL ST.
WATERTOWN, NY 13601
> 13 PHONE NR: 315-785-3075
> 14 MANAGER: GRANT W. SUSSEY
> 15 ADDRESS: BLDG 22529 AIRPORT DR
DEXTER, NY 13634-3062
> 16 PHONE NR: 315-786-6000
> 17 ATTENDANCE SCHEDULE:
ALL ALL 0800-DUSK

18 AIRPORT USE: PUBLIC
19 ARPT LAT: 43-59-30.8000N ESTIMATED
20 ARPT LONG: 076-01-14.4000W
21 ARPT ELEV: 328.0 SURVEYED
22 ACREAGE: 1060
> 23 RIGHT TRAFFIC:
> 24 NON-COMM LANDING: NO
25 NPIAS/FED AGREEMENTS: NGY3
> 26 FAR 139 INDEX: I A S 07/1976

SERVICES

> 70 FUEL: 100LL A
> 71 AIRFRAME RPRS: MAJOR
> 72 PWR PLANT RPRS: MAJOR
> 73 BOTTLE OXYGEN: NONE
> 74 BULK OXYGEN: NONE
75 TSNT STORAGE: HGR, TIE
76 OTHER SERVICES:
CARGO, INSTR, RNTL

FACILITIES

> 80 ARPT BCN: CG
> 81 ARPT LGT SKED: SEE RMK
> 82 UNICOM: 123.000
> 83 WIND INDICATOR: YES-L
84 SEGMENTED CIRCLE:
85 CONTROL TWR: NONE
86 FSS: BURLINGTON
87 FSS ON ARPT:
88 FSS PHONE NR:
89 TOLL FREE NR: 1-800-WX-BRIEF

BASED AIRCRAFT

90 SINGLE ENG:	24
91 MULTI ENG:	7
92 JET:	0
TOTAL:	31
93 HELICOPTERS:	1
94 GLIDERS:	0
95 MILITARY:	0
96 ULTRA-LIGHT:	0

OPERATIONS

100 AIR CARRIER:	0
102 AIR TAXI:	1,688
103 G A LOCAL:	25,310
104 G A ITNRNT:	8,600
105 MILITARY:	14,350
TOTAL:	49,948

OPERATIONS FOR 12 MONTHS ENDING 06/30/2012

RUNWAY DATA

		07/25	10/28		
> 30 RUNWAY IDENT:		07/25	10/28		
> 31 LENGTH:		4,999	5,999		
> 32 WIDTH:		150	150		
> 33 SURF TYPE-COND:		ASPH-G	ASPH-G		
> 34 SURF TREATMENT:		GRVD	GRVD		
35 GROSS WT:	SW	25.0	25.0		
36 (IN THSDS)	DW	44.0	44.0		
37	DTW	90.0	90.0		
38	DDTW				
> 39 PCN:					
LIGHTING/APCH AIDS					
> 40 EDGE INTENSITY:		HIGH	MED		
> 42 RWY MARK TYPE-COND:		PIR - G / NPI - G	NPI - F / NPI - F	- / -	- / -
> 43 VGSI:		P4L / P4L	P4L / P4L	/	/
44 THR CROSSING HGT:		51 / 45	47 / 45	/	/
45 VISUAL GLIDE ANGLE:		3.00 / 3.00	3.00 / 3.00	/	/
> 46 CNTRLN-TDZ:		- / -	- / -	- / -	- / -
> 47 RVR-RVV:		- / -	- / -	- / -	- / -
> 48 REIL:		/	/ Y	/	/
> 49 APCH LIGHTS:		MALSR /	/	/	/
OBSTRUCTION DATA					
50 FAR 77 CATEGORY:		PIR / B(V)	C / C	/	/
> 51 DISPLACED THR:		/	/	/	/
> 52 CTLG OBSTN:		TREES / TREES	TREES / TREES	/	/
> 53 OBSTN MARKED/LGTD:		/	/	/	/
> 54 HGT ABOVE RWY END:		60 / 50	31 / 53	/	/
> 55 DIST FROM RWY END:		2,596 / 875	775 / 1,902	/	/
> 56 CNTRLN OFFSET:		398L / 525L	125R / 118L	/	/
57 OBSTN CLNC SLOPE:		40:1 / 13:1	18:1 / 32:1	/	/
58 CLOSE-IN OBSTN:		N / N	N / N		
DECLARED DISTANCES					
> 60 TAKE OFF RUN AVBL (TORA):		4,999 / 4,999	6,000 / 6,000	/	/
> 61 TAKE OFF DIST AVBL (TODA):		4,999 / 4,999	6,000 / 6,000	/	/
> 62 ACLT STOP DIST AVBL (ASDA):		4,999 / 4,999	6,000 / 6,000	/	/
> 63 LNDG DIST AVBL (LDA):		4,999 / 4,999	6,000 / 6,000	/	/

(>) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

> 110 REMARKS:

A 024 LANDING FEE FOR ACFT OVER 6000 LBS GWT.
A 026 PPR 2 HRS FOR UNSKED ACR OPNS WITH MORE THAN 30 PSGR SEATS CALL MGR 315-786-6002 OR AFT 1630 CALL 315-783-7569.
A 043 RWY 07 VGSI AND GLIDEPATH NOT COINCIDENT.
A 081 RWY APT ACTVT HIRL RY 07/25; MIRL RY 10/28; MALSR RYS 07; PAPI RY 10 & RY 28; REIL RY 28 & TWY LGTS - CTAF.
A 110-001 DEER & BIRDS ON & INVOF OF ARPT.
A 110-002 FOR FUEL AND SERVICE CALL 315-786-6001 OR AFTER HOURS CALL 315-816-2331 OR 315-816-2334.
A 110-003 MILITARY HELICOPTERS TRAINING ON & INVOF ARPT.

111 INSPECTOR: (F) 112 LAST INSP: 07/18/2012 113 LAST INFO REQ:

Source: CY 2013 ACAIS

List of Commercial Service Airports based on CY2013 Enplanements

June 20, 2014

FAA Region	ST	Locid	City	Airport Name	S/L	Hub	CY 13 Enplanements	CY 12 Enplanements	% Change
WP	NV	EKO	Elko	Elko Regional	P	N	19,510	33,310	-41.43%
GL	WI	RHI	Rhinelander	Rhinelander-Oneida County	P	N	18,819	11,119	69.25%
EA	NY	ART	Watertown	Watertown International	P	N	18,818	16,988	10.77%
GL	MI	MKG	Muskegon	Muskegon County	P	N	18,020	17,816	1.15%
GL	OH	LCK	Columbus	Rickenbacker International	P	N	17,765	6,513	172.76%
SO	PR	RVR	Ceiba	Jose Aponte De La Torre	P	N	17,733	28,673	-38.15%
SW	NM	HOB	Hobbs	Lea County Regional	P	N	17,246	17,111	0.79%
GL	MI	CVX	Charlevoix	Charlevoix Municipal	P	N	16,929	21,309	-20.55%
NM	OR	OTH	North Bend	Southwest Oregon Regional	P	N	16,864	18,283	-7.76%
WP	CA	CIC	Chico	Chico Municipal	P	N	16,835	19,269	-12.63%
GL	MI	APN	Alpena	Alpena County Regional	P	N	15,914	13,011	22.31%
GL	MN	STC	St. Cloud	St. Cloud Regional	P	N	15,842	973	1528.16%
GL	MN	INL	International Falls	Falls International	P	N	15,796	15,240	3.65%
AL	AK	CDV	Cordova	Merle K (Mudhole) Smith	P	N	15,772	16,061	-1.80%
NE	ME	RKD	Rockland	Knox County Regional	P	N	15,724	15,720	0.03%
GL	MN	BRD	Brainerd	Brainerd Lakes Regional	P	N	15,654	15,630	0.15%
NM	UT	OGD	Ogden	Ogden-Hinckley	P	N	15,523	4,290	261.84%
GL	MI	ESC	Escanaba	Delta County	P	N	15,110	13,480	12.09%
NM	WA	BFI	Seattle	International	P	N	14,941	23,078	-35.26%
GL	SD	PIR	Pierre	Pierre Regional	P	N	14,507	11,685	24.15%
AL	AK	ANI	Aniak	Aniak	P	N	14,334	15,220	-5.82%
SW	NM	FMN	Farmington	Four Corners Regional	P	N	14,263	16,337	-12.70%
AL	AK	GAL	Galena	Edward G. Pitka Sr	P	N	14,141	14,563	-2.90%
NM	WY	SHR	Sheridan	Sheridan County	P	N	14,126	12,889	9.60%
AL	AK	UNK	Unalakleet	Unalakleet	P	N	14,011	13,070	7.20%
AL	AK	KSM	St Mary's	St Mary's	P	N	13,949	12,711	9.74%
NM	WY	LAR	Laramie	Laramie Regional	P	N	13,733	8,131	68.90%
GL	IL	BLV	Belleville	Scott AFB/Midamerica	P	N	13,542	2,314	485.22%
NM	OR	LMT	Klamath Falls	Klamath Falls	P	N	13,443	15,237	-11.77%
NM	WY	RIW	Riverton	Riverton Regional	P	N	13,436	13,189	1.87%
AL	AK	VDZ	Valdez	Valdez Pioneer Field	P	N	13,318	16,087	-17.21%
NM	UT	CDC	Cedar City	Cedar City Regional	P	N	13,214	15,881	-16.79%
SO	PR	SIG	San Juan	Fernando Luis Ribas Dominicci	P	N	13,123	18,901	-30.57%
CE	NE	EAR	Kearney	Kearney Regional	P	N	13,096	12,480	4.94%
EA	MD	HGR	Hagerstown	Henson Field	P	N	12,941	10,207	26.79%
NM	WY	CYS	Cheyenne	Cheyenne Regional/Jerry Olson Field	P	N	12,345	15,010	-17.75%
WP	CA	CEC	Crescent City	Jack McNamara Field	P	N	12,136	12,547	-3.28%
AL	AK	WRG	Wrangell	Wrangell	P	N	11,807	11,434	3.26%
GL	MN	HIB	Hibbing	Range Regional	P	N	11,669	11,921	-2.11%
NE	ME	PQI	Presque Isle	Presque Isle	P	N	11,488	12,412	-7.44%
WP	CA	MOD	Modesto	Field	P	N	11,310	14,741	-23.28%
NE	MA	PVC	Provincetown	Provincetown Municipal	P	N	11,288	11,580	-2.52%
GL	MI	IMT	Iron Mountain	Ford	P	N	11,271	8,755	28.74%
GL	IL	MWA	Marion	Williamson County Regional	P	N	11,241	11,411	-1.49%
NE	NH	LEB	Lebanon	Lebanon Municipal	P	N	10,953	10,191	7.48%
NE	RI	BID	Block Island	Block Island State	P	N	10,865	10,841	0.22%
EA	WV	CKB	Clarksburg	North Central West Virginia	P	N	10,831	10,153	6.68%

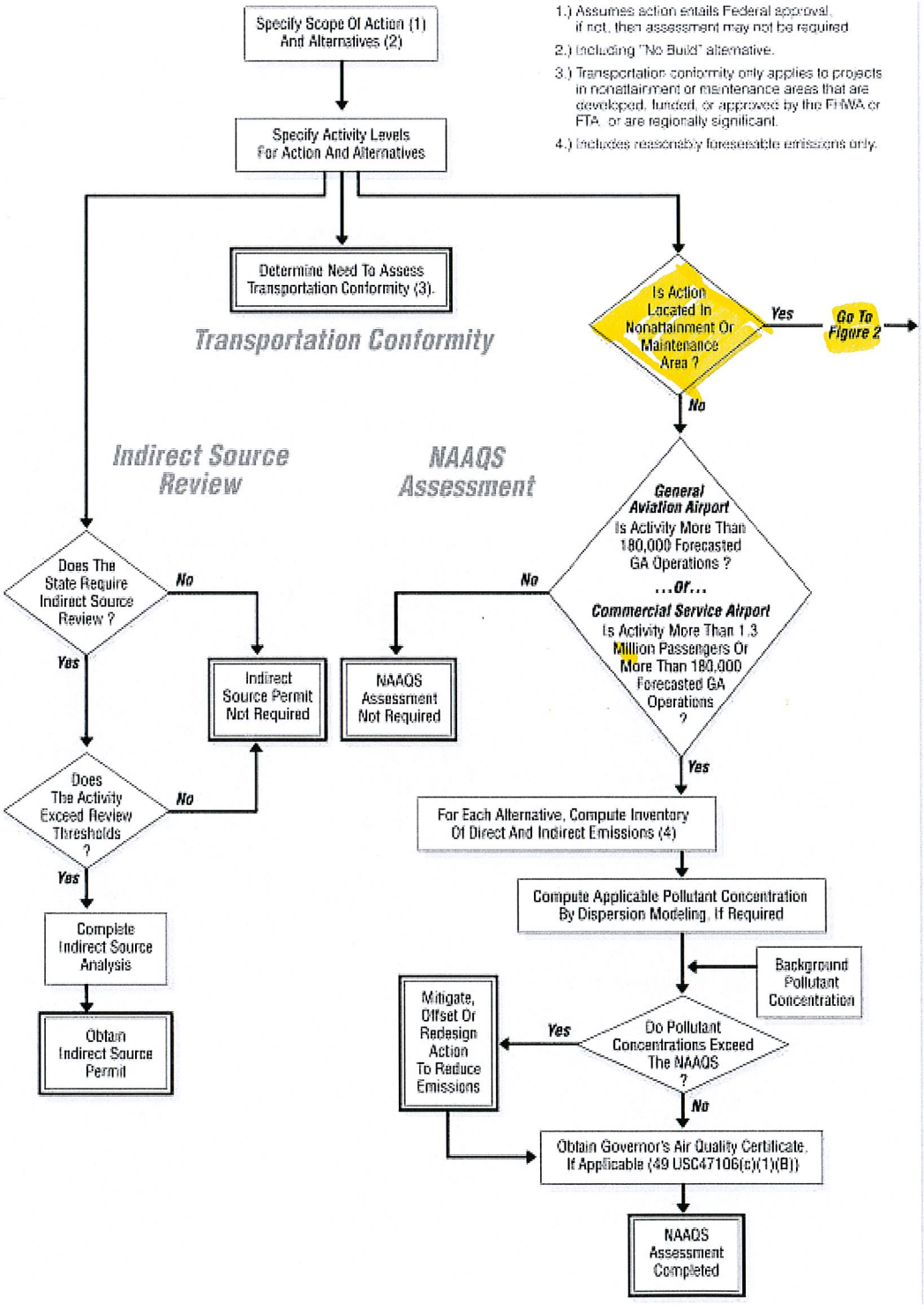


Figure 1. Air Quality Assessment Process for Airports and Air Bases - Part 1

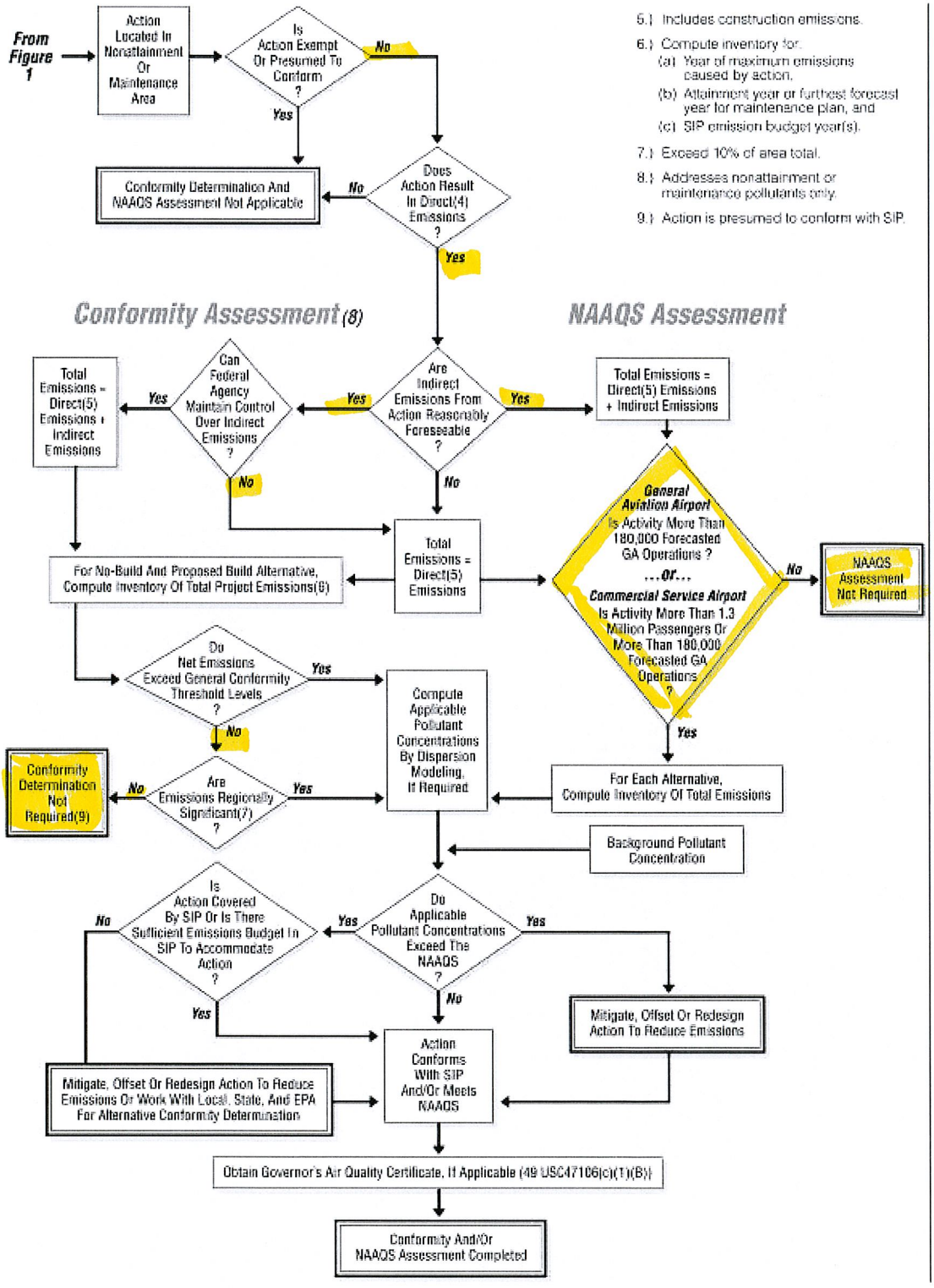


Figure 2. Air Quality Assessment Process for Airports and Air Bases - Part 2

Emissions Inventory Summary

(Short Tons per Year)

Baseline - Watertown International 2013

Category	CO2	CO	THC	NM...	VOC	TOG	NOx	SOx	PM-...	PM-...	Fuel Cons...
Aircraft	590.711	2.795	0.370	0.428	0.426	0.428	1.718	0.242	0.027	0.027	187.230
GSE	N/A	0.027	N/A	0.008	0.009	0.009	0.099	0.000	0.006	0.006	N/A
APUs	N/A	0.130	0.012	0.014	0.014	0.014	0.092	0.020	0.018	0.018	N/A
Parking Facilities	N/A	0.015	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	N/A
Roadways	N/A	0.051	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	N/A
Stationary Sources	N/A	0.150	N/A	0.024	0.038	0.058	1.022	0.204	0.029	0.029	N/A
Training Fires	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grand Total	590.711	3.167	0.383	0.477	0.489	0.512	2.932	0.466	0.081	0.080	187.230

Jefferson County, New York

People QuickFacts	Jefferson County	New York
Population, 2013 estimate	119,504	19,651,127
Population, 2010 (April 1) estimates base	116,229	19,378,105
Population, percent change, April 1, 2010 to July 1, 2013	2.8%	1.4%
Population, 2010	116,229	19,378,102
Persons under 5 years, percent, 2013	8.6%	6.0%
Persons under 18 years, percent, 2013	24.9%	21.6%
Persons 65 years and over, percent, 2013	11.8%	14.4%
Female persons, percent, 2013	47.8%	51.5%
White alone, percent, 2013 (a)	88.2%	70.9%
Black or African American alone, percent, 2013 (a)	6.4%	17.5%
American Indian and Alaska Native alone, percent, 2013 (a)	0.7%	1.0%
Asian alone, percent, 2013 (a)	1.7%	8.2%
Native Hawaiian and Other Pacific Islander alone, percent, 2013 (a)	0.3%	0.1%
Two or More Races, percent, 2013	2.8%	2.3%
Hispanic or Latino, percent, 2013 (b)	7.0%	18.4%
White alone, not Hispanic or Latino, percent, 2013	82.7%	57.2%
Living in same house 1 year & over, percent, 2008-2012	75.4%	88.7%
Foreign born persons, percent, 2008-2012	4.3%	22.0%
Language other than English spoken at home, pct age 5+, 2008-2012	8.2%	29.8%
High school graduate or higher, percent of persons age 25+, 2008-2012	88.2%	84.9%
Bachelor's degree or higher, percent of persons age 25+, 2008-2012	20.1%	32.8%
Veterans, 2008-2012	10,902	957,004
Mean travel time to work (minutes), workers age 16+, 2008-2012	18.4	31.5
Housing units, 2013	58,144	8,126,026
Homeownership rate, 2008-2012	57.2%	54.5%
Housing units in multi-unit structures, percent, 2008-2012	28.2%	50.5%
Median value of owner-occupied housing units, 2008-2012	$129,000	$295,300
Households, 2008-2012	45,162	7,230,896
Persons per household, 2008-2012	2.47	2.60
Per capita money income in past 12 months (2012 dollars), 2008-2012	$23,004	$32,104
Median household income, 2008-2012	$46,549	$57,683
Persons below poverty level, percent, 2008-2012	15.1%	14.9%

Business QuickFacts	Jefferson County	New York
Private nonfarm establishments, 2012	2,468	527,001[1]
Private nonfarm employment, 2012	30,028	7,556,521[1]
Private nonfarm employment, percent change, 2011-2012	1.6%	2.5%[1]
Nonemployer establishments, 2012	5,106	1,612,106
Total number of firms, 2007	7,213	1,956,733
Black-owned firms, percent, 2007	S	10.4%
American Indian- and Alaska Native-owned firms, percent, 2007	S	0.7%
Asian-owned firms, percent, 2007	1.9%	10.1%

AMERICAN FactFinder

DP03 | SELECTED ECONOMIC CHARACTERISTICS

2008-2012 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Subject	Hounsfield town, Jefferson County, New York			
	Estimate	Margin of Error	Percent	Percent Margin of Error
EMPLOYMENT STATUS				
Population 16 years and over	2,875	+/-173	2,875	(X)
In labor force	1,879	+/-164	65.4%	+/-5.6
Civilian labor force	1,622	+/-166	56.4%	+/-5.6
Employed	1,508	+/-165	52.5%	+/-6.0
Unemployed	114	+/-83	4.0%	+/-2.8
Armed Forces	257	+/-99	8.9%	+/-3.5
Not in labor force	996	+/-188	34.6%	+/-5.6
Civilian labor force	1,622	+/-166	1,622	(X)
Percent Unemployed	(X)	(X)	7.0%	+/-4.9
Females 16 years and over	1,454	+/-150	1,454	(X)
In labor force	759	+/-105	52.2%	+/-8.0
Civilian labor force	728	+/-105	50.1%	+/-7.9
Employed	702	+/-101	48.3%	+/-7.8
Own children under 6 years	154	+/-99	154	(X)
All parents in family in labor force	105	+/-97	68.2%	+/-26.4
Own children 6 to 17 years	523	+/-181	523	(X)
All parents in family in labor force	381	+/-185	72.8%	+/-15.1
COMMUTING TO WORK				
Workers 16 years and over	1,738	+/-176	1,738	(X)
Car, truck, or van -- drove alone	1,439	+/-184	82.8%	+/-6.1
Car, truck, or van -- carpooled	79	+/-50	4.5%	+/-2.9
Public transportation (excluding taxicab)	19	+/-28	1.1%	+/-1.6
Walked	117	+/-75	6.7%	+/-4.1
Other means	16	+/-25	0.9%	+/-1.4
Worked at home	68	+/-61	3.9%	+/-3.5
Mean travel time to work (minutes)	20.0	+/-2.1	(X)	(X)
OCCUPATION				
Civilian employed population 16 years and over	1,508	+/-165	1,508	(X)

Subject	Hounsfield town, Jefferson County, New York			
	Estimate	Margin of Error	Percent	Percent Margin of Error
PERCENTAGE OF FAMILIES AND PEOPLE WHOSE INCOME IN THE PAST 12 MONTHS IS BELOW THE POVERTY LEVEL				
All families	(X)	(X)	5.5%	+/-3.9
With related children under 18 years	(X)	(X)	14.1%	+/-9.9
With related children under 5 years only	(X)	(X)	0.0%	+/-35.4
Married couple families	(X)	(X)	3.3%	+/-3.3
With related children under 18 years	(X)	(X)	9.4%	+/-9.5
With related children under 5 years only	(X)	(X)	0.0%	+/-42.4
Families with female householder, no husband present	(X)	(X)	15.3%	+/-15.7
With related children under 18 years	(X)	(X)	18.3%	+/-18.9
With related children under 5 years only	(X)	(X)	0.0%	+/-66.3
All people	(X)	(X)	7.3%	+/-3.6
Under 18 years	(X)	(X)	13.6%	+/-11.0
Related children under 18 years	(X)	(X)	13.2%	+/-11.0
Related children under 5 years	(X)	(X)	9.8%	+/-14.3
Related children 5 to 17 years	(X)	(X)	14.3%	+/-11.3
18 years and over	(X)	(X)	5.7%	+/-2.5
18 to 64 years	(X)	(X)	6.4%	+/-3.0
65 years and over	(X)	(X)	3.0%	+/-3.1
People in families	(X)	(X)	6.3%	+/-4.7
Unrelated individuals 15 years and over	(X)	(X)	9.9%	+/-4.8

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

There were changes in the edit between 2009 and 2010 regarding Supplemental Security Income (SSI) and Social Security. The changes in the edit loosened restrictions on disability requirements for receipt of SSI resulting in an increase in the total number of SSI recipients in the American Community Survey. The changes also loosened restrictions on possible reported monthly amounts in Social Security income resulting in higher Social Security aggregate amounts. These results more closely match administrative counts compiled by the Social Security Administration.

Workers include members of the Armed Forces and civilians who were at work last week.

Industry codes are 4-digit codes and are based on the North American Industry Classification System 2007. The Industry categories adhere to the guidelines issued in Clarification Memorandum No. 2, "NAICS Alternate Aggregation Structure for Use By U.S. Statistical Agencies," issued by the Office of Management and Budget.

While the 2008-2012 American Community Survey (ACS) data generally reflect the December 2009 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2000 data. Boundaries for urban areas have not been updated since Census 2000. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2008-2012 American Community Survey

Explanation of Symbols:

1. An '**' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.

Intersection of NYS Routes 180 and 12F and Foster Park Road (J-202)	121 psi	126 psi	88 psi
End of Foster Park Road (J-203)	129 psi	134 psi	96 psi
Intersection of Foster Park Road and Bradford Drive (J-213)	133 psi	138 psi	100 psi
End of Bradford Drive (J-214)	134 psi	139 psi	101 psi
Intersection of Foster Park Road and Lodi Road (J-204)	122 psi	126 psi	88 psi
End of Lodi Road (J-205)	123 psi	128 psi	90 psi
Intersection of NYS Route 12F and Old State Road (J-206)	121 psi	126 psi	88 psi
Intersection of Lee Road and Old State Road (J-209)	137 psi	141 psi	103 psi
End of Lee Road (J-208)	137 psi	141 psi	103 psi
Intersection of NYS Route 12F and Lee Road (J-207)	120 psi	125 psi	87 psi
Intersection of NYS Route 12F and Hickory Drive (J-215)	118 psi	123 psi	85 psi
On NYS Route 12F at the airport driveway (J-216)	115 psi	119 psi	81 psi
At the airport (J-233)	112 psi	116 psi	78 psi
At the airport terminal building (J-217)	111 psi	116 psi	78 psi
Hydrant on the airport property (H-157)	112 psi	117 psi	79 psi
On NYS Route 12F at the JCIDA property (J-218)	110 psi	114 psi	76 psi
End of the water main on JCIDA property (J-219)	109 psi	113 psi	75 psi
Hydrant between Parcels 81.00-1-13.24 and 81.00-1-13.21 (H-155)	108 psi	113 psi	75 psi
Hydrant at 82.00-3-1 (H-154)	107 psi	111 psi	73 psi
Hydrant between Parcels 73.18-1-51 and 82.00-3-2.1 (H-153)	106 psi	110 psi	73 psi
Hydrant at Parcel 73.18-1-51 (H-152)	104 psi	108 psi	70 psi
Hydrant between Parcels 73.18-1-48 and 73.18-1-47.2 (H-151)	105 psi	110 psi	72 psi
At the meter vault on NYS Route 12F (J-224)	105 psi	110 psi	72 psi
At Water District No. 1/No. 5 connection on NYS Route 12F (J-172)	104 psi	109 psi	71 psi

Fire flows within the proposed district range from 516 gallons per minute to 672 gallons per minute utilizing only the water storage tank on Old Rome State Road in Water District No. 2 with a water level of 10 feet below the overflow elevation. Residual pressures during fire flow events range from 20 psi to 60 psi. The fire flows listed below are the maximum fire flows achievable during average day demands while maintaining a minimum of 20 psi throughout Water District No. 5 and portions of Water District No. 2 that are hydraulically connected to the Town's water storage tank on Old Rome State Road in Water District No. 2. A breakdown of the fire flows and residual pressures is located under Appendix H.

Location	Max. Fire Flows with Average Day Demands	Residual Pressures during Fire Flows with Average Day Demands
At Water District No. 2/No. 5 connection on NYS Route 180 (J-201)	671 gpm	49 psi
On NYS Route 180 at the Muskellunge Creek Crossing (J-221)	672 gpm	60 psi
On NYS Route 180 at the well field driveway (J-210)	663 gpm	48 psi
At the well house on the 10" diameter watermain (J-236)	653 gpm	48 psi
At the well house at the chlorine contact tank (J-234)	652 gpm	26 psi
At the well field building (J-235)	639 gpm	20 psi
On the well lines at the well field (J-211)	618 gpm	20 psi
Intersection of NYS Routes 180 and 12F and Foster Park Road (J-202)	605 gpm	37 psi
End of Foster Park Road (J-203)	564 gpm	20 psi
Intersection of Foster Park Road and Bradford Drive (J-213)	603 gpm	24 psi
End of Bradford Drive (J-214)	581 gpm	20 psi
Intersection of Foster Park Road and Lodi Road (J-204)	613 gpm	23 psi
End of Lodi Road (J-205)	603 gpm	22 psi
Intersection of NYS Route 12F and Old State Road (J-206)	600 gpm	37 psi
Intersection of Lee Road and Old State Road (J-209)	598 gpm	52 psi
End of Lee Road (J-208)	597 gpm	50 psi
Intersection of NYS Route 12F and Lee Road (J-207)	598 gpm	37 psi
Intersection of NYS Route 12F and Hickory Drive (J-215)	572 gpm	35 psi
On NYS Route 12F at the airport driveway (J-216)	564 gpm	31 psi
At the airport (J-233)	562 gpm	24 psi
At the airport terminal building (J-217)	559 gpm	20 psi
Hydrant on the airport property (H-157)	562 gpm	23 psi
On NYS Route 12F at the JCIDA property (J-218)	545 gpm	26 psi
End of the water main on JCIDA property (J-219)	542 gpm	24 psi
Hydrant between Parcels 81.00-1-13.24 and 81.00-1-13.21 (H-155)	536 gpm	25 psi
Hydrant at 82.00-3-1 (H-154)	532 gpm	23 psi
Hydrant between Parcels 73.18-1-51 and 82.00-3-2.1 (H-153)	527 gpm	22 psi
Hydrant at Parcel 73.18-1-51 (H-152)	523 gpm	20 psi
Hydrant between Parcels 73.18-1-48 and 73.18-1-47.2 (H-151)	520 gpm	21 psi
At the meter vault on NYS Route 12F (J-224)	518 gpm	21 psi
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New York State | State Agencies | Search all of NY.gov

DEPARTMENT OF STATE, OFFICE OF
PLANNING & DEVELOPMENT
ANDREW M. CUOMO, GOVERNOR CESAR A. PERALES, SECRETARY OF STATE

Welcome to the NYS Coastal Boundary Map

Help

Search

Address:

Enter Address Here

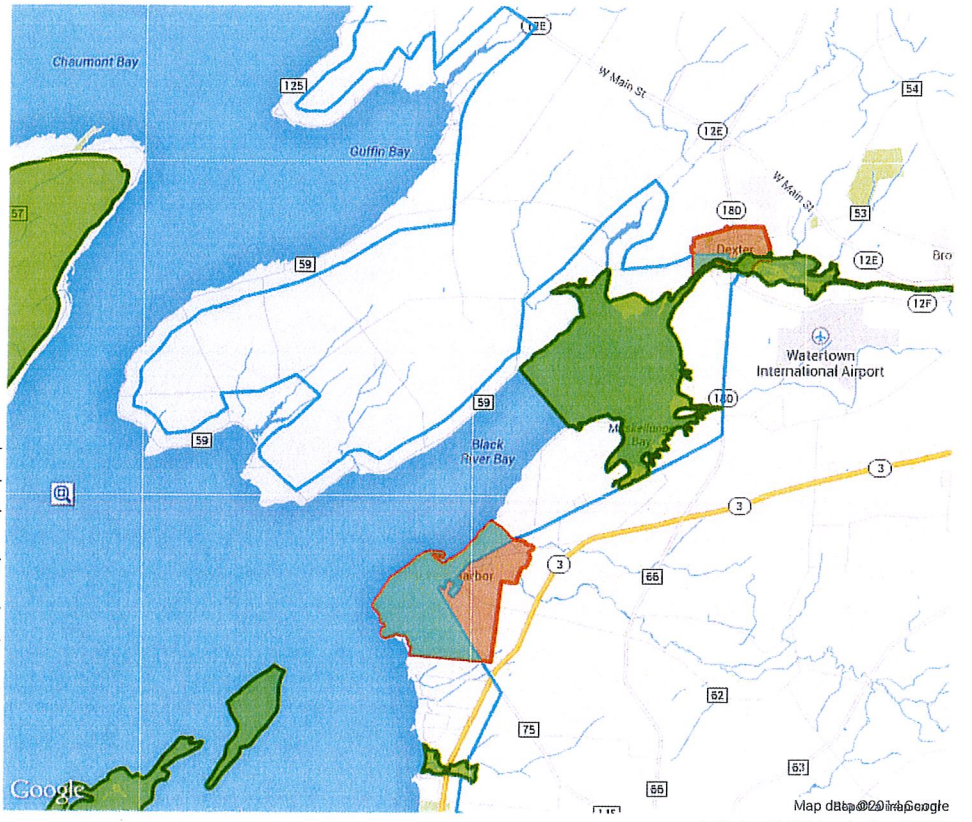
Find Address

Please note that the address marker is automatically placed along the street while certain activities may take place along the waterward property boundary. Please make sure to click and drag the marker to the exact location of the proposed activity for an accurate assessment of whether or not the activity would be located within any DOS Special Management Areas.

Layers

- [x] Landward Coastal Boundary
- [ ] Scenic Areas *
- [x] Local Waterfront Revitalization Areas
- [x] Local Waterfront Revitalization Program Communities
- [x] Significant Coastal Fish and Wildlife Habitats
- [ ] DOS Identified Canals
- [ ] Long Island Sound CMP (excludes LWRP communities)
- [ ] Federally Owned Lands
- [ ] Native American Lands

** GIS coverage is currently unavailable for the Scenic Areas designated in the Town of East Hampton. Please click here for information pertaining to these areas.*



Latitude: 42.803 Longitude: -75.399

The New York State Department of State makes every effort to post accurate and reliable information on this website. The Department of State does not guarantee or warrant that the information on this web site is complete, accurate or current. The information on this website is intended solely for the purpose of electronically providing the public with general coastal consistency-related information and convenient access to data resources. The Department of State neither assumes responsibility for the use or application of any material posted on this website nor responsibility for any error, omission or other discrepancy between the electronic and printed versions of documents.

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See Henderson Bay (North)

See Dexter (South)

See Watertown

See Sackets Harbor (South)

Dexter Marsh and Black River

Sackets Harbor (North)

2500 0 2500 5000 feet

N

BROWNVILLE

HOUNSFIELD

BAY

LAKE ONTARIO

RIVER

BLACK

Black River Bay

Perch River

Muskalonge Bay

Muskalonge Creek

Mill Creek

DEXTER MARSH STATE WILDLIFE MANAGEMENT AREA

WATERTOWN INTERNATIONAL AIRPORT

Sackets Harbor

Pillar Point

Boulton Beach

Jewettville

Baggs Corner

Abrelsun

Camps Mills

Meadows

SACKETS HARBOR BATTLEFIELD STATE HISTORIC SITE

US COAST GUARD STA

Lookout Tower

Navy Pl

Military Tower

Sackets Harbor Civil Sch

Radio Range Sta

Trailer Park

Substation

Beacon

Terminal

Dexter 2

Sand and Gravel Pit

Gill Creek

Gill Course

Storrs Point

State Boat Launch (Beach)

State Boat Launch (Carlton)

Muskalonge Cem

Quarry

Cem

Plumbing Section

Stone Dep

Grey Dep

Tailwater #20

APPENDIX J

NOTICE OF AVAILABILITY
&
PUBLIC PARTICIPATION

Passero Associates
242 West Main St, Suite 100
Rochester, NY 14614

Phone: 585-325-1000
Fax: 585-760-8539

Meeting Minutes

Project Name: **Master Plan Update**
Location: **Watertown International Airport (KART)**
Project Number: **20060401.0015**

MEETING DATE: **January 24, 2013**
FAA AIP: **n/a**
NYS DOT No.: **n/a**

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Barry Ormsby	Jefferson County Legislature
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David Zembiec	Jefferson County IDA
Dom Dimonda	Neighbor, Town of Hounsfield
Robert Hagemann	Jefferson County Supervisor
Jimmy Lawrence	Jefferson County: Airport Manager
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Shawn Bray	Passero Associates
Lisa Cheung	Passero Associates
Absent:	
Calvin McNeely	Business Rep/Pilot

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L. Cheung provided a brief history of the regional economic impact of Watertown International Airport. These estimates were prepared by the NYSDOT. D. Zembiec requested the study link be forwarded to his attention so he could review the methodology.

Future actions:

- L. Cheung distributed a copy of the second phase of the report to County personnel seeking responses by Wednesday, Jan 31, 2013.
- L. Cheung to report back to the committee on the possible use of ODALS in lieu of MALSR
- L. Cheung will provide D. Zembiec with the link to the NYSDOT economic study
- L. Cheung will forward the second phase of the report to the FAA by Feb 5, 2013
- L. Cheung will forward a copy of the entire Draft report to the committee
- L. Cheung will continue to work on the Environmental Assessment and forward a "Draft" to the FAA prior to the FY2013/2014 programming meeting on February 21, 2013.

If any omissions or inaccuracies in these minutes are found, please contact me directly at (585) 325-1000, x201.

Lisa M. Cheung
Airport Planner

Copies to: Attendees
File

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100 Liberty Pole Way
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Fax: 585-760-8539

Meeting Minutes

Project Name: **Master Plan Update**
Location: **Watertown International Airport (KART)**
Project Number: **20060401.0015**

MEETING DATE: **October 16, 2012**
FAA AIP: **n/a**
NYS DOT No.: **n/a**

Attendees:

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Jim St Croix	Citizen
David Zembiec	Jefferson County IDA
Dom Dimonda	Neighbor, Town of Hounsfield
Robert Hagemann	Jefferson County Supervisor
Jimmy Lawrence	Jefferson County: Airport Manager
Cindy Sawyer	Jefferson County: Airport/Airline Rep
Shawn Bray	Passero Associates
Lisa Cheung	Passero Associates
Absent:	
Joe White	Fort Drum
Pete Whitemore	Business Rep/Pilot
Calvin McNeely	Business Rep/Pilot

This was the first Mater Plan Update Technical Advisory Committee (TAC) meeting to discuss the expansion of the Watertown International Airport. B. Hagemann explained that the County took over the airport from the City in 2006. Since then the County has taken a proactive role developing and operating the airport. Most recently the County acquired the fixed base operator business, which is a significant revenue source to offset some of the expenses of operating the airport. The ultimate goal for the airport is to make it an Enterprise Organization. S. Bray provided an explanation of development projects that have occurred at the airport since 2006, with an infusion of over $20 million dollars for these improvements; most of which were state and federal grants.

L. Cheung provided a brief overview of the existing airport facilities:

- Two intersecting runways
  - Runway 7-25 (5,000 feet long)
  - Runway 10-28 (6,000 feet long)
- Taxiway system
- Weather reporting equipment
- Precision approach (minimums less than ¾ mile) to Runway Ends 7; and non-precision (minimums greater than 1 mile) for Runways 10, and 28
- Aviation Fuel Sales
- Visual Approach Path Indicator Lights
- Commercial Terminal Building and Apron
- Automobile access and parking
- General Aviation Hangars and Apron
- ARFF Equipment
- Airfield Maintenance Equipment

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D. Zembiec asked why Runway 10-28 doesn't have lower operating minimums. L. Cheung noted that prior to the 2010 extension project there were no published approaches to Runway 10-28. The on-going Master Plan recommends pursuing lower minimums for this runway. B. Hagemann commented that American Eagle is asking for an instrument approach to this runway. L. Cheung and S. Bray provided information about the future technology of precision instrument approaches to airports, are shifting away from land based antennae systems (Instrument Landing Systems: ILS) to satellite navigation.

L. Cheung discussed the airport enplanements and operations forecasts at the airport. Since American Eagle inaugurate service in November 2011, enplanements have increased 400%. On October 1, 2012 Fort Drum will use Watertown International Airport as its first choice for travel, which will further increase enplanements.
B. Hagemann explained the airport is experiencing a "good problem" as increased passenger loads lead to regional economic development. D. Dimonda asked how the forecasts were compiled and what the plus/minus factor was. L. Cheung explained the forecasted enplanements are provided in a range since we were lacking historical data. The forecasts also considered the carrier increasing the number of aircraft flying, as well as using larger fleet aircraft. L. Cheung further explained since significant historical data was missing, enplanement estimates from a previous Fort Drum study was also referenced. B. Hagemann also explained that general aviation operations have increased since the runway extension.

Development was identified based in the existing facilities and forecasts. The primary elements consist of:

- 1,000 foot runway and parallel taxiway extension to accommodate the existing commercial air service
- Land acquisition required to meet FAA design standards
- Improved low visibility (less than ¾ mile) approaches to Runways 10 and 28
- Expansion of commercial terminal building, including ability to accommodate more than one aircraft at a time
- Expansion of public vehicle parking
- Expansion of the general aviation apron and hangar space
- New general aviation business operations center
- Provide self-service gas for smaller general aviation aircraft
- Consideration for future cargo operations area

A question was asked to the fuel price competitiveness with surrounding airports. J. Lawrence informed the committee that the airport is constantly reviewing area fuel prices to stay competitive.

D. Dimonda asked about the economics behind the airport development. L. Cheung explained this will be discussed at the next TAC meeting, but S. Bray explained that once the airport maintains greater than 10,000 enplanements over the course of several years, the annual entitlement money the airport receives will increase from $150,000 to $1 million. B. Hagemann added that enplanements on a charter aircraft to a specific location also counts into the total enplanement numbers. B. Hagemann further discussed Plattsburgh as an example of charter service, and the influx of Canadian passengers using that airport. Increasing the Canadian customer base is part of Watertown International Airport's Strategic Plan.

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Question was raised if there is lack of passenger seats if American Eagle would entertain an additional flight. B. Hagemann addressed that American Eagle has expressed they may be receptive to adding a third flight, but this flight would not receive the subsidy that American Eagle has on its other two daily flights.
L. Cheung explained the future development scenarios for: (1) runway extension and (2) terminal development.

The runway extension alternative proposed either 1,000 feet on Runway 28 or 1,000 feet on Runway 10, to meet the runway length needed to safely serve the existing commercial service aircraft. The highlights of the alternatives follow:

Runway 28 Extension	Runway 10 Extension
All physical development occurs on graded land	Land would need to be cleared, fill brought in to meet grade, and the proposed taxiway would not be on existing airport property
Requires land acquisition to meet FAA design standards	Requires land acquisition to meet FAA design standards
Potential for lower visibility on Runway 10 only because of terrain obstructions southeast of Runway 28	Potential for lower visibility on both Runway ends 10 and 28
Potential wetland impacts Environmentally cleared from NY State Environmental Quality Review	Potential wetland impacts Not reviewed from NY State Environmental Quality Review Lands to the east need to be rezoned to permit airport development

B. Ormsby asked about shifting the entire runway 10-28 to the east. It was explained this shift would negatively impact Runway 7-25 operations, and require a significant 800-1,000' shift.

The airport does not own the land off both Runway 10 and 28, but is in negotiations with the landowners. Appraisals have been completed and sent to the landowners.

Question was asked about the near-term constructability. S. Bray and B. Hagemann explained the path of least resistance is likely a 1,000 foot extension to the east.

L. Cheung then explained the terminal development. The proposal separates commercial service, general aviation and air cargo operations. The presented development alternative addresses the forecasted needs. D. Dimonda asked if the terminal building expansion would be space for concessions. S. Bray explained that at this stage the building is not designed but will consider adequate lease space for concessions.

B. Hagemann asked L. Cheung to provide a consolidated survey of the membership for their thoughts/recommendations.

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Meeting Minutes

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Next steps:

- B. Hagemann will provide copies of the handouts to the absent members
- L. Cheung will provide consolidates survey to membership

If any omissions or inaccuracies in these minutes are found, please contact me directly at (585) 325-1000, x201.

Lisa M. Cheung
Airport Planner

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- L. Cheung will provide D. Zembiec with the link to the NYSDOT economic study
- L. Cheung will forward the second phase of the report to the FAA by Feb 5, 2013
- L. Cheung will forward a copy of the entire Draft report to the committee
- L. Cheung will continue to work on the Environmental Assessment and forward a "Draft" to the FAA prior to the FY2013/2014 programming meeting on February 21, 2013.

If any omissions or inaccuracies in these minutes are found, please contact me directly at (585) 325-1000, x201.

Lisa M. Cheung
Airport Planner

Copies to: Attendees
File

Passero Associates
242 West Main Street
Rochester, NY 14614

Phone: 585-325-1000
Fax: 585-760-8539

Meeting Minutes

Project Name: **Land Acquisition**
Location: **Watertown International Airport (KART)**
Project Number: **20060401.0028**

MEETING DATE: **Dec. 2013**
FAA AIP: **n/a**
NYS DOT No.: **n/a**

Attendees:

Jefferson County Board of Legislatures
Passero Associates Representatives
Special Council to Jefferson County
Jefferson County Council
Watertown International Airport Manager
Adjacent land owners and council

This was a public hearing to discuss eminent domain taking of lands off the Runway 10 and 28 end of runway.

Purpose of eminent domain is to secure the lands within the RPZ that are for the protection of people and property on the ground for arriving and departing aircraft, and comply with FAA regulations to control such lands.

A brief presentation of the development of the Proposed Action was discussed followed by a question and answer period, open to the property owners and public. A transcript from the hearing is available at the Special Council to Jefferson County's office.

Lisa M. Cheung
Airport Planner

AFFIDAVIT OF PUBLICATION

STATE OF NEW YORK
COUNTY OF JEFFERSON

WATERTOWN DAILY TIMES

JEFFERSON CTY ADMINISTRATOR
175 ARSENAL ST
WATERTOWN NY 13601-2567

REFERENCE: 16570
20303545 LEGAL NOTICE OF AVAI

Amy Schultz, of the Town of Brownville, County of Jefferson, being duly sworn, says that she is is a Legal Representative of the the Johnson Newspaper Corp., a corporation duly organized and existing under the laws of the State of New York, and having its principal place of business in the City of Watertown, New York, and that said corporation is the publisher of the WATERTOWN DAILY TIMES, a Newspaper published in the City of Watertown, Jefferson County, and State of New York, and that a Notice, of which the annexed is a printed copy, has been published regularly in the said Newspaper.

Amy Schultz

AMY SCHULTZ, LEGAL REPRESENTATIVE

PUBLISHED ON: 08/01

AD SPACE: 35 LINE
FILED ON: 08/01/14

LEGAL NOTICE OF AVAILABILITY
Watertown International Airport - Draft Environmental Assessment

Notice is hereby given that copies of a Draft Environmental Assessment (EA) for the Watertown International Airport's proposed runway extension and terminal development is available for public review during regular business hours at:
Watertown International Airport, 22529 Airport Drive, Dexter, NY (administration building)
County Office Building, 195 Arsenal St, Watertown
Flower Memorial Library, 229 Washington St, Watertown
In addition, copies of this document may also be obtained by visiting www.passero.com/bids. The comment period for this document closes on August 31. All written comments must be postmarked by that date and submitted to: Passero Associates, 242 West Main St, Suite 100, Rochester, NY 14614, Attention: Lisa Cheung.

Sworn to before me this
5th day of August, 2014

Paula K DeLong
Notary Public

PAULA K. DELONG
Notary Public, State of New York
No. 01DE6091238
Qualified in Lewis County
Commission Expires April 28, 2015

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

AUG 2 6 2014

Lisa M. Cheung
Airport Planner
Passero Associates
242 West Main Street, Suite 100
Rochester, NY 14614

Re: Watertown International Airport Runway Extension and Terminal Area Development

Dear Ms. Cheung:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Assessment for Runway Extension and Terminal Area Development for Watertown International Airport. Located in Jefferson County, New York, the owner and operator of the airport is proposing a runway/taxiway extension and associated lighting, drainage, and obstruction removal improvements; and terminal area development. The extended runway will better accommodate the runway length for the regional jet aircraft providing nonstop service to Philadelphia under all weather conditions, without having to incur penalties or switch aircraft fleet; and provide the necessary terminal facilities to address passenger loads and security requirements.

EPA offers the following comments.

- Except for doing a site verification of the actual amount of wetlands and test pits for a cultural resource survey, it appears that the two alternatives that were not carried forward could have undergone the detailed evaluation. An inability to access property is not a convincing reason to screen out alternatives. Desktop tools and consultations are available to address initial estimates of potential impacts. Moreover, given the extent of the information provided in Table 2-1 for all the alternatives, EPA believes it would have been preferable to carry forward all the alternatives. The proposed action, though least costly, seems to require greater obstruction removal and more land acquisition, suggesting that a comparison of the environmental impacts for all the alternatives may prove useful.

- Please include the conformity calculations; they did not appear to be in Appendix H with the other calculations.

- EPA recommends tree replacement to offset the loss of carbon sink. Replacement could occur off airport property or through a state or national tree planting program. The replacement of the carbon sink value would not need to be scientifically rigorous, but even incremental efforts will contribute to cumulative improvement.

- We encourage the removed fencing materials be recycled, as well as any other unused construction or deconstruction materials.
- Green building features should be considered for terminal expansion. Energy Star and WaterSense information is available at the following websites:
  http://www.energystar.gov/
  http://www.epa.gov/watersense/

- Porous pavement should be considered for the parking area and access road. This would allow rain and snowmelt to pass through, thereby reducing the amount of runoff. http://water.epa.gov/infrastructure/greeninfrastructure/gi_performance.cfm

Thank you for the opportunity to comment. We hope you find this information beneficial for your project. If you have any questions, please contact me at 212-637-3738 or musumeci.grace@epa.gov.

Sincerely,

Grace Musumeci

Grace Musumeci, Chief
Environmental Review Section

PASSERO ASSOCIATES
engineering architecture

September 26, 2014

Ms. Grace Musumeci
US EPA, Region 2
290 Broadway
New York, NY 10007-1866

Re: Watertown International Airport Runway Extension and Terminal Area Development

Dear Ms. Musumeci,

In response to your letter of August 26, 2014 for the Draft Environmental Assessment for Runway Extension and Terminal Area Development for Watertown International Airport, located in Jefferson County, NY, we offer the following:

- Investigation of available public records was reviewed as part of this assessment. In addition, a feasibility analysis of all alternatives was summarized in Table 2-1 of the Draft Environmental Assessment. Each alternative was measured against a series of criteria consistent with the Purpose and Need. Alternative 3 (1,000' Runway 28 Extension) was deemed the most responsive to these criteria.

  The inability to obtain land owner permission precluded more definitive study of impacts on property located immediately west of the airport. Based on our preliminary investigations, results of the Alternative 3 (preferred action) analysis, a brief synopsis of potential environmental impacts follows for the proposed alternatives eliminated from detailed environmental review:

Category	**Alternative 2** **Runway 10 Extension (1,000')**	**Alternative 4** **Split Runway Extension** **(250' – Runway 10;** **750' – Runway 28)**
Air Quality	Same as proposed action.	
Coastal Resources	Same as proposed action.	
Compatible Land Use	Same as proposed action.	
Construction Impacts	Preliminary engineering concluded a significant quantity of off-site embankment material is required to be transported to construct this alternative. Potential decline in air quality from additional construction vehicle traffic	Potential decline in air quality from additional construction vehicle traffic to transport off-site embankment material. Less than Alternative 2.
DOT Section 4(f)	Same as proposed action.	
Farmland	Same as proposed action.	

Re: Runway Extension and Terminal Area Development
Watertown International Airport

Category	Alternative 2 Runway 10 Extension (1,000')	Alternative 4 Split Runway Extension (250' – Runway 10; 750' – Runway 28)
Fish, Wildlife and Plants	Area exhibits grassland habitat that may support some identified species of concern. Field investigation would be required to determine if species utilize the area. Unable to perform field investigation, however field surveys supporting Alternative 3 were negative.	
Floodplains	Same as proposed action.	
Hazardous Materials, Pollution Prevention, and Solid Waste	Same as proposed action.	
Historic, Architectural, Archeological and Cultural Resources	Phase 1A study concluded that all undeveloped property needs to be field verified for artifacts. Were unable to access affected properties to determine the impacts for these alternates. The completed Phase 1B for accessible properties to be developed resulted in a "No Effect" determination from SHPO.	
Light Emissions and Visual Impacts	The airport lighting will generally be more visible west of the airport by residences on Route 180. Impacts are assumed to be greater than the proposed action.	
Natural Resources, and Energy Supply	Same as proposed action.	
Noise	Noise increases up to 0.2 dB would be realized over the Dexter Marsh Wildlife Management Area, a known Section 4(f) property.	
Secondary (Induced) Impacts	Same as proposed action.	
Socioeconomic Impacts, Environmental Justice, and Children's Health and Safety	Same as proposed action.	
Water Quality	Same as proposed action.	
Wetlands	Available mapping indicates possible wetlands within the impact area.	
Wild and Scenic Rivers	Same as proposed action.	

Permission to access properties west of the airport were denied. However, the feasibility analysis in Table 2-1 concluded the construction duration of Alternative 4 and potential impacts to continuity of commercial service operations was unacceptable. Alternative 2 is the most costly option, and likely will produce greater air, lighting, and noise impacts to residences along Route 180 and over the Dexter March Wildlife Management Area. The proposed action appears most feasible to meet the purpose and need.

- Conformity results have been added to Appendix H.

PA

Re: Runway Extension and Terminal Area Development
Watertown International Airport

- A tree inventory will be considered at the time to determine if an offset is required.
- Contract specifications will require fencing material be recycled or reused.
- Construction documents will consider green building features for the terminal expansion
- Porous pavement in the parking area will be considered during future design of the parking area and access road based on geotechnical reports conducted during the design phase. However, the high bedrock elevations may not support porous pavement design. At minimum, appropriate stormwater treatment measures will be included to meet Clean Water Act statutes.

If you have any questions, please call me at (585) 325-1000, x201.

Sincerely,

Lisa M Cheung

Lisa Cheung
Airport Planner

cc: Robert Hagemann, Jefferson County
Grant Sussey, Jefferson County
Suki Gill, FAA

PA